

SOCIAL BELONGINGNESS AND WELL-BEING: INTERNATIONAL PERSPECTIVES

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SOCIAL BELONGINGNESS AND WELL-BEING: INTERNATIONAL PERSPECTIVES

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Table of Contents

- 06** *Editorial: Social Belongingness and Well-Being: International Perspectives*
Juan Carlos Oyanedel and Dario Paez
- 12** *Socioeconomic Status and Psychological Well-Being: Revisiting the Role of Subjective Socioeconomic Status*
Ginés Navarro-Carrillo, María Alonso-Ferres, Miguel Moya and Inmaculada Valor-Segura
- 27** *Community Participation and Empowerment in a Post-disaster Environment: Differences Tied to Age and Personal Networks of Social Support*
Ailed Daniela Marengo-Escuderos, Ignacio Ramos-Vidal, Jorge Enrique Palacio-Sañudo and Laura Isabel Rambal-Rivaldo
- 38** *Perceived Emotional Synchrony in Collective Gatherings: Validation of a Short Scale and Proposition of an Integrative Measure*
Anna Włodarczyk, Larraitz Zumeta, José Joaquín Pizarro, Pierre Bouchat, Fuad Hatibovic, Nekane Basabe and Bernard Rimé
- 51** *Association Between Group Identification at School and Positive Youth Development: Moderating Role of Rural and Urban Contexts*
Diana Paricio, Marina Herrera, María F. Rodrigo and Paz Viguer
- 65** *A Path Toward Inclusive Social Cohesion: The Role of European and National Identity on Contesting vs. Accepting European Migration Policies in Portugal*
Isabel R. Pinto, Catarina L. Carvalho, Carina Dias, Paula Lopes, Sara Alves, Cátia de Carvalho and José M. Marques
- 78** *Self-Transcendent Aspirations and Life Satisfaction: The Moderated Mediation Role of Gratitude Considering Conditional Effects of Affective and Cognitive Empathy*
Xavier Oriol, Jesús Unanue, Rafael Miranda, Alberto Amutio and César Bazán
- 89** *Discrimination and Psychosocial Well-Being of Migrants in Spain: The Moderating Role of Sense of Community*
Alba García-Cid, Luis Gómez-Jacinto, Isabel Hombrados-Mendieta, Mario Millán-Franco and Gianluigi Moscato
- 102** *The Effects of the 2016 Copa América Centenario Victory on Social Trust, Self-Transcendent Aspirations and Evaluated Subjective Well-Being: The Role of Identity With the National Team and Collective Pride in Major Sport Events*
Diego Bravo, Xavier Oriol, Marcos Gómez, Diego Cortez and Wenceslao Unanue
- 119** *The Centrality of Events, Religion, Spirituality, and Subjective Well-Being in Latin American Jewish Immigrants in Israel*
Hugo Simkin
- 127** *Fear of Loneliness: Development and Validation of a Brief Scale*
José Ventura-León, Andy Rick Sánchez-Villena, Tomás Caycho-Rodríguez, Miguel Barboza-Palomino and Andrés Rubio

- 136** *Basque Ethnic Identity and Collective Empowerment: Two Key Factors in Well-Being and Community Participation*
Jon Zabala, Susana Conejero, Aitziber Pascual, Itziar Alonso-Arbiol, Alberto Amutio, Barbara Torres-Gomez, Sonia Padoan De Luca and Saioa Telletxea
- 152** *Belonging and Social Integration as Factors of Well-Being in Latin America and Latin Europe Organizations*
Silvia da Costa, Edurne Martínez-Moreno, Virginia Díaz, Daniel Herмосilla, Alberto Amutio, Sonia Padoan, Doris Méndez, Gabriela Etchebehere, Alejandro Torres, Saioa Telletxea and Silvia García-Mazzieri
- 187** *School Satisfaction in Immigrant and Chilean Students: The Role of Prejudice and Cultural Self-Efficacy*
María José Mera-Lemp, Marian Bilbao and Nekane Basabe
- 200** *Affects as Mediators of the Negative Effects of Discrimination on Psychological Well-Being in the Migrant Population*
Alfonso Urzúa, Diego Henríquez and Alejandra Caqueo-Urizar
- 210** *Collective Effervescence, Self-Transcendence, and Gender Differences in Social Well-Being During 8 March Demonstrations*
Larraitz N. Zumeta, Pablo Castro-Abril, Lander Méndez, José J. Pizarro, Anna Włodarczyk, Nekane Basabe, Ginés Navarro-Carrillo, Sonia Padoan-De Luca, Silvia da Costa, Itziar Alonso-Arbiol, Bárbara Torres-Gómez, Huseyin Cakal, Gisela Delfino, Elza M. Techio, Carolina Alzugaray, Marian Bilbao, Loreto Villagrán, Wilson López-López, José Ignacio Ruiz-Pérez, Cynthia C. Cedeño, Carlos Reyes-Valenzuela, Laura Alfaro-Beracoechea, Carlos Contreras-Ibáñez, Manuel Leonardo Ibarra, Hiram Reyes-Sosa, Rosa María Cueto, Catarina L. Carvalho and Isabel R. Pinto
- 226** *Perceived Social Support and Its Effects on Changes in the Affective and Eudaimonic Well-Being of Chilean University Students*
Rubia Cobo-Rendón, Yaranay López-Angulo, María Victoria Pérez-Villalobos and Alejandro Díaz-Mujica
- 238** *Moderating Effect of the Situation of Return or Relocation on the Well-Being and Psychosocial Trauma of Young Victims of the Armed Conflict in Colombia*
Sandra Milena Quintero-González, Camilo Alberto Madariaga-Orozco, Anthony Constant Millán-de Lange, Diany Marcela Castellar-Jiménez and Jorge Enrique Palacio-Sañudo
- 251** *Sense of Ethnic Belonging: Relation With Well-Being and Psychological Distress in Inhabitants of the Mapuche Conflict Area, Chile*
Felipe E. García, Loreto Villagrán, María Constanza Ahumada, Nadia Inzunza, Katherine Schuffenegger and Sandra Garabito
- 262** *Collective Self-Esteem and School Segregation in Chilean Secondary Students*
Olga Cuadros, Francisco Leal-Soto, Andrés Rubio and Benjamín Sánchez
- 274** *Social and Individual Subjective Wellbeing and Capabilities in Chile*
Pablo A. González, Francisca Dussillant and Esteban Calvo
- 288** *Membership, Neighborhood Social Identification, Well-Being, and Health for the Elderly in Chile*
Emilio Moyano-Díaz and Rodolfo Mendoza-Llanos

- 300** *Revisiting the “The Breakfast Club”: Testing Different Theoretical Models of Belongingness and Acceptance (and Social Self-Representation)*
Saga Pardede, Nicolay Gausel and Magnhild Mjåvatn Høie
- 312** *Relationship Between Self-Concept, Self-Efficacy, and Subjective Well-Being of Native and Migrant Adolescents*
Cristian Céspedes, Andrés Rubio, Ferran Viñas, Sara Malo Cerrato, Eliseo Lara-Órdenes and Javier Ríos
- 323** *The University as a Source of Social Capital in Chile*
Pascale Labra, Miguel Vargas and Cristián Céspedes
- 339** *Segregation and Life Satisfaction*
Rodrigo Montero, Miguel Vargas and Diego Vásquez
- 350** *Contributions of Individual, Family, and School Characteristics to Chilean Students’ Social Well-Being at School*
Verónica López, Javier Torres-Vallejos, Paula Ascorra, Luis González, Sebastián Ortiz and Marian Bilbao
- 365** *Peer Relatedness, School Satisfaction, and Life Satisfaction in Early Adolescence: A Non-recursive Model*
René Gempp and Mònica González-Carrasco
- 374** *Mediation of Problematic Use in the Relationship Between Types of Internet Use and Subjective Well-Being in Schoolchildren*
Gonzalo Donoso, Ferran Casas, Andrés Rubio and Cristian Céspedes
- 388** *Social Sharing of Emotions and Communal Appraisal as Mediators Between the Intensity of Trauma and Social Well-Being in People Affected by the 27F, 2010 Earthquake in the Biobío Region, Chile*
Carlos Reyes-Valenzuela, Loreto Villagrán, Carolina Alzugaray, Félix Cova and Jaime Méndez
- 398** *A Bifactor Model of Subjective Well-Being at Personal, Community, and Country Levels: A Case With Three Latin-American Countries*
Javier Torres-Vallejos, Joel Juarros-Basterretxea, Juan Carlos Oyanedel and Masatoshi Sato



Editorial: Social Belongingness and Well-Being: International Perspectives

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Editorial on the Research Topic

Social Belongingness and Well-Being: International Perspectives

This Research Topic presents a set of studies examining the psychosocial determinants of Well-Being (WB). They come from different parts of the world, and several of them are cross-cultural. Rather than merely reporting what they say, we believe this editorial can serve in a better way positioning them among the debate regarding the different concepts currently used to report this still nebulous field of belongingness.

The literature on social relations and WB describes several concepts as associated with social belongingness (SB). Among them, we can find social cohesion (SCo), social integration (SI), social support (SS), social capital (SC), social or group identification (IS), and belonging or relatedness needs (RN)—see **Table 1**.

Durkheim defines SCo as a characteristic of a society that shows strong social bonds (Durkheim, 1897/1963). A recent conceptual review includes in SCo a social-psychological perspective of it as an attraction to the group and social capital (Schiefer and van der Noll, 2016). The definition of SCo from social psychology emphasizes the subjective aspect, affirming that it is the “degree of consensus felt by the members of a social group in the perception of belonging to a common project or situation” (Morales et al., 2007: 810). SCo could be defined as a collective attribute from a macrosocial approach, indicating the extent of connectedness and solidarity among groups in society. Social belongingness is an aspect or consequence of higher SCo, a subjective feeling of social integration related to identification and attachment to groups that enhances WB (Schiefer and van der Noll, 2016). Based on Schiefel and van der Noll, an SCo index was created, including social participation, the strength of social networks, social trust (people and institutions), respect for rules, solidarity—the first components are similar to SC (see **Table 2** for items). Controlling GDP and Gini Index, the national mean of SCo predicts $B = 0.17$ individual WB in 34 nations (Dragolov et al., 2016).

In this monograph, five studies deal with SCo and WB. Both Włodarczyk et al. and Zumeta et al. show that effervescence during collective gatherings or perceived emotional synchrony is the primary mechanism explaining positive effects on social cohesion and WB of demonstrations and rituals (see **Table 3**). Reyes-Valenzuela et al. examined responses to collective trauma or disasters. They found that the intensity of the trauma influences social well-being through the mediation of collective effervescence or social sharing of emotions and community appraisal, allowing communities to cope collectively with extreme adverse events. Bravo et al. report that identification with the national football team predicts collective pride that mediates the relationship between identification with the national team and WB (see **Table 3**). Finally, Torres et al. report

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that the frontiers between individual well-being and community and even national well-being are diffuse, challenging the idea of subjective well-being only as an individually based phenomenon.

SC refers to a successful level of social integration that affords SB. Studies in SC tradition characterize social cohesion by strong social networks and a high level of generalized trust (Ponthieux, 2006). A meta-review concludes that nine reviews provided strong, and sixteen provided weak to moderate evidence that SC is related to health (Ehsan et al., 2019). Three meta-analyses found minor SC effects on mortality and self-rated health (Gilbert et al., 2013; Choi et al., 2014; Nyqvist et al., 2014). Some studies even suggest associations between the perception of health service treatment and subjective well-being (Rubio et al., 2020). Individuals with a more extensive social network, who perceived higher social cohesion and trusted their neighbors, were more likely to report higher WB (Hart et al., 2018). Montero et al., found that more segregated zones show higher WB, probably because neighborhoods' income homogeneity reinforces social capital. Da Costa et al. show that micro-level factors such as a transformational culture, close to a high SC in the organization, are directly and indirectly associated with individual WB through psychosocial factors like low stress, high role autonomy, social support, and quality leadership. These results are consistent with longitudinal work reported on the relationship between work and subjective well-being (Unanue et al., 2017). However, meso-social factors influence only social WB or emotional climate. Lopez et al. found that a positive school climate, beyond students' individual socio-demographic and family support, predicts WB. Labra et al. show that passing through the university increases the likelihood of forming friendship networks, a kind of social capital that can reduce socioeconomic segregation in highly unequal societies.

SI is defined as the frequency and number of social contacts or as the number of social ties or social network size. Durkheim-inspired SI theory posits that WB would be proportional to the degree of social integration of people in the groups they belong to (Berkman et al., 2000). Three meta-analyses found small associations between mortality and quantitative SI and subjective SI or low loneliness (Schwarzer and Leppin, 1989; Holt-Lunstad et al., 2010, 2015). Ventura-Leon et al. report that a scale of fear of loneliness correlates negatively with WB.

Another literature emphasizes the construct of SS as essential to the positive effect of SB. House et al. (1988) identify SS as a process through which networks or structures of social relations may influence WB. *Structural* SS refers to how a person is integrated within a social network, like the number of social ties (see social network item in SC). *Functional* SS looks at the specific functions that members in this social network can provide, such as emotional, instrumental, and informational support (House et al., 1988; Turner and Turner, 2013). In this sense, SB is related to satisfactory functional SS. Four meta-analyses (Schwarzer and Leppin, 1989; Pinquart and Sorensen, 2000; Chu et al., 2010; Bender et al., 2019) found that subjective and objective SS correlates with WB. Marenco-Escudero et al. found an association between SS and network size with community empowerment—but marginally significant. Quintero et al. found that the WB of victims of collective violence in Colombia who returned to their places of origin was higher than those who chose

to settle elsewhere, probably because the first could strengthen SS in their old neighborhood's networks. Cobo-Rendon et al. show that people who improve their balance of affects increase SS, while those who worsen it decrease it. Donoso et al. examine the effects of social media on well-being, reporting that intense use of the internet for social, recreational, and educational purposes, as long as it is not problematic, has a positive association with students' subjective well-being.

Social psychologists posit that the current operationalization of social integration as the frequency of social contacts neglects the subjective dimension, namely IS (Postmes et al., 2018). Leach et al. (2008) proposed the Group Identification Scale. This scale includes a self-definition dimension, focusing on the perceived similarity of the self to prototypical members of the in-group. This dimension also includes an appraisal of the in-group homogeneity. The scale also has a self-investment dimension, referring to importance, solidarity ("I feel committed to [in-group]"), and satisfaction ("I am glad to be [in-group]") (Leach et al., 2008). The last two components of identification are akin to SB. WB correlates with organizational IS (Steffens et al., 2016) and ethnic IS (Smith and Silva, 2011). IS was found to be negatively associated with depression (Postmes et al., 2018). Some studies found that IS predicts WB better than quantitative social support (Sani et al., 2012), while other studies found that SS was a strong predictor than IS of WB (Haslam et al., 2005). Zabala et al. support the association between Basque IS, collective empowerment, and WB. Cuadros et al. show structural validity of collective esteem scale, and scale scores correlate with WB. Pinto et al. find that the European supranational identity is associated with social WB or a climate of prosocial behavior and migrant inclusion. Garcia et al. show that ethnic IS buffers distress in the face of discrimination and is associated with WB. Moyano-Díaz and Mendoza-Llanos show that participation in groups with a sense of belonging to the neighborhood, such as community-based organizations, is associated with WB. Nonetheless, it seems to be social identification with the neighborhood -and not belongingness-that predicts WB. Navarro-Carrillo et al. analyze a classic issue: how objective and subjective measures of socioeconomic status correlate with WB - $r = 0.16$ and $r = 0.22$, respectively (Zell and Strickhouser, 2018). They adapted the MacArthur pictorial social ladder to income, education, and occupation that emerged as predictors of psychological WB over and above the MacArthur Scale.

Baumeister and Leary (1995) argue that belongingness is a social need, whose essential components are regular social contact and feelings of connectedness, and satisfaction of this need reinforces WB. Ryan and Deci (2017) postulates relatedness as a basic need that involves feeling a sense of support and connection with others and is akin to SB. The Basic Needs Satisfaction Scale measures relatedness with items like "I really like the people I interact with" (Johnston and Finney, 2010). A meta-analysis found that satisfaction of relatedness correlates with WB (Stanley et al., 2020). Pardede et al. explore different dimensions of belongingness. They do so by analyzing several items representing the need for acceptance and belongingness. They found only three correlated dimensions, a factor of

TABLE 1 | Concepts associated with Social Belongingness (SB).

| Construct | Relationship with SB | Definition |
|--------------------------------------|---|---|
| Social cohesion | As identification and sense of attachment to different groups. | It represents the strength of social bonds and social equality within social networks. |
| Social integration | As participation in social networks and perceived connectedness. | It is a multidimensional construct that can be defined as the extent to which individuals participate in a variety of social relationships. |
| Social support | As a positive consequence of belongingness to a network of social support | Structural social support is the extent to which a person is connected within a social network. Subjective social support is the satisfactory reception and/or availability of different functional forms of social support. |
| Social capital | As social trust, reciprocity and altruism. | Networks together with shared norms, values and understandings that facilitate co-operation within or among groups. Access to resources through these networks. |
| Social identification | As identification, solidarity and satisfaction with different in-groups'. | It is the subjective dimension of social integration; namely, the extent to which individuals identify themselves as part of a given group. |
| Relatedness | As satisfaction of relatedness needs. | The quality or meaning of social connections. The extent a person feels personally accepted, respected, included, and supported by others in the social "environment." |
| Social belongingness to institutions | As SB to an institution or an institutional framework | Feeling of belongingness or inclusion in an institution or institutional framework (to a set of institutions in the framework of a nation-state). |

belonging, one of emotional expression, and another of self-presentation to others—showing the importance of sharing emotions for SB. Gonzalez et al. found that subjective evaluation and functioning or satisfaction of basic needs, social ties, and respect predicts WB. They also report that functioning respect and human security predicts social WB. García-Cid et al. show that a sense of community that includes emotional connection with the group buffers the adverse effects of discrimination on the psychological WB of migrants. Urzua et al. examines the effect of discrimination in migrants and found that negative affect mediates between the first and low WB. Simkin examines the experiences of Latin American Jews that migrated to Israel and found that the centrality of this event was positively related to WB—probably because migration satisfies needs for belongingness and is congruent with self-transcendent beliefs. Oriol et al. analyze the role of self-transcendent prosocial aspirations, confirming that they were related directly to WB and indirectly through the self-transcendent emotion of gratitude.

Finally, a more focused tradition analyzes the association between social belonging and adjustment occurring in formal institutions, such as schools (Malone et al., 2012). Students who feel personally accepted and supported by others in the school report positive WB (Korpershoek et al., 2019). Paricio et al. found that group identification with the school correlates with hedonic and psychological WB. Mera-Lemp et al. show that self-efficacy reduced the negative effect of prejudice in satisfaction with school in immigrant students, suggesting that improving intercultural skills can increase SB in school. Cespedes et al. found that migrants students report a higher self-academic concept than native, but not higher WB. Correlations between academic self-concept and WB were lower in migrants than natives, showing the limits of academic success to enhance WB. Gempp and Gonzalez-Carrasco examine peer relatedness, school satisfaction, and life satisfaction in secondary school students. A reciprocal influence between school satisfaction and overall life satisfaction

was found, and the association of peer relatedness with life satisfaction was fully mediated by school satisfaction.

A BRIEF BALANCE AND FUTURE CHALLENGES

The COVID 19 pandemic has meant fundamental challenges to the way we understand our nexuses with other people. Extended periods of isolation have affected the way we interact with people, replacing, for a high number of people, the usual face-to-face contact for a technologically mediated one. The pandemic has also limited the way we interact in face-to-face settings by enforcing social distancing rules. The need to be careful about the people around us has brought a new meaning to the Sartrean idea that "*Lenfer, c'est les autres.*"

These new ways of interacting have challenged several aspects of the way we used to create society. The pandemic has put a heavy strain on families, increasing their interactions in restricted spaces and sharing personal space for more extended and intense periods. It has challenged the way we educate, forcing the closure of schools and re-engaging the family in educational activities. It has also meant transformations in the world of work, which most probably will have a long-lasting effect, such as remote working agreements. These changes will affect traditional sources of socialization, such as labor unions or educational institutions, requiring them to update and adapt to this new, less territorially based world or witnessing a severe weakening of their social relevance. Finally, it has also affected the way we celebrate and play, modifying the way collective gatherings and rituals are enacted.

While we develop a "psychosocial vaccine" to prevent the long-lasting adverse psychological effects of the pandemic, we must remember that what makes us human is, at the very end, to be among humans.

TABLE 2 | Constructs and measures related to Social Belongingness (SB).

| Construct | Measure | Examples | Meta-analytical correlations |
|--|---|---|--|
| Social cohesion The degree of social bonds and social equality within social networks. SB as identification with different social groups. | Index of social Cohesion (Dragolov et al., 2016) | Items on social participation, strength of social networks, social trust (people and institutions), respect for rules, solidarity—giving social support, and national identification | Social cohesion correlates 0.61 with well-being—collective level |
| Social Integration extent to which individuals participate in a variety of social relationships. SB as connectedness | UCLA Loneliness Scale. (Russell, 1996) | Number of social contacts. Living alone or not married vs. the opposite. Social integration Participation in a broad range of social relationships. Perception of loneliness. Feelings of isolation, disconnectedness, and not belonging. (Holt-Lunstad et al., 2010, 2015). | Social integration correlates $r = -0.12$ and low loneliness $r = -0.10$ with mortality |
| Social Support Structural support extent to which a person is connected within a social network. Subjective social support: satisfactory reception and/or availability of different functional forms of social support. SB as positive consequences of social network | Questionnaire on the frequency of and satisfaction with social support (QFSSS). (Garcia and Rimé, 2019) | The frequency of and satisfaction with support received from your partner, family, friends, and the community. Emotional SS (e.g., “Your partner is loving, affectionate and listens to you when you want to talk and express your feelings”). Instrumental SS (e.g., “Would [a person] do you a favor if needed or is willing to do specific things for you, such as providing money, taking you to the doctor, or helping you in any other activity?”). Informational SS (e.g., “[a person] Gives you useful advice and information regarding questions, problems, or daily tasks?”) (García-Martín et al., 2016). | Social support correlates $r = -0.07 -0.12$ with mortality and $r = 0.17 -0.20$ to well-being. |
| Social capital Size networks, bonding (in-group relations), or bridging (intergroup). Participation in organizations. SB as effect of social trust, reciprocity, and altruism. | Personal social capital (Wang et al., 2014). CSCS scale (Forsell et al., 2020). | Several dimensions including: Network size (e.g., “How do you rate the number of your friends?”); Trust (e.g., “Among your coworkers/fellows, how many you can trust?”); Resources (e.g., “Among all your relatives, neighbors, friends, co-workers, and classmates, how many have broad connections with others?”) and Reciprocity (e.g., “How many of your coworkers/fellows will definitely help you upon your request?”) (Wang et al., 2014). Norms of Behavior; Efficacy; Social Control (e.g., “[name organization] members behaving inappropriately are reprimanded”) and Reciprocity (e.g., “Members who help other members know the favor will be returned”) (Forsell et al., 2020). | Social capital correlates $r = -0.043$ with mortality and $r = 0.066$ with perceived health. |
| Social identification Subjective dimension of social integration; extent to which individuals identify themselves as part of a given group. SB as identification, solidarity and satisfaction with in-groups' | Multicomponent Model of In-group Identification | Self-definition dimension: the degree of Self-stereotyping (e.g., “I am similar to the typical/ average person of the in-group”), perceived In-group homogeneity (e.g., “In-group people are very similar to each other”). From a Self-investment dimension, the degree of perceived Solidarity (e.g., “I feel committed to [in-group]”), Positive Evaluation (e.g., “I am glad to be [in-group]”), or the Importance of the group to self or Centrality (e.g., “Being [in-group] is an important part of how I see myself”) (Leach et al., 2008). | Social identification correlates $r = -0.15$ with depression and $r = 0.21$ with well-being. |
| Relatedness | Basic needs satisfaction in general scale. | Item examples include: “I really like the people I interact with,” “I get along with people I come into contact with,” “I pretty much keep to myself and do not have a lot of social contacts” (reversely coded), or “I consider the people I regularly interact with to be my friends.” (Johnston and Finney, 2010). | Relatedness correlates $r = 0.39$ with positive affect. |
| Belongingness | The General Belongingness Scale (GBS). | Items examples include “When I am with other people, I feel included”; “I have close bonds with family and friends”; “I feel accepted by others; I have a sense of belonging”; “I have a place at the table with others” and “I feel connected with other” (Malone et al., 2012). | SB correlates $r = 0.37$ with well-being. |

TABLE 3 | Effects of participation in collective gatherings and perceived emotional synchrony on well-being.

| Consequences | Examples | Relation with SB and/or WB |
|---|---|---|
| High positive affect and self-esteem. | Páez et al. (2015), Bouchat et al. (2020). | Increase Affect Balance in SWB and self-acceptance in PWB |
| Positive and self-transcendent emotions (e.g., joy, awe). | Pizarro et al. (2018). | Increases affect balance in SWB, mastery and purpose in life in PWB |
| Fusion of identity. | Páez et al. (2015). | Increases Positive relationships with others and purpose in life in PWB |
| Social integration. | Pelletier (2018). | Increases Positive affect in SWB, Positive relationships with others in PWB |
| Positive shared beliefs and social values. | Páez et al. (2015), Garcia and Rimé (2019). | Increases purpose in life and personal growth in PWB. |

We expect that the articles contained in this Research Topic have contributed to this end, highlighting the complexities of researching how belongingness affects our well-being.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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Socioeconomic Status and Psychological Well-Being: Revisiting the Role of Subjective Socioeconomic Status

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Socioeconomic status (SES) is a complex and multidimensional construct, encompassing both independent objective characteristics (e.g., income or education) and subjective people's ratings of their placement in the socioeconomic spectrum. Within the growing literature on subjective SES belongingness and psychological well-being, subjective indices of SES have tended to center on the use of pictorial rank-related social ladders where individuals place themselves relative to others by simultaneously considering their income, educational level, and occupation. This approach, albeit consistent with the idea of these social ladders as summative or cognitive SES markers, might potentially constrain individuals' conceptions of their SES. This research ($N = 368$; $M_{\text{age}} = 39.67$, $SD = 13.40$) is intended to expand prior investigations on SES and psychological well-being by revisiting the role of subjective SES. In particular, it (a) proposes an innovative adaptation of the traditional MacArthur Scale of subjective SES to income, education, and occupation, thus resulting in three separate social ladders; and (b) tests the empirical contribution of such three social ladders to psychological well-being. Overall, our findings showed that the novel education and occupation ladders (excluding the income ladder) are predictive of a significant part of the variance levels of psychological well-being that is not due to canonical objective metrics of SES (i.e., income, education, and occupation), or to the conventional MacArthur Scale of subjective SES. Although preliminary, these results underscore the need to further reconsider (subjective) SES-related conceptualization and measurement strategies to gather a more comprehensive understanding of the SES-psychological well-being link.

Keywords: subjective socioeconomic status, objective socioeconomic status, socioeconomic status, psychological well-being, social class

INTRODUCTION

During the last decade, the psychology of socioeconomic status (SES) or social class, which is broadly characterized as a social stratification system derived from access to various resources (economic, social, etc.; Moya and Fiske, 2017), has experienced a remarkable growth (see Manstead, 2018). Such increased interest has been fundamentally driven by the onset of the Great Recession,

which is connected to the broadening gap between the “haves” and the “have-nots” (Pfeffer et al., 2013). Indeed, in this socioeconomic climate, class disparities and their detrimental wide-ranging consequences across distinct domains are more visible (Moya and Fiske, 2017). Although it could be argued that almost all people’s psychological and social outcomes are largely influenced by their objective or perceived socioeconomic standing, ranging from food preferences (Baumann et al., 2019) and speech patterns (Kraus et al., 2019) to humor-related dispositions (Navarro-Carrillo et al., 2020) and identity (Easterbrook et al., 2020), empirical research has mainly focused on investigating the connections between SES and psychological well-being and health-related aspects (e.g., Howell and Howell, 2008; Curhan et al., 2014; Präg et al., 2016; Huang et al., 2017).

Cumulative empirical evidence has highlighted that long-established objective metrics of SES, such as income, educational level, and occupation, only show low to modest correlations with personal well-being indicators (Diener and Oishi, 2000; Howell and Howell, 2008). In contrast, a growing number of studies have revealed that subjective assessments of SES exhibit robust associations with well-being and health scores above and beyond objective SES (e.g., Adler et al., 2000; Kraus et al., 2013; Garza et al., 2017; Navarro-Carrillo et al., 2019). Within this area, while objective SES is commonly assessed using various indices of material wealth (e.g., income, education), subjective SES is primarily assessed using the MacArthur Scale of Subjective Social Status (MacArthur SSS scale; Adler et al., 2000), a pictorial format measure represented by a 10-rung social ladder on which people indicate their socioeconomic standing relative to others in society based on income, educational level, and occupation. Within psychological and health sciences, the development and subsequent consideration of this measure, whose theoretical underpinnings rely upon social comparison processes, have provided a substantial contribution in terms of the clarification of the complex nature of the SES–well-being connection. In particular, researchers have posited that the MacArthur SSS scale, insofar as it allows individuals to capture their own social standing in a personalized manner across the SES components, could represent a cognitive average of classical objective SES indices (i.e., a general marker of a person’s SES), thereby providing a more accurate estimation of SES (see Präg et al., 2016).

Given the multidimensional nature of SES mentioned above, the joint assessment of objective and subjective SES indices is invariably recommended (Kraus and Stephens, 2012; Rubin et al., 2014), as this approach would facilitate comparisons between the various facets of SES within the framework of their contribution to well-being. Indeed, that constitutes one of the major strands of research in the psychology of SES. Our paper, which is precisely embedded in that research sphere, is aimed at extending prior investigations on the SES–well-being link by presenting and testing an innovative approach to subjective SES evaluation. Although prior empirical findings indicate that conventional objective markers of SES (i.e., income, education, and occupation) are only moderately inter-correlated and thus represent independent (and not interchangeable) components of SES (Torssander and Erikson, 2010), the MacArthur SSS scale

considers these objective facets of SES in a simultaneous and undifferentiated manner within the person’s social comparison process. This notion, albeit aligned with the view of the MacArthur SSS scale as a subjective general (and summative) SES marker, does not allow the scientific community to ascertain the specific weight that people attribute to each component of SES when subjectively estimating their socioeconomic position relative to others. Therefore, we aim to address this gap by (a) adapting the MacArthur SSS scale to income, educational level, and occupation and (b) unveiling whether any of these three novel social ladders (one for each SES indicator) are predictive of a significant proportion of the variance of well-being that is not attributable to neither objective measures of SES (i.e., income, education, and occupation) nor the traditional MacArthur SSS scale.

Objective and Subjective Socioeconomic Status

Objective SES has been traditionally defined by access to material and social dimensions (Oakes and Rossi, 2003; Snibbe and Markus, 2005). Accordingly, this form of SES is usually operationalized by considering various objective indicators that may ultimately reflect differences in individuals’ access to material and social resources. In particular, among the multiple objective indices of SES, three distinctive aspects emerge quite clearly: income, educational level, and occupation (Kraus and Stephens, 2012; Baker, 2014; Manstead, 2018).

Income establishes the access path to desired services, material goods, and pleasant experiences, among other things (Lucas and Schimmack, 2009; Kraus and Stephens, 2012). In addition, and as a proof of the importance of income, prior research has shown that this indicator is connected with a broad array of psychological variables, such as social trust (Brandt et al., 2015), personality (Piff, 2014), and prosocial tendencies (Piff and Robinson, 2017). Like income, education is widely considered a canonical marker of objective SES. As Snibbe and Markus (2005) synthesized, educational level allows researchers to capture relevant sociocultural and psychosocial-related outcomes (e.g., behavioral patterns, lifestyle). Moreover, higher educational level has been linked to beneficial economic outcomes, such as, for instance, diminished financial hardship (American Psychological Association, 2007). Occupation, for its part, has been argued to be a further proxy for objective SES because of its tight connection to earnings and educational level (Duncan and Magnuson, 2012) and its capacity to differentially shape psychological experiences (American Psychological Association, 2007; Kraus and Stephens, 2012). Nevertheless, this indicator of objective SES is used less than income and education in psychological research.

Objective SES is frequently measured in undergraduate samples (by utilizing a global index encompassing family income and parental educational level; Kraus and Keltner, 2009; Côté et al., 2017) and community-based samples (by including a specific objective indicator or by building a composite index defined by the combination of some of these dimensions, particularly income and educational level; Kraus and Park, 2014;

Navarro-Carrillo et al., 2018). Earlier research revealed that these objective facets of SES are moderately inter-correlated (Singh-Manoux et al., 2003), which suggests that these indices should be distinguishable. In this vein, the Report of the APA Task Force on Socioeconomic Status (American Psychological Association, 2007) stated that “it is generally more informative to assess the different dimensions of SES and understand how each contributes to an outcome under study rather than merge the measures” (p. 11).

SES is not exclusively shaped by material resources. Indeed, current approaches underscore that subjective assessments founded on social comparison processes (e.g., determining one’s own socioeconomic position relative to that of other individuals or groups) play a pivotal role in shaping SES (Boyce et al., 2010; Kraus, 2018). Consistent with this emerging perspective, subjective SES is conceptualized as individuals’ perceptions pertaining to their standing in the social hierarchy relative to others (Adler et al., 2000; Kraus et al., 2012).

Although different methods of assessing subjective SES exist (see Rubin et al., 2014), one of the few such tools explicitly based on a relative social comparison process is the MacArthur SSS scale (Adler et al., 2000). Furthermore, this measure is the dominant means of evaluating subjective SES (Cundiff and Matthews, 2017). Using this graphical 10-rung ladder, which represents ascending positions based on income, educational level, and occupation, individuals estimate their SES by marking the rung where they place themselves relative to others in society in general or in a specific social group or community.

As in the case of objective SES, subjective SES is commonly assessed using the MacArthur SSS scale in undergraduate (Jury et al., 2019; Loeb and Hurd, 2019) and community-based (Bjornsdottir et al., 2017; Wang et al., 2019) samples. However, studies that use this measure among adolescents are becoming more frequent (e.g., Joffer et al., 2019; Moor et al., 2019). Prior research has constantly shown that the MacArthur SSS scale exhibits mostly moderated associations with traditional objective SES indicators (Adler et al., 2000; Ostrove et al., 2000), thus providing evidence of its conceptual and empirical differentiation from objective SES.

Objective and Subjective Socioeconomic Status and Psychological Well-Being

The analysis of the empirical connection between SES and psychological well-being and health has been the focus of much controversy across the various disciplines interested in addressing this issue. This stems at least in part from the various approaches used to conceptualize and measure SES as a relevant factor for well-being and health. Notwithstanding the above, examining the socioeconomic determinants of psychological well-being—which broadly refers to optimal human functioning and the eagerness to reach meaningful vital objectives (Ruini and Cesetti, 2019)—became of particular interest because, throughout different studies, its desirable effects on various personal domains have been substantiated. For instance, higher levels of psychological well-being have been related to positive family experiences and optimal biological functioning (Ryff, 2014),

as well as with reduced depression levels (Ryff and Keyes, 1995; Ruini and Cesetti, 2019).

Many studies have amassed empirical evidence on the positive relationship between SES (as measured by objective, classical indices of material wealth) and psychological well-being/health-related factors (e.g., Diener and Oishi, 2000; Diener and Biswas-Diener, 2002; Diener et al., 2003; Vera-Villaruel et al., 2015). Nevertheless, it is important to note that the strength of such associations is relatively modest. For instance, Howell and Howell (2008), in a meta-analytic research analyzing the relationship between objective SES and personal well-being in a total of 111 independent samples from 54 countries worldwide, revealed that the average estimated association of these variables was approximately $r = 0.13$.

Studies that examined the role of subjective SES (as measured by the MacArthur SSS scale or equivalent scales) have provided valuable comprehensive knowledge on the SES–well-being/health connection. Classical empirical works, such as those developed by Adler et al. (2000), Goodman et al. (2003), Singh-Manoux et al. (2003), or Cohen et al. (2008), established the foundations on which more recent investigations were built. This groundbreaking research has shown that subjective SES is, compared to objective SES, a stronger predictor of psychological functioning indicators (e.g., control over life) and physiological outcomes (e.g., heart rate and sleep latency) among healthy white women (Adler et al., 2000), body mass index among adolescents (Goodman et al., 2003), ill health among civil service employees (Singh-Manoux et al., 2003), and susceptibility to upper respiratory infection among healthy men and women (Cohen et al., 2008). Importantly, these effects of subjective SES on well-being and health-related outcomes were independent of the respondents’ objective SES, thereby providing solid preliminary support for the independent contribution of subjective socioeconomic standing to well-being/health. Results from subsequent investigations are also in keeping with those mentioned above. Thus, the stronger connection of subjective SES, as compared to conventional objective markers of SES, with various psychological well-being and health-related aspects has recently been proved by valuable research findings. For instance, subjective SES (as measured by a social ladder comparable to the MacArthur SSS scale) was found to be associated with psychological well-being and self-perceived health even after controlling for objective SES across 29 countries (Präg et al., 2016). Along the same lines, Cundiff and Matthews (2017), after analyzing a total of 31 studies, demonstrated that subjective SES (assessed by the MacArthur SSS scale) had a unique relationship with physical health in adults over and above canonical objective indices of SES. Similarly, Tan et al. (in press) examined the link between objective and subjective SES and well-being in a total of 336 independent samples. Their results not only confirmed that the estimated subjective SES–well-being association was significantly larger (almost twice) than that of the objective SES–well-being association, but also illuminated differences that depended on the type of objective and subjective SES measure. In particular, in terms of objective SES, their data showed that the meta-analytic effect size corresponding to the relationship of income

with well-being was higher than that of education. Regarding subjective SES measures, the meta-analytic effect size of the relation between the MacArthur SSS scale and well-being was higher than that of the connection between the perceived SES category and well-being, thus verifying the crucial role of the MacArthur SSS scale.

In summary, there is increasingly solid evidence that, beyond the objective material substance of SES, individuals' subjective perceptions of their position in the socioeconomic hierarchy capture specific differences in well-being/health. However, to the best of our knowledge, no empirical investigation has yet addressed whether the subjective placement within three distinctive graphical social ladders based on income, education, and occupation, rather than within a unique social ladder that considers these three (empirically distinguishing) dimensions of SES together, would uniquely account for psychological well-being scores. Adding to the growing literature on the determination of the ability of various SES indicators to predict well-being, we surmise that these new exploratory approaches could refine subjective SES measurement by elucidating the particular role of such differentiated SES components. Thus, such an approach would facilitate the gathering of comprehensible information pertaining to the need (or absence thereof) for further research to evaluate subjective SES by considering income, education, and occupation using separate social ladders.

MATERIALS AND METHODS

Participants

The sample was composed of 368 participants ($M_{\text{age}} = 39.67$, $SD = 13.40$, range from 18 to 90), of whom 64.4% were women, 34.5% were men, and 1.1% did not identify themselves as women or men. A total of 19.8% of the participants were single, 17.9% were dating, 11.4% were cohabiting, 42.9% were married, 5.4% were divorced, and 2.4% were widowers. A sensitive power analysis was conducted using linear multiple regressions: fixed model, R^2 deviation from zero in G*Power (Faul et al., 2009) to determine our ability to detect the contribution of each SES indicator on psychological well-being. Taking our sample ($N = 368$, $\alpha = 0.05$) into account, the sensitivity analysis suggests that effect sizes of $f^2 \geq 0.04$ are necessary to produce power at the 0.80 level.

Procedure

A snowball sampling procedure via online administration was used to recruit the participants. Specifically, before the questionnaire was distributed, undergraduate students at a university in southeastern Spain were trained in sampling methods. Collaborators were asked to distribute the questionnaire only to adults of legal age (≥ 18 years). Afterward, they contacted potential respondents (e.g., acquaintances) and provided them with a brief description of the study. Once the participants agreed to participate in the study, they were given access to the online survey. At the beginning of the survey, the participants received information that emphasized the principles of confidentiality and anonymity in this research,

their voluntary participation, and the estimated duration. In addition, they were given the e-mail address of one of the researchers in the case they needed to resolve any issues arising from their participation. After signing an informed consent form, the participants completed the questionnaire. Finally, the undergraduate students in charge of distributing the online survey among potential respondents received partial academic credit in exchange for their participation. The study was approved by the ethical committee of the southeastern Spanish university and carried out in compliance with the ethical standards of the Declaration of Helsinki.

Measures

Psychological Well-Being

The Spanish adaptation of Ryff's Psychological Well-Being Scales (PWBS; Díaz et al., 2006) was used. It consists of 29 items rated on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*) that covered six subscales: self-acceptance (e.g., "When I review the story of my life I am happy with how things have turned out"; $\alpha = 0.80$), positive relationships with others (e.g., "I feel that my friends bring me many things"; $\alpha = 0.68$), autonomy (e.g., "I have confidence in my opinions even if they are contrary to the general consensus"; $\alpha = 0.62$), environmental mastery (e.g., "In general, I feel that I am responsible for the situation in which I live"; $\alpha = 0.63$), purpose in life (e.g., "I have clear the direction and purpose of my life"; $\alpha = 0.81$), and personal growth (e.g., "I have the feeling that over time I have grown as a person"; $\alpha = 0.77$). High scores indicated high levels of psychological well-being. The PWBS has six subscales grouped into a second-order factor called global psychological well-being (Ryff and Keyes, 1995). Because the proposed six-dimensional structure with a second-order general factor has been confirmed with Spanish samples (Díaz et al., 2006; Van Dierendonck et al., 2008), we also computed the items' average as a global indicator of psychological well-being ($\alpha = 0.88$).

Subjective SES

The traditional 10-rung social ladder *MacArthur SSS scale* (Adler et al., 2000) was administered. Participants were asked to select the rung that represented their position in the social hierarchy relative to others in society in terms of income, educational level, and occupation. High numbers were indicative of higher placement on this social ladder.

MacArthur SSS scale adaptations to income, education, and occupation

Based on the traditional MacArthur SSS scale, we created three pictorial social-related ladders to independently tap people's subjective perceptions of their (a) income, (b) educational level, and (c) occupational status. Thus, respondents were presented three adapted 10-rung social ladders, one for each SES indicator: (a) *Income ladder*. This ladder assessed the individuals' subjective perceptions of their position in the social hierarchy relative to others in society in terms of income-money. Participants were asked to indicate the rung of this ladder on which they believed they stood, considering that individuals at the top of the ladder

would have the most income-money, whereas those at the bottom would have the least income-money; (b) *Education ladder*. This ladder evaluated the individuals' subjective perceptions of their position in the social hierarchy relative to others in society terms of educational level. Participants were asked to select the rung of this ladder on which they perceived they stood, taking into account that people at the top of the ladder would have the most education, whereas those at the bottom would have the least education; (c) *Occupation ladder*. This ladder assessed the individuals' subjective perceptions of their position in the social hierarchy relative to others in society in terms of occupational status. Participants had to select the rung of this ladder on which they perceived they stood, considering that individuals at the top of the ladder would have the best jobs, whereas those at the bottom would have the worst jobs or no job.

Objective SES

Income

Respondents indicated their family's approximate net monthly income, considering all income sources (e.g., salaries, pensions, scholarships, rental income, etc.). Income was coded into ten categories, from 1 (<650€) to 10 (>5.800€).

Educational level

Participants indicated the highest level of education they had completed. Educational level was coded into eight categories, from 1 (primary school) to 8 (doctoral degree).

Occupation

Participants indicated which professional occupation best described the type of work they do (European Social Survey, 2018). In this research, occupational status was coded into ten categories, from 1 (unemployed) to 10 (technical professional occupations).

The participants' distribution in terms of these indices of objective SES is given in the results section.

Statistical Analyses

First, frequency distribution analyses and reliabilities were obtained. Second, Pearson product-moment correlations were performed to test the relationships among the objective and subjective SES indicators and the various psychological well-being dimensions. Before we conducted the hierarchical regression analyses, age, and objective and subjective SES measures were standardized. Then, as an initial check, we confirmed that the collinearity statistics did not exceed the recommended values (Akinwande et al., 2015). Afterward, we performed the hierarchical regression analyses, in which we entered common sociodemographic factors (i.e., gender, age, and marital status) in Step 1 (method: enter). Then, we added objective SES indicators as predictors in Step 2 (method: enter). We included the traditional MacArthur SSS scale in Step 3 (method: enter). Lastly, we entered the new proposed ladders for income, educational level, and occupation in Step 4 (method: enter) to estimate their added value in explaining variance in the criterion variables and to determine their potential unique contribution to psychological well-being above and beyond

demographics, objective SES, and the MacArthur SSS scale. We separately introduced self-acceptance, positive relationships with others, autonomy, environmental mastery, purpose in life, personal growth, and global psychological well-being as criteria throughout each regression analysis. We computed the abovementioned analyses using SPSS Version 21.

RESULTS

Description of Objective and Subjective SES Indicators

Regarding the objective SES indicators, the respondents' income distribution were as follows: <650€ (5.7%), 651€–1300€ (22.8%), 1301€–1950€ (21.7%), 1951€–2600€ (20.9%), 2601€–3250€ (9.5%), 3251€–3900€ (8.4%), 3901€–4550€ (6%), 4551€–5200€ (2.2%), 5201€–5800€ (1.4%), and >5.800 € (1.4%). For educational level, we found the following distribution: primary school (9%), secondary education (5.7%), vocational training (14.4%), bachelor's degree (9.5%), incomplete university degree (19.6%), university degree (27.4%), master's degree (10.3%), and doctoral degree (4.1%). Finally, concerning participants' occupation, we found the following: unemployed (17.4%), agricultural work (e.g., agricultural or livestock worker, day laborer, tractor driver, fisherman, etc.; 3.5%), unskilled worker (e.g., pawn, loading or unloading waiter, unskilled factory worker, etc.; 2.2%), semi-skilled worker (e.g., bricklayer, bus driver, cannery operator, carpenter, metallurgy worker, baker, etc.; 3.5%), skilled worker (e.g., foreman, mechanic, copyist, turner or milling machine, electrician, etc.; 4.6%), occupations related to the service sector (e.g., restaurant owner, police officer, waiter, caretaker, hairdresser, armed forces, etc.; 15.2%), commercials (e.g., sales manager, store owner, store clerk, insurance agent, etc.; 8.2%), office work (e.g., secretary, administrative, accounting, etc.; 6%), senior management administrative occupations (e.g., banking executive, executive of a large company or organization, senior public administration officer, delegate, union, etc.; 3.8%), and technical professional occupations (e.g., doctor, teacher, engineer, artist, financial director, etc.; 33.7%).

The frequency distribution of the subjective SES indicators is represented graphically in **Figure 1**. As this figure illustrates, some differences in the distribution rate of the traditional MacArthur SSS scale compared to each novel ladder for income, education, and occupation, as well as between these new ladders, can be observed. For instance, the mean of the traditional MacArthur SSS scale was 6.04 ($SD = 1.47$); the means of the income, education, and occupation ladders were 5.25 ($SD = 1.63$), 7.15 ($SD = 1.62$), and 5.61 ($SD = 2.11$), respectively. Responses ranged from 1 to 10 for all ladders.

Associations Between Objective and Subjective SES Indicators

Pearson correlations among objective and subjective SES indicators are given in **Table 1**. Objective SES indices (i.e., income, education, and occupation) were positively inter-correlated with each other ($r_s \geq 0.25$, $p < 0.001$). Furthermore,

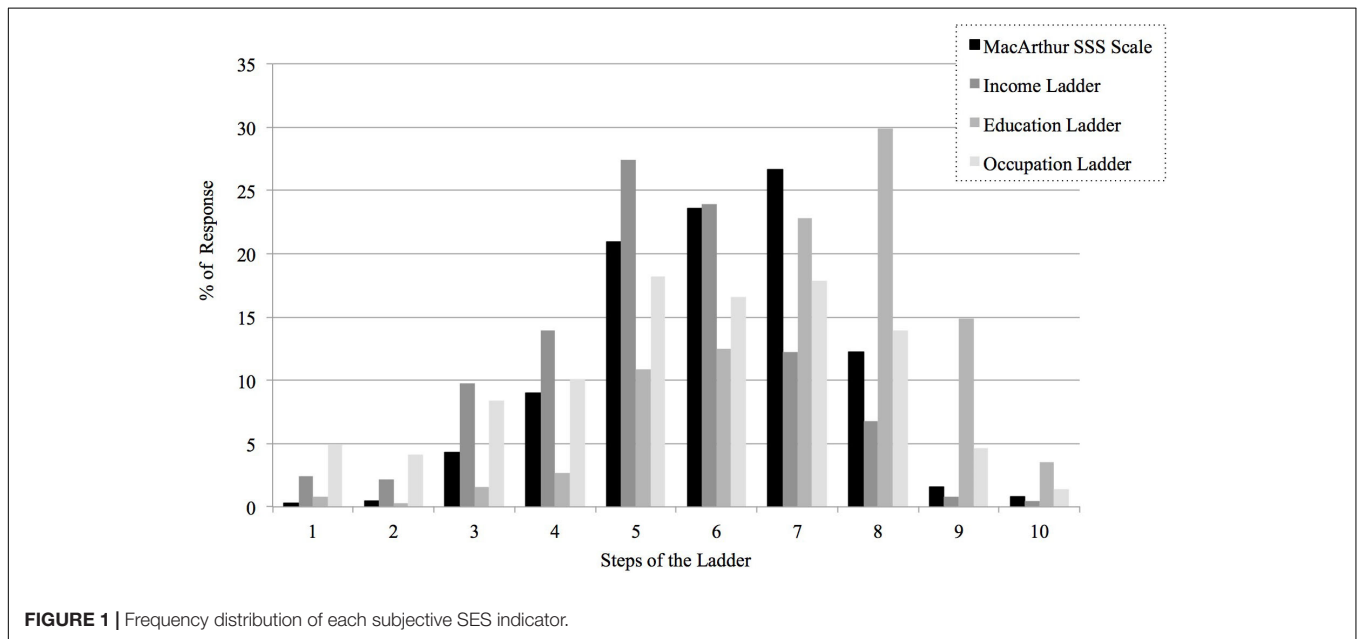


FIGURE 1 | Frequency distribution of each subjective SES indicator.

TABLE 1 | Pearson correlations between objective and subjective SES indicators.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------------------------------|---------|---------|---------|---------|---------|---------|------|
| Objective SES measures | | | | | | | |
| 1. Income | – | | | | | | |
| 2. Education | 0.25*** | – | | | | | |
| 3. Occupation | 0.37*** | 0.38*** | – | | | | |
| Subjective SES measures | | | | | | | |
| 4. MacArthur SSS scale | 0.30*** | 0.12* | 0.24*** | – | | | |
| 5. Income ladder | 0.32*** | 0.03 | 0.24*** | 0.62*** | – | | |
| 6. Education ladder | 0.23*** | 0.51*** | 0.26*** | 0.36*** | 0.32*** | – | |
| 7. Occupation ladder | 0.35*** | 0.12* | 0.42*** | 0.55*** | 0.55*** | 0.28*** | – |
| Mdn | 3.00 | 5.00 | 7.00 | 6.00 | 5.00 | 7.00 | 6.00 |

N = 368. SES, Socioeconomic Status; SSS, Subjective Socioeconomic Status. *p < 0.05, **p < 0.01, ***p < 0.001.

the traditional MacArthur SSS scale was found to be significantly and positively correlated with all the objective SES indicators: $r_{\text{income}} = 0.30, p < 0.001$; $r_{\text{education}} = 0.12, p = 0.022$; and $r_{\text{occupation}} = 0.24, p < 0.001$. In addition, the traditional MacArthur SSS scale was also positively related to the novel income, education, and occupation ladders. Specifically, in this case, the correlations of the traditional MacArthur SSS scale with the income, education, and occupation ladders were higher: $r_{\text{income ladder}} = 0.62, p < 0.001$; $r_{\text{education ladder}} = 0.36, p < 0.001$; and $r_{\text{occupation ladder}} = 0.55, p < 0.001$. Nonetheless, the coefficients were lower than 0.70, ruling out multicollinearity concerns. This pattern of correlations seems to indicate that although the traditional MacArthur SSS scale and the new proposed ladders for income, educational level, and occupation undoubtedly share components, they also differ. This supports the existence of differences between such subjective SES measures. Finally, the income, education, and occupation ladders exhibited significant and positive weak-to-moderate relationships with objective SES factors (i.e., income,

education, and occupation). Among these, the only exception was the connection between educational level and the income ladder ($ps > 0.05$).

Associations Between Objective and Subjective SES Indicators and Psychological Well-Being

Pearson correlations among objective and subjective SES indicators and psychological well-being scales are given in Table 2. The traditional MacArthur SSS scale did not correlate with autonomy ($r = 0.02, p = 0.712$). However, this measure of subjective SES was positively related to self-acceptance, positive relationships with others, environmental mastery, purpose in life, personal growth, and global psychological well-being. Specially, weak correlations coefficients were found for the link between the traditional MacArthur SSS scale and positive relationships with others ($r = 0.15, p = 0.003$) and personal growth ($r = 0.16, p = 0.003$). More intense associations emerged

TABLE 2 | Bivariate correlations of objective and subjective SES indicators with psychological well-being.

| | Self-acceptance | Positive relationships | Autonomy | Environmental mastery | Purpose in life | Personal growth | Global psychological well-being |
|--------------------------------|-----------------|------------------------|----------|-----------------------|-----------------|-----------------|---------------------------------|
| <i>Objective SES measures</i> | | | | | | | |
| 1. Income | 0.20*** | 0.14** | 0.12* | 0.20*** | 0.14** | 0.04 | 0.20*** |
| 2. Education | 0.07 | 0.23*** | 0.14** | 0.10 | 0.10 | 0.18** | 0.19*** |
| 3. Occupation | 0.16** | 0.07 | 0.03 | 0.16** | 0.18** | 0.08 | 0.16** |
| <i>Subjective SES measures</i> | | | | | | | |
| 4. MacArthur SSS scale | 0.35*** | 0.15** | 0.02 | 0.25*** | 0.25*** | 0.16** | 0.26*** |
| 5. Income ladder | 0.29*** | 0.12* | 0.02 | 0.29*** | 0.24*** | 0.07 | 0.23*** |
| 6. Education ladder | 0.21*** | 0.26*** | 0.19*** | 0.20** | 0.21*** | 0.25*** | 0.30*** |
| 7. Occupation ladder | 0.33*** | 0.13* | 0.01 | 0.33*** | 0.29*** | 0.17** | 0.28*** |

N = 368. SES, Socioeconomic Status; SSS, Subjective Socioeconomic Status. **p* < 0.05, ***p* < 0.01, ****p* < 0.001.

between the traditional MacArthur SSS scale and self-acceptance, environmental mastery, purpose in life, and global psychological well-being (*r*s ≥ 0.25, *p* < 0.001).

Focusing on the novel income, education, and occupation ladders, our results showed that the income ladder did not correlate with autonomy (*r* = 0.02, *p* = 0.726) or personal growth (*r* = 0.07, *p* = 0.175). However, it was positively and significantly associated with self-acceptance, positive relationships with others, environmental mastery, purpose in life, and global psychological well-being (*r*s ≥ 0.12). Note that the same pattern of correlations was found for income (*r*s ≤ 0.20) as an objective feature of SES. Nevertheless, these associations were stronger for the subjective income ladder. Likewise, the education ladder was positively and significantly related with each component of well-being (*r*s ≥ 0.19), as well as with the global psychological well-being factor (*r*s = 0.30, *p* < 0.001). By contrast, objective educational level did not correlate with self-acceptance (*r* = 0.07, *p* = 0.172), environmental mastery (*r* = 0.10, *p* = 0.065), and purpose in life (*r* = 0.10, *p* = 0.055). This indicator of objective SES was found to correlate with the rest of measures of psychological well-being (*r*s ≤ 0.23); however, these associations were stronger for the education ladder. Finally, the occupation ladder did not correlate with autonomy (*r* = 0.01, *p* = 0.822). Nevertheless, it was positively and significantly associated with self-acceptance, positive relationships with others, environmental mastery, purpose in life, personal growth, and global psychological well-being (*r*s ≥ 0.13). A different pattern of associations was found for occupation as an objective indicator of SES. Occupation did not correlate with autonomy, positive relationships with others, and personal growth (*r*s ≤ 0.08); however, it showed a positive association with self-acceptance, environmental mastery, purpose in life, and general psychological well-being (*r*s ≤ 0.18).

Hierarchical Regression Analyses Predicting Psychological Well-Being

Table 3 through 9 give the findings from the set of multiple hierarchical regression analyses predicting each component of psychological well-being (as well as its general indicator) from demographic factors (i.e., gender, age, and marital status), and the objective and subjective SES measures as predictors.

Self-Acceptance

When demographic characteristics were controlled in Step 1 (see Table 3), our results revealed that, among the indicators of

TABLE 3 | Hierarchical regression analysis predicting self-acceptance.

| Predictors | Δ <i>R</i> ² | β | <i>t</i> | CI (95%) |
|---------------------------------------|-------------------------|---------|----------|---------------|
| Step 1: Demographics | | | | |
| | 0.02 | | | |
| Age | | 0.05 | 0.84 | [−0.06, 0.15] |
| Gender | | 0.10 | 1.90 | [−0.01, 0.38] |
| Marital status | | −0.04 | −0.65 | [−0.32, 0.16] |
| Step 2: Objective SES measures | | | | |
| | 0.04** | | | |
| Age | | 0.04 | 0.79 | [−0.07, 0.15] |
| Gender | | 0.08 | 1.60 | [−0.04, 0.35] |
| Marital status | | 0.00 | 0.08 | [−0.23, 0.25] |
| Income | | 0.15** | 2.49 | [0.03, 0.26] |
| Education | | −0.01 | −0.23 | [−0.13, 0.10] |
| Occupation | | 0.11 | 1.77 | [−0.01, 0.23] |
| Step 3: MacArthur SSS scale | | | | |
| | 0.08*** | | | |
| Age | | 0.02 | 0.34 | [−0.09, 0.12] |
| Gender | | 0.07 | 1.32 | [−0.06, 0.31] |
| Marital status | | 0.01 | 0.24 | [−0.20, 0.26] |
| Income | | 0.07 | 1.31 | [−0.04, 0.19] |
| Education | | −0.02 | −0.38 | [−0.13, 0.09] |
| Occupation | | 0.07 | 1.19 | [−0.05, 0.19] |
| MacArthur SSS scale | | 0.30*** | 5.63 | [0.20, 0.40] |
| Step 4: New social ladders | | | | |
| | 0.02** | | | |
| Age | | 0.02 | 0.34 | [−0.09, 0.12] |
| Gender | | 0.05 | 1.07 | [−0.08, 0.28] |
| Marital status | | 0.02 | 0.29 | [−0.20, 0.26] |
| Income | | 0.05 | 0.90 | [−0.06, 0.17] |
| Education | | −0.05 | −0.85 | [−0.18, 0.07] |
| Occupation | | 0.02 | 0.35 | [−0.10, 0.14] |
| MacArthur SSS scale | | 0.19** | 2.79 | [0.06, 0.32] |
| Income ladder | | 0.02 | 0.31 | [−0.12, 0.16] |
| Education ladder | | 0.09 | 1.45 | [−0.03, 0.22] |
| Occupation ladder | | 0.16** | 2.34 | [0.03, 0.29] |

N = 368; SES, Socioeconomic Status; SSS, Subjective Socioeconomic Status; Gender (1 = females, 2 = males); Marital Status (1 = involved in a romantic relationship, 2 = non-involved in a relationship). Standardized regression coefficients are reported. All VIFs ≤ 1.96. **p* < 0.05, ***p* < 0.01, ****p* < 0.001.

objective SES entered in Step 2, only income exerted predictive utility ($\beta = 0.15, p = 0.013$; 95% CI [0.03, 0.26]) regarding participants' self-acceptance. Thus, the higher the income, the greater the levels of self-acceptance.

Regarding the traditional MacArthur SSS scale, which was included in Step 3, a respondent's higher placement on this ladder ($\beta = 0.30, p < 0.001$; 95% CI [0.20, 0.40]) was indicative of a greater level of self-acceptance.

When we focused on the income, education, and occupation ladders (see Table 3), our results showed that, after controlling for demographics, objective metrics of SES (i.e., income, education, and occupation), and the MacArthur SSS scale, the occupation ladder emerged as a significant predictor of self-acceptance ($\beta = 0.16, p = 0.020$; 95% CI [0.03, 0.29]). Therefore, the higher the respondent's placement in the occupation ladder, the greater their score on self-acceptance. The addition of these new social ladders in Step 4 accounted for incremental criterion variance (2%), $F(3,341) = 3.16, p = 0.025$.

Positive Relationships

As with self-acceptance (see Table 4), income was found to predict positive relationships ($\beta = 0.12, p = 0.044$; 95% CI [0.00, 0.23]). However, in this case, educational level also showed predictive utility regarding positive relationships ($\beta = 0.20, p = 0.001$; 95% CI [0.08, 0.31]).

The MacArthur SSS scale contributed to the prediction of positive relationships ($\beta = 0.13, p = 0.018$; 95% CI [0.02, 0.24]). Thus, participants who placed themselves higher on the MacArthur SSS scale reported increased positive relationships.

As for the novel indicators of subjective SES entered in the last step (see Table 4), only the education ladder yielded a significant contribution to the prediction of positive relationships ($\beta = 0.13, p = 0.045$; 95% CI [0.00, 0.26]) above and beyond demographics, objective SES indicators, and the MacArthur SSS scale. Albeit not significant, $F(3,341) = 2.02, p = 0.112$, the inclusion of the income, education, and occupation ladders in the regression equation accounted for a 2% variance in the criterion measure. Furthermore, as shown in Table 4, the traditional MacArthur SSS scale no longer showed predictive utility regarding positive relationships in this last step ($\beta = 0.05, p = 0.447$; 95% CI [-0.09, 0.19]).

Autonomy

As can be seen in Table 5, and as in all other such previous cases, a higher income was indicative of greater levels of autonomy ($\beta = 0.12, p = 0.040$; 95% CI [0.01, 0.23]), even after accounting for respondents' demographic characteristics.

Turning now to the MacArthur SSS scale (see Table 5), our results did not yield a significant contribution of this indicator of subjective SES to the prediction of autonomy ($\beta = -0.03, p = 0.561$; 95% CI [-0.14, 0.08]). Moreover, the inclusion of the traditional MacArthur SSS scale in this third step did not significantly account for incremental variance (0%), $F(1,344) = 0.34, p = 0.561$.

As with positive relationships, the education ladder emerged as a predictor of the participants' levels of autonomy

TABLE 4 | Hierarchical regression analysis predicting positive relationships.

| Predictors | ΔR^2 | β | <i>t</i> | CI (95%) |
|---------------------------------------|--------------|---------|----------|---------------|
| Step 1: Demographics | | | | |
| | 0.01 | | | |
| Age | | -0.09 | -1.63 | [-0.20, 0.02] |
| Gender | | -0.04 | -0.66 | [-0.26, 0.13] |
| Marital status | | 0.05 | 0.86 | [-0.13, 0.34] |
| Step 2: Objective SES measures | | | | |
| | 0.06*** | | | |
| Age | | -0.06 | -1.04 | [-0.16, 0.05] |
| Gender | | -0.05 | -1.03 | [-0.29, 0.09] |
| Marital status | | 0.05 | 0.97 | [-0.12, 0.36] |
| Income | | 0.12* | 2.02 | [0.00, 0.23] |
| Education | | 0.20** | 3.41 | [0.08, 0.31] |
| Occupation | | -0.04 | -0.58 | [-0.15, 0.08] |
| Step 3: MacArthur SSS scale | | | | |
| | 0.02* | | | |
| Age | | -0.07 | -1.24 | [-0.18, 0.04] |
| Gender | | -0.06 | -1.18 | [-0.30, 0.08] |
| Marital status | | 0.06 | 1.04 | [-0.11, 0.36] |
| Income | | 0.09 | 1.47 | [-0.03, 0.20] |
| Education | | 0.19** | 3.37 | [0.08, 0.31] |
| Occupation | | -0.05 | -0.85 | [-0.17, 0.07] |
| MacArthur SSS scale | | 0.13* | 2.38 | [0.02, 0.24] |
| Step 4: New social ladders | | | | |
| | 0.02 | | | |
| Age | | -0.06 | -1.03 | [-0.17, 0.05] |
| Gender | | -0.07 | -1.34 | [-0.32, 0.06] |
| Marital status | | 0.05 | 0.98 | [-0.12, 0.36] |
| Income | | 0.07 | 1.25 | [-0.04, 0.19] |
| Education | | 0.14* | 2.08 | [0.01, 0.27] |
| Occupation | | -0.08 | -1.22 | [-0.20, 0.05] |
| MacArthur SSS scale | | 0.05 | 0.76 | [-0.09, 0.19] |
| Income ladder | | 0.00 | 0.03 | [-0.14, 0.14] |
| Education ladder | | 0.13* | 2.01 | [0.00, 0.26] |
| Occupation ladder | | 0.08 | 1.13 | [-0.06, 0.22] |

N = 368; SES, Socioeconomic Status; SSS, Subjective Socioeconomic Status; Gender (1 = females, 2 = males); Marital Status (1 = involved in a romantic relationship, 2 = non-involved in a relationship). Standardized regression coefficients are reported. All VIFs ≤ 1.96 . * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

even after accounting for demographics, objective SES measures, and the MacArthur SSS scale (see Table 5). In particular, respondents who placed themselves higher on this education ladder were more inclined to report greater scores on autonomy ($\beta = 0.21, p = 0.002$; 95% CI [0.08, 0.34]). Importantly, the addition of the new social ladders (i.e., the income, education, and occupation) in Step 4 accounted for incremental criterion variance (3%), $F(3,341) = 3.36, p = 0.019$.

Environmental Mastery

As in the preceding cases, income was found to predict environmental mastery beyond demographics ($\beta = 0.15, p = 0.012$; 95% CI [0.03, 0.26]). Therefore, higher income was indicative of greater scores on environmental mastery.

As can be seen in Table 6, the MacArthur SSS scale significantly contributed to the prediction of environmental mastery ($\beta = 0.17, p = 0.003$; 95% CI [0.06, 0.27]), even after accounting for demographics and objective SES.

TABLE 5 | Hierarchical regression analysis predicting autonomy.

| Predictors | ΔR^2 | β | <i>t</i> | CI (95%) |
|---------------------------------------|--------------|---------|----------|---------------|
| Step 1: Demographics | | | | |
| | 0.03* | | | |
| Age | | 0.07 | 1.32 | [-0.04, 0.18] |
| Gender | | 0.12* | 2.23 | [0.03, 0.41] |
| Marital status | | 0.10 | 1.80 | [-0.02, 0.45] |
| Step 2: Objective SES measures | | | | |
| | 0.03* | | | |
| Age | | 0.10 | 1.75 | [-0.01, 0.20] |
| Gender | | 0.10* | 1.96 | [0.00, 0.38] |
| Marital status | | 0.11 | 1.94 | [-0.00, 0.48] |
| Income | | 0.12* | 2.06 | [0.01, 0.23] |
| Education | | 0.11 | 1.95 | [-0.00, 0.23] |
| Occupation | | -0.06 | -0.96 | [-0.18, 0.06] |
| Step 3: MacArthur SSS scale | | | | |
| | 0.00 | | | |
| Age | | 0.10 | 1.79 | [-0.01, 0.21] |
| Gender | | 0.11* | 1.99 | [0.00, 0.39] |
| Marital status | | 0.11 | 1.92 | [-0.01, 0.48] |
| Income | | 0.13* | 2.14 | [0.01, 0.24] |
| Education | | 0.12 | 1.96 | [0.00, 0.23] |
| Occupation | | -0.05 | -0.89 | [-0.17, 0.07] |
| MacArthur SSS scale | | -0.03 | -0.58 | [-0.14, 0.08] |
| Step 4: New social ladders | | | | |
| | 0.03* | | | |
| Age | | 0.13* | 2.30 | [0.02, 0.24] |
| Gender | | 0.10 | 1.95 | [-0.00, 0.38] |
| Marital status | | 0.09 | 1.70 | [-0.03, 0.45] |
| Income | | 0.13* | 2.20 | [0.01, 0.25] |
| Education | | 0.01 | 0.18 | [-0.12, 0.14] |
| Occupation | | -0.05 | -0.77 | [-0.17, 0.08] |
| MacArthur SSS scale | | -0.06 | -0.82 | [-0.19, 0.08] |
| Income ladder | | -0.05 | -0.71 | [-0.19, 0.09] |
| Education ladder | | 0.21** | 3.16 | [0.08, 0.34] |
| Occupation ladder | | -0.02 | -0.29 | [-0.16, 0.12] |

N = 368; SES, Socioeconomic Status; SSS, Subjective Socioeconomic Status; Gender (1 = females, 2 = males); Marital Status (1 = involved in a romantic relationship, 2 = non-involved in a relationship). Standardized regression coefficients are reported. All VIFs \leq 1.96. **p* < 0.05, ***p* < 0.01, ****p* < 0.001.

As with self-acceptance, only the occupation ladder yielded a significant contribution to the prediction of environmental mastery ($\beta = 0.23$, *p* = 0.001; 95% CI [0.10, 0.36]) beyond demographics, objective SES indicators, and the traditional MacArthur SSS scale (see **Table 6**). In addition, the inclusion of the income, education, and occupation ladders in this last step accounted for 5% of the variance in the criterion measure, $F(3,341) = 6.85$, *p* < 0.001. The regression coefficient of the MacArthur SSS scale was no longer significant in this last step ($\beta = -0.01$, *p* = 0.842; 95% CI [-0.15, 0.12]).

Purpose in Life

Unlike the cases described above, we found none of the objective indices of SES (i.e., income, education, and occupation) predicted purpose in life beyond the respondents' demographics (see **Table 7**).

The standardized beta coefficient of the MacArthur SSS scale ($\beta = 0.19$, *p* = 0.001; 95% CI [0.08, 0.29]) indicated that this traditional measure of subjective SES was a positive predictor of

TABLE 6 | Hierarchical regression analysis predicting environmental mastery.

| Predictors | ΔR^2 | β | <i>t</i> | CI (95%) |
|---------------------------------------|--------------|---------|----------|---------------|
| Step 1: Demographics | | | | |
| | 0.02* | | | |
| Age | | 0.15** | 2.68 | [0.04, 0.25] |
| Gender | | 0.03 | 0.53 | [-0.14, 0.24] |
| Marital status | | -0.02 | -0.41 | [-0.29, 0.19] |
| Step 2: Objective SES measures | | | | |
| | 0.04** | | | |
| Age | | 0.15** | 2.82 | [0.05, 0.26] |
| Gender | | 0.01 | 0.18 | [-0.17, 0.21] |
| Marital status | | 0.01 | 0.20 | [-0.21, 0.26] |
| Income | | 0.15** | 2.52 | [0.03, 0.26] |
| Education | | 0.05 | 0.82 | [-0.07, 0.16] |
| Occupation | | 0.08 | 1.37 | [-0.04, 0.20] |
| Step 3: MacArthur SSS scale | | | | |
| | 0.02** | | | |
| Age | | 0.14** | 2.58 | [0.03, 0.25] |
| Gender | | 0.00 | -0.01 | [-0.19, 0.19] |
| Marital status | | 0.02 | 0.29 | [-0.20, 0.27] |
| Income | | 0.11 | 1.83 | [-0.01, 0.22] |
| Education | | 0.04 | 0.75 | [-0.07, 0.16] |
| Occupation | | 0.06 | 1.04 | [-0.06, 0.18] |
| MacArthur SSS scale | | 0.17** | 3.02 | [0.06, 0.27] |
| Step 4: New social ladders | | | | |
| | 0.05*** | | | |
| Age | | 0.13* | 2.45 | [0.03, 0.24] |
| Gender | | -0.02 | -0.35 | [-0.22, 0.15] |
| Marital status | | 0.02 | 0.45 | [-0.18, 0.28] |
| Income | | 0.07 | 1.16 | [-0.05, 0.18] |
| Education | | 0.02 | 0.30 | [-0.11, 0.15] |
| Occupation | | -0.01 | -0.20 | [-0.13, 0.11] |
| MacArthur SSS scale | | -0.01 | -0.20 | [-0.15, 0.12] |
| Income ladder | | 0.09 | 1.22 | [-0.05, 0.22] |
| Education ladder | | 0.09 | 1.43 | [-0.03, 0.22] |
| Occupation ladder | | 0.23** | 3.40 | [0.10, 0.36] |

N = 368; SES, Socioeconomic Status; SSS, Subjective Socioeconomic Status; Gender (1 = females, 2 = males); Marital Status (1 = involved in a romantic relationship, 2 = non-involved in a relationship). Standardized regression coefficients are reported. All VIFs \leq 1.96. **p* < 0.05, ***p* < 0.01, ****p* < 0.001.

the participants' scores on purpose in life beyond demographics and objective SES.

Similar to the previous dimensions, our results corroborated the predictive utility of the occupation and education social ladders regarding purpose in life above and beyond demographics, indicators of objective SES, and the traditional MacArthur SSS scale. As **Table 7** illustrates, participants who placed themselves higher on the occupation ($\beta = 0.18$, *p* = 0.012; 95% CI [0.04, 0.31]) and education ($\beta = 0.14$, *p* = 0.041; 95% CI [0.01, 0.26]) ladders were more prone to show greater levels of purpose in life. Moreover, the amount of explained variance of purpose in life increased by 3% in this last step of the regression analysis. The observed increase was statistically significant, $F(3,341) = 4.17$, *p* = 0.006. Also, it is worth noting that, in keeping with prior cases, the addition of the new social ladders as predictors caused the MacArthur SSS scale to no longer significantly predict purpose in life ($\beta = 0.07$, *p* = 0.333; 95% CI [-0.07, 0.20]).

TABLE 7 | Hierarchical regression analysis predicting purpose in life.

| Predictors | ΔR^2 | β | t | CI (95%) |
|---------------------------------------|--------------|---------|-------|----------------|
| Step 1: Demographics | | | | |
| Age | 0.02 | 0.05 | 0.97 | [-0.05, 0.16] |
| Gender | | 0.04 | 0.82 | [-0.11, 0.27] |
| Marital status | | -0.12* | -2.24 | [-0.50, -0.03] |
| Step 2: Objective SES measures | | | | |
| Age | 0.03* | 0.05 | 0.97 | [-0.05, 0.16] |
| Gender | | 0.03 | 0.61 | [-0.13, 0.25] |
| Marital status | | -0.10 | -1.83 | [-0.46, 0.02] |
| Income | | 0.06 | 0.95 | [-0.06, 0.17] |
| Education | | 0.04 | 0.75 | [-0.07, 0.16] |
| Occupation | | 0.12 | 1.93 | [-0.00, 0.23] |
| Step 3: MacArthur SSS scale | | | | |
| Age | 0.03** | 0.04 | 0.69 | [-0.07, 0.14] |
| Gender | | 0.02 | 0.40 | [-0.15, 0.23] |
| Marital status | | -0.10 | -1.77 | [-0.45, 0.02] |
| Income | | 0.01 | 0.19 | [-0.10, 0.13] |
| Education | | 0.04 | 0.68 | [-0.07, 0.15] |
| Occupation | | 0.09 | 1.55 | [-0.03, 0.21] |
| MacArthur SSS scale | | 0.19** | 3.46 | [0.08, 0.29] |
| Step 4: New social ladders | | | | |
| Age | 0.03** | 0.04 | 0.78 | [-0.06, 0.15] |
| Gender | | 0.01 | 0.12 | [-0.18, 0.20] |
| Marital status | | -0.10 | -1.78 | [-0.44, 0.02] |
| Income | | -0.01 | -0.21 | [-0.13, 0.10] |
| Education | | -0.01 | -0.21 | [-0.14, 0.11] |
| Occupation | | 0.04 | 0.65 | [-0.08, 0.16] |
| MacArthur SSS scale | | 0.07 | 0.97 | [-0.07, 0.20] |
| Income ladder | | 0.01 | 0.09 | [-0.13, 0.15] |
| Education ladder | | 0.14* | 2.05 | [0.01, 0.26] |
| Occupation ladder | | 0.18* | 2.54 | [0.04, 0.31] |

N = 368; SES: Socioeconomic Status; SSS: Subjective Socioeconomic Status; Gender (1 = females, 2 = males); Marital Status (1 = involved in a romantic relationship, 2 = non-involved in a relationship). Standardized regression coefficients are reported. All VIFs \leq 1.96. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Personal Growth

Among the various measures of objective SES (see **Table 8**), our results in this case yielded a significant contribution of education to the prediction of personal growth even after accounting for the respondents' demographics ($\beta = 0.13$, $p = 0.026$; 95% CI [0.02, 0.25]).

As can be seen in **Table 8**, our results showed that the MacArthur SSS scale emerged as a significant predictor of personal growth beyond demographics and objective SES ($\beta = 0.17$, $p = 0.002$; 95% CI [0.06, 0.28]).

In line with abovementioned results concerning the new proposed ladders for income, educational level, and occupation, our results yielded a significant contribution of the occupation and education social ladders to the prediction of personal growth. As **Table 8** illustrates, participants who placed themselves higher on the occupation ($\beta = 0.20$, $p = 0.005$; 95% CI [0.06, 0.33]) and education ($\beta = 0.19$, $p = 0.004$; 95% CI [0.06, 0.32]) ladders reported higher levels of personal growth even after accounting

TABLE 8 | Hierarchical regression analysis predicting personal growth.

| Predictors | ΔR^2 | β | t | CI (95%) |
|---------------------------------------|--------------|---------|-------|----------------|
| Step 1: Demographics | | | | |
| Age | 0.02 | -0.11* | -2.10 | [-0.22, -0.01] |
| Gender | | -0.05 | -0.94 | [-0.29, 0.10] |
| Marital status | | 0.06 | 1.11 | [-0.10, 0.37] |
| Step 2: Objective SES measures | | | | |
| Age | 0.02* | -0.10 | -1.83 | [-0.21, 0.01] |
| Gender | | -0.06 | -1.09 | [-0.30, 0.09] |
| Marital status | | 0.06 | 1.00 | [-0.12, 0.36] |
| Income | | -0.01 | -0.08 | [-0.12, 0.11] |
| Education | | 0.13* | 2.23 | [0.02, 0.25] |
| Occupation | | -0.04 | 0.68 | [-0.08, 0.16] |
| Step 3: MacArthur SSS scale | | | | |
| Age | 0.03** | -0.11* | -2.10 | [-0.22, 0.01] |
| Gender | | -0.07 | -1.29 | [-0.32, 0.07] |
| Marital status | | 0.06 | 1.09 | [-0.11, 0.37] |
| Income | | -0.04 | -0.74 | [-0.16, 0.07] |
| Education | | 0.13* | 2.19 | [0.01, 0.24] |
| Occupation | | 0.02 | 0.34 | [-0.10, 0.14] |
| MacArthur SSS scale | | 0.17** | 3.05 | [0.06, 0.28] |
| Step 4: New social ladders | | | | |
| Age | 0.05** | -0.09 | -1.75 | [-0.20, 0.01] |
| Gender | | -0.09 | -1.67 | [-0.35, 0.03] |
| Marital status | | 0.05 | 0.98 | [-0.12, 0.35] |
| Income | | -0.05 | -0.90 | [-0.17, 0.06] |
| Education | | 0.04 | 0.55 | [-0.09, 0.17] |
| Occupation | | -0.03 | -0.46 | [-0.15, 0.09] |
| MacArthur SSS scale | | 0.09 | 1.34 | [-0.04, 0.23] |
| Income ladder | | -0.13 | -1.75 | [-0.26, 0.02] |
| Education ladder | | 0.19** | 2.93 | [0.06, 0.32] |
| Occupation ladder | | 0.20** | 2.82 | [0.06, 0.33] |

N = 368; SES: Socioeconomic Status; SSS: Subjective Socioeconomic Status; Gender (1 = females, 2 = males); Marital Status (1 = involved in a romantic relationship, 2 = non-involved in a relationship). Standardized regression coefficients are reported. All VIFs \leq 1.96. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

for demographics, objective SES, and the traditional MacArthur SSS scale. This last step of the regression equation explained an additional 5% of the variance in personal growth, $F(3,341) = 5.72$, $p = 0.001$. Moreover, we also observed that the standardized beta coefficient of the MacArthur SSS scale did not remain significant ($\beta = 0.09$, $p = 0.181$; 95% CI [-0.04, 0.23]) after the inclusion of the new social ladders.

Global Psychological Well-Being

As **Table 9** illustrates, hierarchical regression analyses yielded a significant contribution of income ($\beta = 0.14$, $p = 0.017$; 95% CI [0.02, 0.25]) and education ($\beta = 0.12$, $p = 0.036$; 95% CI [0.01, 0.24]) to the prediction of the global index of psychological well-being beyond demographics.

We also found that the MacArthur SSS scale predicted global psychological well-being. In particular, it was a positive predictor of this global index ($\beta = 0.20$, $p < 0.001$; 95% CI [0.09, 0.31]) beyond demographics and objective SES.

TABLE 9 | Hierarchical regression analysis predicting global psychological well-being.

| Predictors | ΔR^2 | β | t | CI (95%) |
|---------------------------------------|--------------|---------|-------|---------------|
| Step 1: Demographics | | | | |
| | 0.00 | | | |
| Age | | 0.03 | 0.59 | [-0.08, 0.14] |
| Gender | | 0.05 | 1.00 | [-0.10, 0.29] |
| Marital status | | 0.01 | 0.12 | [-0.22, 0.25] |
| Step 2: Objective SES measures | | | | |
| | 0.06*** | | | |
| Age | | 0.05 | 0.93 | [-0.06, 0.16] |
| Gender | | 0.03 | 0.63 | [-0.13, 0.25] |
| Marital status | | 0.03 | 0.56 | [-0.17, 0.31] |
| Income | | 0.14** | 2.39 | [0.02, 0.25] |
| Education | | 0.12* | 2.11 | [0.01, 0.24] |
| Occupation | | 0.05 | 0.88 | [-0.07, 0.17] |
| Step 3: MacArthur SSS scale | | | | |
| | 0.04*** | | | |
| Age | | 0.03 | 0.62 | [-0.07, 0.14] |
| Gender | | 0.02 | 0.41 | [-0.15, 0.23] |
| Marital status | | 0.04 | 0.67 | [-0.16, 0.31] |
| Income | | 0.09 | 1.57 | [-0.02, 0.20] |
| Education | | 0.12* | 2.06 | [0.01, 0.23] |
| Occupation | | 0.03 | 0.47 | [-0.09, 0.14] |
| MacArthur SSS scale | | 0.20*** | 3.71 | [0.09, 0.31] |
| Step 4: New social ladders | | | | |
| | 0.05*** | | | |
| Age | | 0.05 | 0.88 | [-0.06, 0.15] |
| Gender | | 0.00 | 0.09 | [-0.18, 0.19] |
| Marital status | | 0.03 | 0.62 | [-0.16, 0.30] |
| Income | | 0.07 | 1.18 | [-0.05, 0.18] |
| Education | | 0.03 | 0.52 | [-0.09, 0.16] |
| Occupation | | -0.03 | -0.42 | [-0.15, 0.09] |
| MacArthur SSS scale | | 0.07 | 1.00 | [-0.07, 0.20] |
| Income ladder | | -0.01 | -0.15 | [-0.15, 0.13] |
| Education ladder | | 0.20** | 3.09 | [0.07, 0.33] |
| Occupation ladder | | 0.18** | 2.61 | [0.04, 0.31] |

N = 368; SES: Socioeconomic Status; SSS: Subjective Socioeconomic Status; Gender (1 = females, 2 = males); Marital Status (1 = involved in a romantic relationship, 2 = non-involved in a relationship). Standardized regression coefficients are reported. All VIFs \leq 1.96. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

As occurred in earlier cases, standardized beta coefficients indicated that the education ($\beta = 0.20$, $p = 0.002$; 95% CI [0.07, 0.33]) and occupation ($\beta = 0.18$, $p = 0.010$; 95% CI [0.04, 0.31]) ladders were positive predictors of global psychological well-being even after accounting for demographics, objective SES, and the MacArthur SSS scale (see **Table 9**). The amount of explained variance of global psychological well-being increased by 5% in this last step of the regression analysis. The observed increase was statistically significant, $F(3,341) = 6.11$, $p < 0.001$. In addition, it is worth noticing that the addition of the new social ladders as predictors caused the MacArthur SSS scale to no longer significantly predict global psychological well-being ($\beta = 0.07$, $p = 0.319$; 95% CI [-0.07, 0.20]).

Lastly, we graphically illustrate the standardized beta coefficients of the different measures of objective and subjective SES in **Figure 2**.

DISCUSSION

Prior research has widely converged on the notion that SES is a rather complex and multifaceted construct determined by relatively independent objective indicators (e.g., income, educational level) and individuals' subjective perceptions of their placement in the socioeconomic hierarchy (see Kraus et al., 2012). Nonetheless, within the psychological literature on subjective SES and well-being, subjective assessments of SES have largely focused on the administration of social ladders that simultaneously consider income, educational level, and occupation, potentially constraining individuals' views of their SES. In an attempt to address this gap, the present research revisited subjective SES measurement by (a) proposing a novel method of assessing subjective SES, namely an adaption of the MacArthur SSS scale, resulting in three independent ladders based on income, educational level, and occupation, and (b) empirically testing the role of these three subjective SES measures in psychological well-being while examining in conjunction objective SES and the traditional MacArthur SSS scale. Hence, this investigation provides the first preliminary data on the empirical contribution of distinctive social ladders focused on income, education, and occupation, as an innovative and broader way of evaluating the effects of subjective SES on various components of psychological well-being.

In aligning with notions recognized in earlier studies, our results clearly confirmed that subjective assessments of SES are better predictors of well-being-related aspects than are objective SES metrics (e.g., Boyce et al., 2010; Cundiff and Matthews, 2017; Navarro-Carrillo et al., 2019). Indeed, among the various components of psychological well-being (i.e., self-acceptance, positive relationships, autonomy, environmental mastery, purpose in life, and personal growth), only the participants' differences in positive relationships and autonomy with others were significantly explained by an objective SES index while all SES indicators were simultaneously considered. In particular, higher educational level predicted greater scores on positive relationships, and higher income predicted increased autonomy. However, it is important to mention that the education ladder, compared to income, exhibited a higher predictive utility regarding autonomy.

In considering the role of subjective SES indicators, we found that participants' higher placements on the traditional MacArthur SSS scale only significantly predicted greater scores on self-acceptance when we simultaneously considered the predictive utility of the new proposed ladders for income, educational level, and occupation. Moreover, the traditional MacArthur SSS scale was not a significant predictor of global psychological well-being. In particular, our findings indicated that the novel indicators of subjective SES were stronger predictors of all measures of psychological well-being except self-acceptance than the conventional MacArthur SSS scale. In addition, their inclusion in the hierarchical regression analyses significantly accounted for incremental criterion variance (except in positive relationships) beyond demographics, objective SES, and the MacArthur SSS scale. Interestingly, of these new social ladders, the one linked to income levels, did not emerge as a

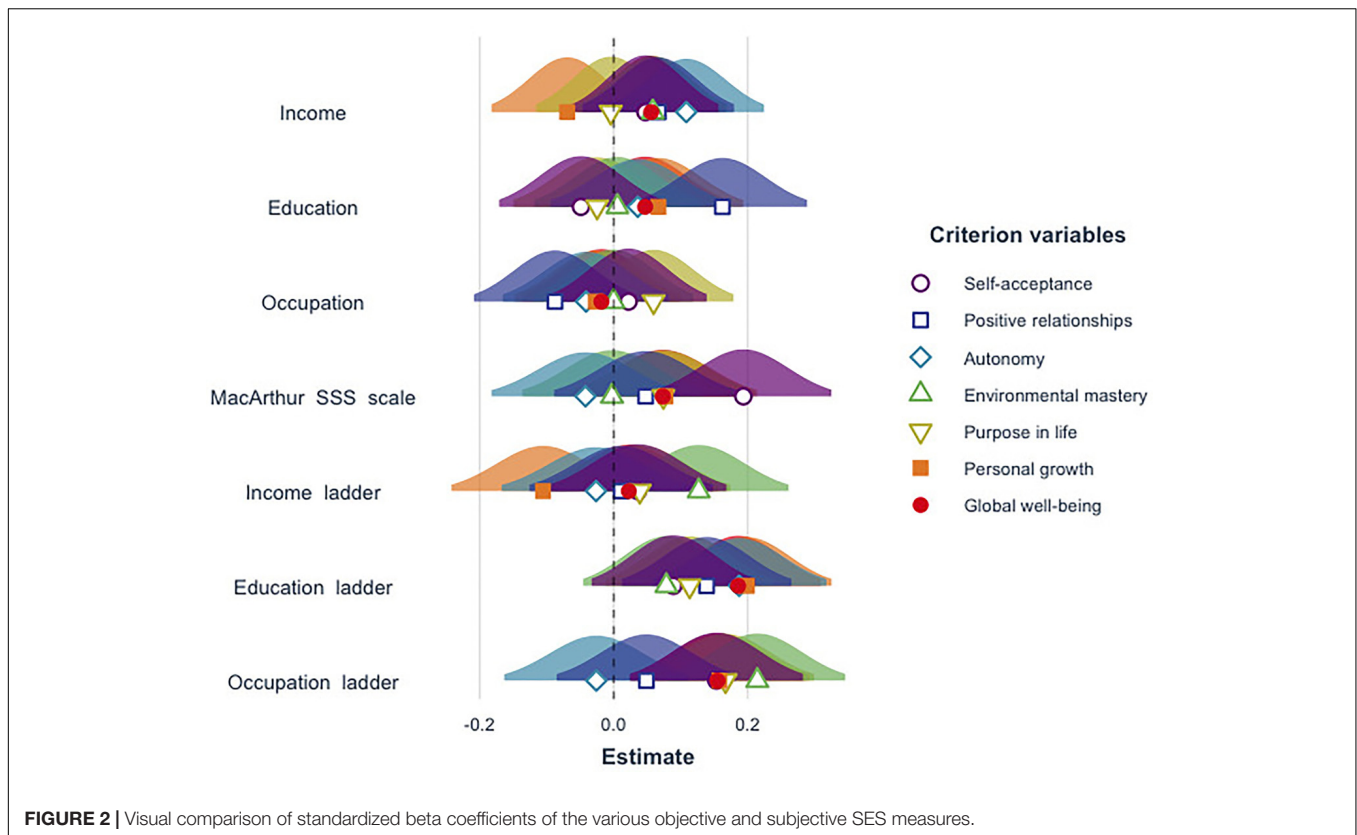


FIGURE 2 | Visual comparison of standardized beta coefficients of the various objective and subjective SES measures.

significant predictor of any of the criterion indicators. Taking into account that income, when compared to other objective facets of SES (e.g., education), has been found to exhibit stronger associations with well-being (e.g., Tan et al., in press), one might argue that the income ladder should show similar effects. However, according to our data, the education and occupation ladders were identified as consistent predictors of psychological well-being. The education ladder was significantly related to all indicators of psychological well-being except self-acceptance and environmental mastery, which were explained better by the occupation ladder. These results concerning the education ladder could help to elucidate the role of this facet of SES in psychological well-being. Although the contribution of education to well-being has been shown to be relatively limited when it is objectively assessed (Tan et al., in press), our findings highlight its relative relevance to psychological well-being when individuals estimate their position within the social hierarchy by comparing their educational level to that of others in society. Previous works have posited that education may precede higher income levels or more prestigious occupations (Snibbe and Markus, 2005). Furthermore, the role of the occupation ladder was almost comparable to that of the education ladder. In particular, we found the occupation ladder predicted all measures of psychological well-being except positive relationships and autonomy, which were explained better by the education ladder. In this case, a similar interpretation to that proposed for the education ladder might be extrapolated for the occupation last. However, the characteristics of the

socioeconomic context should not be overlooked. Specifically, this research was conducted in southeastern Spain. This region's overall socioeconomic reality, even some time after the economic crisis period, remains unfavorable. Thus, within this context of economic difficulties and high unemployment, the perceived value of having a more prestigious occupation might be crucial for individuals' psychological well-being. Together, our findings revealed that the novel education and occupation ladders are unique predictors of psychological well-being beyond objective SES, and the traditional MacArthur SSS scale.

Limitations and Future Research Directions

Although the current findings allow open up a new strand of research in the psychological literature on SES and well-being, some limitations should be acknowledged while suggesting further research directions. First, it is worth mentioning that this study used non-probabilistic sampling (i.e., snowball sampling procedure), which constrains our results' potential generalization. It should also be noted here that, although the present sample consisted of well-educated individuals of relatively higher occupational status, respondents' characteristics in terms of income generally were equivalent to the reference population (INE, 2019). Overall, future research should use probabilistic sampling procedures to collect samples that are as representative as possible. In addition, we followed a non-experimental methodology in this research. Hence, causal

inferences regarding our findings must not be made. Thus, further research should use experimental or longitudinal designs to determine the potential causal effects of the proposed subjective SES measures on psychological well-being. Second, although we included different well-established dimensions of psychological well-being (Ryff and Keyes, 1995; Díaz et al., 2006) as relevant criteria, it would be advisable to evaluate further well-being or health-related factors (e.g., self-perceived health status or physical health). By doing so, future researchers could rule out the possibility that our results are due in some way to the type of criteria included, thereby extending and complementing this study. Third, our research was carried out in a specific sociocultural context (Spain). Although suggestive, and consistent with the notion that subjective assessments of SES are better predictors of well-being than objective SES indicators, our findings do not allow us to articulate a comprehensive explanation of why subjective SES outperform objective SES in explaining people's well-being differences. Nonetheless, these results could be useful for subsequent empirical studies aimed at unraveling this issue. Lastly, the present findings should be expanded with new investigations to test these connections in other countries, as well as potential moderators from inequality levels (Cheung and Lucas, 2016) to cultural dimensions (Curhan et al., 2014).

CONCLUSION

This research offers valuable preliminary insight into the fields of SES and well-being and health by presenting a new approach for subjective SES estimation and testing the empirical contribution of this innovative measurement strategy to psychological well-being. In particular, our findings confirmed that the novel education and occupation ladders are predictive of a significant proportion of the variance levels of psychological well-being that

are not due to objective SES metrics (i.e., income, education, and occupation) or the conventional MacArthur SSS scale, underlining the need to validate and expand the present results across samples for the sake of a better understanding of the SES-well-being/health connection.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

This research study was approved by the ethical committee of the southeast Spanish university and carried out in compliance with the Ethical Standards of the 1964 Declaration of Helsinki.

AUTHOR CONTRIBUTIONS

GN-C, MA-F, and IV-S collected the data of the study. GN-C, MA-F, MM, and IV-S analyzed and interpreted the data and reviewed and edited the manuscript. GN-C and MA-F wrote the original draft.

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Community Participation and Empowerment in a Post-disaster Environment: Differences Tied to Age and Personal Networks of Social Support

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In this article, an attempt was made to identify the level of community social participation according to age, gender, and the structural characteristics of the personal support networks in a population displaced by floods in the Colombian Caribbean. The research was based on a non-experimental methodology with an associative-relational strategy. An intentional non-probabilistic sample of 151 people affected by the winter wave in the south of the Department of Atlántico (Colombia) was selected. In total, the study included 42 males (27.8%) and 109 females (72.2%) participants, with an average age of 37.48 (± 14 , ranging from 18 to 80) and average relocation time of 21.79 months (± 8.22 , ranging from 5 to 36). The *Arizona Social Support Interview Schedule (ASSIS)* and *Community Empowerment* instruments were responded to with an instrument adapted from the *leadership competence* factor. The results show lower rates of intermediation in the older population, and the relationship between social participation and gender shows equally cohesive social support networks in men and women. This evidence is discussed to promote psychosocial interventions aimed to increase community engagement and empowerment of people that have experienced non-voluntary mobility processes.

Keywords: age, flood, gender, social participation, social support, personal network, disaster

INTRODUCTION

Natural disasters produce mobility processes that affect large masses of people worldwide. Between 2007 and 2017, there was an average of 6,194 natural disasters in the world (United Nations Department of Economics and Social Affairs, 2017; Leiva-Bianchi et al., 2018), whereas in 2018, over 17 million people had to abandon their homes as a consequence of natural disasters [Internal Displacement Monitoring Centre (IDMC), 2019]. In the case of Colombia, natural disasters caused the displacement of 67,000 people, where at least 22,000 were affected by floods. Similarly, it has been shown that climate change combined with extreme poverty situations generates a series of psychosocial effects such as inequality and vulnerability, as well as poor management of the use of natural

resources that combined increase the risk of displacement [Internal Displacement Monitoring Centre (IDMC), 2019].

However, it is worth noting that there is no integrating concept for the effects of natural disaster in people's lives and their communities when in situations of vulnerability, natural disasters alter the everyday nature of the human being. Natural disasters alter the daily life of human beings, modify the physical and social space of communities, and together with other evolutionary and cultural processes, transform the personality and emotional ties of people who are impacted (Schiff, 2002; Thoits, 2011; Leiva-Bianchi et al., 2018). In parallel, these environmental changes produce situations that allow people to develop their own capacities, pro-social behaviors, and to train coping strategies aimed at minimizing the consequences of disasters and strengthening the social fabric (Vollhardt, 2009). Negative situations generated by the interaction with the environment are a more evident social reality, whereby more individuals and geographical areas are at risk every year, especially due to factors such as population growth, increasing economic and social inequality, migration, and urban development in hazard-prone areas such as coastal regions (Crossett et al., 2004).

During the winter of 2010 and the beginning of 2011, the worst flooding in the last 40 years took place as a result of the climatic phenomenon known as "La Niña." In the Department of Atlántico, 44,000 hectares were flooded, and 92,000 people had to be evacuated. Six municipalities in this department suffered the most severe flooding. Almost 100% of the region was affected with disconcertingly large material loss. In the process of post-disaster recovery, this scenario raised the need to rethink the role that the community plays in the decision-making, organization, and planning processes of its environment, but mediated specifically by the control and supervision of the community itself, which, in the end, is what suffers the most intense consequences of disasters (DRM – Disaster Risk Management).

Traditionally, the question has been asked about how much people in a community can actually contribute to the day-to-day political and administrative exercise. Likewise, compared to those who manage to contribute, how many manage have their concerns echoed within government provisions? Although we cannot deny that in one way or another community leaders, the representatives of civil society, are always present, the empirical evidence suggests that in recent decades there has been a reduction of social participation, civic engagement, and mutual support networks, factors that underscore the decline of social capital (SC) in modern societies (Putnam, 2000).

Community involvement and a willingness to invest time and resources in pro-social initiatives is one of the core values of SC as a multi-dimensional construct necessary for communities to achieve optimal levels of social welfare development (Cuthill, 2003). Along these lines, social participation strengthens social cohesion and contributes to keeping the members of the community united in the face of situations of adversity, this variable being a trigger for progress and sustainable development through the perspective of human intervention.

Participation and community involvement then contribute to the development of different modalities of relational SC.

The networks of commitment or mutual support are based on the establishment of relations, and in this sense, they refer to the SC that can be presented in fewer than two modalities: *bonding* and *bridging*. The *bonding* type SC is based on norms of commitment and reciprocity that promote social cohesion, while the *bridging* type SC can be activated when collaboration requires entering into contact with external agents of the community-NGOs, formal institutions outside the community, among others, which diversify social networks and increase their heterogeneity (Poortinga, 2012).

In disaster management, community response is central to the extent that sometimes the absence of institutional resources forces the community itself to mobilize to cope with the effects of the disaster (Pandey and Okazaki, 2005; Chan et al., 2019; Zahnow et al., 2019). Similarly, thanks to social participation, people take part in decisions related to the environment and situations that affect them (Heller et al., 1984), which allows individuals to develop multiple leadership roles in social organizations and be central actors in the process of community change. According to Singer et al. (2002), through social participation, it is possible to strengthen competencies that allow communities to provide themselves with support to face the effects of crisis events. People who develop active social participation have positive attitudes, such as emotional maturity, self-confidence, persistence, among others, which encourage them to work on exploring lines of action that benefit their environment and contribute to their psychosocial well-being, predicated on a clear moral and social identity (Hart et al., 1998; Howells et al., 2013; Liu et al., 2018).

In this sense, the decision-making process and the degree of involvement people have in their own lives are defined as Community Empowerment (Rappaport, 1981). However, theoretically speaking, this is a systemic construct that can be studied from different perspectives: as a process or an outcome in itself (Zimmerman, 2000). Authors like Ohmer (2007) and Perkins and Zimmerman (1995) identified empowerment as a variable intrinsically related to community participation, among other things, because from the psychological point of view, when people participate to a greater extent in activities that concern their environment they begin to develop a feeling of control, dominion, and belonging over what happens there; in other words, they feel directly involved in the actions and consequences of each of the situations that arise in their community.

Some studies that analyze social participation in community contexts show the active involvement of the youth population in programs that work for the good of the communities, such as social volunteering and service actions (Flanagan et al., 1998; Flanagan, 2004; Dreyer and Guzmán, 2007). Accordingly, these results are supported by the empowering effect of social participation in the psychosocial adjustment of young people. Thus, it has been contrasted that the fact of feeling involved in the community and participating in it as an agent of improvement generates in the young person feelings of competence, self-esteem, and self-efficacy, which contributes significantly to greater satisfaction with life (Zimmerman, 2000; Moos, 2005; Palomar and Lanzagorta, 2005; Rodríguez et al., 2006;

Smetana et al., 2006; Vieno et al., 2007; Buelga and Musitu, 2009). Because of these multiple contributions, the feeling of contributing to the life of the community, and to its constant improvement, is considered an important and effective element in community development.

Integration and community participation have been considered among the factors that have the greatest impact on social empowerment processes in the adult population. However, there are also aspects that encourage the processes of loss of power and involvement in decision-making and problem solving in adults, such as the negative social representation of adulthood and old age as well as the models to be followed in relation to the use of power and hierarchies in adulthood (Lacub and Arias, 2010; Sánchez-Vidal, 2017). Although there is evidence that the recognition of social value and utility in adults has a positive impact on psychological functioning and also decreases the risk of mortality (Ekerdt et al., 1985), what we are observing in vulnerable communities is the prevalence of the young population in the areas of appropriation and leadership, a point that calls us to discuss the contribution of youth, adults, and seniors in community development.

For example, Arias et al. (2009) found that adults consider having good family and social relationships to be key aspects for their lives, since they promote greater and better levels of participation, integration, and social support, variables that are related to higher levels of life satisfaction. Other studies show that adults can be active agents who are satisfied with their lives and possess multiple personal strengths that allow them to improve the quality of life in their communities (Carstensen et al., 2000; Lacey et al., 2006; Wood et al., 2007; Fernández, 2015). Colombia is a country marked by recent revolutions in social, environmental, and political customs, which have had the effect of transforming the people's levels of participation in the decision-making processes that affect them (Arias-Cardona and Alvarado, 2015).

On the other hand, in addition to age, gender should also be considered when assessing the background and consequences of participation processes. Gender is an important factor when it comes to understanding the relation between social support and different variables. Empirical evidence shows an important role as a moderator in the association between post-traumatic stress disorder (PTSD) and traumatic effects in natural disaster survivors (Bonanno et al., 2010; Han et al., 2019). In a more specific manner, it has been proven that women tend to be more receptive to the positive, protective effects of social support in diverse situations, which have an effect on mental health (Andrews et al., 2003; Anhern et al., 2004).

Various investigations show that the structure of social support networks differs according to gender (Maccoby and Jacklin, 1974; Troll, 1986). Women seem to have larger networks, with greater compositional diversity, who fulfill a greater variety of functions than men, whose networks, in contrast, tend to be smaller and the provision of social support tends to be concentrated in the spouse (female partner) (Babchuk, 1979; Campbell, 1980; Veroff et al., 1981; Longino and Lipman, 1983).

A recent study aimed at identifying the effects of forced displacement on the structure of personal networks and on

community participation processes identified that women presented a more cohesive relational context (denser links) than men, something that in practice reduces the possibilities of establishing relations with members outside the social circle of the collaborators (Ramos Vidal, 2018). This phenomenon, to some extent, is explained by the incompatibility between the two modalities of SC mentioned above. This supposes that when the networks are very dense (*bonding* type) this withdrawal of relations makes it difficult for people to diversify their sources of social support (which limits the options to access the *bridging* type). On the contrary, in the levels of centralization and intermediation, higher and more significant values were found in men, which indicates that they have a greater diversity of their networks, being actors with greater facility to establish relations with subjects that belong to other social circles, something that facilitates access to different resources of social support and to subjects that form part of groups of greater social status (Lee, 2017).

Whereas SC in its relational aspect, i.e., considering the various resources that social support networks provide to subjects, and in its pro-social aspect, i.e., showing that community involvement allows affected persons to overcome adversities that occur as a result of natural disasters (i.e., Ganapati, 2012; Rahill et al., 2014), the main objective of this study is to examine both phenomena in a sample of affected people who suffered the effects of the winter wave. Therefore, this research aims to identify the relationship between participation and community empowerment across the variables of age, gender, and the structural characteristics of the personal networks of a group of people affected by natural disasters on the northern coast of Colombia.

Although the main objective of this investigation does not center in analyzing the individual impact that derivates from the flooding, it is convenient to highlight some of the main individual consequences that are a direct product of this type of disaster. Along this line, Alderman et al. (2012) examined through a systematic review, the health impact that floods have in the general population. The analysis of 35 epidemiological studies shows the negative effect floods may have, both short-term and long-term. Among the short-term effects, the study shows that during the year following the flood, the risk of generation of epidemics like Hepatitis E, Swamp fever, and gastrointestinal diseases rises notoriously. The study shows as well that 2 years following the flood, a significant proportion of survivors (between 8.6 and 53% depending on the study and relevance of the flood) develops numerous psychological disorders, such as PTSD, anxiety, or depression. Other investigations, in addition to emphasizing the psychological impact suffered by the affected population, display the effect that floods generate in the individual's relationship with their families, communities, and interpersonal relationships. The study developed by Carroll et al. (2009) brought out that besides the material losses, the affected population suffers from feelings of alienation, difficulty to identify themselves with the context they are surrounded by, and self-control loss in relation to their environment. All of these effects are inversely-related to the population's mental health.

METHODOLOGY

Design

The research was based on a non-experimental methodology with an associative-relational strategy (Ato et al., 2013), which sought to determine the possible relationship between social participation and empowerment to subsequently evaluate the differences of these “main” variables in accordance to gender, sex, and structural characteristics of their personal networks.

Participants

The 2011 rainy season affected six towns in the south of the “Atlántico (Colombia)” department. In the context of the study, the biggest impact produced by the floods was the displacement of large masses of population. Even though, material losses, damages to housing, and private property are constant, substantial long-term effects in these settings, it is usually reflected in the process of forced displacement provoked by them. In the case of the “Atlántico” department, there was not a single fatal incident; however, more than 90,000 people lost their houses and were forced to be displaced. During the initial moments after the catastrophe, the affected people had to be temporarily relocated to safe zones. Afterwards, the population was relocated in residential communities promoted by the state in order to attend victims that were in a more vulnerable situation. Therefore, in this research, the displacement phenomenon caused by floods is examined as an articulating axle that allows us to comprehend (a) the characteristics and traits of communities where participants of the study reside and (b) the psychosocial effects experienced by the affected population.

For this study the selected town had 200 affected families and the total of this population was relocated to new houses, built by the city hall, located on the outskirts of town, in a non-inhabited terrain about 1 km away from their previous residencies; this whole relocation process was concluded in 2017. An intentional non-probabilistic sample of 151 people was selected, seeking representation of at least one member of each affected family. This methodological selection contributes to having a deeper knowledge of the effects at an individual, family, and communitarian level, owed to forced displacement generated by the floods. Something recommendable keeping in mind the negative effects and feelings of loss and alienation associated to this type of phenomenon (Hawkins and Maurer, 2011).

This work was developed after the process of permission from the Ethical Committee of the Universidad del Norte Foundation, ensuring the fulfillment of the ethical principles of investigation on a national and international level. In accordance to the established in the resolution 8430 of 1993, chapter, article 11, issued by the “*Ministerio de Salud y Protección Social*” (Ministry of Health and Social Protection) of Colombia, this research is considered as a low risk research to its participants because it collects information that contains sensitive aspects of the subjects behavior, particularly personal feelings. Besides, the objective population, being affected by a natural disaster, immediately suggests a state of social vulnerability. The participants in this study were contacted directly, the goals and objectives of the study were presented clearly, and a detailed

description of their rights was carried out. Subsequently, the subjects proceeded to sign a consent waiver, where it clearly stated that agreeing to join the study did not imply obligation to remain and they could leave whenever they pleased.

The sample comprises 42 men (27.8%) and 109 women (72.2%). The gender imbalance of the participants is explained by the fact that most of the people benefiting from the relocation and new housing by the local government had to meet different criteria and the local administration prioritized those who met requirements such as head of household, single mother, or caretaker of other dependents. The average age of the participants is 37.48 years (± 14 , Range 18–80), and the average relocation time in the destination community was 21.79 months (± 8.22 , Range 5–36). Most of them were in a stable marital relationship, either married ($n = 18$, 11.9%) or in a civil union ($n = 106$, 70.2%), and their level of education was low, most of them with incomplete basic studies ($n = 41$, 27.2%), followed by those with incomplete ($n = 39$, 25.8%), or complete ($n = 26$, 17.2%), intermediate studies. Likewise, 8.6% ($n = 13$) did not complete their basic studies, while 1.3 ($n = 2$) did not complete them at the technical level, but 7.3% of the sample ($n = 11$) did.

Instruments

In the following, the instruments used for the measurement of each one of the main variables are described:

Social Support - Community Participation

The *Arizona Social Support Interview Schedule (ASSIS)* (Barrera, 1980) was used to measure this variable. It was adapted to evaluate the frequency and types of social support that each component of the personal network (alter) provides to the interviewee (ego). The ASSIS consists of creating a list of the names of people who offer social support both in term of perceived and actual support received up to 1 month prior to the interview. The interview collects information on six specific forms of social support that appear in the literature: (a) *expression of personal issues*, (b) *material assistance*, (c) *advice*, (d) *positive feedback*, (e) *physical assistance*, and (f) *social participation*. Each one of these forms is measured by the way it is perceived and received. For the purpose of this study, the version adapted by Maya and Holgado (2005) was used, which presents a 0.88 reliability test-retest after a 3-day evaluation (López et al., 2007) and the values obtained in the last of the forms of support were specifically taken as follows. Social participation is measured in an escalating manner with 12 items; in this study the specific subscale had moderate reliability ($\alpha = 0.69$). The participants must answer four questions reporting the number of people on their network that would apply to each case, e.g., *how many people would they gather with to have fun or relax? Or in the last month, with how many of those people have they genuinely gathered with?*

Characterization of Personal Networks

In order to identify the properties of the participants’ personal networks, each participant (called ego) had to nominate among their contacts the people (called alteri) who provide them with

each of the six types of social support that are evaluated through ASSIS. It was decided to establish a limit of 20 actors for the size of the participants' personal networks, since it is suggested that this size is sufficient to capture the different social circles that shape the structure of the personal networks (McCarty, 2002), and at the same time a fixed number of actors is established in order to be able to make comparisons between the structural parameters of the networks. Once the network contacts have been identified, ego should indicate what relationship each pair of alteri has with each other in a dichotomous response format, where 0 indicates that they do not know each other and 1 indicates that the alteri know each other.

Community Empowerment

This variable was evaluated with an adapted instrument derived from the factor "leadership competence" included in the Sociopolitical Control Scale designed by Zimmerman and Zahniser (1991) and revised by Speer and Peterson (2000). The original instrument allows the evaluation of leadership capabilities of anyone, around activities that pointed toward improving environmental conditions, quality of life in community contexts, and whether it can be managed by social groups or not. The leadership skills subscale consists of eight items with different response options on a Likert-type scale (from 3 to 7 options), but the adaptation for Colombian population includes five items: (a) *I am often the leader in the groups that I am part of*, (b) *I prefer to be a leader rather than a follower*, (c) *I can organize people to do positive things in the community*, (d) *I enjoy participating in political affairs because I have a lot to say on issues that affect my community*, and (e) *People like me are qualified to participate in political activity and in the decision-making process of our country*, all of them organized on a Likert-type scale of four options (1 = total agreement, 4 = total disagreement). Its use on a Colombian vulnerable population showed an acceptable level of Cronbach alpha ($\alpha = 0.73$) (Ramos-Vidal, 2014) in this study it presented $\alpha = 0.75$.

On this study, the concept of community is assumed and comprehends a geographical and relational vision. Thus, community (both in the physical and geographical context where participants reside) is the combination of social relations that individuals establish with other residents in the same context (i.e., Heller, 1989).

Data Processing and Analysis

The data about the personal network members and the relationships that link each dyad was transferred to a 1-mode symmetric adjacency matrix (Wasserman and Faust, 1994). Subsequently, cohesion indicators of personal networks were calculated to describe their structural variability (McCarty, 2002; Molina, 2005; Bidart et al., 2018). The information collected in each matrix was processed with the UCINET 6.3 software (Borgatti et al., 2002), which was also used to calculate the structural indicators of personal networks. The indicators evaluated are the average value of the intermediation (*Betweenness*), the *geodesic* distance,

and the density (*Density*). As Wasserman and Faust (1994, p. 188) indicates, "*Interactions between two nonadjacent actors might depend on the other actors in the set of actors, especially the actors who lie on the paths between the two. These "other actors" potentially might have some control over the interactions between the two nonadjacent actors. Consider now whether a particular actor might be able to control interactions between pairs of "other actors" in the network.*" [...] The average betweenness value is calculated by adding the centrality of intermediation of each actor and this result is divided by the number of actors that make up the personal network, 20 in this case. *A shortest path, or geodesic distance, between two nodes in a graph is a path with the minimum number of edges [...]* The density of a directed graph is equal to the proportion of arcs present in the network. It is calculated as the number of arcs, L , divided by the possible number of arcs (Wasserman and Faust, 1994, p. 129).

The NETDRAW application that is part of UCINET was used to carry out the visualization of networks. Then, a cluster analysis was performed following the K-means procedure (Dubes and Jain, 1988) to identify the typologies of participants according to age and the level of global intermediation of the personal network, in order to compare the level of perceived and received participation based on the conglomerate level of belonging of the participants afterwards. According to Luke (2005, p. 196), this analysis is particularly useful in community research because it allows for the establishment of participant profiles that are useful for segmenting the population into evaluation and intervention processes. Finally, non-parametric tests were carried out (χ^2) using the Kruskal-Wallis test as a contrast statistic and the initial number of cases as a grouping variable (McKight and Najab, 2010).

RESULTS

To initiate the results report, we proceeded to calculate the correlation between the main variables was calculated: social participation and community empowerment, which were not significant ($r = 0.387$; $p < 0.071$) Subsequently, the clusters that can present discriminant validity over the networks of all the cases evaluated. This started with the cluster analysis using as grouping variables the age of the participants and the intermediation of the networks. The procedure has converged in four iterations and the minimum distance between the initial centers is 31,056 (see **Table 1**).

This analysis suggests that older people have lower rates of intermediation, possibly because their networks are comparatively denser than those of younger people. **Figure 1** presents the graphs of each cluster and provides a characterization of each case.

In line with previous studies (i.e., Van Tilburg, 1998; Phillipson et al., 2001), it can be argued that older people tend to have more cohesive networks and, at the same time, tend to concentrate sources of social support on high-intensity relationships with family and friends. **Table 2** is updated with the descriptive and correlational statistics between all the variables studied (see **Table 2**).

Taking into account that the data did not meet the criteria of normality and homoscedasticity, we proceeded with the non-parametric Kruskal-Wallis analysis to identify whether there are significant differences in the three clusters detected as a function of the level of empowerment, using the values of the full ordinal scale for this analysis. This analysis did not show significant values, even with the time of relocation in the target community, but it did show significant values as a function of the age of the alters ($\chi^2 = 56,214; p = 0.000$), a situation that can be considered normal considering the principle of homophily (McPherson et al., 2001), according to which people tend to establish substantive relationships with people of a similar age (Lozares et al., 2014).

On the other hand, and taking into consideration classic studies on social support in adult men and women, the data suggest that women – majority in the study sample – have equally cohesive social support networks as men, something that contradicts the research background (i.e., Antonucci and Akiyama, 1987). This result is interesting because it seems to indicate that the living conditions fostered by the situation of displacement seem to eliminate the aforementioned differences, so that life experience becomes similar relational processes that lessen gender differences. To extend this analysis, all forms of social support (received and perceived) were compared with the gender of the participants. **Table 3** shows, through the calculation of the Mann-Whitney U, the significant differences found. This analysis shows that men report better forms of perceived support such as material help, receiving advice when needed, and show a higher level of social participation.

The analysis of the effect size of the differences that were significant shows us a small power so the results must be taken with moderation. However, it highlights that in all the forms of support it is the men who show a greater medium range, that is, they are the ones who develop more pro-social behaviors and have more social support in their community, referred in this case to the reception of material help and advice for decision-making.

TABLE 1 | Final centers of the conglomerates.

| Grouping variables | Conglomerates | | |
|--------------------|---------------|-----------------|-----------------|
| | 1 | 2 | 3 |
| | (n = 9; 5.9%) | (n = 61; 40.3%) | (n = 81; 53.6%) |
| Age | 69 | 47 | 27 |
| Intermediation | 0.52 | 0.78 | 1.37 |

Source: own elaboration.

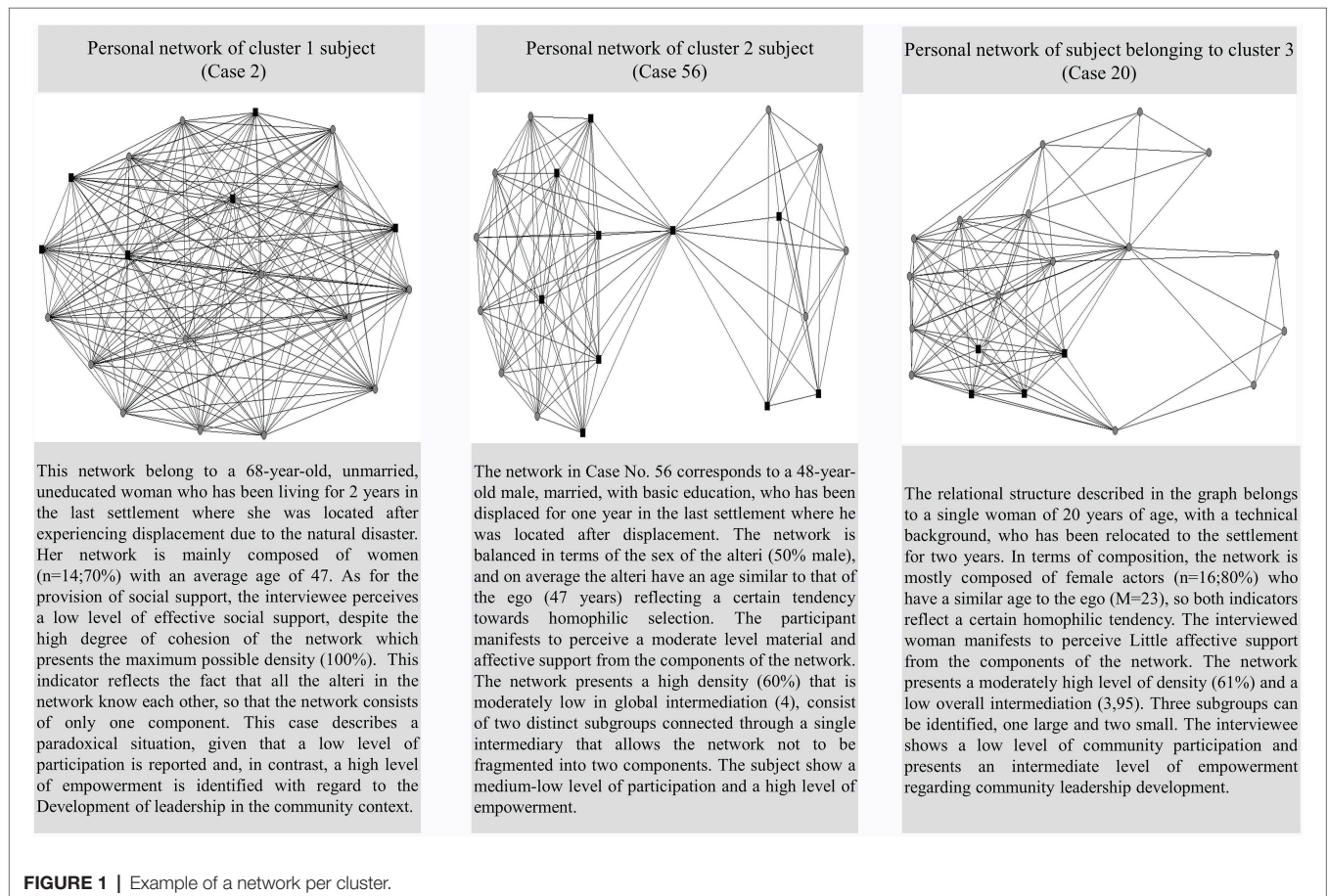


TABLE 2 | Descriptive statistics, reliability of the scales, and correlations between the study variables.

| Variables | M | SD | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------|-------|------|---|---------|---------|----------|---------|--------|
| 1. Age | 37.48 | 14 | - | -0.177* | -0.199* | 0.201* | -0.184* | 0.096 |
| 2. Betweenness | 1.08 | 1.55 | - | - | 0.884** | -0.805** | 0.033 | 0.085 |
| 3. Geodesic distance | 1.09 | 0.14 | - | - | - | -0.912** | -0.011 | 0.019 |
| 4. Density | 0.89 | 0.18 | - | - | - | - | 0.033 | -0.062 |
| 5. Social participation | 7.56 | 6.5 | - | - | - | - | - | 0.071 |
| 6. Empowerment | 11.64 | 4.2 | - | - | - | - | - | - |

Source: own elaboration. * $p < 0.05$; ** $p < 0.001$ (two-tailed).

TABLE 3 | Comparison of social support according to gender.

| Variables | U | Z | p | r | >MR ^a |
|----------------------|--------|--------|--------|------|------------------|
| Personal feelings | 2218.5 | -0.650 | 0.516 | - | - |
| Material support | 1979 | -2.100 | 0.036* | 0.17 | Man |
| Council | 1841 | -2.036 | 0.002* | 0.16 | Man |
| Positive feedback | 2029.5 | -1.371 | 0.170 | - | - |
| Physical assistance | 2,217 | -0.430 | 0.667 | - | - |
| Social participation | 1815 | -2.326 | 0.020* | 0.18 | Man |

Source: own elaboration. ^aMiddle range. * $p < 0.05$.

TABLE 4 | Comparison of social participation by conglomerate.

| | Conglomerate | Kruskal-Wallis | | | MR ^a |
|--------------------------------|--------------|----------------|----------|--------|-----------------|
| | | \bar{X} | χ^2 | p | |
| Perceived social participation | 1 | 9 | 6.334 | 0.042* | 56.44 |
| | 2 | 61 | - | - | 70.39 |
| | 3 | 81 | - | - | 82.40 |
| | Total | 151 | | | |
| Social participation received | 1 | 9 | 4.849 | 0.089 | 60.00 |
| | 2 | 61 | - | - | 72.43 |
| | 3 | 81 | - | - | 80.47 |
| | Total | 151 | | | |

Source: own elaboration. * $p < 0.005$.

^aMiddle range.

Finally, we proceeded to calculate the possible existence of differences between clusters versus the participants' perceived level of social participation (see **Table 4**). The most interesting result is that there are significant differences identified through the Kruskal-Wallis test between the three profiles and social participation measured as high, medium, or low.

After finding a significant difference between perceived social participation and personal network cluster groups, *post hoc* analysis was performed and no significant differences according to group pairs were identified. The following section discusses the results of the research.

DISCUSSION

The main purpose of this work is to identify the level of community social participation according to age and gender in the population displaced by floods in the Colombian Caribbean,

several years after the event, and to observe the structural properties of the participants' personal networks. First of all, it is surprising that in our data analysis there is no sign of relationship between social participation and community empowerment, an aspect that contradicts the empirical evidence deduced from the variables. However, although participation and the intrapersonal component of empowerment maintain a reciprocal relationship that in some cases makes these community processes appear in a transversal manner (Speer and Hughey, 1995; Itzhaky and York, 2003), there are cases in which the need to first establish optimum levels of participation so that empowerment can subsequently take place is justified (Christens et al., 2011). It is likely that the latter will occur in the population studied, and that community participation will be established in an isolated manner, for which reason strong processes of community empowerment have not yet been established to complement the process of social empowerment along with the characteristics of participation itself.

On the other hand, the lower intermediation rates in the older population are due to their more dense networks compared to the networks of the young. In this connection, previous studies, such as those developed by Van Tilburg (1998) and Phillipson et al. (2001), indicate that older people have more cohesive networks consisting mostly of family and friends, which may be an indicator that personal networks of adults are still organized in very dense or closed structures that reflect difficult social and environmental contexts, in which people support each other on a daily basis to survive in the face of adversity (Lomnitz, 1975; Sanandres et al., 2014). This phenomenon can also be explained by the fact that as the life cycle advances, people tend to withdraw their relationships into their closest contacts (Seeman and Berkman, 1988).

On the other hand, and as a consequence of our results, some studies of social participation in relation to age show the active involvement of the youth population in cooperation networks with solidarity and civic objectives in their communities (Flanagan et al., 1998; Flanagan, 2004; Dreyer and Guzmán, 2007). In this sense, the result obtained can be justified on the basis of studies that suggest that the new generations of young people are more active carrying out modalities of social participation from the community and from the everyday, instead of developing such activities from the traditional structures of socio-political participation (Harris et al., 2010). This phenomenon can also be approached from the point of view of the real inclusion of the young population as full citizens (Smith et al., 2005). This implies that participation is

an instrumental mechanism through which young people guarantee their own inclusion in the social context, something that in the case of the study population is particularly relevant insofar as mobility processes often involve phenomena such as uprooting and even disempowerment that can be mitigated through participation (Lardier et al., 2019).

Likewise, critical situations, while they can be stressful and difficult to manage for some affected people, can also empower processes and skills for other participants in the community context, generating responses such as strengthening social organizations, increasing organizational capacity and community preparedness to deal with environmental disasters (Mavhura et al., 2017). In addition, community participation is energized, which in turn increases cohesion and the *bonding* type of SC that can be observed to some extent in these results. As a future challenge, it is necessary that public agencies and private organizations deal in parallel with the people and communities that have suffered this type of situation to amplify and diversify their networks (both from the individual and community levels).

A striking point is the relationship between social participation and gender, where it is evident that social support networks are equally cohesive in men and women. This situation to some extent contradicts the findings of classic studies on the structural evaluation of social support (i.e., Antonucci and Akiyama, 1987; Seeman and Berkman, 1988; Neff and Karney, 2005). This result is of interest since it seems that the living conditions of the sample, in this case marked by mobility processes in rural contexts, can eliminate the aforementioned differences, so that life experience becomes similar to relational processes that reduce the effect of gender differences.

Participation generates opportunities to socialize and, in this case, also to diversify interpersonal relationships and sources of social support (i.e., Mollenhorst et al., 2008), aspects that have been recognized as precursors to the emergence of positive resources especially in vulnerable populations. Furthermore, they acquire importance through the enrichment of the understanding of how the relationships created after the tragedy that breaks with the “everyday” can help to re-establish, re-organize, and re-structure new spaces of participation to improve the living conditions of the community. Normally, in disaster situations, human beings tend to manifest fight or flight responses, where feelings of initiative do not usually appear, and it is preferred to opt for the path of abandonment of space or exodus to achieve a new life (Barrios, 2013). In this way, participation produces positive effects of a multilevel nature – individual, family, community, and society – connected to empowerment, the achievement of social justice, the strengthening of grassroots organizations, and associative movements, and in this particular case, the resilience of communities that have suffered serious life stressors (Sherrieb et al., 2010; Aldrich and Meyer, 2015).

As it was mentioned on the utilized research design and with the available information, is not possible to know if the relocation process brought out the urgency to create new social bonds that, at the same time, would affect the structure and composition of personal networks. However, previous studies that analyze the adaptation process experienced by displaced

communities in their destination context repeatedly suggest that this population find several difficulties to rebuild their networks of social support with residents in their receiving communities. In the case of Colombia, it has been documented that the displaced population have frequently suffered defamation and discrimination by the inhabitants the destination context. This has contributed to the generation of conflict between groups and social polarization episodes. Both processes have an effect in the relational strategy of the displaced individuals, who tend to maintain relationships with only with people whom are found in the same situation, which makes frequent the activation of relationships with people of the immediate environment (this favors bonding-type SC), but simultaneously, restrains the activation of relationship with the population from the destination context who cannot be categorized as displaced population (this makes the creation of bridging-type SC difficult) (i.e., Kaniasty and Norris, 1993). This phenomenon may somewhat explain that such relational strategy contributes indirectly to the maintenance of the social vulnerability situation that affects the displaced population as a whole. Not depending on a withdrawal of interpersonal relationships, precedents suggest that to suffer from this type of disaster, is associated with the loss of social support (i.e., Kaniasty and Norris, 1993).

Being able to understand the dynamics of social processes and related variables turn into a positive tool to create intervention dynamics, whose main objective is to guarantee a successful positive adaptation of vulnerable populations. For that matter, it is important to understand the effects that natural disasters have in people and their communities because it can be useful in order to have only one conceptual line that articulates processes and consequences of catastrophes, which can contribute to the purpose of improving the quality of life of the people in vulnerable situations (Leiva-Bianchi et al., 2018). Different authors like Guilaran et al. (2018) and Kaniasty and Norris (2009) state that there are three different sides, after a disaster that controls the effect of social support in victims. (1) receipt of actual assistance, (2) perception of availability of support, and (3) integration in a network of caring individuals. Following these sides, the relationship between social support and the protective effects that were created start to decline. This supports the idea that communities will take longer to overcome the hindering conditions that they find themselves in after the disaster, from an economical, physical, social, and organizational point of view.

Furthermore, these results show the potential that network analysis and forms of social support bring to understanding complex social processes and the increase in positive levels of social evolution in affected communities in the rural context and in the Colombian Caribbean. The purpose of this research was to analyze the community participation processes within the dynamics of structuring and coexistence in society of a type of vulnerable population that has suffered the consequences of disasters. However, this evaluation would be enriched by the inclusion of other variables such as the sense of community, community preparedness to respond to this type of situation, and the construction of organizational capacity that makes it possible to face adverse situations such as the one described in this paper (Gil-Rivas and Kilmer, 2016). Similarly, it can be indicated

that the limitations of this study are centered on the difficulty of accessing a more representative sample in accordance with the inclusion criteria managed, which translates into a reduced discriminating power in the analysis of the variables. In addition, a discriminant data analysis could be included in the absorption/response rate of the participants, that is, how many of those who were contacted responded to the study and classified it by gender, age, people with whom they live, among others.

Notwithstanding the objective of the research is not to examine, from a comparative point of view, the likely similarities and differences on the relational patterns of the individuals who have suffered from the effects of floods against those who have not, it is imperative to specify some of the aspects that may contribute to the understanding of this phenomenon from a relational perspective. First, the relocation process caused by the floods produces damages to the structure of social support that surrounds the individuals. Secondly, the affected population faces a traumatic experience that includes the loss of material belongings and identification symbols from their communities, which reverberates on the perception that the individual has over the environment inhabited. Thirdly, the displacement of population provokes (usually abruptly) the rupture of interpersonal relationships in different intensities (Kaniasty and Norris, 1993; Carroll et al., 2009). Keeping in consideration the exposed elements, it seems plausible to propose that the structure, the composition, and the properties of the social support networks may be different from the population or communities that have not suffered the effect of natural disasters such as the one reported in this work.

Finally, for further studies, it is recommended to include in the model possible differences in the forms of support and in the composition of personal networks according to different socio-demographic variables. In order to better appreciate the changes in personal networks before and after the winter wave, a longitudinal design is suggested that takes into account the details of the composition of everyday relationships. It would be interesting to carry out a comparative research on a retrospective level that allows the evaluation of the networks before and after being in a situation of vulnerability with the objective of identifying if there were or not negative effects from the disaster directly on personal relationships against other populations that have suffered similar disaster situations in other regions of the country. Furthermore, that also requires the use of memory by the participants to describe the old

personal networks and their characteristics as opposed to the community empowerment before and after the crisis that led them to a state of greater vulnerability. As an important topic, it must be taken into consideration that on the interventions in populations who are victims of disasters, the community empowerment component must prevail as well as the strategies to strengthen social network.

DATA AVAILABILITY STATEMENT

All datasets presented in this study are included in the article/supplementary material.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Comité de ética Universidad del Norte. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

AM-E, IR-V, and JP-S contributed conception and design of the study. AM-E organized the database. IR-V performed the statistical analysis. AM-E and LR-R wrote the first draft of the manuscript. All authors contributed to the article and approved the submitted version.

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Perceived Emotional Synchrony in Collective Gatherings: Validation of a Short Scale and Proposition of an Integrative Measure

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Over the past decade, there has been an increasing interest in the relationship between participation in collective gatherings and rituals and different important psychosocial variables and processes, such as social sharing of emotions, group cohesion, identity fusion, prosocial tendencies and behaviors, and well-being (e.g., Rimé, 2009; Xygalatas et al., 2013; Khan et al., 2015; Páez et al., 2015). These studies, coming from different lines of research, have proposed diverse explanatory mechanisms to explain the positive social and psychological effects of collective gatherings. In the present article, we focus on one of these mechanisms, known as collective effervescence, emotional communion, emotional entrainment, or perceived emotional synchrony (PES). First, we briefly discuss current conceptions of the emotional states and experience during collective gatherings and what they bring to the definition of PES. We close this point by proposing an integrative definition of PES. Second, structural validity of the original PES scale is examined. Third, incremental validity of PES is examined in two longitudinal studies, particularly with respect to well-being. Finally, we propose an integrative short form of the PES Scale, which measures antecedents and behavioral effects of collective effervescence.

Keywords: perceived emotional synchrony, collective effervescence, collective gatherings, Durkheim, well-being

INTRODUCTION

Perceived Emotional Synchrony and the Collective Gathering Experience

In this part, we examine different conceptions of the emotional experience lived by respondents during their participation in a group gathering that could help to elaborate our construct. Perceived emotional synchrony (PES) is a proxy for the notion of intense shared emotional experience introduced by Durkheim (1995) in the classic concept of collective effervescence. For Durkheim, collective effervescence is a shared or group state of high emotional arousal related to intensification of emotions by social sharing, felt in religious and secular collective rituals, irrespective of their content (joyful feasts or sad funerary rituals), which empowers the individual. Sociology of collective emotions also emphasizes that the experience felt during collective gatherings consists of a

high mutually shared emotional arousal that emerges from all types of collective rituals; reinforces a sense of unison; and implies synchronization of emotional responses that, in turn, reinforces social cohesion (Collins, 2014; Von Scheve and Salmela, 2014). Von Scheve et al. (2017) evaluate the experience of participation in collective rituals using a scale of emotional entrainment referred to sport games (Football World Cup): (1) “How emotional have you felt about the . . . ?” (2) “How much have you let yourself be carried away by the mood of other fans?” (3) “How much have you let yourself be carried away by the excitement of the World Cup?” In addition, questions about contextual factors facilitate a collective effervescence experience: (5) “How many of the games in which the . . . national team played did you watch at home with friends/family/acquaintances?” (6) “How many of the games in which the . . . national team played did you watch in a public pub/bar/restaurant?” (7) “How many of the games in which the . . . national team played did you watch at a large public viewing event or in the stadium?” Inspired by Collins’ model, sociologists measure the positive emotional experience of participation in religious rituals using questions about the participants’ positive (joy) and transcendent (awe, inspiration, and sense of God’s presence) emotions during a service (Draper, 2014). Social psychology approaches, related to social identity and self-categorization theory (SCT) also measure the effervescence experience of crowd and demonstrations using positive emotions (Hopkins et al., 2016). These authors emphasize the association of the experience felt by participants in a collective gathering with collective identity and the cognitive basis of enhanced social cohesion. SCT authors conceive of effervescence in crowds, demonstrations, and collective rituals as the extent to which participants judge their experience of participating in the collective gathering to be intense or extremely positive or felt intense positive emotions (Hopkins et al., 2016, p. 21). For instance, “My experiences in the crowd at the . . . demonstration have been emotionally intense” (Neville and Reicher, 2011). “In the period of pilgrimage, to what extent have you felt fulfilled, happy, alive and so on? (Hopkins et al., 2016) or experienced positive emotions ‘I felt joyful, I felt excited and I felt cheerful at . . . meeting’” (Novelli et al., 2013). This conception is congruent with Durkheim’s ideas that collective gatherings can reinvigorate the individual. Indeed, because they are gathered together, group members communicate in the same thought and action; they feel a sense of comfort and enjoyment – for instance, ceremonies of mourning restore self-confidence, purpose of life, and well-being (Moscovici, 1988; Durkheim, 1995). In this approach, social identification is a contextual and process-based phenomenon conceived of as a sense of connection to a concrete set of co-present others or shared identity, grounded on a set of norms, values, and behaviors. Empirically, there is a positive and significant association between identity-related processes and effervescence or positive intense emotions in a ritual, demonstration, or meeting (Hopkins et al., 2016). Indeed, the emotional experience during collective gatherings is not only an intrapersonal individual emotional reaction, but also an interpersonal sharing of emotions (see Páez et al., 2007; Rimé, 2009). Nor is it only a consequence of cognitive categorization as group member. Indeed, Hopkins et al. (2016),

although they describe identity-related processes as a precursor of the effervescence, recognize that an opposite path can actually occur; that is, conceptualizing shared identities resulting from emotional processes, such as PES, which could be an antecedent to the process of collective identification. Other psychologists also conceive the experience during collective gatherings as a positive emotional state but not limited to cognitive and social identification processes. Gabriel et al. (2017) posit that the collective effervescence experience occurs when a collective activity provides a feeling of connection to others in the crowd, a sense of engagement with something bigger than the self, and/or a “sensation of sacredness.” Their state measure of collective effervescence (Gabriel et al., 2017) includes three items appraising connections to others (e.g., “I felt connected to others who were present at the event”), one item appraising shared emotions (e.g., “I felt as if most everyone there felt the same emotions”), and four items for sensation of sacredness (e.g., “I felt as if the event changed me in some way”).

Other social psychologists observe that, in a collective gathering, emotional synchrony pulls humans fully but temporarily into the higher realm of the sacred, where the self disappears and collective interests predominate. The realm of the profane, in contrast, is the ordinary day-to-day world, where we live most of our lives, concerned about wealth, health, and reputation but nagged by the sense that there is, somewhere, something higher and nobler (Moscovici, 1988; Haidt, 2012). From our point of view, this sense of sacredness or the experience of being in contact with values and ideals that transform the person is a potential consequence of successful collective gatherings and probably is not an intrinsic component. Finally, the emotional state during collective gathering is also characterized by self-transcendent emotions. These emotions related to collectives (Haidt, 2012) include God’s presence, awe, inspiration or moral elevation, *kama muta*, and compassion (see Haidt, 2012; Draper, 2014; Fiske et al., 2017; Cusi et al., 2018; Pizarro et al., 2018). These emotional experiences are characterized by the decrease of self-absorption, the blurring of the barriers of the individual and the environment, the interpenetration of the individual self with the collective and greater connection with others and the world (Moscovici, 1988; Van Cappellen and Rimé, 2014). **Table 1** summarizes features related to previously reviewed approaches; our conception relies on Durkheim’s original text.

Conditions of Emergence

The emotional experience during collective gatherings is influenced by a wide variety of variables, some of them being indispensable criteria for it to occur (Collins, 2014). For instance, a necessary condition is the co-presence of other people physically gathered in a demarcated place and a degree of awareness of the presence and interaction with them (Collins, 2004). Higher social density or crowding probably reinforces and predicts PES (Liebst et al., 2019). Second, another antecedent is the focused and shared attention on one or more symbolic stimuli (Collins, 2014; Rennung and Göritz, 2016). A third antecedent is intentional coordination or behavioral synchrony among the participants in a given gathering. This coordination

TABLE 1 | Summary of approaches to collective effervescence.

| Authors | Durkheim | Sociology of emotions (von Scheve et al.) | Sociology of religion (Collins and Draper) | Social psychology (Social categorization theory) | Sacredness (Gabriel et al.) | Moscovici and Haidt |
|---|--|--|--|--|-----------------------------|--|
| Attributes | | | | | | |
| • Group or Process State | + | + | + | | | + |
| • Shared | + | + | + | | | + |
| • High emotional arousal | + | + | + | + | | + |
| • Irrespective of valence and form | + | | | | + | + |
| • Unison/Connection | + | | | | | + |
| • Positive emotions | | | + | + | | + |
| • Transcendent emotions | | | | | | + |
| • Connection with transcendent ideas and values | | | | | + | + |
| Key processes | | | | | | |
| | Collective effervescence/intensification and convergence of emotions | Emotional entrainment and Collective effervescence | Collective effervescence | Social identification and categorization | Connection with sacredness | Homo duplex, connection with values and something bigger than the self |

involves being in parallel (i.e., performing the exact same move) or interactive and complementary forms of interaction (Draper, 2014; Rennung and Göritz, 2016; Gabriel et al., 2017). These three conditions facilitate the emergence of a shared or common mood and emotions. As can be seen, all of these conditions are potentially met in a large set of collective rituals, such as in spiritual and religious pilgrimages (e.g., Tewari et al., 2012; Khan et al., 2015) or in marching rituals in the commemoration of a group historical events (e.g., Páez et al., 2015).

Integrative Definition of Perceived Emotional Synchrony

Perceived emotional synchrony is a process that occurs when there is a collective gathering, shared focused attention, and behavioral synchrony that potentially elicits a collective emotional state. PES is a subjective process or the shared perception of entrainment, coordination, and synchronization of the affective experience. It is the emergence of high arousal emotions and, at least in part, of strongly positive emotions (joy, elation) in the participants in a successful collective gathering (Moscovici, 1988; Hopkins et al., 2016, 2019). PES, as a psychological experience, provides a feeling of connection to others participants and in-groups, a sense of engagement with something bigger than the self, and potentially a sensation of living in agreement with values and moral standards (Moscovici, 1988; Collins, 2004; Haidt, 2012; Gabriel et al., 2017)¹.

Measuring Perceived Emotional Synchrony

Reliability and Structural Validity of the PES Scale

Items appraise two main aspects of PES: emotional communion or intense sharing of emotions and feelings of unity (see Table 2). Exploratory and confirmatory factor analyses (CFA) found that a unidimensional structure fits well with the data using 16 items. The long version of the perceived emotional synchrony scale (PES-S), (Páez et al., 2015) is presented in Table 2 in both English and Spanish.

Factor analysis of PES has consistently resulted in a unidimensional structure. This structure has emerged in exploratory factor analyses of multiple samples, and CFA of the scale scores have resulted in adequate fit to a unique-factor model (Włodarczyk et al., 2018).

STUDY 1

Psychometric Analysis of Measuring Perceived Emotional Synchrony Method

Participants

We used a sample in the analysis of the structural validity of the PES. The group was Folk Festival-Tamborrada (Páez et al., 2015).

¹This last facet and other features, such as intense positive and self-transcendent emotions, such as joy, sense of vitality, being moved by love, social awe, moral inspiration, enhanced collective identity and social cohesion, prosocial attitudes and behaviors, agreement with values and psychological well-being, we think are outcomes of PES more than facets of this phenomenon.

TABLE 2 | Perceived emotional synchrony scale (PES-S) in English and Spanish.

| Please, answer according to your feelings toward [GROUP AND ACTIVITY OF REFERENCE], considering that 1 = Not at all and 7 = All the time | Responde en función de tus sensaciones [GRUPO Y ACTIVIDAD DE REFERENCIA], teniendo en cuenta que 1 = nada y 7 = Siempre |
|--|---|
| 1. We felt stronger emotions than those we normally feel | 1. Hemos sentido emociones más fuertes que las que se viven habitualmente |
| 2. It seemed like we could read each other's minds | 2. Parecía como si pudiéramos leer nuestras mentes |
| 3. We felt that we were one | 3. Hemos sentido que éramos un todo |
| 4. We felt more sensitive to our emotions and feelings because we were surrounded by people who felt the same | 4. Nos hemos sentido más sensibles a las emociones y sentimientos por estar rodeado de personas que sienten lo mismo |
| 5. We felt a strong shared emotion | 5. Hemos sentido una fuerte emoción compartida |
| 6. We performed as one, like a single person | 6. Hemos actuado todos como una sola persona |
| 7. We didn't need words to express the feeling between us | 7. NO necesitábamos palabras para expresar lo que sentíamos entre nosotros |
| 8. We felt a strong rapport between us | 8. Hemos sentido complicidad entre nosotros |
| 9. We felt really united, almost melded into one | 9. Nos hemos sentimos muy unidos, casi fusionados |
| 10. What we were as a group was more important than what we were as individuals | 10. Era más importante lo que éramos como grupo que como individuos |
| 11. We felt more intense emotions because we all went through the same experience | 11. Hemos sentido emociones más intensas porque todos hemos vivido la misma experiencia |
| 12. I felt as if I was transported out of myself; becoming part of the group | 12. Me he sentido como transportado fuera de mi mismo; formando parte del grupo |
| 13. It seemed to me as if we were a single person | 13. Me ha parecido que éramos una sola persona |
| 14. I felt a strong emotional bond between us | 14. He sentido un fuerte lazo emocional entre nosotros |
| 15. We let ourselves get carried away by our emotions | 15. Nos hemos dejado llevar por las emociones |
| 16. We communicated without words | 16. Nos comunicamos sin palabras |

Emotional communion: 1, 4, 5, 7, 8, 11, 14, and 15. *Felt unity:* 2, 3, 6, 9, 10, 12, 13, and 16.

A total of 550 volunteer participants (49.4% female) aged between 18 and 90 ($M = 42.75$ years, $SD = 13.98$), most of them (89.2%) residents of San Sebastian (Spain) and the rest of the people living around there, volunteered to complete the study forms. The sample was composed of several social groups, 57% married, 53% have children, 73% employed, and 11% unemployed.

Procedure

Town hall officials and coordinators of folkloric companies were contacted to recruit volunteers who would participate in the Tamborrada held on January 20, 2013. Longitudinal observations were analyzed in this study. Thus, encrypted personal e-mails were used to collect data online at three different measurement times (4 days before the celebration, the day of the celebration, and 4 days after).

Analysis

First, we computed reliability estimates, Cronbach's alpha, and corrected item-total correlations using SPSS 21 and McDonald's Omega using Omega, and we averaged these item-total correlations. We then created working scales containing the six items with the highest mean item-total correlations. A minimum alpha of 0.65 was desired; a previous work had referred to 0.65 alpha as satisfactory for a 5-item scale (see DeVellis, 1991).

Results

Reliability and descriptive statistics

Table 3 shows the univariate descriptive statistics of the original version of the PES scale composed of 16 items and adequate reliability indexes (both omega and alpha).

The structural validity of the PES

Parallel analysis (PA) based on principal component analysis (Horn, 1965) with 500 random correlation matrices indicated that the advised number of dimensions is one. Additionally, the analysis of closeness to unidimensionality assessment (Ferrando and Lorenzo-Seva, 2018) revealed that the value of unidimensional congruence (UniCo) and item unidimensional congruence (I-UniCo) was 0.998 (BC BOOTSTRAP 95% CI = [0.997, 0.999]); scores larger than 0.95 suggest that data can be treated as essentially unidimensional. The value of explained common variance (ECV) and item explained common variance (I-ECV) was 0.954 (BC BOOTSTRAP 95% CI = [0.947, 0.970]), larger than the suggested value of 0.85 that confirms that the data can be treated as essentially unidimensional. Finally, the value of mean of item residual absolute loadings (MIREAL) and item residual absolute loadings (I-REAL) was 0.152 (BC BOOTSTRAP 95% CI [0.121, 0.166]), much lower than 0.300, which is the value that suggests that data can be treated as essentially unidimensional. Next, we assessed construct replicability by generalized H (g-h) index (Hancock and Mueller, 2001). High H values (>0.80) suggest a well-defined latent variable, which is more likely to be stable across studies. In our case, we obtained a highly H-latent value of 0.981 and H-observed of 0.932. H-latent assesses how well the factor can be identified by the continuous latent response variables that underlie the observed item scores, whereas H-observed assesses how well it can be identified from the observed item scores. Subsequently, driven by theory and previous analysis, we tested a unidimensional model of PES for both long and short versions by the mean of CFA (Muthén and Muthén, 1998-2012). In the first step, we tested the one-factor model as the model best representing

TABLE 3 | Reliability estimates, descriptive statistics ($N = 667$).

| Items | <i>M</i> | <i>SD</i> | 95% CI | | Variance | Skewness | Kurtosis (Zero centered) |
|------------------|----------|-----------|--------|------|----------|----------|-----------------------------|
| | | | LL | UP | | | |
| Item 1 | 5.834 | 1.194 | 5.71 | 5.95 | 1.471 | -1.252 | 1.867 |
| Item 2 | 4.424 | 1.656 | 4.26 | 4.59 | 2.765 | -0.347 | -0.633 |
| Item 3 | 5.316 | 1.488 | 5.17 | 5.46 | 2.252 | -0.918 | 0.477 |
| Item 4 | 5.614 | 1.336 | 5.48 | 5.75 | 1.827 | -1.125 | 1.081 |
| Item 5 | 5.811 | 1.219 | 5.69 | 5.93 | 1.533 | -1.372 | 2.248 |
| Item 6 | 5.189 | 1.519 | 5.04 | 5.34 | 2.342 | -0.809 | 0.179 |
| Item 7 | 5.308 | 1.522 | 5.16 | 5.46 | 2.351 | -0.966 | 0.430 |
| Item 8 | 5.753 | 1.168 | 5.64 | 5.87 | 1.411 | -1.323 | 2.482 |
| Item 9 | 5.347 | 1.387 | 5.21 | 5.49 | 1.960 | -0.942 | 0.660 |
| Item 10 | 5.680 | 1.343 | 5.54 | 5.81 | 1.846 | -1.324 | 1.701 |
| Item 11 | 5.669 | 1.267 | 5.54 | 5.80 | 1.650 | -1.221 | 1.679 |
| Item 12 | 4.912 | 1.623 | 4.75 | 5.07 | 2.661 | -0.699 | -0.216 |
| Item 13 | 4.798 | 1.698 | 4.63 | 4.97 | 2.910 | -0.557 | -0.543 |
| Item 14 | 5.307 | 1.469 | 5.16 | 5.45 | 2.192 | -0.889 | 0.339 |
| Item 15 | 5.193 | 1.526 | 5.04 | 5.35 | 2.359 | -0.838 | 0.155 |
| Item 16 | 4.979 | 1.576 | 4.82 | 5.14 | 2.512 | -0.684 | -0.220 |
| McDonald's Omega | | | 0.977 | | | | |
| Cronbach's alpha | | | 0.967 | | | | |

the structure of PES. Next, we tested the same model, only with six items; the model showed good fit to the data as all three fit indices were close to the criteria (CFI above 0.95 and RMSEA close to 0.06) [Model fit: χ^2 (100, $N = 550$) = 639.648, $p < 0.001$; CFI = 0.939; TLI = 0.927; RMSEA = 0.099 (95% CI [0.092, 0.106]); SRMR = 0.032]. The standardized estimates, i.e., factor loadings and factor correlation, are displayed in **Figure 1**.

Several considerations guided the construction of the short form. As in the development of other measures, we sought to maximize the reliability and validity of the instrument. Reliability and content validity, however, are often in conflict during the construction of short forms. Therefore, in addition to considering item-total correlations, our decisions regarding inclusion of items were also based on thorough examination of the content of individual items and within-scale factor analysis of the original scales. We included three items of felt unity (6, 13, and 3) and three of shared intense emotionality (4, 5, and 1) that had the highest coefficients with the latent variable. Item nine has a high load, but the semantic content overlaps with items of the scale of fusion identity (Gómez et al., 2011), and it was deleted to avoid confusion. Item 11 also has a high load, but the content includes two statements, and people can agree because of one or the other or both ideas, and answers are not clear. Finally, item 14 regarding felt unity also has a higher load, but content was redundant, and we chose items 6 and 13 that show better correlation with total items in the short version. The final model shows good fit indices [model fit: χ^2 (100, $N = 550$) = 639.648, $p < 0.001$; CFI = 0.939; TLI = 0.927; RMSEA = 0.099 (95% CI [0.092, 0.106]); SRMR = 0.032]. The standardized estimates, i.e., factor loadings and factor correlation, are displayed in **Figure 2**.

STUDY 2

Incremental Validity

In addition to its reliability and structural validity, incremental validity of the PES scale was tested because the usefulness of any test is questioned if it cannot account for additional variance in relevant criteria such as well-being. When testing the incremental validity of PES, the primary concern was whether it was incrementally valid beyond theoretical constructs that explain the effects of collective gatherings, such as social identification, arousal, and rumination (Whitehouse and Lanman, 2014; Hopkins et al., 2016). Recently, psychosocial studies demonstrated that costly and relatively negatively toned collective rituals entail positive effects upon participants' social (collective identity and social integration) as well as personal well-being. Many social rituals involve significant costs for participants, whether in the form of pain, physical effort, overcrowding, or living in difficult conditions, and they nevertheless engender positive psychosocial outcomes too. For instance, participants in a 1-month Hindu religious pilgrimage evidenced higher levels of collective identity and well-being compared to a control group (Tewari et al., 2012). How do costly rituals increase social cohesion and well-being? Whitehouse and Lanman (2014) propose that intense negative experiences are encoded as specific events in episodic memory. Such memories would favor rumination or "spontaneous exegetic reflection" on the significance of the unusual experience. Participants would, thus, develop webs of interpretation presumed to resemble co-participants' thoughts and feelings, which would foster alignment and fusion of self and other (Whitehouse and Lanman, 2014). However, this high arousal and rumination inducing fusion of

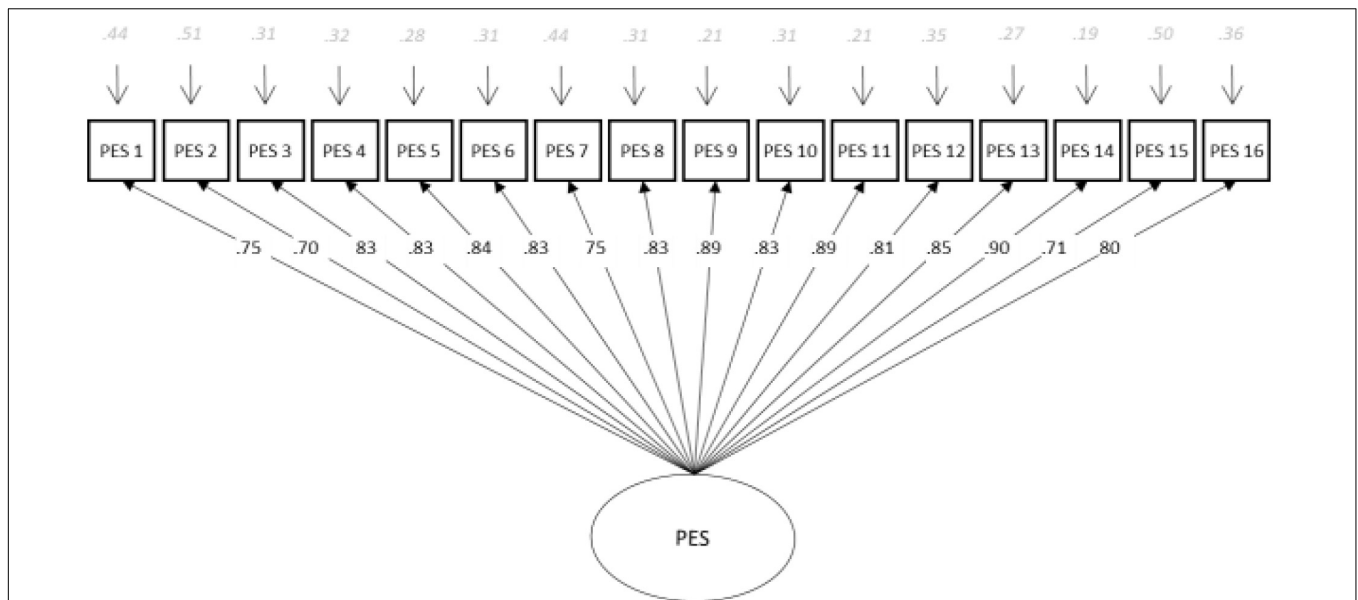


FIGURE 1 | Confirmatory factor analysis of perceived emotional synchrony: 16 items.

identity – and by this token, enhancing well-being – account that rests upon an intra-individual thinking process developed by each participant apart from co-participants contradicts Durkheim’s (1995) classic view that the cornerstone of social rituals lies in an inter-individual process of socially shared emotional experience or collective effervescence. In any case, PES should predict outcomes such as well-being above alternative explanatory variables such as social identification, arousal, rumination, and fusion of identity. These processes are analyzed in two relatively negative valence rituals: a patriotic parade aimed at enhancing negative emotions and aggressive dispositions toward national out-groups and a hazing ritual that enhances social identity evoking negative arousal.

Study 2.1 Patriotic Parade May 21

This study was conducted around a patriotic paramilitary parade in Chile. On May 21, Iquique’s Naval Combat and the role of Arturo Prat are recalled through the organization of military civic parades between members of the Navy and students of various public and private schools. The school parades have pseudo-military characteristics because they imitate the instrumental and war bands of the Chilean armed forces. A territorial conflict was active in this year between Bolivia and Chile. A product of War of the Pacific (1879–1883), Bolivia was left without sovereign access to the sea, and an important part of its territory became part of Chile. Bolivians demanded a sovereign exit to the Pacific Ocean, and on the other side, Chile shows willingness to make commercial concessions but without territorial cession. Chile and Bolivia were in litigation in 2016 before the International Court of Justice of The Hague because Bolivia demands that the court force Chile to negotiate an exit to the sea. This patriotic parade is aimed to enhance nationalist and pro-war attitudes. This longitudinal study analyses if different mediators explain

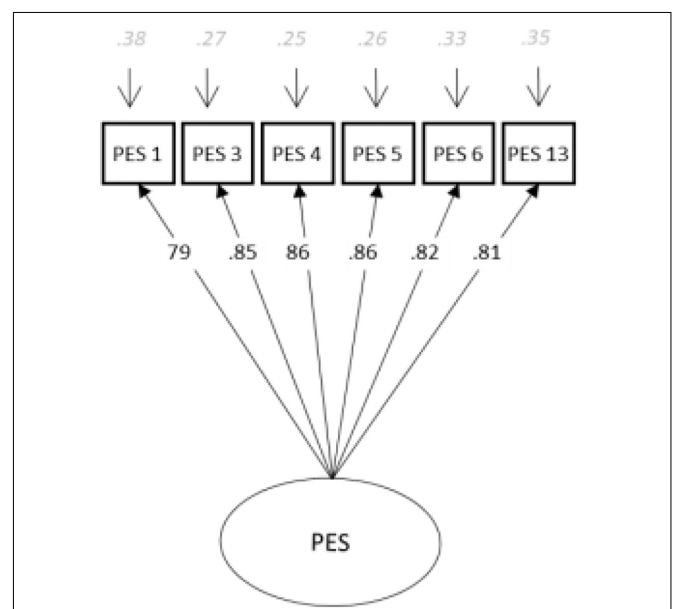


FIGURE 2 | Confirmatory factor analysis of perceived emotional synchrony: 6 items.

disposition to fight for the country and negative attitudes toward relevant national out-groups.

Participants and Procedure

Participants were secondary school students belonging to the municipal education of a working class neighborhood. Data collection took place in May 2016. The sample was composed of 65 students (44.2% women; aged between 15 and 18 years old; $M = 16.86$, $SD = 0.61$) from a high school in Puchuncaví (Valparaíso Region, Chile), who participated in the parade of

the Naval Glories – also known as the 21st of May Parade. Participants completed self-reported measures at T1 (4 days prior the gathering), T2 (the day after participation), and T3 (4 days after the event). The students completed the questionnaires in the classrooms, in the computer room, and during the parade. The students did not gain any benefit from participating in the study.

Measures

We assessed two dependent variables that are supposed to be impacted by participation in collective rituals, i.e., participant’s negative emotions toward the out-group and disposition to fight for the nation in a war (Swann et al., 2009; Gómez et al., 2011).

Out-group negative emotions (based on Izard DES; Echevarría and Páez, 1989). Participants indicated the extent to which they feel negative anger and outrage toward Bolivians on a scale ranging from 1 (not at all) to 7 (very much). Correlations among the items were satisfactory ($r = 0.757, p < 0.001$ and $r = 0.876, p < 0.001$, pre- and post-measures).

Defense of Chile (adapted from Swann et al., 2009). Seven items measured the disposition to fight and sacrifice one’s life to protect Chile (“I’d do anything to protect Chile” or “I’d sacrifice my life if that saved the life of another Chilean”) on a 7-point scale (1 = totally disagree, 7 = totally agree). Reliability indexes were $\alpha = 0.902$ and 0.949 for T1 and T3, respectively.

Mediators

Identity fusion with Chile (adapted from identity fusion – verbal scale, Gómez et al., 2011). Seven items were used to assess the fusion of identity of participants with Chile (e.g., “I am one with Chile”) in a 7-point scale (1 = totally disagree, 7 = totally agree). Reliability indexes were $\alpha = 0.875, 0.952,$ and 0.960 for T1, T2, and T3, respectively.

Chilean identity (adapted from in-group identification scale; Leach et al., 2008). Five items measured the national identification participants had (e.g., “I feel proud of being Chilean”) in a scale from 1 (totally disagree) to 7 (totally agree). Reliability indexes were $\alpha = 0.911$ and 0.950 for T1 and T3,

respectively. An indicator of changes in identification in the period of the parade was then computed (T3–T1).

Perceived emotional synchrony (short form of PES; Páez et al., 2015). We applied the final selection of six items to measure collective effervescence among participants to the collective gathering in T2 ($\alpha = 0.927$).

Results

To assess the incremental validity of PES-S, we ran hierarchical linear regressions in three steps. First, we introduced a baseline measure of each dependent variable and the first mediator: changes in national identity between T1 and T3 (Step 1). In a second step, we introduced the second mediator: identity fusion of T2. Finally, in the third step, PES-S scores were included.

Results show that, for every analysis, baseline scores predict the criterion variables. In Step 2, when changes in Chilean identity and identity fusion was included, the last one explained every dependent variable – marginally in the case of negative emotions. Finally, at Step 3, the inclusion of PES-S was a significant predictor of defense of Chile, and fusion of identity was a significant predictor of negative emotions in the last step (see Table 4).

Study 2.2 Students’ Hazing

This study was conducted on the campus of the University of Louvain, addressing newcomer hazing, a costly ritual (physical efforts, disgusting stimuli, humiliations. . .) frequently practiced in (a.o.) fraternities, sororities, military organizations, or athletic groups. To illustrate, participants may have to crawl through a muddy field while someone curses and yells at them. Such practices are worrisome due to their potential danger, whereas advocates stress social cohesion outcomes (e.g., Campo et al., 2003). Depending on the fraternity, hazing lasts from 2 to 4 weeks.

Participants

One hundred twenty freshmen ($M_{age} = 18.74, SD = 1.00$, with an equal number of men and women) linked to different hazing

TABLE 4 | Predictors of negative emotions and defense of Chile: hierarchical regressions.

| Step | Predictor | Negative emotions | | Defense of Chile | |
|------|-----------------------------|---------------------|----------------------|---------------------|---------------------------|
| | | b | p | b | p |
| 1 | Variable at T1 | 0.639 | 0.0001 | 0.636 | 0.0001 |
| | Changes in Chilean identity | −0.024 | 0.816 | 0.163 | 0.10 |
| | Fit | $R^2 = 0.460^{***}$ | | $R^2 = 0.460^{***}$ | |
| 2 | Variable at T1 | 0.593 | 0.000 | 0.446 | 0.0001 |
| | Changes in Chilean identity | −0.078 | 0.462 | 0.104 | 0.281 |
| | Identity fusion | 0.197 | 0.076 | 0.345 | 0.004 |
| | fit | $R^2 = 0.405^{***}$ | $\Delta R^2 = 0.034$ | $R^2 = 0.533^{***}$ | $\Delta R^2 = 0.099^{**}$ |
| 3 | Variable at T1 | 0.590 | 0.0001 | 0.558 | 0.0001 |
| | Changes in Chilean identity | −0.079 | 0.456 | 0.097 | 0.282 |
| | Identity fusion | 0.279 | 0.050 | 0.059 | 0.684 |
| | PES-s | −0.126 | 0.345 | 0.351 | 0.004 |
| | Fit | $R^2 = 0.407^{***}$ | $\Delta R^2 = 0.01$ | $R^2 = 0.592^{***}$ | $\Delta R^2 = 0.065^{**}$ |

** $p < 0.01$; *** $p < 0.001$.

committees, depending on their area of origin and type of study, participated in all three measurement times: (1) baseline levels of dependent variables assessed just before hazing, (2) potential mediators halfway through hazing, (3) dependent variables 3 days after the final hazing ceremony. Questionnaires were paired using a specific code for each participant.

Measures

We assessed variables that were found to be impacted by participation in a collective ritual: participant's identity fusion with the other hazed students (Swann et al., 2009) and individual and social well-being-related variables, psychological well-being (Vázquez and Hervás, 2012), and positive emotional climate (De Rivera and Páez, 2007). Unless specified, all items were rated on 5-point scales ranging from 1 ("not at all") to 5 ("very strongly"). Completing the online questionnaires took, on average, 7 min for the questionnaire at time (1), 5 min for the questionnaire at time (2), and 7 min for the questionnaire at time (3). Main dependent variables were measured at times (1) and (3). Potential mediators were evaluated at time (2).

Identity fusion (Swann et al., 2009). A second indicator of social cohesion used a pictographic measure appraising "identity fusion" with the other participants. Five pictures showed different degrees of overlap between a smaller and a larger circle representing, respectively, "the self" and "the group" (1 = no overlap, 5 = complete overlap). Participants chose the diagram "that best describes the relationship between you and the other rookies."

Well-being (a short form of the Pemberton happiness scale; Vázquez and Hervás, 2012). A six-item version was used (e.g., "I feel very connected to the people around me," "I think my life is useful and valuable," "I enjoy the little things of everyday life"), yielding a single indicator of well-being, $\alpha = 0.76$ at time (1) and 0.81 at time (3).

Emotional climate (Páez et al., 2007). We used two items to measure participants' perceptions of the main shared emotions in their social milieu in terms of positive trust among participants and solidarity (1 = totally disagree; 5 = totally agree). Reliability was $r = 0.426$, $p < 0.001$ and $r = 0.330$, $p < 0.001$ (for positive climate at T1 and T3).

Mediators

The first mediator is a measure of change of social identification during the hazing. The second and third mediators, experience-elicited arousal and experience-related thoughts, constitute proxy measures for the high-arousal intrapersonal model of costly ritual. The fourth one, PES, aims at appraising the model based on the socially shared experience.

Social identification (a short version of the in-group identification scale, Leach et al., 2008) was measured using six items assessing solidarity ("I feel solidarity with my co-rookies," "I feel committed to my co-rookies"), satisfaction ("I am glad to be a rookie," "It is pleasant to be a rookie"), and centrality ("I often think about the fact that I am a rookie," "The fact that I am a rookie is an important part of my identity"): $\alpha = 0.47$ and 0.76 for T1 and T3, respectively². An indicator of

²This low alpha likely results from the fact that, at the start, the status of "rookie" was totally new and alien to participants.

the change in identification in the period of hazing was then computed (T3–T1).

Experience-elicited arousal (*ad hoc*). Three questions were used: "Overall, how much stress or trauma did you experience during the hazing?" "How intense was this experience for you?" "To what extent did you feel anxiety during this experience?" Ratings (1 = very weak; 5 = very strong) were averaged in a single index, $\alpha = 0.72$.

Experience-related thoughts (*ad hoc*). Three questions assessed respondents' thinking of the ritual (0 = not at all, 4 = very much). "Since the event, to what extent has it occupied your mind?" "Do you ever experience thoughts, mental images, memories about hazing?" "To what extent do these thoughts monopolize your attention?" An average thought score was established, $\alpha = 0.70$.

Perceived emotional synchrony (PES-S, a short form of PES; Páez et al., 2015). Six items extracted from the 18-item scale assessed the experience of emotional effervescence. An average score of PES was computed, $\alpha = 0.88$.

Results

To assess the incremental validity of PES, we ran hierarchical linear regressions as in the previous study, but in a second step, we introduced as mediators experience-elicited arousal and experience-related thoughts. In the third step, PES was introduced. Results showed that PES was always significantly linked to the level of the dependent variable at time (3) with a significant R^2 change ranging from 0.018 to 0.036. By contrast, experience-elicited arousal and experience-related thoughts did reach significance levels only in the case of positive emotional climate (see Table 5).

DISCUSSION

Overall, the incremental validity of PES-S was confirmed through two studies on partially negatively valenced rituals, including a negative or costly ritual. Our studies emphasize the relevance of emotional synchronization in collective gatherings conducive to strong forms of social identification, particularly the overlapping of the individual with the collective self. However, studies also show the relevance of emotional sharing and of positive emotions.

Integrative Scale for Collective Gatherings: Perceived Emotional Synchrony, Antecedents and Correlates

The short form includes three items of felt unity and three of shared intense emotionality. As antecedents, we included an item on shared focalized attention and Gabriel et al.'s (2017) question on behavioral synchrony. As a measure of a proximal potential outcome of PES (the experience that the event might help to transcend the ordinary) we used three of the original Gabriel et al. (2017) items. Item five was rewritten because, in a secular society, the concept of "sacred" is not easy to understand. In Gabriel et al.'s (2017) analysis, sacredness items did not fit well in a monofactorial structure, and we think that it is a complementary facet and

TABLE 5 | Predictors of identity fusion, well-being and social climate: hierarchical regressions.

| Step | Predictor | Dependent variables | | | | | |
|------|-----------------|---|----------|---|----------|---|----------|
| | | Identity fusion IOS | | Well-being | | Positive emotional climate | |
| | | <i>b</i> | <i>p</i> | <i>b</i> | <i>p</i> | <i>b</i> | <i>p</i> |
| 1 | Variable at T1 | 0.459 | 0.000 | 0.649 | 0.000 | 0.625 | 0.000 |
| | Shared Identity | 0.378 | 0.000 | 0.418 | 0.000 | 0.259 | 0.000 |
| | fit | $R^2 = 0.348^{***}$ | | $R^2 = 0.529^{***}$ | | $R^2 = 0.435^{***}$ | |
| 2 | Variable at T1 | 0.458 | 0.000 | 0.653 | 0.000 | 0.596 | 0.000 |
| | Shared Identity | 0.378 | 0.000 | 0.424 | 0.000 | 0.264 | 0.000 |
| | Arousal | 0.120 | 0.169 | -0.039 | 0.595 | -0.137 | 0.098 |
| | Rumination | -0.118 | 0.173 | -0.056 | 0.453 | 0.050 | 0.540 |
| | Fit | $R^2 = 0.351^{***}$ $\Delta R^2 = 0.014$ | | $R^2 = 0.528^{***}$ $\Delta R^2 = 0.007$ | | $R^2 = 0.439^{***}$ $\Delta R^2 = 0.013$ | |
| 3 | Variable at T1 | 0.409 | 0.000 | 0.614 | 0.000 | 0.443 | 0.000 |
| | Shared Identity | 0.365 | 0.000 | 0.409 | 0.000 | 0.254 | 0.000 |
| | Arousal | 0.103 | 0.224 | -0.061 | 0.399 | -0.164 | 0.048 |
| | Rumination | -0.121 | 0.153 | -0.055 | 0.447 | 0.034 | 0.674 |
| | PES-s | 0.197 | 0.010 | 0.173 | 0.008 | 0.145 | 0.048 |
| | fit | $R^2 = 0.383^{***}$ $\Delta R^2 = 0.036^{**}$ | | $R^2 = 0.553^{***}$ $\Delta R^2 = 0.028^{**}$ | | $R^2 = 0.453^{***}$ $\Delta R^2 = 0.018^{**}$ | |

b represents standardized regression weights. * indicates $p < 0.05$; ** indicates $p < 0.01$; *** indicates $p < 0.001$.

a different construct of basic collective effervescence or PES (Table 6).

Another element that is emphasized in the experience of collective gatherings and demonstrations is the joy of being together or the positive valence of being together (Durkheim, 1912/2008; Moscovici, 1988; Hopkins and Reicher, 2016). We propose three items used in the study of concerts, demonstrations, and collective religious rituals (Novelli et al., 2013; Khan et al., 2015). Some authors argue that participation in collective gatherings and the experience of collective effervescence or PES are intrinsically related to self-transcendent emotions such as kama muta or being moved by love to/for others (Fiske et al., 2017) or social awe and moral inspiration (Haidt, 2006). To tap into these proximal emotional effects, we use items of the emotional positivity scale (Fredrickson, 2009), one item of the Kammus scale (Fiske et al., 2017) and one item of positive emotional climate (Páez et al., 1997).

To assess the process of social identification with other participants in the collective gathering, we add three items used by SCT authors (Novelli et al., 2010), and for the process of fusion of identity with others participants, three items of the Gómez et al. (2011) verbal scale that did not overlap semantically with PES and social identification. Because some authors, such as Xygalatas et al. (2013), emphasize negative emotional arousal as an important explanatory variable of collective rituals, at least for costly and negative valence rituals, and because some positive valence rituals imply a challenge and effort, we include a measure of negative arousal (Bouchat et al., 2020). In the same vein, because the intrapersonal cognitive process or rumination, together with arousal, are supposed to be explanatory variables of collective gathering effects, a scale of repetitive thoughts was included (Whitehouse and Lanman, 2014). Finally, social sharing of emotions and capitalization play an important role in the process of well-being, post stress growth, construction

of emotional climate, and collective memories (Rimé, 2007), a measure of frequency of social sharing was included.

CONCLUSION

How do instances of collective gatherings as collective rituals, secular, and religious ceremonies, enhance well-being even in the case of a negatively valenced event? We propose that collective effervescence or PES is one of the main explanatory variables of this effect. PES is a process that occurs when there is a collective gathering, shared focused attention, and behavioral and emotional synchrony. It is the shared perception of entrainment, coordination, and synchronization of the affective experience. This group state of high emotional arousal related to intensification of emotions, irrespective of the content and form of the collective gathering, evokes unison and connection with others and empowers the individual.

A short form of PES was described in this paper. Reliability and content validity, however, are often in conflict during the construction of short forms. When questionnaire items are chosen for inclusion in a short form based solely on high item-total correlations, the result is often a scale that measures only a narrow portion of the original construct, a phenomenon referred to as the “attenuation paradox” (Loevinger, 1954). In the short form, we opted for avoiding overlapping with fusion of identity and social identification as well as for including inclusive items of shared intense emotions and felt unity. The scale shows satisfactory structural validity and incremental validity in two longitudinal studies.

Contact with sacred values and transcendent emotions or a collective identity process, like social identification or cognitive categorization as in-group members, or a more affectively loaded process of collective identity such as fusion of identity, were

TABLE 6 | An integrative measure of collective effervescence experiences.

"Please, respond the following questions about the collective event in which you have participated"

Shared attention (*ad hoc*) (based on Collins, 2014; Rennung and Göritz, 2016) (Ratings 1 = Nothing, 7 = A lot)

"The people in the collective gathering focused their attention on the same stimuli, symbols, objects or events (i.e., everyone focused simultaneously their attention or pay attention to the same aspect of the event at the same time)"

Behavioral synchrony (*ad hoc*) (based on Gabriel et al., 2017) (Ratings 1 = Nothing, 7 = A lot)

"The people in the event were involved in a synchronous activity at all (i.e., everyone doing the same thing at the same time, such as applauding, dancing, laughing, praying, cheering, or some other synchronous activity)"

Perceived Emotional Synchrony – Short Version (Páez et al., 2015). (Ratings 1 = Nothing, 7 = A lot) *During the event, to what extent have you felt:*

1. We performed as one, like a single person
2. It seemed to me as if we were a single person
3. We felt that we were one
4. We felt more sensitive to emotions and feelings others that feel
5. We felt a strong shared emotion
6. We felt stronger emotions than those we normally feel

Negative Emotional Arousal (*ad hoc*) (Ratings 1 = very weak; 5 = very strong)

1. Overall, how much stress did you feel during this experience?
2. How intense was the collective experience for you?
3. How much anxiety did you feel during this experience?

Intense Positive Emotions collective gathering related (Novelli et al., 2013; Khan et al., 2015) (Ratings 1 = disagree strongly and 7 = agree strongly). *During the event, to what extent have you felt:*

1. Fulfilled
2. Happy
3. Alive

Transcendent emotions (Zickfeld et al., 2019 item 1, ratings 0 = not at all to 6 = a lot; Fredrickson, 2009 items 2 3 4 5, ratings 0 = not at all to 4 = extremely; and Páez et al., 1997 item 6 adapted from Positive emotional climate, ratings 1 = not at all to 6 = a lot) *During the event, to what extent have you felt:*

1. Moved, touched
2. Awe, wonder, or amazement in front of greatness
3. Morally inspired, uplifted, or elevated
4. Love, closeness, trust
5. Hopeful, optimistic, or encouraged
6. Feel solidarity

Situated Social Identity (Novelli et al., 2013) (Ratings 1 = disagree strongly and 7 = agree strongly) *Thinking in the group that perform the collective activity please answer the following statements*

1. I identified with the other members of the collective event
2. I am like the other people who were at the collective event
3. I felt strong ties with the other people who were at the collective event

Identity Fusion (Gómez et al., 2011) (Ratings 1 = totally disagree, 7 = totally agree) *Thinking in the group that performed the collective activity, please answer the following statements*

1. I'll do for my group more than any of the other group members would do
2. I am strong because of my group
3. I make my group strong

Transcendent Experience (Gabriel et al., 2017) (Ratings 1 = disagree strongly and 7 = agree strongly)

1. I felt as if there was a greater purpose to the event
2. I felt as if there was something transcendent, associated to values and ideals, about the event
3. I felt as if there was something special about the event
4. I felt as if the event changed me in some way

Rumination scale (*ad hoc*) (Ratings 0 = not at all, 4 = very much)

1. Since the event, to what extent has it occupied your mind?
2. Do you ever experience thoughts, mental images, and memories about the event?
3. To what extent did these thoughts catch/grab/monopolize your attention?

Social sharing in the aftermath of the event (Rimé et al., 1991)

1. After the event, did you feel the need to talk about it with other people?

Not at all. 0 1 2 3 4 5 6 Extremely

2. How long after the event did you talk about it for the first time?

Within 2 h of the event The same day The next day Within 8 days Later on I haven't talked about it until now

(Continued)

TABLE 6 | Continued

| | | | | | | | | |
|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------|
| 3. Since the event happened, how many times have you actually talked about it? | | | | | | | | |
| Never | 1–2 times | 3–4 times | 5–6 times | 7–8 times | 8–10 times | 10–20 times | More than 20 times | |
| 4. Since the event happened, how many different people have you talked with about it? | | | | | | | | |
| None | 1 | 2 | 3 | 4 | 5 | 6 or more | | |
| 5. Currently, do you feel like talking about this event? | | | | | | | | |
| Not at all. | <input type="checkbox"/> 0 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | Extremely |

Antecedents: shared focalized attention and behavioral synchrony. Correlates as proximal potential outcome of perceived emotional synchrony: Intense positive emotions, Transcendent emotions, Negative Emotional arousal, Correlates as Outcomes: identity and beliefs (Situating social identification, Fusion of identity with others, and Transcendent Experience). Interpersonal Correlates: Rumination, a scale of repetitive thoughts, Social sharing after the event.

excluded as items and contents because they are potential outcomes or alternative explanatory variables.

Our results clearly favor the inter-individual process of socially shared emotional experience over the intra-individual cognitive process such as social identification and rumination even regarding effects of relatively negatively valenced and costly rituals. More specifically, we showed that PES always significantly increases the explained variance of all but one dependent variable above and beyond other factors (i.e., social identification, identity fusion, arousal, rumination).

When people are gathered together in a costly ritual, an out-group anger-related parade or a funerary ritual, group members communicate in the same thought and action, they share and synchronize emotion. A successfully conducted collective gathering that induces a middle to high level of PES helps in the creation of an emotional atmosphere or climate, which is the expression of how the majority of people feel regarding the group’s current situation (De Rivera and Páez, 2007) as was found in the two longitudinal studies in which PES predicts positive emotional climate. This intensification and convergence of emotions fueling a sense of comfort and enjoyment restores self-confidence, purpose of life, and well-being (Moscovici, 1988; Durkheim, 1995), and in fact, PES predicts psychological well-being in the study. In other terms, collective effervescence measure by our PES scale predicts a higher level of positive collective emotions and of personal or psychological well-being, this means collective and individual well-being.

Far from excluding other variables, our results suggest that PES adds some explanatory power to a multifactor mechanism. For instance, social identification is probably a necessary condition for fusion, and both processes are relevant as shown in other studies. In fact, the baseline level of social identification shows positive correlations with PES ($r = 0.49$ and $r = 0.44$ in section “STUDY 1” and section “STUDY 2,” respectively, and with fusion of identity $r = 0.62$ in section “STUDY 2”). Social identity, as an internalized sense of shared group membership, and an associated sense that one is part of a bigger “us” is related to low depression and well-being (Steffens et al., 2017; Postmes et al., 2018).

Fusion of identity plays a specific role by reinforcing negative emotions toward out-groups, confirming the affective load facet of this process (Gómez et al., 2011). On the other hand, some evidence supports the role of negative arousal as a mechanism explaining the positive outcomes of some type of rituals. In our view, PES explains a complementary part of the variance

and suggests that a neo-Durkheimian model of the positive effects of participation in collective gatherings is a valid one. These results also do not dispel intrapersonal experiences of high-arousal rituals. That emotional experiences elicit recurrent thoughts is well documented (e.g., Rimé, 2007, 2009) as well as that negative emotional arousal during collective rituals such as demonstrations predicts positive outcomes such as posttraumatic collective growth at the bivariate level (Rimé, 2009). For instance, participants in Hindu religious rituals involving body piercing evidenced higher levels of prosocial attitudes and inclusive social identity, and these effects were proportional to the intensity of their reported suffering (Xygalatas et al., 2013).

Nevertheless, in the present data, an interpersonal and group process like PES demonstrates its superiority in predicting the effects even of costly rituals. Our studies are not alone in reaching this conclusion. Lobato and Sainz (2019) observed participants’ identity fusion after a pilgrimage, thus further confirming that costly rituals entail social cohesion. Long-term effects of social cohesion were not predicted by intrapersonal variables (material remembrances; symbolic memories; reminiscent thoughts) but well by contacts with other pilgrims. Even in costly rituals and other negatively valenced rituals, positive shared emotions could fuel well-being (Tewari et al., 2012). What matters is the creation of a positive emotional atmosphere in which grief, sadness, anger, and fear are transformed into hope, solidarity, and trust (Durkheim, 1995; Collins, 2004). In sum, rituals reinforce emotions, particularly positive collective emotions, such as awe, moral inspiration, and hope, through PES, and this is how they strengthen social cohesion and increase well-being (Durkheim, 1995; Collins, 2004). The collective rituals have social consequences in the relations between nations and social groups, national identities need patriotic rituals to share a sense of pertinence and sacred values and to perpetuate intergroup conflicts (as is shown in this Chilean ritual study). Instead, rituals celebrating global identity promote social solidarity and peace attitudes (De Rivera and Carson, 2015). In sum, collective rituals, irrespective of their emotional content (e.g., joyful feasts, sad funerary, or patriotic rituals) empower the individual, reinforce social ties, and motivate moral commitment to groups, to leaders, and to values (Rai and Fiske, 2011; Páez et al., 2015; Cusi et al., 2018; Pizarro et al., 2018).

In conclusion, our review and empirical studies emphasize the relevance of emotional synchronization in collective gatherings conducive to strong forms of social identification, particularly the overlapping of the individual with the collective self. However,

studies also show the relevance of emotional sharing and of positive emotions. Globally, our review of models and studies reaffirm the importance of shared emotional experiences during collective gatherings and rituals, justifying the evaluation and measurement of the construct of perceived emotion synchrony as a proxy indicator of these processes of collective effervescence.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Ethical Committee of the University of the Basque Country. The patients/participants provided their written informed consent to participate in this study.

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AUTHOR CONTRIBUTIONS

AW, LZ, PB, JP, and FH planned and collected the data. NB and BR were involved in planning and supervised the work. All authors processed the data, performed the analysis, drafted the manuscript, designed the figures, performed the calculations, discussed the results, and commented on the manuscript.

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Association Between Group Identification at School and Positive Youth Development: Moderating Role of Rural and Urban Contexts

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These studies are framed within Social Identity Theory and the Positive Youth Development approach. The aim is: (1) to analyze the relationship between group identification at school and key positive development variables (such as self-esteem, self-efficacy, assertiveness, empathy, alexithymia, satisfaction with life, and academic performance); and (2) examine the moderator role of context (rural or urban areas of residence) and sex in these relationships. The samples were composed of 246 adolescents from a rural context (Study 1) and 156 students from rural and urban contexts (Study 2). As proposed in our hypotheses, the results show statistically significant relationships between group identification and all the variables considered, higher group identification with the class in the rural context, and a moderator role of the context in the relationships between group identification and satisfaction with life, assertiveness, and empathy. These results are relevant for designing and implementing psychoeducational programs to promote positive youth development in both rural and urban contexts.

Keywords: adolescence, group identification, peer relationships, positive youth development, rural area, educational intervention

INTRODUCTION

Despite the importance of the development of social identity during adolescence (Erikson, 1968), a time when interactions with peer groups play an important role in identity formation and adolescent development (Eccles et al., 2003), little attention has been paid to the relationship between social identity and positive youth development (PYD). Although a central aspect of the PYD approach is that it occurs through the interaction between individuals and their social context (Lerner, 2002), most of the research has focused on interpersonal factors, with little attention paid to analyzing the role that groups in general, and social identity in particular, can play in PYD (Bruner et al., 2017). This paper aims to fill this research gap, analyzing the contribution of social identity to PYD.

This contribution may be important if we consider that relevant PYD models include constructs that highlight the role of the individual-social context interaction. For example, the Five Cs model (Lerner et al., 2005) includes the connection competence, which refers to the importance of positive links with other people, including the peer group. In addition, in the model proposed by Oliva et al. (2010), one of the competencies in the area of personal development is the sense of belonging, that is, the degree to which adolescents experience a sense of belonging and satisfaction with their school, as well as the value of the perceived support from teachers as a fundamental part of the link with the school's teachers.

Social identity is a mechanism through which adolescents establish links and connections with their peers and help them to develop a sense of belonging that can be beneficial to their personal development (Bruner et al., 2017). Psychosocial research has related social identity to a number of variables that are relevant in adolescent development (Bennett and Sani, 2004; Sani, 2012). For example, Haslam et al. (2009) proposed a relationship between group identification, personal development, and positive psychological variables. They emphasize that a sense of shared identity is an important mechanism in making members of disadvantaged groups feel connected, work together, and cope with the negative consequences of their personal circumstances. Based on these assumptions, and in order to advance in this direction, the main purpose of this paper is to examine the association between group identification and central PYD variables.

Social Identity

According to social identity theory (Tajfel and Turner, 1986; Turner et al., 1987), people can be defined as unique and different from other people (our personal identity – the “self”) or as similar to other people, in terms of being members of groups (our social identity – “us”). Therefore, we can define ourselves as members of a certain in group (e.g., family, school, class). The emotional significance and value that belonging to this group has for the individual is what defines his/her group identification (GI) (Tajfel and Turner, 1986). GI is the feeling of belonging and attachment to the group, along with a feeling of union with the other group members. It is important to highlight that group membership and GI are not synonymous because it is possible to be a member of a group and not feel identified with it (Sani et al., 2012). GI produces a feeling of shared social identity that can have highly significant effects. When we identify with a group, we internalize the norms, values, and beliefs of this group, which affects our attitudes, emotions, and behaviors, and increases the probability of behaving in accordance with the group's norms (Tajfel and Turner, 1986). Thus, depending on the group's norms, the consequences of the behavior can be positive (for example, when the functioning norms of this group are favorable to learning and achievement in the academic context), but they can also be negative (for example, when the functioning norms of this group are associated with antisocial or risky behaviors, such as consuming drugs or alcohol). In this regard, a particularly relevant study showed that the relationship between the school climate and students'

behavior problems was mediated by the students' connection with the school (Loukas et al., 2006). Studies have also found that the students' perceptions of the school climate contribute to explaining their academic performance, but this effect is mediated by their psychological identification with the school (Maxwell et al., 2017).

This psychological process becomes especially relevant during the adolescent stage because adolescents are more susceptible to being influenced by their peers, and they usually have a strong desire to belong. Some studies show that social identity varies throughout adolescence, and greater identification with the group is found in early adolescence, when teenagers are more concerned with achieving a sense of belonging (Bornholt, 2000; Tanti et al., 2011). They start to understand how important belonging to certain groups is to them (Tarrant, 2002; Bennett and Sani, 2004; Harter, 2012), and they make an effort to understand which groups they identify with (Crosnoe, 2011). Moreover, the majority of adolescents not only identify with groups that share their sociodemographic characteristics (such as age and ethnicity), but also groups that share their activities (for example, from their extracurricular activities or sport clubs) (French et al., 2006; Tanti et al., 2011). Identification with groups of peers has been shown to be important for the psychosocial adjustment of adolescents (Brown and Larson, 2009). Among the groups of peers to which adolescents belong, two are especially relevant: the group of classmates and the group of friends they have outside the school and with whom they spend their free time. Research has shown that identification with these two groups is closely related and contributes greatly to the development of adolescents' personal identity and their psychosocial adjustment (Alberolo et al., 2018). This relationship is even more significant in the case of adolescents who live in rural areas, to the extent that the group of classmates and the group of friends usually coincide. Moreover, adolescents in rural areas, compared to those in urban areas, have closer social connections and tend to show stronger feelings of bonding and a greater sense of identity, especially with the family and the community (Crockett et al., 2000; Agger et al., 2018).

Therefore, the contribution of social identity to PYD can be especially important in the school environment because it is a favorable context for the development of close social ties and identification with peers, especially in rural areas where the school is the main sphere of interaction for adolescents. Although the relationship between social identity and PYD in the school environment has hardly been analyzed, recent research (Mavor et al., 2017) has shown the importance of the social identity approach in educational practice. Several studies have revealed that the school constitutes a significant psychological group that contributes to the formation of the social identity of its members (Haslam, 2017; Platow et al., 2017). For example, the importance of feeling psychologically connected to the school has been shown in the case of academic achievement (Reynolds et al., 2017a,b). The association between school identification and the development of healthy behaviors in adolescents has also been demonstrated (Miller et al., 2016).

Positive Youth Development

The present study is also framed within the PYD approach, which emphasizes the adolescent's emotional, social, and psychological wellbeing. Adolescents are thought to have strengths that can be nurtured, rather than being sources of problems to resolve (Lerner et al., 2005; Benson et al., 2006). The research indicates that interventions based on universal social and emotional learning (SEL) are the best predictors of long-term wellbeing (Taylor et al., 2017). Interventions with adolescents require an understanding of the factors associated with adolescent risk and the ways young people acquire and master the necessary skills to promote healthy development (Brooks-Gunn and Roth, 2014; Ciocanel et al., 2017; Waid and Urich, 2020).

There are different conceptual models of PYD. Lerner et al. (2003), in the Five Cs model, identify five groups of elements of this development: *competence, confidence, character, connection, and caring*. In turn, Scales et al. (2000, 2011) propose seven basic elements of positive development: *school success, leadership, valuing diversity, physical health, helping others, delaying gratification, and overcoming adversity*. Oliva et al. (2010) designed a model that defines healthy and PYD, based on 27 specific competencies grouped in five large areas: *personal, social, cognitive, emotional, and moral development*. The competencies related to personal development are located in the center of the model. These are basic competencies, skills, and capabilities that serve as the pillar for the rest of the competencies and, in turn, draw on them. It should be pointed out that there are many similarities between the models, and that important PYD variables, such as self-esteem, self-efficacy, assertiveness, and empathy, are found in both the Five Cs model and in the model proposed by Oliva et al. (2010).

The purpose of the present study is to analyze the relationship between GI and various PYD variables, considering GI as identification with the class group. The PYD variables included in Study 1 stem from both the Five Cs model and the model by Oliva et al. (2010): self-esteem, self-efficacy, assertiveness, and empathy. Moreover, academic performance was added from the Scales et al. (2000) proposal, and satisfaction with life and alexithymia were included because of their relevance in good adjustment in adolescence.

Both self-esteem and self-efficacy are variables included in the Five Cs model, specifically in *confidence*, that is, a positive view of oneself, a sense of self-efficacy, and free will (Lerner et al., 2005), and they are also included in model by Oliva et al. (2010) as part of the personal competences. Self-esteem can be considered one of the most powerful predictors of the degree of psychological adjustment during adolescence (Parra et al., 2004). Self-efficacy has to do with the individual's perception of his/her ability to achieve an objective. It is also related to life satisfaction, which contributes to the achievement of personal goals, with the resulting benefits (Brannon, 2001).

The assertiveness variable, included in the Five Cs as *competence* (Lerner et al., 2005), is defined as the ability to express oneself and behave efficaciously and appropriately in interpersonal relationships and in diverse contexts. It is also a social competence included in model by Oliva et al. (2010). This variable is important due to the relevant role played by

peer interaction in personal and social development during adolescence, a period of profound changes, marked by instability, where relational models are created that later become part of the adult's personal identity.

Regarding the empathy variable, we employ the definition used by Sánchez-Queija et al. (2006), who consider it a vicarious experience of the emotional state of the other, based on the classic definition by Mehrabian and Epstein (1972). Empathy is defined as a capacity of the individual, almost a personality trait, that has been called dispositional empathy. According to this conceptualization, people will be more or less empathic, without taking into account situational aspects involving physical or relational contexts that generate more or less empathy.

Satisfaction with life is considered the cognitive component of psychological wellbeing and reflects subjective personal wellbeing or the degree to which the individual favorably values his/her quality of life (Reina et al., 2010). Its importance lies in the relationship between satisfaction with life in infancy and adolescence and various indicators of adaptive functioning (Huebner, 2004).

Alexithymia is part of emotional competence, and it is understood as difficulty in recognizing and dealing with our own emotions and identifying those of others (Paricio et al., 2016). Specifically, it is a clinically derived concept that refers to a cognitive-affective disturbance characterized by an individual's impaired ability to experience, label, and express emotions. Some authors have suggested that the influence of alexithymia on the expression of stress-related pathological states might involve poor resistance to stress. Taking into account that adolescent development is a period of increased susceptibility to stress, low levels of alexithymia may be associated with aspects of functioning associated with self-regulation, mood, and social-emotional development.

Finally, the relationship between GI and academic performance is also analyzed because the latter is one of the main elements of PYD (Scales et al., 2011). Academic performance is integrated into the Five Cs model as *scholastic competence*, which refers to the mastery of certain intellectual and social skills related to good academic performance (Lerner et al., 2005).

As far as we know, only the study by Tarrant et al. (2006) has analyzed the relationship between GI at school and one of the variables involved in PYD, specifically self-esteem. This study highlights the role of identification with the school-based friendship group in self-esteem and various developmental tasks (for example: achieving economic independence). The results show that participants who identified strongly with the group of friends reported higher levels of self-esteem and had a more positive subjective view of personal and social relationships. Other studies referring exclusively to ethnic identity in adolescents have found a positive relationship between this type of GI and self-esteem (Umaña-Taylor, 2004) and between the latter and satisfaction with life (Kiang et al., 2008; Dimitrova et al., 2015). In the school context, some studies show that the feeling of belonging to the school favors students' wellbeing and commitment (Bizumic et al., 2009; Miller et al., 2015). Moreover, a relationship has been found between GI and some PYD dimensions, such as self-efficacy (Guan and So, 2016)

and satisfaction with life (Wakefield et al., 2018), but in an adult population.

Moreover, although there are no conclusive results, the literature shows some sex differences in relevant PYD variables. Thus, for example, research points to greater wellbeing, self-esteem, and psychological adjustment in boys (Pastor et al., 2003; Puskar et al., 2010; Reina et al., 2010), and greater emotional and moral competence in girls (Lerner et al., 2005). Along these lines, Study 1 tested sex differences in PYD variables and GI and the moderator role of sex in the relationships between GI and PYD.

Rural-Urban Settings and Youth

The role of the rural-urban context in the relationship between GI and PYD has received little attention, although there is evidence of a relationship between social identification and wellbeing in rural areas (Khan et al., 2014). Urban Chinese male adolescents, compared to those in rural areas, have also been found to have a lower sense of family obligation associated with less family identification and lower academic motivation (Fuligni and Zhang, 2004).

However, rural areas also have problems that are often ignored. Contrary to the belief that they avoid the problems and chaos of urban life, rural areas have problems of depopulation, isolation, and low income, which have strong repercussions. Studies show that adolescents who grow up in rural settings, compared to urban settings, are more vulnerable (Elliott and Larson, 2004; Viner et al., 2012; Smokowski et al., 2013; Jiang et al., 2016) and more likely to engage in risk behaviors such as alcohol, tobacco, or other drug use and risky sexual behaviors (Atav and Spencer, 2002). In addition, adolescents in rural settings face more barriers to accessing health resources related to mental and sexual health, including lack of transportation, lack of information about resources, confidentiality concerns, shame, and social stigma (Elliott and Larson, 2004; Curtis et al., 2011).

At the school level, for example, a high prevalence of bullying experiences has been found in rural schools (Dulmus et al., 2006), as well as more school failure compared to suburban areas and impoverished cities in the United States (Provasnik et al., 2007) and a higher incidence of inappropriate behavior during middle school (Witherspoon and Ennett, 2011). In Spain, early adolescents (11 or 12 years old) living in a rural context experience a significant transition from elementary school, a space with a reduced number of classrooms and a reference teacher, to high school, a space with a large number of classrooms and teachers. This transition produces important changes in social experiences (Weiss and Bearman, 2007) and new academic challenges. At the same time, the transition to high school offers new opportunities for extracurricular activities and the chance to develop friendships with more like-minded peers (Sussman et al., 2007).

However, although there is some evidence that school experiences and a sense of worth and belonging to school contribute to predicting academic achievement and adolescents' aspirations in rural areas (Irvin et al., 2011), research on the importance of this sense of belonging has focused primarily on young people in urban or suburban settings (Irvin et al., 2011), with a shortage of research in rural contexts. In this study, we

intend to fill this gap by analyzing the role of sense of belonging and shared identity in PYD in the rural school context.

The Present Study

The purpose of this study is to examine the association between GI and PYD variables and whether these relationships differ depending on the sex and the context (area where they live: urban or rural); that is, sex and context were tested as moderator variables in Study 1 and Study 2, respectively. Based on previous research, we hypothesized that: (1) there would be significant associations between GI and PYD variables; (2) GI would be higher in adolescents in a rural area; and (3) the associations hypothesized in (1) would be stronger in a rural context. We conducted two studies to test these hypotheses. In Study 1, we examined Hypothesis 1 in a sample of rural students. Moreover, we tested whether sex moderated the relationships between GI and the PYD variables. Study 2 was an extended replication of Study 1, but it included a new sample of rural students, as well as a sample of urban students, in order to determine whether the context plays a moderator role in the relationships between GI and PYD variables.

METHOD: STUDY 1

Participants

The sample is composed of 246 students in 8th ($N = 114$) and 9th grades ($N = 130$), aged between 12 and 16 years old ($M = 13.90$; $SD = 0.860$); 4.1% of the participants are 12 years old, 27.2% are 13 years old, 46.7% are 14 years old, 19.5% are 15 years old, and 2.4% are 16 years old. Of the total sample, 48.8% are girls, and 51.2% are boys.

The participants belong to three public High Schools (School 1 = 85; School 2 = 60; School 3 = 101) in the province of Teruel, an area in northeastern Spain. All the 8th and 9th grade students in these three schools participated in the study. These high schools were selected through non-probability convenience sampling, and they share the following characteristics: the students who attend these three schools come from rural towns with populations of less than eight inhabitants per km.²; they come from towns that are isolated from each other, with populations mainly over 65 years old and a high level of depopulation.

Measures

Group Identification

Tarrant (2002) Group Identification Scale, adapted in Spain by Cava et al. (2011), was used to measure this variable. The scale has 13 items (for example, "I am happy to belong to this class"), with a Likert-type scale (0 = *strongly disagree*, 10 = *strongly agree*). The students received the instruction to respond to the questionnaire by considering the group as the class. The scale had high internal consistency: Cronbach's $\alpha = 0.81$.

Self-Esteem

To assess self-esteem, the Spanish adaptation by Echeburúa (1995) of the Rosenberg self-esteem scale (RSE; Rosenberg, 1965) was used. It is composed of 10 items (for example, "I think I have

a lot of reasons to feel proud”) rated on a Likert-type scale with response options from 1 (*strongly disagree*) to 4 (*strongly agree*). Cronbach’s alpha for this scale in this study was 0.70.

Self-Efficacy

The General Self-Efficacy Scale (Baessler and Schwarzer, 1996), validated in Spain by Sanjuán et al. (2000), was used to evaluate this variable. It is a unidimensional scale composed of 10 Likert-type items (for example, “Thanks to my qualities and resources, I can overcome unexpected situations”), where 1 is *strongly disagree* and 4 is *strongly agree*. The internal consistency was $\alpha = 0.81$.

Assertiveness

This was evaluated through Factor 2 of the Social Skills Scale by Oliva et al. (2011) in the Spanish population. It has a Likert-type scale, where 1 is *completely false* and 7 *completely true*, and it is composed of 3 items (for example, “I usually praise or congratulate my classmates when they do something well”). The scale had good internal consistency ($\alpha = 0.75$).

Empathy

To measure this variable, the Basic Empathy Scale by Jolliffe and Farrington (2006), adapted in Spain by Oliva et al. (2011), was used. The adapted scale has 9 items (for example, “Other people’s feelings affect my happiness”), rated on a Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). Cronbach’s alpha for this scale in this study was 0.75.

Satisfaction With Life

To assess this variable, the Satisfaction with Life Scale (SWLS) by Diener et al. (1985), Spanish adaptation by Atienza et al. (2000), was used. It is a unidimensional scale composed of 5 items, where 1 corresponds to “strongly disagree,” and 5 corresponds to “strongly agree” (for example, “If I could live my life over again, I would hardly change anything”). Cronbach’s alpha was 0.80.

Alexithymia

To assess this variable, the Toronto Alexithymia Scale (TAS-20) by Bagby et al. (1994), Spanish adaptation by Sánchez-Sosa (2009), was used. It has 20 items (for example, “It is difficult for me to find the right words to express my feelings”), rated on a Likert-type response scale (1 = *strongly disagree*; 6 = *strongly agree*). The scale had high internal consistency: Cronbach’s $\alpha = 0.82$.

Academic Performance

To evaluate this variable, the student’s grade point average from the previous school year, on a scale from 0 to 10, was used. These grades were grouped in 5 response categories: 1 (from 0 to 4.9), 2 (from 5 to 5.9), 3 (from 6 to 6.9), 4 (from 7 to 8.9), and 5 (from 9 to 10).

Procedure

Participant selection was carried out by means of convenience sampling. The three schools were contacted through a letter of presentation that explained the project and requested a meeting with the school administration. Once these meetings had been

conducted, another meeting was held in each school with the entire teaching staff to approve the school’s participation in this study. None of the selected schools refused to participate. The families were informed about the proposed study through a newsletter, and their permission was requested for their children’s participation. The instruments were administered in the students’ usual classroom by a professional who was not associated with the school, for a period of 45 min. The students were informed that their participation in the study was voluntary, anonymous, and confidential. None of the students refused to participate.

Statistical Analyses

Univariate descriptive analyses were performed, as well as correlation analyses among all the PYD variables considered (self-efficacy, self-esteem, assertiveness, empathy, alexithymia, and satisfaction with life), and between these variables and GI. In addition, the students’ scores on these variables were analyzed to find out whether there were differences depending on sex.

Afterward, to evaluate main and interactive effects of GI and sex, two hierarchical regression models were fitted, for each PYD variable separately. The additive regression model that includes the effects of the sex (0 = female, 1 = male) and GI (continuous variable) variables was fitted in Step 1. To test the moderator role of sex, the multiplicative regression model was fitted in Step 2. In this model, the product of the sex \times GI scores (GI \times Sex two-way interaction effect) was added to the additive model. This multiplicative model is also called “Moderated multiple regression” (Hayes, 2018), and the focus is on the product term, so that the statistical significance of this term would indicate that sex moderates the relationship between GI and the dependent variable. Although the main focus of the analysis is the significance of the product term in the multiplicative model, the additive model was also estimated because, if this product term is not statistically significant, the unconditional effect of GI should be estimated and interpreted in the additive model (see Hayes, 2018). To test for multicollinearity, the measures of tolerance were obtained. The tolerance values in the additive models were all between 0.98 and 0.99, and so multicollinearity is not a problem in these data. In multiplicative models, the product term is often highly correlated with the independent variables, but this kind of multicollinearity is not considered a problem in moderation tests. Thus, is not necessary, according to the literature, to center the predictors at their means before creating the products to reduce this supposed multicollinearity problem. Moreover, the coefficient regression and *p*-value for the interaction effect remain unchanged whether the predictors are centered or not (Aguinis et al., 2017; Hayes and Rockwood, 2017; Hayes, 2018). All the statistical analyses were performed with the SPSS (v. 24) program.

RESULTS: STUDY 1

Descriptive statistics, Pearson’s correlations, and mean differences by sex are presented in **Table 1**. Regarding the relationships among the PYD variables, statistically significant

TABLE 1 | Bivariate associations among key study variables and covariates in Study 1.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----------------------------|------------------------------------|----------|------------------------------------|----------|------------------------------------|----------|------------------------------------|----------|
| | <i>r</i> or <i>M</i> (<i>SD</i>) | <i>p</i> | <i>r</i> or <i>M</i> (<i>SD</i>) | <i>p</i> | <i>r</i> or <i>M</i> (<i>SD</i>) | <i>p</i> | <i>r</i> or <i>M</i> (<i>SD</i>) | <i>p</i> |
| (1) GI | - | | | | | | | |
| (2) Self-esteem | 0.169 | 0.008 | | | | | | |
| (3) Self-efficacy | 0.128 | 0.045 | | | | | | |
| (4) Assertiveness | 0.196 | 0.002 | | | | | | |
| (5) Empathy | 0.144 | 0.024 | | | | | | |
| (6) Satisfaction with life | 0.111 | 0.084 | | | | | | |
| (7) Alexithymia | -0.221 | 0.001 | | | | | | |
| (8) Academic performance | 0.162 | 0.011 | | | | | | |
| (9) Sex | | | | | | | | |
| Male | 7.49 (1.44) | 0.102 | 3.11 (0.47) | 0.002 | 5.04 (1.18) | 0.072 | 3.51 (0.62) | <0.001 |
| Female | 7.71 (1.27) | | 2.93 (0.43) | | 3.95 (0.52) | | 3.48 (0.91) | |
| <i>M</i> | 7.56 | 3.01 | 3.02 | 5.16 | 3.73 | 3.65 | 3.35 | 3.24 |
| <i>SD</i> | 1.37 | 0.44 | 0.46 | 1.05 | 0.63 | 0.88 | 0.70 | 1.02 |

correlations were observed between the majority of the variables, and they were especially high between self-esteem and self-efficacy ($r = 0.543$; $p < 0.001$) and between self-esteem and satisfaction with life ($r = 0.464$; $p < 0.001$). In the case of academic performance, it was positively and significantly correlated with self-esteem ($r = 0.154$; $p = 0.016$) and with satisfaction with life ($r = 0.147$; $p = 0.022$). With regard to the relationship between GI and the rest of the variables considered, statistically significant positive correlations were found with self-esteem ($r = 0.169$; $p = 0.008$), self-efficacy ($r = 0.128$; $p = 0.05$), assertiveness ($r = 0.196$; $p = 0.002$), empathy ($r = 0.144$; $p < 0.024$), and academic performance ($r = 0.162$; $p = 0.011$). A negative correlation was found with alexithymia ($r = -0.221$; $p = 0.001$), which indicates that greater identification with the class group is associated with less difficulty in identifying and managing one's own emotions and recognizing those of others.

The *t*-test showed statistically significant differences between the means of boys and girls on self-esteem ($p < 0.001$), self-efficacy ($p = 0.002$), empathy ($p < 0.001$), satisfaction with life ($p = 0.006$), and academic performance ($p \leq 0.001$). The means were significantly higher for the boys than for the girls on self-esteem ($M = 3.12$ vs. $M = 2.89$, respectively), self-efficacy ($M = 3.11$ vs. $M = 2.93$, respectively), and satisfaction with life ($M = 3.79$ vs. $M = 3.48$, respectively). However, the boys obtained significantly lower means than the girls on empathy ($M = 3.51$ vs. $M = 3.95$) and academic performance ($M = 2.96$ vs. $M = 3.53$). No statistically significant differences based on sex were observed for GI, assertiveness, or alexithymia.

Table 2 presents the regression analysis for each dependent variable, the *F*s, *p*-values, and R^2 for the additive model (step 1) and for the multiplicative model, including the interaction effect (Step 2), as well as the regression coefficients of the predictors in the additive model and the product term in the multiplicative model. The GI \times Sex interaction effect was not statistically significant in any case (p 's > 0.05) (see Step 2 in **Table 2**), and so sex was not a moderator variable in the relationship between GI and any of the PYD variables. Consequently, the effect of GI must be interpreted from the coefficients in the additive model (Step 1). GI has a statistically significant effect, above and beyond the role of sex, on all the PYD variables (p 's < 0.05), and a marginally significant effect on Empathy ($p = 0.073$). These effects were, as expected, all positive, except for alexithymia, which was negative. In other words, higher GI values are associated with higher values on all the PYD variables, and lower values on alexithymia. These models in Step 1 account for significant variance, and the proportion of explained variance (R^2) ranged from 0.047 to 0.133 for satisfaction with life and empathy, respectively.

METHOD: STUDY 2

Participants, Instruments, and Procedure

The sample is composed of 156 students in 8th ($N = 87$) and 9th grades ($N = 69$), with ages between 12 and 16 years old ($M = 13.72$; $SD = 0.99$); 11.5% of the participants are 12 years old, 28.8% are 13 years old, 37.2% are 14 years old, 19.9% are 15 years old, and 1.9% are 16 years old. Of the total sample,

TABLE 2 | Additive (step 1) and multiplicative (step 2) regression models for each PYD variable (Study 1).

| | <i>b</i> (<i>SE</i>) | <i>p</i> | <i>F</i> (<i>df</i>) | <i>p</i> | <i>R</i> ² |
|------------------------|------------------------|----------|------------------------|----------|-----------------------|
| Self-esteem | | | | | |
| Step 1 | | | 14.381 (2, 242) | <0.001 | 0.106 |
| Sex | 0.25 (0.05) | <0.001 | | | |
| GI | 0.07 (0.02) | 0.001 | | | |
| Step 2 | | | | | |
| GI × Sex | −0.01 (0.04) | 0.850 | 9.561 (3, 241) | <0.001 | 0.106 |
| Self-efficacy | | | | | |
| Step 1 | | | 8.018 (2, 242) | <0.001 | 0.062 |
| Sex | 0.20 (0.06) | 0.001 | | | |
| GI | 0.05 (0.02) | 0.017 | | | |
| Step 2 | | | | | |
| GI × Sex | 0.01 (0.04) | 0.907 | 5.328 (3, 241) | 0.001 | 0.062 |
| Assertiveness | | | | | |
| Step 1 | | | 6.018 (2, 242) | 0.003 | 0.047 |
| Sex | −0.20 (0.13) | 0.130 | | | |
| GI | 0.14 (0.05) | 0.004 | | | |
| Step 2 | | | | | |
| GI × Sex | 0.08 (0.10) | 0.397 | 4.247 (3, 241) | 0.006 | 0.050 |
| Empathy | | | | | |
| Step 1 | | | 18,641 (2, 242) | <0.001 | 0.133 |
| Sex | −0.43 (0.08) | <0.001 | | | |
| GI | 0.05 (0.03) | 0.073 | | | |
| Step 2 | | | | | |
| GI × Sex | 0.03 (0.06) | 0.573 | 12.498 (3, 241) | <0.001 | 0.135 |
| Satisfaction with life | | | | | |
| Step 1 | | | 5.964 (2, 241) | 0.003 | 0.047 |
| Sex | 0.33 (0.11) | 0.003 | | | |
| GI | 0.08 (0.04) | 0.041 | | | |
| Step 2 | | | | | |
| GI × Sex | 0.08 (0.08) | 0.330 | 4.293 (3, 240) | 0.006 | 0.051 |
| Alexithymia | | | | | |
| Step 1 | | | 6.466 (2, 240) | 0.002 | 0.051 |
| Sex | −0.06 (0.09) | 0.470 | | | |
| GI | −0.12 (0.03) | <0.001 | | | |
| Step 2 | | | | | |
| GI × Sex | −0.12 (0.07) | 0.068 | 5.473 (3, 239) | 0.001 | 0.064 |
| Academic performance | | | | | |
| Step 1 | | | 12.675 (2, 242) | <0.001 | 0.095 |
| Sex | −0.54 (0.13) | <0.001 | | | |
| GI | 0.10 (0.05) | 0.029 | | | |
| Step 2 | | | | | |
| GI × Sex | 0.14 (0.09) | 0.134 | 9.248 (3, 241) | <0.001 | 0.103 |

46.8% are girls, and 53.2% are boys. The participants are from two public high schools (ESO), one located in a rural context in the province of Valencia (rural high school = 85), and the other located in an urban context, specifically in Valencia, the third city in Spain in terms of density (urban high school = 71). The two high schools were selected through non-probability convenience sampling. All the 8th and 9th grade students in the rural school participated in this study. In the urban school, the convenience sample was selected by the school's management team, using the inclusion criterion that students had to be in 8th or 9th grade.

The same variables were measured by the same scales as in Study 1, except alexithymia.

Statistical Analyses

First, sample descriptive statistics and correlations between variables were examined. Bivariate analyses were conducted using *t*-tests for categorical independent variables, and Pearson's correlations for continuous variables. Bivariate analyses were used to examine zero correlations between the PYD variables and GI to explore mean differences in the study variables according

TABLE 4 | Additive (step 1) and multiplicative (step 2) regression models for each PYD variable (study 2).

| | <i>b</i> (SE) | <i>p</i> | <i>F</i> (<i>gl</i>) | <i>p</i> | <i>R</i> ² |
|------------------------|---------------|----------|------------------------|----------|-----------------------|
| Self-esteem | | | | | |
| Step 1 | | | 7.591 (3, 138) | <0.001 | 0.142 |
| Sex | 0.01 (0.07) | 0.897 | | | |
| GI | 0.09 (0.021) | <0.001 | | | |
| Context | 0.00 (0.08) | 0.996 | | | |
| Step 2 | | | | | |
| GI × Context | −0.004 (0.04) | 0.923 | 5.654 (4, 137) | <0.001 | 0.142 |
| Self-efficacy | | | | | |
| Step 1 | | | 1.416 (3, 144) | 0.241 | 0.029 |
| Sex | 0.04 (0.07) | 0.607 | | | |
| GI | 0.04 (0.02) | 0.056 | | | |
| Context | −0.05 (0.08) | 0.546 | | | |
| Step 2 | | | | | |
| GI × Context | −0.03 (0.04) | 0.508 | 1.168 (4, 143) | 0.327 | 0.032 |
| Assertiveness | | | | | |
| Step 1 | | | 4.524 (3, 149) | 0.005 | 0.083 |
| Sex | 0.15 (0.17) | 0.359 | | | |
| GI | 0.11 (0.05) | 0.026 | | | |
| Context | 0.30 (0.18) | 0.093 | | | |
| Step 2 | | | | | |
| GI × Context | 0.17 (0.10) | 0.085 | 4.188 (4, 148) | 0.003 | 0.102 |
| Empathy | | | | | |
| Step 1 | | | 2.589 (3, 147) | 0.055 | 0.050 |
| Sex | −0.06 (0.09) | 0.518 | | | |
| GI | 0.05 (0.03) | 0.073 | | | |
| Context | 0.13 (0.09) | 0.194 | | | |
| Step 2 | | | | | |
| GI × Context | 0.14 (0.05) | 0.009 | 3.773 (4, 146) | 0.006 | 0.094 |
| Satisfaction with life | | | | | |
| Step 1 | | | 20.922 (3, 148) | <0.001 | 0.298 |
| Sex | 0.46 (0.12) | <0.001 | | | |
| GI | 0.22 (0.03) | <0.001 | | | |
| Context | −0.19 (0.12) | 0.130 | | | |
| Step 2 | | | | | |
| GI × Context | 0.17 (0.07) | 0.014 | 17.765 (4, 147) | <0.001 | 0.326 |
| Academic performance | | | | | |
| Step 1 | | | | | |
| Sex | −0.26 (0.18) | 0.155 | 1.260 (3, 147) | 0.291 | 0.025 |
| GI | 0.02 (0.05) | 0.678 | | | |
| Context | −0.25 (0.19) | 0.200 | | | |
| Step 2 | | | | | |
| GI × Context | −0.16 (0.11) | 0.124 | 1.554 (4, 146) | 0.190 | 0.041 |

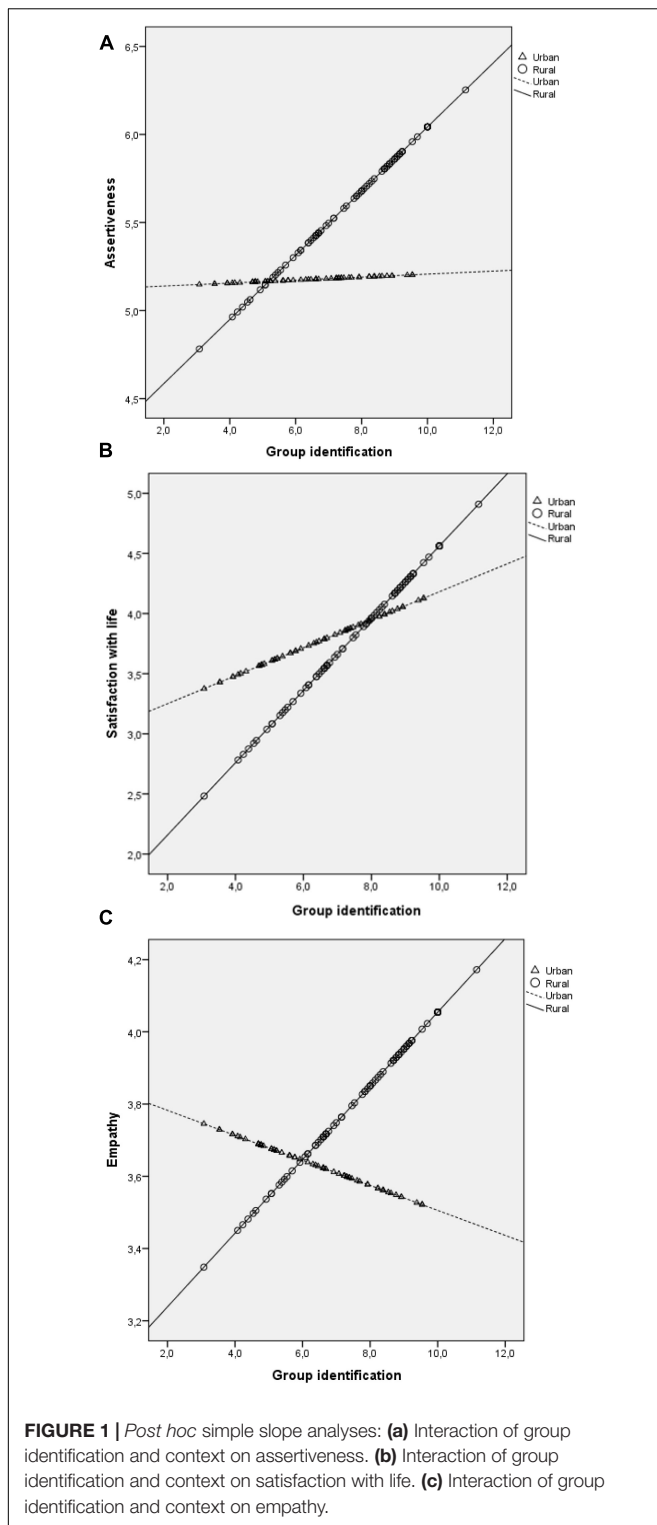
Thus, the significant interaction indicates that the association between GI and satisfaction with life is stronger in the rural context. Finally, for assertiveness, the association between GI and assertiveness was statistically significant only for the rural group (β urban = 0.01, $p = 0.92$; β rural = 0.17, $p = 0.005$).

For the other dependent variables, the interaction effect was not statistically significant, and so the effect of GI must be interpreted from the coefficients in the additive model (step 1). In predicting self-esteem, variables entered in step 1 accounted for significant variance ($F[3,138] = 7.591$, $p < 0.001$, $R^2 = 0.142$), and GI was a statistically significant predictor ($p < 0.001$). Regarding

self-efficacy, the variables entered in step 1 did not account for significant variance ($F[3,144] = 1.416$, $p = 0.241$, $R^2 = 0.029$), but the effect of GI was marginally significant ($p = 0.056$). Finally, for academic performance, the model in step 1 did not account for significant variance ($F[3,147] = 1.260$, $p = 0.291$, $R^2 = 0.025$).

DISCUSSION

This paper furthers our understanding of the role of GI at school in PYD, as well as the potential moderating role of the sex and



context (rural vs. urban) variables in this association. It not only contributes to showing the importance of groups of peers at school in adolescent development in rural contexts, but it also reveals the importance of the social identity perspective in this development.

In line with our first hypothesis regarding the positive association between GI and PYD, our two studies show a relationship between GI and self-esteem, self-efficacy, assertiveness, empathy (marginally significant in Study 1), satisfaction with life, and academic performance (in Study 1), and a negative relationship with alexithymia (only in Study 1). The results confirm the relationship between GI and self-esteem obtained by Tarrant et al. (2006) and reveal new relationships with other variables of positive adolescent development. To the best of our knowledge, the relationships between GI and these PYD variables have not previously been studied in adolescents, and they show the importance of identification with the school in general, and with the group of classmates in particular, in the development of the main variables proposed by the different models (such as self-efficacy, assertiveness, and empathy) as contributing to the emotional, social, and psychological wellbeing of the adolescent. Furthermore, our results from Study 1 provide new evidence about the gender differences in adolescents, with boys obtaining better results on self-esteem (Quatman and Watson, 2001) and self-efficacy, and girls obtaining better results on empathy (Sánchez-Queija et al., 2006) and academic performance (Hernando et al., 2012). However, sex did not moderate the relationships between GI and the PYD variables; that is, these relationships were found to have the same magnitude in boys and girls.

Regarding the relationship between GI and academic performance, this study shows that students who identify more with their peer group report greater academic performance. Although this relationship is only found in Study 1, the result is relevant because, according to Scales et al. (2011) and the Five Cs model, school success is one of the fundamental elements of positive development in adolescents. Therefore, the role of GI should be considered, as well as the developmental assets pointed out in the literature (Scales et al., 2000), when predicting academic success. However, there is a need for more studies that contribute to clarifying the contribution of this variable to predicting academic performance. As in the case of the PYD variables, sex did not moderate the relationship between GI and academic performance.

Supporting our second hypothesis, findings from our second study showed that GI with the class was higher in the rural context than in the urban context. This result is consistent with the limited evidence available, which shows that adolescents from rural areas tend to show a greater feeling of identity, closer social connections, and greater social responsibility (Crockett et al., 2000; Johnson et al., 2005; Agger et al., 2018). In contrast to the anonymity of urban areas, in rural areas there is a culture based on co-existence, where the levels of solidarity, social support, and integration and the psychological sense of community tend to be greater (Roussi et al., 2006; Berry and Okulicz-Korzaryn, 2009).

Our third hypothesis was partially supported by showing that the effect of the GI \times context interaction was significant for empathy and satisfaction with life, and marginally significant for assertiveness. In the case of self-esteem, there was a main effect of GI, but this effect was not moderated by the context. With regard to assertiveness and empathy, the association between GI

and these two variables was only significant in the rural group. Undoubtedly, both variables are important in positive adolescent development because they are included in most of the existing models. Our study indicates that these two variables are even more important in the rural context. It seems logical that if a person defines him/herself positively within a group, he/she will also have a greater feeling of affinity at a dispositional level and show more empathy and a more favorable attitude toward the members of the group.

The variance in satisfaction with life explained by the GI \times Context interaction was especially high, which suggests that stronger social connections and cooperation networks in rural areas can be one of the reasons for greater satisfaction with life. This is especially relevant if, as shown, satisfaction with life is significantly related to commitment at school (Awang-Hashim et al., 2015). This finding is consistent with previous studies suggesting that people in rural areas are more satisfied with their lives than people in urban areas. For example, using data from the 2008 European Study of Values to analyze the differences in satisfaction with life in urban and rural areas of the European Union, Sorensen (2014) found that satisfaction is greater in the latter. Studies have also shown that adolescents from urban areas experience high levels of loneliness and low levels of satisfaction with life (Okwaraji et al., 2018), and that satisfaction with life is related to a sense of community in rural areas (Prezza and Constantini, 1998). This sense of community may contribute to greater wellbeing, stimulate a stronger feeling of identity, and facilitate social relations in rural areas. Moreover, as our results indicate, there is evidence showing gender differences in adolescents' satisfaction with life, with boys exhibiting higher levels of life satisfaction (Moknes and Espnes, 2013) and a greater relationship between collective self-esteem and satisfaction with life (Zhang and Leung, 2002).

These studies have several limitations. First, the two studies presented are cross-sectional and do not allow us to draw causal inferences. Future work should evaluate the effect of GI on PYD variables using (quasi) experimental studies or longitudinal methods to provide stronger evidence and clarify these relationships. Second, we found contradictory results for the relationships between academic performance and GI in Studies 1 and 2. Given the relevance of this variable, future research should further examine this relationship by including different measures and multiple dimensions of academic performance. Third, the samples were convenience samples and limited in size (mainly the sample for Study 2), and they came from specific areas in Spain; thus, it remains unclear whether our results could be generalized to other rural and urban areas that differ from those of the current samples. Finally, it would be interesting to test the relationships between GI and the PYD variables (and academic achievement), not only in adolescents, but also in children (Bennett and Sani, 2004).

CONCLUSION

Despite these limitations, the present study has several strengths and extends previous literature by showing that

groups play an important role in people's lives, especially in adolescence, when peer groups are fundamental to the formation of identity and optimal youth development. This study provides empirical evidence for the role social identity plays in PYD, and it advances the understanding of this relationship. The results show that identification with the class is important for psychological development in the scenario of change and instability associated with adolescence. Its contribution is especially relevant in the rural context; whose characteristics make the adolescent more vulnerable. Therefore, as this study shows, identification with the class can be a mechanism to help adolescents in rural areas to feel united, achieve a shared identity, and cope with their particular circumstances.

Overall, our results suggest that adolescents' positive development and academic performance could be fostered by implementing psychoeducational programs that strengthen their GI with their classmates, especially in rural areas. Future studies will be oriented toward fostering youths' positive development through educational interventions that provide adolescents with opportunities to develop a sense of belonging to the school and the class, as well as positive social norms (see, for example, Haslam et al., 2016; Scarf et al., 2017).

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

These studies were carried out in accordance with the recommendations of the Code of Ethics of the University of Valencia. Informative meetings were held with the selected schools management teams to explain the objectives and methodology of the studies. The management teams of the five schools approved their participation in the studies and gave their written consent. Subsequently, all the parents gave written informed consent for the adolescents' participation in the studies. In addition, the students were informed that their participation in the study was voluntary, anonymous, and confidential. None of the students refused to participate. This study followed the ethical values established in the 1964 Declaration of Helsinki and its later amendments and the UNESCO Universal Declaration of Human Rights.

AUTHOR CONTRIBUTIONS

DP, MH, MR, and PV designed the study. DP collected the data. DP and MR analyzed the data. All the authors wrote and revised the manuscript. MH, MR, and PV supervised the project.

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A Path Toward Inclusive Social Cohesion: The Role of European and National Identity on Contesting vs. Accepting European Migration Policies in Portugal

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The Western hemisphere has witnessed recent increased immigration flows generating social and political debate across Europe. In one view, migration flows represent an opportunity to construct a diverse social cohesion. In another view, migration flows are perceived as a threat to existent national cultures. This view is held by political nationalisms and right-wing populist forces installed in the majority of EU countries' parliaments, accentuating discrimination against immigrants and residents in Europe. We theorize that European identity predicts positive attitudes toward immigrants (prosocial behavior and support for inclusive policies), whereas national identity's predictions of attitudes toward immigrants' inclusion depends on participants' political tendency. Moreover, we test the mediation effect of positive (humanitarian concerns and economic benefit) and negative (jobs scarcity, cultural deterioration, and invasion) arguments used in political discourses regarding immigrants' inclusion on the relation between national and European identities and attitudes toward immigrants' inclusion. Results (Portuguese sample, $N = 176$) show that national identity predicts negative attitudes toward immigrants' inclusion, but only among right-wing individuals. Among left-wing individuals, national identity predicts less contestation to immigrant's inclusion sustained by humanitarian concerns. Interestingly, European identification weakened right-wing individuals' adherence to discriminatory arguments and increased perceived economic contribution that immigrants bring to society, increasing agreement with prosocial behavior and immigrants' inclusion. We discuss that European identity, sustained in humanitarian values and economic benefit, may stimulate a stronger multicultural social cohesion, intergroup trust, and social well-being based on democratic values, social justice, and equality, and on the respect for human dignity.

Keywords: national and European identity, pro-inclusion vs. contestation, immigration policies, social inclusion, political tendencies

INTRODUCTION

Europe has been one of the leading destinations for immigration, with an increased migratory flow over the past decade (e.g., de Wenden, 2019). The motivations and reasons for migration are diverse, such as education purposes, work, family reunification, or fleeing from war or conflict in their native countries (European Commission, 2014). For the host countries, this increased migration flow has represented both an opportunity (e.g., compensation for the worker shortage in some professional areas, counterbalance of the demographic aging, cultural diversity) and a challenge (e.g., need for immigrants' integration programs, regulatory migration laws and procedures, strategies to counteract discrimination, and intolerance toward immigrants).

The 2008 global economic and financial crisis and the consequent increase in unemployment, poverty, and social instability led many citizens to leave their nations (those most affected by the crisis) and seek better opportunities in other countries (Thyssen, 2018; de Wenden, 2019). When Europe was still recovering from the economic crisis, the refugee crisis escalated in 2015, increasing the number of migrants arriving in the European Union (EU) from the Mediterranean Sea and through Southeast Europe. To deal with the biggest migration flow since World War II, the European Commission has implemented the European Agenda on Migration (European Commission, 2015). This set of political measures, based on solidarity and shared responsibility (European Commission, 2019b), is grounded on four pillars: reduction of incentives for irregular migration; strengthening of borders, protection and asylum; and integration and legal migration (e.g., Apap et al., 2019; European Commission, 2019a). Consistent with the inclusive European Agenda, many political leaders across Europe publicly advocated for inclusiveness and integration, calling for open borders and humanitarian actions to save lives. One of these leaders was Chancellor Angela Merkel, who opened Germany to host up to 1 million refugees (La Baume, 2017). However, pro-inclusion orientations and policies were not accepted by all countries and political parties, and thus do not necessarily lead to an effective integration attitude and societal well-being. Indeed, a general *social malaise* (perceived anomie, lack of trust in political elites, feelings of social decline, and ethnocentrism) seems to be rising in contemporary Europe with immigrants' entrance (Aschauer, 2014).

The 2008 crisis and the intense immigration inflow increased cultural and economic security concerns, fueling the debate on free movement, national security, border control, and EU and national migration policies (Wodak and Boukala, 2015). Some political leaders potentiated public contestation against migrants, leading to the surge of new support to right-wing parties across Europe (Volkan and Foulmer, 2009; Davis and Deole, 2017). The intensification of the migratory flow was preceded by the rise of Euroscepticism, populist rhetoric, and right-wing leaders with strong anti-immigration positions across Europe (Torreblanca and Leonard, 2013; Dennison and Dražanová, 2018; Ruedin and van Heerden, 2018). Their arguments have focused, essentially, on the need to protect their countries against "invasion" and "loss of identity," and to defend the interest of nationals against the perceived negative consequences caused

by immigrants, such as job scarcity, burden on the social and healthcare systems, unfair redistribution of financial resources, increased criminality and terrorism, and cultural deterioration (e.g., Volkan and Foulmer, 2009; Ruedin and van Heerden, 2018; de Wenden, 2019). For example, Viktor Orbán, campaigning for the third term as Hungary prime minister in 2018, claimed that Europe was under invasion and that Brussels (i.e., the European Union) was not defending their people (Walker, 2018). In 2018, the President-elect in Czechia, Miloš Zeman, also argued that Europe was under invasion by Muslim immigrants and adopted a Eurosceptic campaign and an anti-immigration position, criticizing EU refugee policies (Dražanová, 2018). In France, Marine Le Pen, during the Presidential election campaign, also claimed that she would protect France through closing borders policies to protect against jobs scarcity and the terror threat allegedly posed by migrants (Dearden, 2017). She also argued that immigrants are draining resources, rejecting French values, and deteriorating their culture, emphasizing that French identity is in decline (Cooper, 2017; Atabong, 2018). Former Italian Minister of the Interior Matteo Salvini spoke about "cultural war," arguing that Islam and Muslims' values are not compatible with Europeans', and claiming that immigrants pose a symbolic (cultural) threat (King, 2017). Other threatening rhetoric comes from the United Kingdom. For instance, the current leader of the Brexit Party, Nigel Farage, has been claiming that immigrants would take British people's jobs and undermine their cultural values (BBC, 2015). In Germany, the populist rhetoric, anti-EU, and anti-immigrant positions also have been increasing. For example, Tony Gentsch, from the radical right-wing *Der Dritte Weg* party ("The Third Way"), claims that the country should put Germans' interests first, close the borders, and stop the "foreign infiltration" (MacGregor, 2019). In the Netherlands, Geert Wilders, founder of the nationalist, right-wing, populist Party for Freedom, claimed that Islamization is the biggest problem of the country, representing a threat to their identity and freedom (Damhuis, 2019).

In Portugal, although there is an evident forthcoming of this growing trend of nationalism and anti-immigration sentiments across Europe, the situation is quite different so far (Wise, 2019). Indeed, Portugal is officially in line with EU recommendations on migration and maintains a tolerant, open, and positive attitude toward immigrants (Wise, 2019). In fact, the Portuguese Government promotes inclusive immigration policies and publicly debunks anti-immigration myths with facts, which is a fundamental promoter of citizens' pro-immigrant attitudes (Visintin et al., 2018). For example, the Minister of the Presidency, Mariana Vieira da Silva, has emphasized on several occasions that instead of being a burden to Portuguese economy, immigrants contribute positively to taxation because their contributions are greater than the social benefits they receive, they represent demographic advantages (in counterbalancing demographic aging), and fill jobs with a shortage of workers; thus, they have a benefic impact to the country's development (e.g., República Portuguesa, 2019; MadreMedia, 2019). Also, according to the current Portuguese Prime Minister, António Costa, Europe needs to mobilize against populism and xenophobia, emphasizing that immigration is essential to counter the demographic aging (Wise, 2019). Consistently, the current President of the

Portuguese Republic, Marcelo Rebelo de Sousa, stated that Portugal intends to maintain an open door policy (ONU, 2019) and will continue to defend their inclusive policies and improve migrants' full integration (Coelho, 2019).

Despite the pro-immigrant orientation of Portuguese political leaders, one right-wing deputy (leader of the CHEGA Political Party) was elected in the 2019 Portuguese Parliamentary elections (in fact, consistently with the anti-immigration trend across Europe). So far, his positions have been controversial and condemned by all the other political leaders. For example, recently he publicly stated that a black female Portuguese deputy should return to her "home country" (Penela and Lusa, 2020). Immediately, he was condemned by the President of the Portuguese Assembly of the Republic, with the full support of all other political parties with parliamentary representation (Gonçalves, 2020). Nevertheless, support for this party has been rising since the 2019 elections (it obtained around 1.2% of votes) and is currently achieving near 6% of people voting intentions (Dinis and Rosa, 2020).

Social Polarization and Immigration Contestation

Notwithstanding the EU efforts and its pro-inclusion orientation and policies, there has been a lack of consensus among the European countries on what should be the best strategy to respond to the migrants' flow. Indeed, immigrant inflows have led to opposing views and positions on migration policies and border control among the member states. Thus, as a result of this lack of consensus, the EU project on migration is facing contestation from European leaders, governments, citizens, and organizations across Europe. As a result, we have been observing, across many European countries, the occurrence of anti-immigration protest behavior (e.g., protests in Chemnitz, German, August 2018; and in Brussels, Belgium, December 2018). Nevertheless, because anti-immigration politicization is growing and pro-immigration political statement is less and less granted, pro-immigration popular demonstrations are also being organized and taking place to oppose and counteract the European right-wing nationalism trend (e.g., march against Italy's new anti-migration law, December 2018; the Sardines movement against populism, racism, and the anti-immigration wave, in Bologna, Italy, in November 2019).

Following the growing divergences and conflicts resulting from the ever-rising inflow of migrants, occurring both within and between EU countries, studies in the social psychology domain have aimed to understand what is fueling the negative and the positive attitudes of the EU's citizens toward migrants, leading them to support vs. reject pro-immigration policies and get involved in contestation vs. prosocial behaviors.

Antecedents of Anti- and Pro-immigration Attitudes Perceived Threat vs. Positive Contributions Associated With Immigrants

Perceived threat is one of the most common correlates of negative attitudes toward immigrants, specifically realistic (threats to the ingroup material and economic resources) and symbolic threats

(threats to the ingroup values, beliefs and norms; e.g., Stephan et al., 2005; Sides and Citrin, 2007; Green, 2009; Murray and Marx, 2013). Perceived threat has also been shown to mediate the relationship between prejudice and support for discriminatory behavior against immigrants (Pereira et al., 2010), indicating that perceived threat might be a relevant argument to reinforce the link between prejudice and actual discrimination, thus contributing to the rise of ethnocentrism, mistrust in immigrants, and decreasing social well-being (Aschauer, 2014).

Many studies focus on the impact of perceived immigration economic costs vs. benefits on discrimination. As mentioned above, it has been found that nationals are fearful that immigrants may increase labor market competition and be a burden to public finances by depending on the welfare state, which obviously leads to less favorable attitudes toward immigrants (e.g., Dustmann and Preston, 2004; Harell et al., 2012; Hatton, 2016; Meuleman, 2018; Edo et al., 2019). On the other hand, those who perceive immigrants to contribute to the host country's economy express more positive views about of immigration (Esses et al., 2001; Haubert and Fussell, 2006; Rouse et al., 2010; Reitz, 2012; Ekins, 2013).

National Identity and Nationalisms

Evidence from opinion polls showed that stronger nationalist sentiments are associated with greater opposition to immigration (Dennison and Dražanová, 2018). This is not surprising given that nationalism reflects individuals' beliefs in the superiority of their nation in situations of perceived competition over scarce resources (e.g., job, economic benefits) associated with outgroup derogation, rejection, and hostility (e.g., Baughn and Yaprak, 1996; Mummendey et al., 2001; Osborne et al., 2017).

In the same vein, research has shown that the stronger individuals' national identification, the more they hold negative attitudes toward immigrants (e.g., Blank and Schmidt, 2003; Esses et al., 2004, 2006; Yitmen and Verkuyten, 2018). This association is explained by threats that migrants are perceived to pose to the national population (e.g., Yitmen and Verkuyten, 2018). Thus, commitment to the nation in this sense involves a protective strategy that implies discrimination against migrants.

A Superordinate Identity

According to social identity and self-categorization theory (e.g., Tajfel and Turner, 1986; Turner et al., 1987), individuals belong to multiple social groups and each can be more or less salient depending on the context. In addition, people can categorize at different levels of abstraction, being able to define themselves as members of (sub)groups (e.g., nationality) and as members of more inclusive high-order system-level (or superordinate) groups (e.g., European or global identity) (Reynolds et al., 2013; Reysen and Katzarska-Miller, 2017). Thus, individuals can recategorize themselves and others (e.g., foreign citizens) to be part of a broader ingroup, which in turn leads to more positive attitudes toward them (see common ingroup identity theory; Gaertner and Dovidio, 2000; Sparkman and Eidelman, 2018). Indeed, greater identification with a more inclusive superordinate category (e.g., global citizen) or strong supranational attitudes increases prosocial value and behaviors (Reysen and Katzarska-Miller, 2013; see also Peitz et al., 2018).

Humanitarian Values

Those citizens that are more focused on humanitarian concerns are more likely to hold positive behavioral intentions toward immigrants: “Humanitarian concerns involve a sense of compassionate care and moral responsibility for the welfare of fellow human beings, especially when they are in need (...) and are based on a shared humanity” (Yitmen and Verkuyten, 2018, p. 233). These concerns may lead to the defense of pro-inclusion policies, more solidarity toward immigrants, and more positive behavioral intentions (e.g., volunteering, pro-immigrant activism, money donation) (e.g., Karakayali, 2017; Kleres, 2018; Milan, 2018), thus promoting stronger pro inclusive behavior and societal well-being.

Moreover, the endorsement of humanitarian values can attenuate feelings of threat felt by the national majority, as these values relate to “a sense of concern for the welfare of fellow human beings, and leads to the belief of personal responsibility to help those who are in need” (Newman et al., 2015, p.4). Indeed, there is evidence that humanitarian values are negatively associated with anti-immigration attitudes (Cowan et al., 1997; Oyamot et al., 2006, 2012; Newman et al., 2015; Verkuyten et al., 2018) unless people feel that immigration threatens such values (Kende et al., 2019). The endorsement of values, such as universalism, defined as being the “understanding, appreciation, tolerance, and protection for the welfare of all people and for nature,” (Schwartz, 2012, p.7; see also, Schwartz, 1992) has been linked to more favorable attitudes toward immigrants (Schwartz, 2007; Saroglou et al., 2009).

PRESENT STUDY

In the present study, we propose to test the idea that European identity (being a more inclusive high-order system-level or superordinate identity) should predict positive attitudes toward immigrants. Indeed, when a particular group membership is salient, the degree of ingroup identification predicts the adherence to that group’s norms and values (e.g., Tajfel and Turner, 1986). Thus, group identification represents a strong predictor of intergroup attitudes (Reysen and Katzarska-Miller, 2017). Given that EU supports values of solidarity, mutual respect, and inclusive policies and strategies, European identification should be contaminated by these values and predict high support for EU inclusive policies. Moreover, this superordinate identity (occurring in a higher level of abstraction than national identity) makes subgroup boundaries (e.g., nationality) less salient and some outgroups become a part of the broader ingroup (e.g., European citizens), leading to more favorable attitudes and behaviors toward migrants. Thus, identification with a superordinate identity supportive of an inclusive ideology predicts positive attitudes toward migrants (Visintin et al., 2018), prosocial behaviors, positive intergroup relations, cooperation, and social well-being (Reysen and Katzarska-Miller, 2013, 2017).

Based on the literature, we should expect national identity to predict contestation of immigrants’ inclusion. However, in these studies, national identity is often related to nationalism,

an identity content that is consistent to right-wing ideology. People with a right-wing political affiliation usually have less favorable attitudes toward migrants than those with a left-wing affiliation (Sides and Citrin, 2007; Gorodzeisky and Semyonov, 2009; Green, 2009; Davidov and Meuleman, 2012). Right-wing individuals are expected to identify with this ideological content, but left-wing individuals are expected to embrace a national identity more open to diversity and equality. Thus, first of all, we propose that, depending on individuals’ political tendency, the link between national identity and anti-immigration attitudes might be opposite between left-wing and right-wing individuals. Left-wing individuals might value aspects of the national identity that are more related to pro-immigration attitudes (EU Inclusive Agenda). If so, left-wing individuals should positively associate national and European identity, whereas right-wing individuals are expected to associate them negatively.

Moreover, considering that national and European identities predict attitudes toward immigrants, we propose to inspect which arguments (found in political speeches and also in the literature) effectively persuade people to engage in contestation and support for exclusive policies, or in pro-immigrant behavior and support for inclusive policies. In brief, in the present study we intend to assess identity predictors of political discourses arguments and how it impacts contestation and prosocial behavioral intentions regarding immigrants’ entrance to Europe.

MATERIALS AND METHODS

Participants and Procedure

Participants were contacted through Facebook (Facebook Ads, delivered randomly to Portuguese nationals above 18 years of age) and personal contacts to fill a survey about the “Increase of immigrants in Europe: What are the consequences.” This procedure began at November 11, 2019 and we kept the questionnaire active for a week. Participants who voluntarily decided to respond to the questionnaire are 176 Portuguese nationals (85 female and 91 male participants), aged 18–79 years ($M = 40.06$, $SD = 14.02$), living in Portugal (94%) or abroad (6%). The majority were employed (63%) and the remaining were students (11%), unemployed (9%), and retired (8%). Moreover, the majority (76%) of participants had higher education, whereas the remaining had secondary (21%) or basic (3%) education¹.

Participation was completely voluntary and not monetarily compensated. After giving informed consent, participants provided their demographic information (e.g., age, sex, education, work status, political orientation).

Instrument

Participants responded to seven sets of questions designed to assess identification with Portugal and the European Union, agreement with different types of political arguments (pro vs. anti-immigration), and agreement with inclusive and exclusive

¹Sociodemographic variables also contribute to understand individuals’ attitudes toward immigrants, such as gender, age, education and political affiliation (e.g., Coenders and Scheepers, 2003). Nevertheless, in this study we will only focus on the role of individuals’ political tendencies in predicting these attitudes.

policies regarding immigrants, and reported their motivation to get involved in pro- (prosocial behavior) and anti-immigration (contestation) initiatives.

National Identity

The first set of questions measured participants' identification with Portugal on a seven-point scale (1 = *Totally Disagree*; 7 = *Totally Agree*). To avoid associating an ideology to the national identity, we measured individuals' identification based on Tajfel's concept of social identification (Tajfel, 1978), inspired by the national identity scale in Pinto et al. (2016): (1) "I identify with Portuguese values and ideals"; (2) "I'm proud of being Portuguese"; (3) "I consider myself a Portuguese citizen"; (4) "Being Portuguese is important for my identity." A Principal Component Factorial Analysis on these items extracted a single factor explaining 66.1% of the total variance. We averaged these items to a single National Identity score (Cronbach's alpha = 0.83; $M = 5.52$; $SD = 1.30$).

European Identity

Identification with Europe was measured with a scale that was also inspired by the national identity scale in Pinto et al. (2016), but adapted to refer to European identity (1 = *Totally Disagree*; 7 = *Totally Agree*): (1) "I identify with European values and ideals"; (2) "I'm proud of being European"; (3) "I consider myself a European citizen"; (4) "Being European is important for my identity." A Principal Component Factorial Analysis on these items extracted a single factor explaining 76.5% of the total variance. The items were averaged into a single European Identity score (Cronbach's alpha = 0.89; $M = 5.13$; $SD = 1.51$).

Arguments

Next, participants indicated their agreement on five different types of arguments regarding the immigrants' inflow (1 = *Totally Disagree*; 7 = *Totally Agree*): (1) "The situation of immigrants should be seen as a humanitarian issue that is related with human rights" (humanitarian cause; $M = 4.56$; $SD = 2.35$); (2) "The situation of immigrants should be seen as being economically advantageous for the host countries" (economic benefit; $M = 3.85$; $SD = 2.09$); (3) "The situation of immigrants should be seen as an invasion" (invasion; $M = 3.21$; $SD = 2.34$); (4) "The situation of immigrants should be seen as competition for scarce jobs" (scarce jobs; $M = 3.74$; $SD = 2.20$); (5) "The situation of immigrants should be seen as a determinant for cultural deterioration" (cultural deterioration; $M = 3.56$; $SD = 2.23$). We analyzed each argument individually, since each item corresponds to a specific type or concept that is found in political speeches and in the literature as being associated to attitudes toward immigrants (e.g., realistic and symbolic threat: Stephan et al., 2005; universal values: Schwartz, 2007; invasion: Gattinara, 2017; de Wenden, 2019; loss of identity: Schmuck and Matthes, 2017).

Inclusive Policies

Participants' agreement with European inclusive policies were measured with a seven-item scale (1 = *Totally Disagree*; 7 = *Totally Agree*): (1) "European countries should welcome and integrate immigrants arriving in Europe"; (2) "European

countries should welcome all those who leave their own country and wish to live in Europe"; (3) "European countries should follow European guidelines on the inclusion of immigrants"; (4) "Europe earns plenty of money from immigrants' contributions"; and three items adapted from the Immigration Policy Questionnaire (IPQ) (Tartakovsky and Walsh, 2016): (5) "Europe has the duty to provide free health care to all immigrants"; (6) "Immigrants should have free access to the same social services as European citizens."; (7) "Immigrants should have free access to the same social security rights (e.g., elderly or disability pensions)." A Principal Component Factorial Analysis on these items extracted a single factor explaining 67% of the total variance. We averaged these items into an Inclusive Policies score (Cronbach's alpha = 0.92; $M = 4.47$; $SD = 1.45$).

Exclusive Policies

Respondents reported their agreement with exclusive policies (1 = *Totally Disagree*; 7 = *Totally Agree*): (1) "European countries should have greater power to prevent immigrants from attempting to enter their territory"; (2) "European countries should be able to impose more restrictive border laws on the immigrants' entry"; (3) "European countries should be free to prevent immigrants from entering, and not have to follow European guidelines"; (4) "Europe is unable to receive more immigrants"; (5) "Europe spends too much money in immigrant integration programs." A Principal Component Factorial Analysis on these items extracted a single factor explaining 84% of the total variance. These items were averaged into a single Exclusive Policies score (Cronbach's alpha = 0.95; $M = 4.16$; $SD = 2.19$).

Prosocial Behavior

Participants indicated their motivation to adopt prosocial behavior regarding immigrants. The first four items were adapted from Yitmen and Verkuyten (2018); (1 = *I am not motivated at all*; 7 = *I am very much motivated*): (1) "Helping an immigrant if s/he asks me to"; (2) "Participating in a march in favor of the immigrants' integration in Europe"; (3) "Signing a petition in favor of immigrants' integration in Europe"; (4) "Donating money to help immigrants"; (5) "Becoming a volunteer to help immigrants"; (6) "Participating in movements against nationalist movements"; (7) "Signing a petition to demand inclusive policies according to European indications"; (8) "Voting (on the 2024 European parliamentary elections) for political parties that support inclusive immigration policies." A Principal Component Factorial Analysis on these items extracted a single factor explaining 70,8% of the total variance. We averaged these items into a Prosocial Behavior score (Cronbach's alpha = 0.94; $M = 3.64$; $SD = 1.91$).

Contestation

Finally, participants indicated their motivation to participate in initiatives to contest immigrants' integration in Europe (1 = *I am not motivated at all*; 7 = *I am very much motivated*): (1) "Protesting against the immigrants' integration in Europe"; (2) "Signing a petition against the immigrants' integration in Europe"; (3) "Protesting against European inclusive policies";

(4) “Voting (on the 2024 European parliamentary elections) for political parties that are against inclusive policies”; (5) “Voting (on the 2024 European parliamentary elections) for parties that defend ‘closed borders’ to immigrants.” A Principal Component Factorial Analysis on these items extracted a single factor explaining 85,3% of the total variance. We computed a Contestation score (Cronbach’s alpha = 0.97; $M = 3.13$; $SD = 2.24$) corresponding to the average of these items.

RESULTS

The Association Between National Identity and European Identity

We propose that National Identity would show different patterns of association with European Identity, depending on individuals’ Political Tendency. In order to test this idea, we conducted a moderation analysis (using PROCESS 3.3 version, Model 1 with 10,000 bootstrap samples; Hayes, 2018), considering National Identity as the predictor, European Identity as the dependent variable, and Political Tendency as the moderator (see **Figure 1**).

This model explains 15% of the variability observed in European Identity ($F_{3,172} = 9.75$, $p < 0.001$). We observed that National Identification is, in general, associated with European Identity ($b = 0.96$, $p < 0.001$). We also observed that Political Tendency is associated with European Identity ($b = 0.74$, $p = 0.002$). Finally, and relevant to our hypothesis, we also observed a significant National Identity \times Political Tendency ($b = -0.16$, $p < 0.001$). The analysis splits Political Tendency in three groups based on Mean \pm 1 SD and examines the association between both identities within each political tendency. We denominated those groups as left-wing ($M = 2.04$; presenting scores below one standard deviation below the mean), center ($M = 3.84$; corresponding to scores between $M - SD$ and $M + SD$), and right-wing ($M = 5.63$; presenting scores above one standard deviation above the mean). As predicted, results show different patterns of association between National Identity and European Identity depending on individuals’ political tendency. We observed significant and positive associations between both identities in the left-wing and center group ($b = 0.63$, $SE = 0.12$, $t = 5.24$, $p < 0.001$ and $b = 0.34$, $SE = 0.09$, $t = 4.01$, $p < 0.001$, respectively), and no significant association in the right-wing group ($b = 0.05$, $SE = 0.11$, $p = 0.640$). These results highlight that, for the left and center Political Tendency, the more individuals identify with Portugal, the more they identify with Europe. Both

identities seem to be independent from each other for right-wing participants.

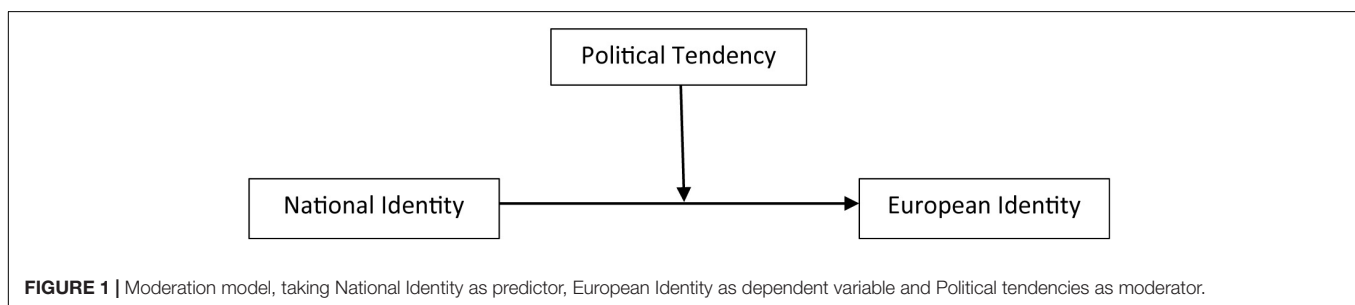
Identities as Predictors of Positive and Negative Arguments for Immigrants’ Entrance

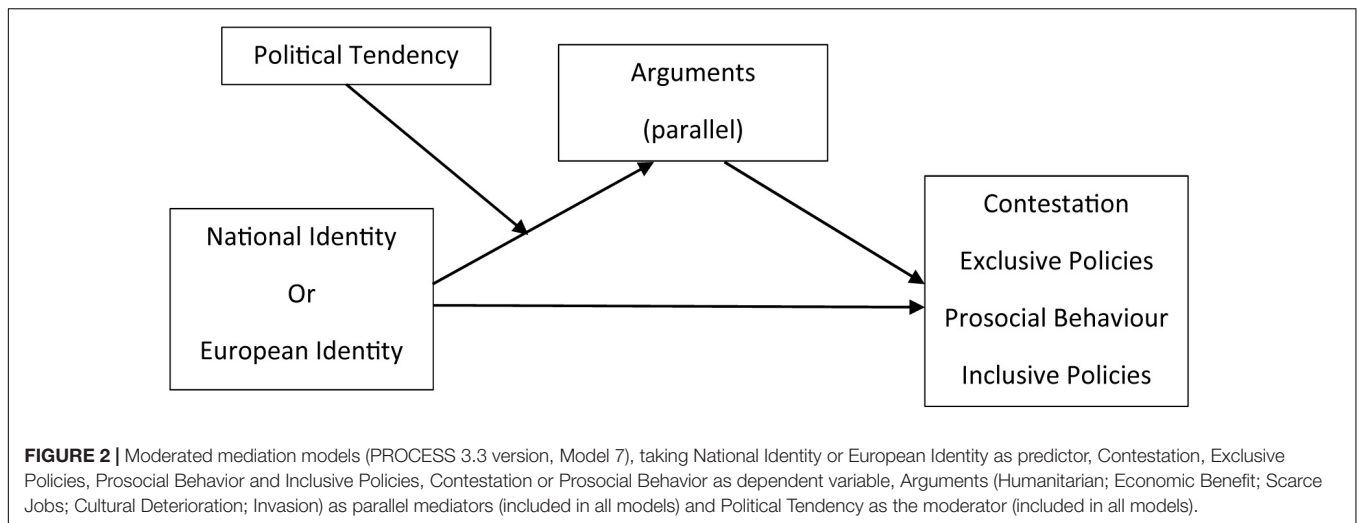
We hypothesize that National and European Identities might rely on different arguments to predict negative (Contestation and Exclusive Policies) or positive (Prosocial Behavior and Inclusive Policies) attitudes toward immigrants. In order to test this idea, we conducted four moderated mediation models (using PROCESS 3.3 version, Model 7, with 10,000 bootstrap samples; Hayes, 2018) by each type of Identity (National or European), for a total of eight models. All models considered (National or European) Identity as predictor, the five arguments (humanitarian; economic benefit; scarce jobs; cultural deterioration; invasion) as parallel mediators, and Political Tendency as the moderator. One model considered Contestation, another model considered Exclusive Policies, another one considered Prosocial Behavior, and the final one considered Inclusive Policies as the dependent variable; see **Figure 2**.

Before reporting the direct and indirect (through positive and negative arguments) predictive role of identities on Contestation, Exclusive Policies, Prosocial Behavior, and Inclusive Policies, we will describe the effect of National and European Identity, of Political Tendency, and of National and European Identity \times Political Tendency to predict support for each argument; that is, the first stage of the moderated mediation model.

Humanitarian Argument

National Identity ($b = 0.79$, $p < 0.001$) significantly predicts perception of immigrants’ entrance as a humanitarian concern. European Identity did not predict this argument ($b = 0.10$, $p = 0.464$). We found a significant National Identity \times Political Tendency ($b = -0.17$, $p = 0.005$) but not European Identity \times Political Tendency ($b = 0.07$, $p = 0.130$) interaction on Humanitarian argument. Interestingly, results show that only left-wing participants ($b = 0.43$, $p = 0.014$) seem to relate national identity with the Humanitarian argument; the more they identify with Portugal, the more they perceive immigrants’ entrance as a humanitarian concern.





Economic Benefit Argument

National Identity ($b = 0.40$, $p = 0.121$) and European Identity ($b = -0.16$, $p = 0.410$) did not directly predict perception of immigrants' entrance as being economically benefiting. We found significant National Identity \times Political Tendency ($b = -0.11$, $p = 0.050$) and European Identity \times Political Tendency ($b = 0.10$, $p = 0.020$) interactions on the Economic Benefit argument. Results show that European Identity is positively related with Economic Benefit argument among center ($b = 0.23$, $p = 0.015$) and right-wing ($b = 0.41$, $p = 0.001$) participants. Regarding National Identity, results show a tendency to opposite patterns of association between left and right-wing participants, although not significant.

Scarce Jobs Argument

National Identity ($b = -0.16$, $p = 0.594$) and European Identity ($b = 0.24$, $p = 0.298$) did not directly predict perception of immigrants' entrance as being a threat to national citizens' jobs. We found a marginally significant European Identity \times Political Tendency ($b = -0.08$, $p = 0.091$) on the Scarce Jobs argument but not a National Identity \times Political Tendency interaction ($b = 0.03$, $p = 0.692$). Results show a marginally significant effect only among right-wing participants ($b = -0.24$, $p = 0.074$): the more they identify with Europe, the less they perceive immigrants as a threat to nationals' jobs.

Cultural Deterioration Argument

National Identity ($b = -0.44$, $p = 0.060$) marginally predicts this argument, contrary to the European Identity ($b = 0.14$, $p = 0.491$). We found significant National Identity \times Political Tendency ($b = 0.16$, $p = 0.006$) and marginally significant European Identity \times Political Tendency ($b = -0.08$, $p = 0.061$) interactions on the Cultural Deterioration argument. Results show that European Identity is negatively related with the Cultural Deterioration argument among center ($b = -0.18$, $p = 0.059$) and right-wing ($b = -0.34$, $p = 0.006$) participants, such that the more these groups identify with Europe, the less they perceive immigrants as deteriorating the host culture. Regarding

National Identity, results show the opposite pattern of association within right-wing participants ($b = 0.45$, $p = 0.002$; for the remaining groups, results are non-significant): the higher the national identification, the higher the perception that immigrants deteriorate the host culture.

Invasion Argument

National Identity ($b = 0.20$, $p = 0.034$), but not European Identity ($b = 0.07$, $p = 0.754$), directly predicts perception of immigrants' entrance as an invasion. We found a significant National Identity \times Political Tendency ($b = 0.20$, $p < 0.001$) interaction on the Invasion argument (European Identity \times Political Tendency: $b = -0.07$, $p = 0.753$). The more right-wing ($b = 0.54$, $p = 0.001$; for the remaining groups results are non-significant) participants identify with Portugal, the more they perceive immigrants as invaders.

Taken together, results showed that among left-wing participants, National Identity positively predicts Humanitarian argument (European Identity was not a significant predictor of any of the proposed arguments in this political tendency, although National identity is strongly related to European identity among left-wing participants, as shown in the previous analysis). For those participants positioned in the center, National Identity did not emerge as a predictor of any of the arguments. However, European Identity positively predicts the Economic Benefit argument, and negatively the Cultural Deterioration argument. Finally, among the right-wing participants, National Identity positively predicts Cultural Deterioration and Invasion arguments. European Identity negatively predicts Cultural Deterioration and Scarce Jobs arguments, and positively the Economic Benefit argument.

Thus, those who relate national identification to the humanitarian argument are positioned on the left of the political spectrum. These participants aligned National Identity with EU inclusive values of solidarity and mutual respect. Inversely, the association found among right-wing participants, national identification and cultural deterioration and invasion arguments seem more aligned with nationalist beliefs and protective

attitudes (i.e., beliefs in the superiority of own nation associated with hostility directed to immigrants). Nevertheless, and still among the right-wing participants, the more they identify with Europe (i.e., more inclusive group with an inclusive ideology), the less sensitive they are to arguments of scarce jobs and cultural deterioration, and the more they believe in the economic benefits of immigrants. In other words, identification with Europe seems to counteract the effect of nationalist and protective attitudes on right-wing participants' sensitivity to arguments of scarce jobs and cultural deterioration.

Moderated Mediation Analyses Contestation

The analysis on Contestation considering National Identity as the predictor (and arguments as mediators) shows that only Humanitarian (Moderated mediation index = 0.04, $SE = 0.02$, 95% $CI [0.00, 0.09]$) and Invasion (Moderated mediation index = 0.07, $SE = 0.03$, 95% $CI [0.02, 0.13]$) arguments emerged as significant mediators of the association between National Identity and Contestation. The remaining arguments showed results with 95% CI including 0 (that is, non-significant). A further inspection shows that left-wing participants ($b = -0.10$, 95% $CI [-0.23, -0.01]$) are sensitive to the Humanitarian argument, such that the higher their national identification, the more they perceive immigrants' entrance as a humanitarian concern and thus, the less they support contestation. Concomitantly, right-wing ($b = 0.20$, 95% $CI [0.07, 0.35]$) participants are more sensitive to the Invasion argument: the more they identify with Portugal, the more they believe immigrants are invaders, and the more they support contestation.

If we take European Identity as the predictor, the Economic Benefit argument is the only one that emerged as a significant mediator (Moderated mediation index = -0.03 , $SE = 0.01$, 95% $CI [-0.06, -0.00]$). Nevertheless, although Humanitarian (Moderated mediation index = -0.01 , $SE = 0.01$, 95% $CI [-0.05, 0.01]$) and Invasion (Moderated mediation index = -0.03 , $SE = 0.02$, 95% $CI [-0.07, 0.01]$) did not emerge as significant mediators (95% CI , includes 0), some partial mediations are significant. The more center and right-wing participants identify with Europe, the more they believe immigrants can be economically benefiting (center: $b = -0.06$, 95% $CI [-0.13, -0.01]$; right-wing: $b = -0.11$, 95% $CI [-0.20, -0.04]$) and a humanitarian concern (center: $b = -0.08$, 95% $CI [-0.16, -0.02]$; right-wing: $b = -0.10$, 95% $CI [-0.21, -0.03]$); the less they believe they are invading Europe (center: $b = -0.08$, 95% $CI [-0.18, -0.00]$; right-wing: $b = -0.10$, 95% $CI [-0.25, -0.03]$), and consequently, the less they support contestation.

Exclusive Policies

The analysis on agreement with Exclusive Policies considering National Identity as the predictor shows that only Cultural Deterioration (Moderated mediation index = 0.03, $SE = 0.02$, 95% $CI [0.00, 0.06]$ – marginally significant) and Invasion (Moderated mediation index = 0.07, $SE = 0.03$, 95% $CI [0.03, 0.13]$) arguments emerged as mediators of the association between National Identity and Exclusive Policies (95% CI for remaining

arguments includes 0). A further inspection shows that right-wing participants are sensitive to these arguments, such that the more they identify with Portugal, the more they believe immigrants cause cultural deterioration ($b = 0.07$, 95% $CI [0.00, 0.16]$) and are invaders ($b = 0.20$, 95% $CI [0.08, 0.33]$), and the more they support exclusive policies.

Regarding European Identity (predictor), besides the above arguments being marginally significant (Cultural Deterioration and Invasion: Moderated mediation index = -0.01 , $SE = 0.01$, 95% $CI [-0.03, 0.00]$ and Moderated mediation index = -0.03 , $SE = 0.02$, 95% $CI [-0.07, 0.00]$, respectively), the Economic Benefit argument emerged as a significant mediator (Moderated mediation index = -0.04 , $SE = 0.02$, 95% $CI [-0.08, -0.01]$; 95% CI for the remaining arguments includes 0). Center and especially right-wing participants show that the more they identify with Europe, the more they believe immigrants can be economically benefiting (center: $b = -0.08$, 95% $CI [-0.17, -0.02]$; right-wing: $b = -0.15$, 95% $CI [-0.26, -0.07]$) and the less they believe they cause cultural deterioration (right-wing: $b = -0.05$, 95% $CI [-0.12, -0.01]$) and are invading Europe (right-wing: $b = -0.12$, 95% $CI [-0.24, -0.03]$; these last two arguments only for right-wing participants); thus, the less they support exclusive policies.

Prosocial Behavior

The analysis on Prosocial behavior considering National Identity as the predictor shows that only Invasion (Moderated mediation index = -0.03 , $SE = 0.02$, 95% $CI [-0.05, -0.00]$) emerged as significant mediator of the association between National Identity and Prosocial behavior (remaining arguments present 95% CI including 0). For right-wing participants ($b = -0.09$, 95% $CI [-0.18, -0.01]$), the higher their national identification, the more they perceive immigrants as invaders and the less they support prosocial behavior.

Regarding European identity as the predictor, the Economic Benefit argument (Moderated mediation index = 0.05, $SE = 0.02$, 95% $CI [0.01, 0.09]$) and in a marginally significant way the Invasion argument (Moderated mediation index = 0.01, $SE = 0.01$, 95% $CI [0.00, 0.04]$) emerged as mediators (for the remaining arguments, 95% CI include 0). Center and right-wing participants show that the more they identify with Europe, the more they believe immigrants can be economically benefiting (center: $b = 0.10$, 95% $CI [0.02, 0.20]$; right-wing: $b = 0.19$, 95% $CI [0.08, 0.33]$) and the less they believe they are invading Europe (only for right-wing: $b = 0.06$, 95% $CI [0.00, 0.13]$), thus the more they feel motivated to get involved in pro-immigration behavior.

Inclusive Policies

The analysis on support for inclusive policies considering National Identity as the predictor shows that Cultural Deterioration (Moderated mediation index = -0.02 , $SE = 0.01$, 95% $CI [-0.05, -0.00]$) and Invasion (Moderated mediation index = -0.02 , $SE = 0.01$, 95% $CI [-0.05, -0.00]$) emerged as significant mediators of the association between National Identity and Inclusive Policies. Right-wing participants, again, are those that are most sensitive to these arguments: the stronger their national identification, the more they perceive immigrants as causing cultural deterioration ($b = -0.05$, 95% $CI [-0.13,$

–0.00]) and as invaders ($b = -0.06$, 95% CI $[-0.14, -0.00]$), and the less they support inclusive policies (remaining arguments present 95% CI including 0).

Considering European identity, the Economic Benefit argument (Moderated mediation index = 0.02, $SE = 0.01$, 95% CI $[0.00, 0.04]$) and, in a marginally significant way, the Cultural Deterioration (Moderated mediation index = 0.01, $SE = 0.01$, 95% CI $[-0.00, 0.03]$) and Invasion (Moderated mediation index = 0.01, $SE = 0.01$, 95% CI $[-0.00, 0.03]$) arguments emerged as mediators in the analysis (remaining arguments present 95% CI including 0). Center and right-wing participants show that the more they identify with Europe, the more they believe immigrants can be economically benefiting (center: $b = 0.04$, 95% CI $[0.01, 0.09]$; right-wing: $b = 0.08$, 95% CI $[0.03, 0.14]$), and the more they support inclusive policies. Right-wing participants show the opposite pattern for Cultural Deterioration ($b = 0.04$, 95% CI $[0.01, 0.10]$) and Invasion ($b = 0.04$, 95% CI $[0.00, 0.09]$).

DISCUSSION

National Identity, European Identity and Political Tendency emerged as crucial predictors of anti- and pro-immigrant attitudes.

Political Tendency and Attitudes Toward Immigrants

First of all, our results show that right-wing political tendency is associated to more exclusive policies and contestation and less inclusive policies and prosocial behavior, whereas left-wing political tendency is more associated to the opposite attitudes.

National and European Identity

Left-wing participants positively associate National with European Identity, reflecting that, among these participants, both identities seem to assume similar ideological contents. On the contrary, right-wing participants do not relate National to European Identity. Moreover, for this group of participants, National and European Identities show opposite patterns of prediction regarding some of the arguments and attitudes regarding immigrants: National Identity is more supportive of contestation and exclusive policies, whereas European Identity, on the contrary, is more predictive of pro-immigration attitudes, both regarding prosocial behavior and support for inclusive policies.

Interestingly, the above effects are mainly found among right-wing participants, suggesting that these participants may be those most susceptible to be influenced by both social identities.

Arguments

We tested the mediating effect of two positive (humanitarian concern and economic benefit) and three negative (scarce jobs, cultural deterioration, and invasion) arguments on the relationship between national identity vs. European identity and supporting immigrants' inclusion vs. immigrants' exclusion.

The humanitarian argument emerged as significant for decreasing contestation. For left-wing participants, National

Identity predicts low levels of CONtestation through Humanitarian arguments. The same pattern occurs for right-wing participants, but regarding European Identity instead of National Identity.

Economic benefit emerged as a relevant mediator between European Identity (but not National Identity) and (positive and negative) attitudes toward immigrants, but only among right-wing participants.

The negative arguments that are more relevant to predicting attitudes toward immigrants are Invasion and Cultural Deterioration, though only among right-wing participants. Among these participants, National Identity predicts a conservative and discriminatory pattern of association, showing that the more right-wing participants identify with Portugal, the more they adhere to arguments of invasion and cultural deterioration of the host society and, consequently, the more they agree with negative, and less with positive, attitudes toward immigrants. On the contrary, European Identity predicts a liberal pattern of association: the more right-wing participants identify with Europe, the less they believe immigrants are invaders and culturally harmful, and the more they engage in pro-immigrant attitudes (and less in anti-immigrant attitudes).

CONCLUSION

Literature has shown that national identity, associated with nationalist sentiments, predicts stronger negative attitudes toward immigrants and greater opposition to immigration. Our results suggest that national identity predicts negative attitudes toward immigrants, but only among right-wing orientation individuals. On the contrary, among left-wing participants, national identity predicted less contestation to immigrants' integration. In our study, right-wing participants were more sensitive to arguments focused on immigrants' invasion and cultural deterioration impact, whereas left-wing participants were more sensitive to humanitarian concerns. These arguments' differentiation emerged as significant mediators of the association between national identity and attitudes toward immigrants: whereas the more right-wing participants identify with Portugal, the more they perceive immigrants as invaders that may deteriorate their culture; for the left-wing participants, the more they identify with Portugal, the more they think immigrants' entrance is a humanitarian concern. These results suggest that national identity is not a consensual homogeneous identity and it seems to leave room for diversity for left-wing participants, whereas it seems to enact protective attitudes among right-wing participants (consistent with Frederic and Falomir-Pichastor, 2018).

In our study, we also tested the predictive effect of participants' identification with the European Union on participants attitudes toward immigrants. Evidence has shown that by encompassing values of solidarity, mutual respect, and humanitarian concerns, identification with European Union predicts support for inclusive policies and the emergence of positive attitudes toward immigrants. Nevertheless, this process was found only among right-wing oriented individuals. Interestingly, this process seems to suggest that identification with the European Union

weakens right-wing individuals' adherence to arguments favoring the discrimination of immigrants (cultural deterioration and invasion), while increasing the acceptance of immigrants' economic contribution to the host society, leading to a decrease of the agreement with exclusive policies and contestation of immigrants in Europe. These results suggest that right-wing participants value the positive contribution that immigrants bring to the European Union economy, and that this argument might be a relevant justification for immigrants' acceptance by this group. This seems to be a potential response to the economic security concerns that civil society (and namely those more skeptical about EU) has been debating regarding Europe (Wodak and Boukala, 2015). Indeed, there is evidence that recognizing the economic indispensability that immigrants may represent leads to more positive attitudes toward them (Guerra et al., 2015).

Interestingly (and curiously), left-wing participants did not show any connection between identification with European Union and positive attitudes toward immigrants. Although national identity is correlated to European identity for this social group, the fact is that national identity seems more relevant to influencing individuals' attitudes regarding immigrants.

In brief, the present results may contribute two relevant pathways for the promotion of inclusive societies and contribution for a positive social integration of immigrants, inclusive social cohesion and, thus, more societal well-being, anchored in pro-diversity identities, and reinforced prosocial behavior anchored in stronger and more resilient societies (Nerone, 2019; Randall et al., 2019).

First, because European Union has a clear ideological content that is in line with pro-inclusive societies, it is expected that identification with European Union leads to more positive attitudes toward immigrants. Thus, it would be important to promote national identities' ideology closer to the European ideological content. One possible direction is the one shown by the "Ingroup Projection Model" (Mummendey and Wenzel, 1999). According to this model, it is possible to reduce conflicting attitudes toward the outgroup (in this case, immigrants) through the interaction of two mechanisms: (1) Dual identification – when both (national and European) identities are frequently salient and thus equally cognitively accessible to define the self, both become correlated in individuals' mind after a while; (2) Complexity – by being ideologically pro-diversity, the European Union identity value several representative ingroup members (multimodal prototype), thus decreasing ethnocentricity. Left-wing participants already correlate both identities, but among them, national identity seems to be more relevant to determine attitudes toward immigrants. Once our results showed that National and European Identities determined more right-wing participants' (than left-wing participants') attitudes toward immigrants by improving dual identification process among right-wing individuals, both identities should become more interrelated and should embrace pro-diversity ideology. As a result, this process should contribute to counteract right-wing individuals' tendency to be less favorable toward migrants when their national identity is salient.

Second, our results indicate that the arguments that seem more effective in predicting positive attitudes toward immigrants among right-wing individuals are immigrants'

economic contribution to the host society. On the other hand, the arguments that most predict negative attitudes toward immigrants are their supposed impact on cultural deterioration and invasion (which reflects ethnocentrism). These results indicate that the approach of facts related to these arguments in political discourses might influence public opinion. In order to promote pro-inclusion attitudes and decrease blatant ethnocentrism, political discourses should present facts that show the economic benefit brought by immigrants and, simultaneously, facts that decrease the perceived threat of cultural deterioration and invasion on the part of immigrants.

Limitations and Future Research

Although the aim for this study did not require the collection of a representative sample, the fact is that our sample is biased regarding participants' education level. Because this variable is found in the literature as having impact on individual political attitudes, it would be of extreme relevance to test these processes in more diverse samples.

This study focused on the impact of national and European identities on attitudes regarding immigrants. We tested how both identities were associated with each other and with attitudes toward immigrants. Results were consistent with the assumption that European Identity content should be oriented by the inclusive European Agenda values. Nevertheless, we did not inspect the actual content of each identity by political tendency, which would be relevant. For instance, literature highlights that confidence in EU institutions is determinant to the European identity definition (Verhaegen et al., 2017). If so, a higher skepticism regarding EU might decrease the chances of being able to strengthen a European identity relying on EU inclusive values and foster anti-immigration attitudes (and even nationalisms).

Finally, as a future direction, immigrants' nationality might play a big role in these processes. Traditionally, immigrant communities in Portugal come from ex-colonies, but Portugal has more recently been receiving immigrants from other nationalities. Ethnocentrism regarding immigrants is also fueled by stereotypes associated to immigrants' groups of origin (Lee and Fiske, 2006), which potentiates the interest in investigating the role of immigrants' nationality as a moderator of these processes (Kentmen-Cin and Erisen, 2017).

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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Self-Transcendent Aspirations and Life Satisfaction: The Moderated Mediation Role of Gratitude Considering Conditional Effects of Affective and Cognitive Empathy

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Life aspirations are considered one of the most relevant components for human beings to give meaning and purpose to their existence. Different studies emphasized the relevance of intrinsic life aspirations to promote life satisfaction. However, few studies analyze the specific role of the intrinsic aspirations that have been recently categorized as self-transcendent. Self-transcendent aspirations are focused on helping others and improving society and, consequently, are considered aspirations whose purpose transcends oneself. In this sense, the objective of this study is to observe how self-transcendent aspirations are related to life satisfaction through dispositional gratitude. Additionally, we aim to study the moderating role of cognitive and affective empathy. There were 1,356 students (mean age = 21.5, standard deviation = 2.35 years) who took part in a scholarship program funded by the Education Ministry of Peru (PRONABEC), of which 57.7% were men and 42.3% were women. Results show a strong relationship between self-transcendent aspirations, gratitude, and cognitive and affective empathy. In the mediation analysis, an indirect effect of self-transcendent aspirations is observed on life satisfaction via gratitude. However, the moderated mediation showed that the addition of cognitive and affective empathy conditions the mediation effect. In this way, cognitive empathy has a significant interaction in the relationships between self-transcendent aspirations and gratitude, and between self-transcendent aspirations and life satisfaction. Results are discussed to emphasize the relevance of the mediating and moderating mechanisms considered in this study for the understanding of how self-transcendent life aspirations may promote life satisfaction.

Keywords: self-transcendent aspirations, gratitude, cognitive empathy, affective empathy, life satisfaction

INTRODUCTION

Life aspirations reflect long-term goals and are considered one of the most relevant components for human beings to give meaning and purpose to their existence (Steger et al., 2006). Aspirations enable prospective thinking (about the future) and allow us to direct our actions and organize our cognitive and affective processes in the present time (Seligman et al., 2013; Baumeister et al., 2016).

According to the self-determination theory (SDT) proposed by Ryan and Deci (2000), life aspirations drive us and lead our choices and lifestyles. To measure these aspirations, Kasser and Ryan (1996) developed the Aspiration Index, a scale to assess intrinsic aspirations (personal growth, close relationships, community involvement, and physical health), as well as extrinsic aspirations (popularity, financial success, and image). Different studies show that intrinsic aspirations are associated with the “own nature” of the individual and therefore entail high probabilities of increasing well-being indicators such as positive affect and vitality (Lekes et al., 2010; Hope et al., 2016), whereas extrinsic aspirations are related to materialistic motives and have been linked to feelings of frustration and decreased life satisfaction (Dittmar et al., 2014; Unanue et al., 2014).

Grouzet et al. (2005) created a new classification of these life aspirations, which, besides the categories intrinsic and extrinsic, makes a distinction between self-transcendent and physical goals. According to these authors, self-transcendent goals are intrinsic aspirations that are considered prosocial, as they imply connecting with others and going beyond selfish concerns. More recently, Martela et al. (2019) conducted a study with two samples of adults to verify, using a circular stochastic modeling approach, if, in addition to the intrinsic and extrinsic categories, aspirations could also be categorized within the physical self vs. transcendence axes. The results confirmed that the relationship between aspirations can be described as a set of variables distributed along the circumference of a circle.

Self-Transcendent Aspirations and Subjective Well-Being

According to SDT, understanding the role played by life aspirations in subjective well-being (SWB) is fundamental (Kasser and Ryan, 1993; Bandura, 1997; Martela et al., 2019). Different studies have related intrinsic aspirations to different indicators of well-being (for review Ryan and Deci, 2017). However, few studies have linked these aspirations to the affective and cognitive components of SWB, as developed by Diener (1984). As such, SWB comprises a cognitive component, which is measured by asking people how satisfied they are with their lives (life satisfaction), and an affective component, which refers to the presence of positive affect or to the absence of negative affect, and it is assessed by inquiring about the experience of specific emotions during the previous day or week (Jebb et al., 2020).

Some of the research on the relationship between intrinsic aspirations and the affective and cognitive components of SWB shows a positive and significant relationship with positive affect (Kasser and Ryan, 1996; Romero et al., 2012; Martela et al., 2019). Also, a positive and significant relationship was found between intrinsic aspirations and life satisfaction in the studies by Romero et al. (2012) and Nishimura and Suzuki (2016); however, a negative and significant relationship was discovered in the work conducted by Allan and Duffy (2014). More recently, Martela et al. (2019) observed, by means of a regression analysis, that intrinsic aspirations have a positive and significant relationship with life satisfaction, but the significant effect disappeared when considering the participant's mean scores for life aspiration

(calculated through the mean of the importance rated to the 13 intrinsic and extrinsic aspirations for each of the participants).

If we consider aspirations categorized by their axes, self-transcendence vs. physical self (Grouzet et al., 2005; Martela et al., 2019), and their relationship with the components of well-being, specifically, the intrinsic aspiration of community contribution (i.e., generativity and helping others), which is the closest to the self-transcendence axis (Martela et al., 2019), has been linked to both positive affect and life satisfaction, as well as to the global component of SWB (Martela and Ryan, 2016; Martela et al., 2019). Concretely, the items of this type of self-transcendent aspiration refer to the importance of objectives related to helping others and improving society and consequently are considered aspirations whose purpose transcends oneself.

In a recent review article published by Diener et al. (2018), the authors emphasize the importance of considering fundamental aspects like aspirations related to social connection with others as predictors in SWB measures. Much of the existing literature indicates that people's motivation to build and maintain social relationships is essential for survival and well-being (Leary and Baumeister, 2017). Additionally, when human beings provide support to others, this may give them a sense of meaning that is associated with positive affect and life satisfaction (Post, 2005; Siedlecki et al., 2014).

In conclusion, many of the previous studies based on SDT (Ryan and Deci, 2000) that relate to life aspirations have found that intrinsic aspirations are positively related to different well-being indicators. Furthermore, recently, interest in the study of intrinsic aspirations that promote self-transcendence and their relationship with the different components of SWB has grown (Grouzet et al., 2005; Martela et al., 2019). Specifically, this research work seeks to demonstrate the relationship between self-transcending life aspirations that represent long-term goals focused on helping the community and that transcend the self, and the cognitive component of well-being (i.e., life satisfaction), while considering different mechanisms that mediate and moderate this relationship. Setting long-term goals is essential for human beings, but progressing toward them is what contributes to increasing satisfaction with life (Diener, 1998). Therefore, we believe that a better understanding on this subject is necessary, because different mechanisms, such as gratitude and empathy, are fundamental to maintain long-lasting interpersonal connections and promote prosocial behavior, while at the same time they intervene in the relationship between self-transcendent aspirations and satisfaction with life.

Gratitude as a Potential Mediator

Over the past years, there has been increasing interest in the role of transcendence emotions such as gratitude in life satisfaction (Wood et al., 2008; Robustelli and Whisman, 2018). Gratitude falls within the categories of self-transcendent emotions (Van Cappellen et al., 2016; Stellar et al., 2017) and “other-praising emotions,” according to the moral categories developed by Haidt (2003). This emotion is experienced when a person is helped by others. It is usually defined as a state or as a trait (Emmons and McCullough, 2004) and can act as a driver to enhance the welfare of others (Bartlett and DeSteno, 2006; Campos et al., 2013).

Self-transcendent emotions such as gratitude are considered emotions that promote the development and maintenance of long-term social relationships (Stellar et al., 2017; DeSteno, 2018). Different studies have demonstrated that gratitude stimulates prosocial behavior toward others (for a review, see McCullough et al., 2001). Particularly, people who experience gratitude have more possibilities of helping strangers (Bartlett and DeSteno, 2006). In this sense, gratitude has been related to prosocial conducts and social support, which also promote life satisfaction (Algoe, 2012; Alkozei et al., 2018).

Additionally, gratitude is oriented toward noticing positive outcomes in life and promotes positive experiences and, specifically, positive emotions in daily life, which broaden the scope of thought and increase satisfaction with one's life (Emmons et al., 2019). So, when people feel constantly grateful for the situations happening and these are seen as a gift, they are more likely to increase their personal resources to face daily experiences in a more positive way (Unanue et al., 2019). Along the same line, the broaden-and-build theory developed by Fredrickson (2004) suggests that gratitude can broaden an individual's awareness of positivity and contribute to the accumulation of resources for achieving life goals, thus increasing life satisfaction.

Like other self-transcendent emotions such as awe and compassion, gratitude requires a personal view that transcends the own self to focus on others (Stellar et al., 2017). The elicitation of this type of emotions, as it occurs with other emotions, depends on the relevance that social and cultural contexts attribute to self-focused concerns (Mesquita et al., 2016). In a recent study, De Leersnyder et al. (2018) observed significant differences in the emotional experience of self-focused and other-focused concerns. Consequently, it is important to explore how these long-term life aspirations can promote emotions such as gratitude and how gratitude, in turn, can facilitate other-oriented motivation. So, the first goal of this study was to observe how self-transcendent aspirations are related to life satisfaction through dispositional gratitude. Taking into account the aforementioned, we hypothesize that:

H1. Self-transcendent aspirations will be positively related to life satisfaction through gratitude.

Specifically, we expect that gratitude (i.e., directing cooperation to others and fostering long-term relationships) will mediate the relationship between self-transcendent aspirations and life satisfaction.

The Moderation Role of Cognitive and Affective Empathy

Empathy is considered a complex affective and cognitive process of understanding and feeling others' emotions (Baron-Cohen and Wheelwright, 2004; Jolliffe and Farrington, 2006). Empathy is a primary mechanism fundamental for interpersonal connection and therefore acts as a prosocial behavior driver through sensitivity to emotional signals from others (for review, see Eisenberg, 2010; De Waal, 2012).

Different studies have associated the lack of empathy with violence, aggression, and other interpersonal problems (Blair et al., 2005; Mitsopoulou and Giovazolias, 2015), whereas empathy has been linked to positive interpersonal relationships and friendship (Durlak et al., 2011; Hayes and Ciarrochi, 2015). Nevertheless, other studies have hardly found a weak relationship between empathy and aggressiveness (for a review, see Vachon et al., 2014).

An important aspect of empathy seems to be that the focus of concern has to be others in order to prevent excessive personal anguish (Eisenberg et al., 1996). Previous studies have shown that being empathetic with others is related to a tendency to prosocial behavior, social closeness, and life satisfaction (Morelli et al., 2015). However, occasionally, in the absence of the cognitive mechanisms conducive to perspective-taking, an excess of affective empathy can cause personal distress and suffering (Eisenberg et al., 2006; Blanco-Donoso et al., 2017; Amutio et al., 2018) and lead to a decrease in prosociality (Decety and Lamm, 2009; Decety and Yoder, 2016). This fact has sparked a debate on how to separate the mechanisms of affective and cognitive empathy (Cuff et al., 2016).

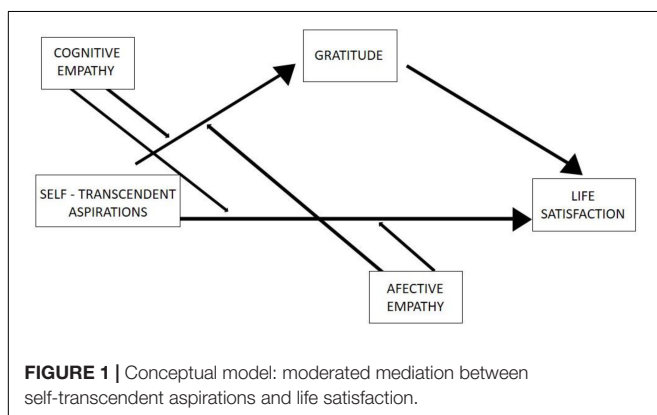
Both mechanisms (affective and cognitive) have been speculated to be relevant to life satisfaction. However, difficulties for perspective-taking when facing affective stimuli can cause increased negative affect, including distress and clinical symptomatology (Morelli et al., 2015; Lachmann et al., 2018). More generally, people who experience difficulties to assess and cope with a stressful situation feel anguished, and this impairs their prosocial qualities, including empathy (Batson, 1991). Following this perspective, different studies have pointed to the need of understanding that empathy is a general term to describe several forms in which people respond to one another, including sharing and thinking about the feeling of others (for a review, see Zaki, 2020). This implies that empathy can encourage ways of worrying about and experiencing the same emotions as others, but without mechanisms that target cognitively and rationally perspective-taking, suffering and emotional wear may occur (Bloom, 2017a,b). In this sense, the definition of cognitive empathy (perspective-taking) implies a more rational processing that promotes sensitivity to justice for others, as well as the endorsement of moral rules, which is also the case with emotions such as compassion (Decety and Yoder, 2016; Bloom, 2017b).

Aspirations that imply life goals can generate frustration in people if they are not encompassed by achievements or materialization (Ryan and Deci, 2000). Therefore, in the case of self-transcendent aspirations, as already noted, the experience of dispositional gratitude is considered a fundamental mediating mechanism for relating these aspirations to life satisfaction, thus preventing them to cause frustration. Nevertheless, promoting gratitude implies building reciprocal constant relationships in terms of self-benefit and benefactor-cost (Emmons and McCullough, 2004; Van Cappellen et al., 2016). In addition, human beings have neural mechanisms, such as empathy and mentalization, which enable the simulation of others' mental states, which gives rise to gratitude and reciprocity (Yu et al., 2018). In this sense, the literature

on this subject leads us to think that high and low scores for both forms of empathy can condition the relationship between aspirations and the constant experience of gratitude. Without high empathy, attributing generous intentions to others is difficult, and this, in turn, affects the experience of gratitude (Bloom, 2017b; Stern et al., 2019). Furthermore, as suggested by the literature, the experience of affective empathy can take a high toll in people (Zaki, 2020), generating more distress and suffering and consequently impairing the experience of gratitude.

In the same line, we also want to demonstrate how both forms of empathy moderate the relationship between self-aspirations and life satisfaction. From an evolutionary perspective, empathy promotes the connection between people (Bloom, 2017a), which we believe is fundamental to achieve high levels of SWB in the search of goals that transcend self-related concerns to common good. Without a high ability to understand other people's thoughts and feelings, it would be hard for people to experience a feeling of well-being in their connection with others or prosocial and altruistic behaviors toward others (Grühn et al., 2008). Additionally, as already mentioned, the differences in the experience of affective and cognitive empathy in the well-being perception (Bloom, 2017b; Zaki, 2020) lead us to think that both forms of empathy can condition the relationship between aspirations and life satisfaction differently. In this sense, it is expected that both forms of empathy will show a moderating effect in the relationship between aspirations and gratitude, and in the relationship between aspirations and life satisfaction. Therefore, the following hypotheses are also formulated (Figure 1):

- H2. Cognitive and affective empathy are expected to have a moderating effect on the relationship between self-transcendent aspirations and gratitude. Specifically, all interactions will be significant.
- H3. Both forms of empathy are expected to condition the relationship between self-transcendent aspirations and life satisfaction through gratitude. Therefore, significant moderated mediation indexes are expected for the conditioned effects, considering both forms of empathy.



MATERIALS AND METHODS

Participants

The sample is composed of 1,356 university students [mean age = 21.5, standard deviation (SD) = 2.35 years], of which 57.7% are men and 42.3% women. All of them are part of a total of 40,000 students who belong to a scholarship program financed by the Education Ministry of Peru (PRONABEC). The Ministry of Education conducted this study to verify the indicators related to well-being in university students from this program. In order to obtain an adequate psychometric validation of the global questionnaire (78 items), 1,400 students were randomly selected to participate in the study, of which 1,356 were successfully completed.

A sensitivity power analysis was conducted using G*Power 3.1 (Faul et al., 2009) considering $\alpha = 0.05$, a desired power of 0.80, and 11 parameters in a moderate mediation model with two linear regressions, each of which had three principal predictors and two interactions. An effect size of $f^2 = 0.006$ was obtained. Thus, the model with 80% power can detect a predictor with a population effect size of $f^2 = 0.006$, which is considered a small size by Cohen (1992). The study had the support of an external group of university researchers that helped create the questionnaire and provided insights into the ethical aspects below.

Procedure

The research team and the Ministry of Education developed the questionnaire, paying special attention to compliance with the ethical standards required for this type of study. To this end, informed consents that explained the objectives, confidentiality, and the voluntary character of the study were created to be signed by participants prior to survey application. Different specialists from the same unit established the protocols for the implementation of the survey. The Research Ethics Committee of the Continental University (Peru) reviewed and approved the ethical suitability of the study considering the ethical recommendations of the Declaration of Helsinki for studies on human beings.

PRONABEC has a virtual platform in INTRANET (private network system), which is a communication system that allows for sending and collecting information from its students. Through this system, the PRONABEC team programmed the online application of the survey. The questionnaire was sent to a randomized sample of students from the program. When the questionnaire was launched on the platform, all selected students received a notification via email so that they could access and complete the survey.

Before filling in the questionnaire, students had to read the research purpose and provide an electronic signature. Students took an average of 30 to 40 min to complete the questionnaire. It is worth mentioning that this survey was available for 2 weeks on the platform with the aim of collecting as much information as possible.

Measures

Self-Transcendent Aspirations

The subscale “community involvement” from the *Aspirations Index* developed by Kasser and Ryan (1996) was used. This subscale asks respondents how important some aspirations related to prosociality are to them (e.g., “To help others improve their lives;” “To help people in need”) in a 1- to 7-point scale (“very important”). For this study, the scale presents a Cronbach α of 0.91.

Gratitude

The subscale of gratitude from the Positive Emotion Questionnaire developed by Oros (2014) was used. This questionnaire assesses different dispositional emotions such as gratitude, sympathy, serenity, and satisfaction. The gratitude subscale contains four items related to gratitude experiences in daily life. To answer the questionnaire, students need to answer to which extent they agree or disagree with the statements in a range from 1 (totally disagree) to 5 (totally agree) (e.g., “I am thankful for the things I have;” “I like to be thankful with other people”). Cronbach α for this scale was 0.91.

Cognitive and Affective Empathy

The 9-item scale proposed by Soto and Muchotrigo (2015) was used to assess empathy. This measure evaluates the construct for the affective (e.g., “I get sad when I see people crying”) and cognitive dimensions (e.g., “When someone is depressed I use to understand him/her) in a range between 1 (totally disagree) and 5 (totally agree). Cronbach α was 0.86

Life Satisfaction

The Brief Multidimensional Students’ Life Satisfaction Scale developed by Seligson et al. (2003) was used. This scale contains five items that deal with different domains related to life satisfaction. The items measure to what extent the students feel “dissatisfied” or “satisfied” with the following aspects of their life: (1) family life, (2) friendships, (3) life at school/institute, (4) self-satisfaction, and (5) the place where they live. This instrument uses a scale from 1 “very dissatisfied” to 7 “very satisfied.” Cronbach α was 0.90.

Data Analysis

Descriptive analyses were conducted using SPSS 23.0. For mediation and moderate mediation analyses, the models 4 and 10 of the macro Process 3.2.01 proposed by Preacher and Hayes (2008) for SPSS were used, respectively. Mediation indirect effects between the hypothesized variables were computed. Results will reflect statistically significant indirect effects by testing the confidence interval (CI) derived from 10,000 bootstrap repetitions at 95% to verify the mediation effect. The indirect effect is significant if the CI does not contain the value zero (Hayes, 2017). Similarly, a moderate mediation analysis between the hypothesis variables was carried out, evaluating the indexes of partial moderated mediation. These indices “quantify the rate of change in the indirect effect of independent variables as one moderator changes but the other is held constant” (Hayes, 2018, p. 11), which will show a statistically significant indirect effect if

the CI does not contain the value zero (Hayes, 2018). It must be noted that the estimation of the parameters for each model was carried out by means of ordinary least squares regression. Finally, we ruled out the gender and age control variables because they are not significantly correlated with life satisfaction.

RESULTS

Descriptive Statistics

First, means, *SDs*, and bivariate correlations between all the variables are presented using SPSS 23.0 (Table 1). High, positive, and significant correlations can be observed across all the variables above, with gratitude and cognitive empathy standing out ($r = 0.56, p = 0.000$).

Mediation Analysis

The results of the first model (Figure 2), with dispositional gratitude as a possible mediating variable, self-transcendent aspirations as an independent or predictor variable, and life satisfaction as a dependent variable, show that self-transcendent aspirations have a direct effect that is not statistically significant on life satisfaction ($\beta = 0.03, p > 0.05$). However, when introducing gratitude, we observe that it has a statistically significant indirect effect ($\beta = 0.16, 95\% \text{ CI} = 0.107\text{--}0.205$). Thus, the relationship between self-transcendent aspirations and life satisfaction is interpreted as being mediated by dispositional gratitude. Values of R^2 fluctuated from 0.27 to 0.36 ($p = 0.000$).

Moderate Mediation Analysis

For the second model (Figure 1), taking self-transcendent aspirations as the independent variable, keeping life satisfaction as the dependent variable, and gratitude as a mediator, cognitive empathy and affective empathy are introduced as possible moderators of this mediation.

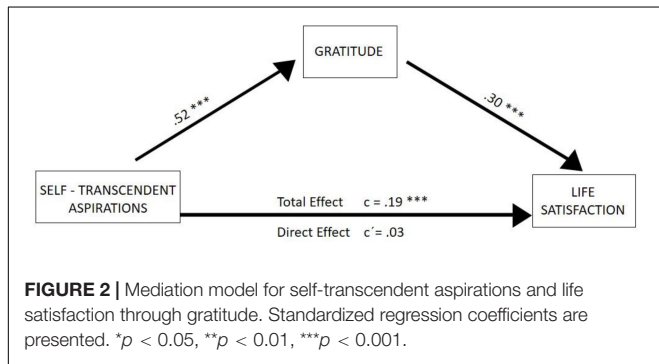
For the model that takes gratitude as dependent variable (Table 2), the construct was positively and significantly predicted by self-transcendent aspirations ($\beta = 0.47, p < 0.001$) and cognitive empathy ($\beta = 0.77, p < 0.001$), whereas it was negatively and significantly affected by the interaction between self-transcendent aspirations and cognitive empathy ($\beta = -0.08, p < 0.01$). However, affective empathy predicts gratitude positively but not significantly ($\beta = 0.08, p > 0.05$), and the same is true for the interaction with self-transcendent aspirations ($\beta = -0.02, p > 0.05$). Direct conditional effects are shown in Table 2 for the case where both moderators assume values of -1 SD , mean, and $+1 \text{ SD}$ and their combinations. The effects are significant at all levels.

Figure 3 shows the interaction between self-transcendent aspirations and cognitive empathy over gratitude. Students with low self-transcendent aspirations and low cognitive empathy present significant differences in gratitude compared to those with low self-transcendent aspirations and high cognitive empathy. However, the difference is smaller between students with high self-transcendent aspirations and low cognitive empathy, and students with high self-transcendent aspirations and high cognitive empathy. The slope in the case of low cognitive

TABLE 1 | Means, standardized deviations, and correlations between all variables.

| | | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----|-------------------|-------|------|---------|------|--------|--------|--------|--------|---|
| 1. | Gender | 1.42 | 0.49 | | | | | | | |
| 2. | Age | 21.53 | 2.35 | -0.21** | | | | | | |
| 3. | Gratitude | 3.37 | 0.62 | 0.07** | 0.02 | | | | | |
| 4. | ST aspirations | 5.16 | 0.91 | 0.13** | 0.01 | 0.52** | | | | |
| 5. | Affect empathy | 2.44 | 0.90 | 0.06* | 0.04 | 0.26** | 0.16** | | | |
| 6. | Cognitive empathy | 2.90 | 0.66 | 0.04 | 0.01 | 0.56** | 0.40** | 0.53** | | |
| 7. | Life satisfaction | 4.69 | 1.42 | -0.01 | 0.01 | 0.32** | 0.19** | 0.08** | 0.20** | |

* $p < 0.05$, ** $p < 0.01$.



empathy is also slightly steeper than the slope of high cognitive empathy, but a higher level of dispositional gratitude is observed in both cases for high levels of the self-transcendent aspirations.

The results of the model with life satisfaction as a dependent variable show that affective empathy does not significantly

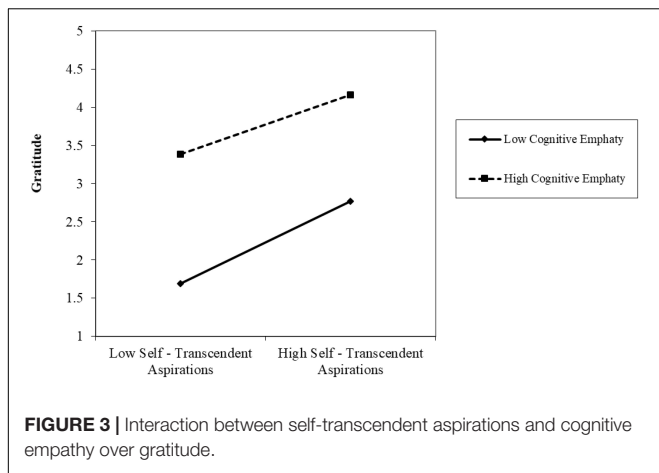
influence life satisfaction ($\beta = 0.06$, $p > 0.05$), but again self-transcendent aspirations are observed to have a positive and statistically significant effect ($\beta = 0.63$, $p < 0.005$), as well as gratitude ($\beta = 0.56$, $p < 0.001$) and cognitive empathy ($\beta = 1.18$, $p < 0.005$). With respect to the interactions in this model, only cognitive empathy and self-transcendent aspirations present a negative and significant effect on life satisfaction ($\beta = -0.21$, $p < 0.005$). Direct conditional effects are shown in **Table 3**. For the case in which both moderators assume values of -1 SD, mean, and $+1$ SD and their combinations, only three out of nine effects are significant: -1 SD cognitive empathy and -1 SD affect empathy ($\beta = 0.12$, 95% CI = 0.11–0.23), $+1$ SD cognitive empathy and mean affect empathy ($\beta = -0.18$, 95% CI = -0.32 – 0.03), and $+1$ SD cognitive empathy and $+1$ SD affect empathy ($\beta = -0.20$, 95% CI = -0.31 to -0.07).

Figure 4 shows the effect of self-transcendent aspirations and cognitive empathy over life satisfaction, with participants who report higher levels of cognitive empathy and self-transcendent aspirations having

TABLE 2 | Conditional direct effects between self-transcendent aspirations and gratitude moderated by affect and cognitive empathy.

| Predictor | β | SE | Lower 95% BootLLCI | Upper 95% BootULCI |
|---|---------|--------|--------------------|--------------------|
| DV = gratitude as dependent variable model | | | | |
| Self-transcendent aspirations | 0.47* | 0.04 | 0.40 | 0.53 |
| Cognitive empathy | 0.77* | 0.1300 | 0.52 | 1.02 |
| Self-transcendent aspirations \times cognitive empathy | -0.08** | 0.02 | -0.12 | -0.03 |
| Affect empathy | 0.08 | 0.13 | -0.17 | -0.33 |
| Self-transcendent aspirations \times affect empathy | -0.02 | 0.02 | -0.07 | 0.03 |
| Conditional direct effect at different values of the moderator | | | | |
| Moderator values | β | BootSE | BootLLCI | BootULCI |
| -1 SD cognitive empathy and -1 SD affect empathy | 0.27* | 0.02 | 0.23 | 0.30 |
| -1 SD cognitive empathy and mean affect empathy | 0.25* | 0.02 | 0.21 | 0.29 |
| -1 SD cognitive empathy and $+1$ SD affect empathy | 0.23* | 0.04 | 0.16 | 0.30 |
| Mean cognitive empathy and -1 SD affect empathy | 0.22* | 0.03 | 0.16 | 0.27 |
| Mean cognitive empathy and mean affect empathy | 0.20* | 0.02 | 0.17 | 0.23 |
| Mean cognitive empathy and $+1$ SD affect empathy | 0.18* | 0.03 | 0.13 | 0.23 |
| $+1$ SD cognitive empathy and -1 SD affect empathy | 0.17* | 0.04 | 0.09 | 0.25 |
| $+1$ SD cognitive empathy and mean affect empathy | 0.15* | 0.03 | 1.0 | 0.20 |
| $+1$ SD cognitive empathy and $+1$ SD affect empathy | 0.13* | 0.02 | 0.09 | 0.17 |

* $p < 0.001$, ** $p < 0.01$.



increased levels of life satisfaction. Moreover, as self-transcendent aspirations increases, so does life satisfaction, regardless of the level of cognitive empathy. However, the regression slope is steeper for people with lower cognitive empathy.

Conditional indirect effects are presented in **Table 4**. In all cases, they are statistically significant. The index of partial moderated mediation was only significant for cognitive empathy ($\beta = -0.04$, 95% CI = -0.08 to -0.01). Therefore, only cognitive empathy moderates the mediating role of gratitude in the effect of self-transcendent aspirations on life satisfaction. Values of R^2 fluctuated from 0.13 to 0.44 ($p = 0.000$).

DISCUSSION

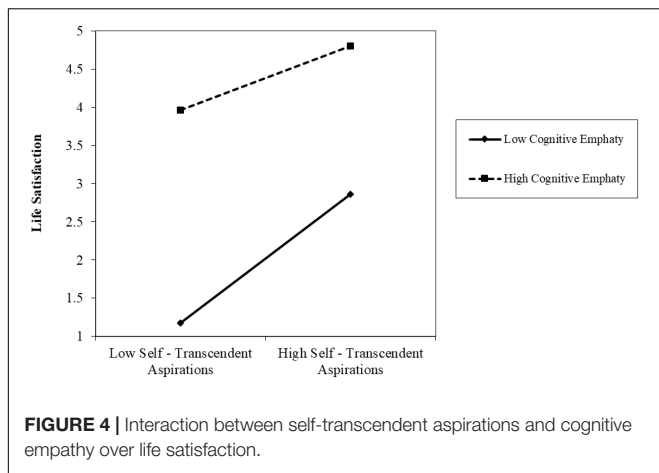
Aspirations and expectations for the future imply a type of prospective thinking relevant to the human being, which makes our species different from animals (Baumeister et al., 2016). This study aims to delve into how self-transcendent aspirations can affect the perception of our own life as a whole. Descriptive data obtained in this study show a positive relationship between self-transcendent aspirations and life satisfaction, as well as between aspirations and variables closer to prosociality, such as both forms of empathy and gratitude.

Following our first hypothesis, an indirect effect of self-transcendent aspirations is observed on life satisfaction through gratitude, thus confirming this hypothesis. Specifically, this mediating effect is total. Additionally, it must be noted that self-transcendent aspirations have a positive and significant direct effect on gratitude. This result underscores the relevance of this type of aspirations, which represent long-term goals that can drive emotions that strengthen and maintain interpersonal relationships in the long term such as gratitude (Stellar et al., 2017). Self-transcendent aspirations as community involvement focus people’s interest not only on themselves, but also on others (Kasser and Ryan, 1996), and in this aspect, our results support the hypothesis that these aspirations are important to guide affective positive experiences induced by gratitude in daily life. Moreover, dispositional gratitude, which is considered a general tendency to respond to others with gratitude or appreciation (McCullough et al., 2002), can be an important mechanism for linking these aspirations to the subjective perception of well-being (i.e., life satisfaction). From a bottom-up perspective,

TABLE 3 | Conditional direct effects between self-transcendent aspirations and life satisfaction moderated by affect and cognitive empathy.

| Predictor | β | SE | Lower 95% BootLLCI | Upper 95% BootULCI |
|---|----------|--------|--------------------|--------------------|
| DV = LS as dependent variable model | | | | |
| Self-transcendent aspirations | 0.63* | 0.11 | 0.42 | 0.84 |
| Gratitude | 0.56* | 0.08 | 0.41 | 0.71 |
| Cognitive empathy | 1.18** | 0.37 | 0.46 | 1.90 |
| Self-transcendent aspirations \times cognitive empathy | -0.21** | 0.07 | -0.34 | -0.01 |
| Affective empathy | 0.06 | 0.36 | -0.65 | 0.76 |
| Self-transcendent aspirations \times affective empathy | -0.02 | 0.07 | -0.15 | 0.11 |
| Conditional direct effect at different values of the moderator | | | | |
| Moderator values | β | BootSE | BootLLCI | BootULCI |
| -1 SD cognitive empathy and -1 SD affective empathy | 0.12*** | 0.06 | 0.01 | 0.23 |
| -1 SD cognitive empathy and mean affect empathy | 0.10 | 0.06 | -0.01 | 0.21 |
| -1 SD cognitive empathy and +1 SD affect empathy | 0.08 | 0.10 | -0.12 | 0.28 |
| Mean cognitive empathy and -1 SD affect empathy | -0.02 | 0.08 | -0.18 | 0.15 |
| Mean cognitive empathy and mean affect empathy | -0.04 | 0.05 | -0.13 | 0.06 |
| Mean cognitive empathy and +1 SD affect empathy | -0.06 | 0.07 | -0.20 | 0.08 |
| +1 SD cognitive empathy and -1 SD affect empathy | -0.16 | 0.12 | -0.39 | 0.08 |
| +1 SD cognitive empathy and mean affect empathy | -0.18*** | 0.08 | -0.32 | -0.03 |
| +1 SD cognitive empathy and +1 SD affect empathy | -0.20** | 0.06 | -0.32 | -0.07 |

* $p < 0.001$, ** $p < 0.01$, *** $p < 0.05$.



positive and negative daily-life affective experiences contribute to build the cognitive judgment. that people make about their lives as a whole (Kahneman and Riis, 2005). Consequently, the tendency to experience gratitude can promote the accumulation of positive affective experiences that increase life satisfaction. As suggested by Diener (1998) for the well-being of human beings, it is important not only to set long-term goals, but also to achieve them. In this sense, dispositional gratitude, as indicated by our results, may encourage the materialization of self-transcendent aspirations into gratifying actions in daily life that promote the accumulation of positive personal resources, as well as keeping positive interpersonal relationships in the long term, which in turn increases life satisfaction.

Regarding the second hypothesis, high empathy and low cognitive empathy moderate the relationship between self-transcendence aspirations and gratitude. People who score higher in cognitive empathy experience more gratitude than those with lower empathy. Nevertheless, the effect of the interaction is stronger in people with low scores in cognitive empathy than in people with high scores, which implies

that this factor has an important effect on the relationship between self-transcendent aspirations and gratitude. These data support the importance of understanding others' affect for the development of emotions that fall into the category of prosocial emotions and or transcendence emotions (Stellar et al., 2017). In this sense, the development of cognitive empathy seems vital to promote emotions such as gratitude, which are basic to foster prosocial behavior (for review, see Ma et al., 2017). In another vein, affective empathy does not show a moderating effect, which may indicate, as observed in the literature, that cognitive perspective-taking toward others in empathy processes is essential to prevent the anxiety and other types of negative emotions that hinder gratitude (Decety and Lamm, 2009; Decety and Yoder, 2016). So, the second hypothesis is partially confirmed.

In the third hypothesis, we sought to confirm the moderating role of both forms of empathy in the relationship between aspirations and life satisfaction through gratitude. First, a significant interaction of cognitive empathy is observed, but without a moderating effect of affective empathy on the relationship between aspirations and life satisfaction. People with higher cognitive empathy present a positive significant relationship between self-transcendent aspirations and life satisfaction, and a significant effect is observed again on the interaction with people who have lower cognitive empathy. Consequently, the results confirm that, in the relationship with life satisfaction, low empathy also has a negative impact on the association between aspirations and the cognitive component of SWB.

Regarding the moderated mediation, a conditional indirect effect is observed, which takes place when considering both forms of empathy between aspirations and life satisfaction through gratitude. Nevertheless, as commented above, only the moderated mediation index for cognitive empathy is significant. Thus, the third hypothesis is partially confirmed. This underscores the relevance of considering the affective and cognitive mechanisms of empathy separately, as well as the possible role of cognitive

TABLE 4 | Conditional indirect effects between self-transcendent aspirations and life satisfaction through gratitude and moderated effects of affective and cognitive empathy.

| Conditional indirect effect at different values of the moderator | β | BootSE | Lower 95% BootLLCI | Upper 95% BootULCI |
|--|---------|--------|--------------------|--------------------|
| Moderator values | | | | |
| -1 SD cognitive empathy and -1 SD affect empathy | 0.15* | 0.02 | 0.10 | 0.19 |
| -1 SD cognitive empathy and mean affect empathy | 0.14* | 0.02 | 0.10 | 0.18 |
| -1 SD cognitive empathy and +1 SD affect empathy | 0.13* | 0.03 | 0.08 | 0.19 |
| Mean cognitive empathy and -1 SD affect empathy | 0.12* | 0.03 | 0.07 | 0.17 |
| Mean cognitive empathy and mean affect empathy | 0.11* | 0.02 | 0.08 | 0.15 |
| Mean cognitive empathy and +1 SD affect empathy | 0.10* | 0.02 | 0.06 | 0.14 |
| +1 SD cognitive empathy and -1 SD affect empathy | 0.09* | 0.03 | 0.04 | 0.15 |
| +1 SD cognitive empathy and mean affect empathy | 0.08* | 0.02 | 0.05 | 0.12 |
| +1 SD cognitive empathy and +1 SD affect empathy | 0.07* | 0.02 | 0.05 | 0.11 |
| Index of partial moderated mediation for cognitive empathy | -0.04* | 0.02 | -0.08 | -0.01 |
| Index of partial moderated mediation for affect empathy | -0.01 | 0.02 | -0.04 | 0.02 |

* $p < 0.05$.

empathy in the promotion of life satisfaction and in the prevention of emotional exhaustion.

These results are in agreement with different studies focused on the effects of mindfulness meditation, which indicate that taking perspective of how oneself and others feel in a particular situation is essential to foster interest toward others and, at the same time, protect our own SWB (e.g., Dahl et al., 2015; Van Doesum et al., 2018). Other studies also indicate that affective empathy can increase the levels of stress and anxiety in the long term if it does not lead to a more cognitive perspective (Bloom, 2017b; Blanco-Donoso et al., 2017; Amutio et al., 2018).

As main limitations of this study, data presented are cross-sectional, and thus, it would be relevant to obtain longitudinal data to better define the causality relationships between the variables and consequently determine the effect of mediators on such relationships with more accuracy. Additionally, the inclusion of both components of SWB is also an important element to consider in future studies. As for self-transcendent aspirations, studies considering the self-transcendent vs. physical goals axis are still scarce.

One of the strengths of our article is its large sample size, which allows for detecting effect sizes as small as $f^2 = 0.006$, which helps minimize type II errors. However, a note of warning should be made. Because of our large sample size and its high power, it is very likely that almost all standardized paths in our models become significant irrespective of its strength. Indeed, our paths range from 0.02 (small) to 0.77 (strong), according to Richard et al. (2003). Therefore, “significance” is important, but readers are also encouraged to pay attention to the strength of each path.

CONCLUSION

First, our results show that self-transcendent life aspirations are strongly related to life satisfaction. This is relevant because of the following reasons: (i) currently, there is great interest in the relevance of prospective thinking for human beings, understanding that it is a motivational driver crucial to guide cognitive and affective processes (Forgas and Baumeister, 2018); (ii) over the last years, there has been growing interest in classifying intrinsic aspirations considering the categories physical vs. self-transcendent proposed by Grouzet et al. (2005). However, few studies have explored the relationship between self-transcendent aspirations, such as community contribution, and life satisfaction.

Although aspirations such as long-term goals can be relevant for the human being, the results show the interplay between different mechanisms for elucidating how aspirations focused on self-transcendence can increase life satisfaction. In this sense, self-transcendent aspirations promote the experience of gratitude, which, in turn, has a total mediating effect over life satisfaction. Thus, gratitude, as a trait emotion, plays a key role in the

satisfaction that people experience with social relationships and contributes to the experience of positive affect in daily life, as well as nurturing personal resources (Fredrickson, 2004).

Another fundamental aspect is the role of empathy in these relationships and, specifically, in people with high levels of self-transcendent aspirations and high cognitive empathy. However, no moderating role is observed in the case of affective empathy. This confirms the relevance of a more rational perspective-taking for an increase of SWB.

From the perspective of developmental psychology, our results emphasize the importance of life aspirations focused on community well-being at schools. Understanding and internalizing the relevance of these long-term self-transcendent goals can encourage prosocial behavior in children and adolescents by means of emotions such as gratitude, as well as contribute to their life satisfaction.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, to any qualified researcher.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Comité de Ética en la Investigación de las Facultades de Humanidades y de Derecho de la Universidad Continental. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

XO developed the original idea and design of the research. RM contributed to the collection of the information. XO and JU wrote the article concerned with the writing and interpretation of results. JU, RM, and AA analyzed the data. AA and CB were in charge of the review. All authors read, reviewed, and approved the final manuscript.

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Discrimination and Psychosocial Well-Being of Migrants in Spain: The Moderating Role of Sense of Community

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The discrimination migrants perceive during their adaptation process is one of the main sources of stress and it affects their well-being, health and integration severely. The present study analyses how the sense of community (SOC) can have a protective effect against the perception of discrimination and its negative consequences by verifying the following theoretical model: discrimination predicts three indicators of psychosocial well-being (psychological distress, satisfaction with life and feelings of social exclusion). Furthermore, the theoretical model proposed also considers the hypothesis that SOC has a moderating role on the effect of perceived discrimination regarding the three variables mentioned above. 1714 migrants from Eastern Europe, Africa and Latin America who live in Málaga, Spain, participated in the study. Data were collected using random-route sampling and survey methodology. After carrying out multiple regression analyses, using the PROCESS tool in SPSS 20, the theoretical model was verified: SOC reduces the negative effects of perceived discrimination for the variables psychological distress, satisfaction with life and social exclusion feelings. Therefore, migrants who have a greater SOC experience fewer negative consequences, as compared to those with a lower SOC, for whom the consequences of such variables are more negative. These results highlight the importance for migrants to rebuild social networks in the host country and develop a good SOC. Results also allow the development of intervention patterns to favor positive interactions between native population and migrants.

Keywords: migrants, discrimination, psychosocial well-being, sense of community, satisfaction with life, psychological distress, social exclusion

INTRODUCTION

Spain has received large numbers of migrants over the past three decades. According to the Spanish National Statistical Institute (2019), 10% of the population in Spain is foreign. Traditionally, the Spanish population reacted positively toward migrants. However, discriminatory attitudes toward migrants have appeared after the recent recession. According to a survey conducted by the Spanish Sociological Research Centre (2017), more than 50% of Spanish people believe migrants receive

more than what they contribute to the Spanish society and when it comes to employ personnel, they prefer to hire Spanish people than migrants. However, this is not only the case in Spain: record levels of displaced people were reached in 2017 worldwide, with a total of 65 million (Allen et al., 2018). In fact, it is expected that by 2050 the number of displaced people will reach 230 million, who leave their countries of origin in search of improving their economy, education, and employment and personal opportunities (International Organization for Migration, 2008). Over the past decade, most common destinations for migrants have been the US, Canada, Australia and New Zealand; Asian countries such as Japan, Singapore, Hong Kong, Malaysia and the Gulf States; and European countries (Gorter et al., 2018). In such global context, there are social stratification and discrimination axes, both at individual and institutional level, which divide the migrant population into socially included and excluded, whether this is due to ethnicity, gender, or place of origin (Bassel, 2010; Dhamoon, 2011). This situation of global structured discrimination has given rise to actions that oppose racialization and express the need for change toward achieving a society with equal opportunities, security and well-being for all citizens (see Black Lives Matter, Jee-Lyn García and Sharif, 2015). So much so, that from the beginning of the 20th century, many migrant families in the US decided to change their names in an attempt to shear off their ethnic trace and that of their children, which caused them to be victims of discrimination at school, work and home (Biavaschi et al., 2013). As noted by Lamont (2009), the perception of ethnic discrimination accentuates borders and hinders migrants' social cohesion in host countries.

Discrimination can be understood as a social network system whose aim is to limit the economic, political and social opportunities of a specific collective, through subtle and clear behaviors (Bobo and Fox, 2003). This discrimination is promoted by prejudices and stereotypes that are aesthetic, economic, social, religious or cultural, amongst others (Quillian, 2006; del Olmo, 2009). In this sense, discrimination harms well-being in many aspects of life: it makes access to health care more difficult, as well as school learning, finding employment, housing, etc. More specifically, discrimination places individuals in a disadvantaged position in society (Schmitt and Branscombe, 2002), it excludes them from their groups of reference, and it causes in them feelings of helplessness and rejection (Wirth and Williams, 2009).

Discrimination and rejection perceived in the host country is one of the main sources of stress suffered by migrants and it seriously harms their well-being (Allport et al., 1954; Paradies, 2006; Schmitt et al., 2014). It consists of a continuing discriminatory abuse which produces social stress and psychological distress, which ultimately harms migrants' mental and physical health, it deteriorates their self-esteem and it produces alienation and feelings of rejection (Sellers et al., 2003; Bhugra and Ayonrinde, 2004; Bhugra and Becker, 2005), thus reducing discriminated individuals' quality of life (LeBel, 2008; Wang et al., 2010). This type of stress is one of the predictor variables for mental health (Jasinskaja-Lahti et al., 2006; Schunck et al., 2015; Alvarez-Galvez, 2016; Urzúa et al., 2016; González-Rábago et al., 2017) and it is related to depressive illnesses (Finch et al., 2000; Liebkind and Jasinskaja-Lahti, 2000) anguish, anxiety

(Mickelson and Williams, 1999) and deterioration of self-esteem (Verkuyten, 1998; Jia et al., 2017), self-perception of health (Borrell et al., 2010; Agudelo-Suárez et al., 2011; Brondolo et al., 2011; Gil-González et al., 2014; Nakhaie and Wijesingha, 2015), satisfaction with life (Branscombe et al., 1999; Brown et al., 2000; Brown, 2001), and physical well-being (Krieger and Sidney, 1996; Finch et al., 2001; Pascoe and Smart Richman, 2009).

When individuals decide to migrate, they usually leave their families behind as well as their closest social ties and support networks that protect their health and well-being (Han and Choe, 1994; Runyan et al., 1998; García-Cid et al., 2017; Millán-Franco et al., 2019a). Migrants settling in a new country must adapt to the traditions and symbols of the new community, which contributes to reduce the sense of community (SOC) from their countries of origin and build a new SOC in the host country (Bathum and Baumann, 2007; Hombrados-Mendieta et al., 2019). Authors such as Phinney (1990) and Berry (1997) noted that migrants deal with both cultures independently and bidirectionally. Some migrants prefer to create social ties with the host community and keep the bonds with their communities of origin; this is known as acculturation strategy (Berry, 1980). However, other migrants show negative feelings toward their communities of origin and prefer to adapt and benefit from the host community; for instance, Afghan women who join resistance organizations from the host community (Brodsky, 2009). This adaptation process has significant effects on the well-being of migrant population. The degree of social interaction and integration of migrants in the host community are key elements to predict well-being and appropriate coexistence with native population (Nauck, 2001; Birman et al., 2002; Zhang et al., 2019). Migrants' structural integration in the education and labor systems of host countries reduce borders between groups and ethnic prejudices, in such a way that minorities which are not socio-economically integrated in host countries face more discrimination and social exclusion (Alba, 2005).

Another factor to consider when analyzing the integration and adaptation of minoritarian migrant groups is the difference between countries of origin and host countries (Jonsson et al., 2012, 2018): differences in ethnic markers such as the color of the skin, religion, values and beliefs, wealth, level of education and literacy, language and gender equality, amongst other, hinder the process of social adaptation of migrants and increases the shock between both cultures (Kim, 2017). It could be said that it constitutes a bidirectional process: those migrants who are culturally closer will face less difficulties to learn new habits and cultural abilities, which will lead to higher acceptance from the majoritarian population and they will subsequently experience less discrimination (Cuddy et al., 2008; Ward, 2009; Berry and Ward, 2016).

It would be also important to highlight in this study the length of residence in the host country. This variable leads to contradictory results: length of residence has been traditionally considered to relate to higher adaptation and well-being of the collective, thanks to acculturation strategies that would reduce the stress suffered by migrants (Millán-Franco et al., 2019c). However, new research suggests that the length of residence can have a negative impact in the well-being of migrants: for instance,

migrants who acquire new habits from the native population and reduce their physical activity or change their diets. Also caused by deficient access to health services or medical attention or due to adverse working conditions during their first years of settlement (Subedi and Rosenberg, 2014; Ronda-Perez et al., 2019). Bentley et al. (2019) suggest that adverse conditions such as discrimination suffered in the host country decrease the mental health and well-being of the collective, with this correlation being significant after 7 years of residence in the host country.

McMillan (1976, p. 9) defined SOC as “a feeling that the members of a community have in relation to their belonging to a community, a feeling that members worry about each other and that the group is concerned about them, and a shared faith that the needs of the members will be satisfied through their commitment of being together.” McMillan and Chavis (1986) suggested that the SOC is a multidimensional concept that consists of membership, influence, integration and fulfillment of needs, and shared emotional connection.

The SOC is absolutely crucial for migrants, who build new communities and interaction contexts during their adaptation process (Bathum and Baumann, 2007). Isolation from the community has been related to health decline, depressive symptoms and even suicidal thinking in migrants (Pickett and Wilkinson, 2008; Mair et al., 2010; Pan and Carpiano, 2013). Those migrants who feel excluded from the host community, feel discriminated and perceive rejection from the native population experience a decline in physical health and higher incidence of mental health problems, as compared to those migrants who establish stable social and emotional relations and belong to the protective environment provided by the community (Cochrane and Stopes-Roe, 1977; Harding and Balarajan, 2001; Albanesi et al., 2007; Cicognani et al., 2008; Sharapova and Goguikian, 2018).

Sense of community is also related to the degree of integration in the host country and migrants' satisfaction with life (Cooper et al., 1992; Herrero et al., 2011; Hombrados-Mendieta et al., 2013; Millán-Franco et al., 2019b). It plays a crucial role in the well-being of the collective (Sarason, 1986; Malone, 2001). In this line of thought, many studies point to SOC as key for the migrant collective to experience the migration process positively, feeling part of the host community, benefiting from the available resources and improving their psychological well-being. SOC would also reduce high levels of psychological distress caused by the migration process (Cohen et al., 2000; Bhui et al., 2012; Bak-Klimek et al., 2015; Bobowik et al., 2015).

Research has also proved that SOC relates positively to citizen engagement (Davidson and Cotte, 1989; Perkins et al., 1990). Social cohesion is understood as an indicator of good relations in the community and between neighbors. It also relates positively to the quality of life of migrants, which promotes their participation in community activities voluntarily and it encourages informal social control (Sampson et al., 1997; Vega et al., 2011; Lee et al., 2017). Positive interactions, integration and solidarity between the endogroup and the exogroup are thus favored. They contribute not only to defend themselves from perceived threats but also as a way to reach those factors that could increase their well-being

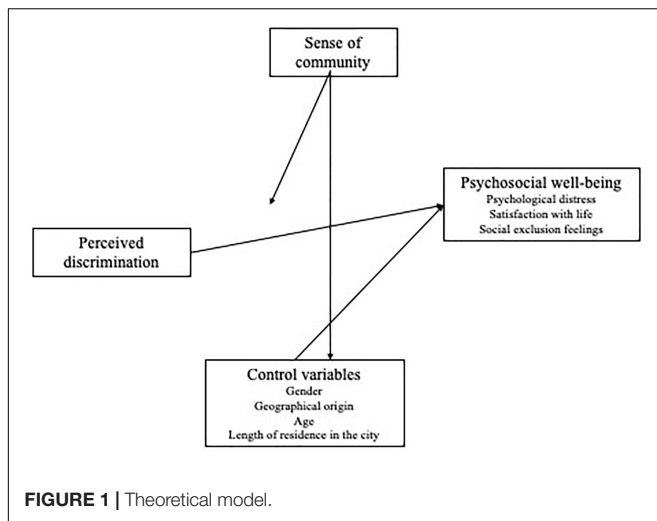
and quality of life in the host country (Ford and Beveridge, 2004; Ng et al., 2015). Social cohesion is hence considered a key factor in the adaptation process for migrants, which is tightly linked to the feeling of belonging to the host community (Amit and Bar-Lev, 2015). It is also one of the main reasons that makes migrants decide to stay in the host country and not migrate again (Kilpatrick et al., 2011; Kilpatrick et al., 2015). On the contrary, those collectives that are marginalized and excluded to a greater extent feel less attached and committed toward the host community (Wray-Lake et al., 2008). It is also necessary to mention how the cultural shock affects migrants' citizen commitment and the cohesion between communities: ethnic diversity between groups, economic diversity, language, and religious diversity could mediate the confidence between migrants and native population, harming the contact in the neighborhood and the quality of relations between those groups that are culturally further (Lancee and Dronkers, 2011).

As it has already been mentioned, migrants are forced to face multiple changes and highly stressful situations that lead to health problems and a decline of their psychosocial well-being, such as unemployment, poor housing, instability, discrimination, isolation, network interruption and separation from their social ties or family (Grieco, 1998; Hagan, 1998). However, literature suggests that SOC works as a protective factor for the migrant population. Those who are able to rebuild their social networks and relations with the new community will not suffer so many health problems, their satisfaction with life will be higher (Farrell et al., 2004; Simich et al., 2005) and the effect from the stress related to the process of acculturation will be eased (Golding and Burnam, 1990; Jibeen and Khalid, 2010; Hombrados-Mendieta et al., 2013). Positive social cohesion and contact are key factors for migrants (Berkman and Glass, 2000; Kawachi and Berkman, 2000); integration in neighborhoods would mediate in economic instability, health problems and well-being (Browning and Cagney, 2003). As pointed out by Fisher and Sonn (2002, p. 12) “without these, the person and the group flounder.”

The Present Study

The present study aims at verifying whether SOC acts like a shock-absorbing element against discrimination. It also aims at confirming whether it can provide a space to express identities and help cope with the changes of our worlds, as expressed by authors such as Fisher and Sonn (2002). SOC would act as a moderating variable of the negative effects from discrimination and, therefore, it would help increase migrants' psychosocial well-being.

One of the main aims of the present study is to analyze the negative effects from discrimination based on factors that relate not only to individuals but also to communities. Most studies have paid greater attention to personal well-being and have analyzed the negative consequences caused by discrimination on variables such as self-esteem (Liu and Zhao, 2016), self-control, confrontation abilities or level of studies as protective factors against discrimination (Dion et al., 1992). However, there is a lack of studies that analyze jointly the role of personal and community factors in order to reduce the effects of discrimination.



When it comes to delving into the negative relation between discrimination and the well-being of the migrant collective, it is necessary to look closer to gender differences (Kim and Noh, 2014; García-Cid et al., 2020). Several authors find that discrimination harms the mental health and psychological distress of women to a greater extent (Turner and Avison, 2003; Flores et al., 2008; Bernard et al., 2017), even if they are exposed to fewer levels of discrimination (Hahm et al., 2010). Other authors note that women are victims of discrimination more frequently as opposed to men. This situation is aggravated in migrant women, who are victims of discrimination three times over, that is, due to ethnicity, gender and social class (Mbiyozo, 2018). For these reasons, the present study takes into consideration the differences between men and women in the analysis and interpretation of the results.

In the present study, **sense of community** (SOC) is considered the epicentre of the investigation. It advocates for the protective effect of SOC against the **perception of discrimination** and its negative consequences on the variables *psychological distress*, *satisfaction with life*, and *social exclusion feelings*.

Figure 1 shows the theoretical model suggested in this study:

Hypothesis 1: contemplates that **perceived discrimination** predicts three indicators of psychosocial well-being: psychological distress, satisfaction with life and social exclusion feelings. Perceived discrimination is expected to relate to lower levels of satisfaction with life and higher levels of psychological distress and social exclusion feelings.

Hypothesis 2: **sense of community** is predicted to relate to higher levels of satisfaction with life and lower levels of psychological distress and social exclusion feelings.

Along with this direct positive effect on psychosocial well-being,

Hypothesis 3: suggests the moderating effect of SOC: it is expected to moderate the negative effects of discrimination. The negative effects resulting from discrimination on the three indicators of psychosocial well-being would be lower if migrants have higher SOC and they would be higher if migrants' SOC is lower.

In order to clearly test such moderating effect of SOC,

Hypothesis 4: propose that demographic factors could have an impact on this effect. Gender, geographical origin, age and length of residence in the city are included in the model as covariables.

MATERIALS AND METHODS

Participants

The participants consisted of 1714 migrants from Eastern Europe (31.6%), Africa (33.2%), and Latin America (35.2%). In total, there were 48.7% men and 51.3% women. The average age was 33 years old ($SD = 12.31$; range = 16–74). They had lived in the city of Málaga for an average of 10.35 years ($SD = 7.30$; range, from less than 1 to 53 years). 34.3% were married, 47.8% were single, 8.5% had an unmarried partner, 7.4% were separated or divorced and 2% were widowed. 33% had attended or completed primary school; 38% secondary school; 18% had attended university but not completed a degree and 11% had a university degree. 56.4% were employed and 43.6% were unemployed. This distribution is representative of the distribution of migrants in the city in which this study was conducted, as referenced by the 2017 census data.

Procedure

Data were collected using a random-route sampling and survey methodology. Boundaries were established for each of the neighborhoods selected and random route sampling was used to designate the blocks, streets, sidewalks, and so on, in each neighborhood. Carefully trained interviewers administered the surveys. These surveys were collected in the city of Málaga, Spain, within 11 city districts. This involved sampling from the 11 municipalities of Málaga with the greatest concentration of migrants. Questionnaires applied to non-Spanish-speaking people were translated into their language of origin by native speakers ("the translator") who had a full command of Spanish. In order to ensure both languages matched, the translator read the questions and ensured the objective of each sections had been understood. Answers were subsequently registered by the interviewer according to the methodology suggested by the transcultural research by Páez and Vergara (2000). The surveys were conducted at immigrant associations, businesses, meeting places, and Social Service Centres located within each district. All participating migrants were volunteers and signed an informed consent. No incentives were offered for their participation. The Ethical Commission of the University of Málaga (CEUMA: 37–2016–H) determined the suitability of the protocol.

TABLE 1 | Correlations, descriptive statistics and Cronbach's alpha for the study variables.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | <i>M</i> | <i>SD</i> | Range | Skewness | α |
|-------------------------------------|----------|---------|---------|---------|---------|--------|-----|----------|-----------|-------|----------|----------|
| (1) Perceived discrimination | ... | | | | | | | 1.43 | 0.49 | 1–4 | 0.833 | 0.85 |
| (2) Sense of community | −0.29** | ... | | | | | | 3.19 | 0.92 | 1–5 | −0.127 | 0.89 |
| (3) Psychological distress | 0.33** | −0.27** | ... | | | | | 11.15 | 5.54 | 0–34 | 0.858 | 0.84 |
| (4) Satisfaction with life | −0.36** | 0.44** | −0.45** | ... | | | | 4.34 | 1.38 | 1–7 | −0.182 | 0.90 |
| (5) Social exclusion feelings | 0.43** | −0.28** | 0.28** | −0.36** | ... | | | 2.53 | 0.93 | 1–5 | 0.328 | 0.70 |
| (6) Age | 0.01 | 0.10** | 0.02 | −0.05* | 0.05* | ... | | 33.88 | 12.31 | 16–74 | 0.573 | |
| (7) Length of residence in the city | −0.175** | 0.18** | −0.12** | 0.17** | −0.16** | 0.41** | ... | 10.35 | 7.30 | 0–53 | −0.970 | |

* $p < 0.05$; ** $p < 0.01$.

Measures

Demographic Form

For the participating migrants, data were collected on: country of origin, age, gender, and time of residence. Descriptive statistic can be seen in **Table 1**.

Perceived Discrimination

The questionnaire on discrimination is based on Krieger's design (Krieger et al., 2005). Experiences of discrimination: validity and reliability of a self-report measure for population health research on racism and health. This scale is backed by more than 500 studies and it was intentionally used to measure perceived discrimination, whether caused by ethnicity, gender or age, both individually and combined (Llácer et al., 2009; Krieger, 2014). Participants were asked: *During the last year, have you felt discriminated in any of the following situations?* Nine situations that can occur at the work environment, when accessing public services, education or health, when treated by police officers, when accessing housing, at shops, in the street, etc. were presented. Responses were recorded using the Likert scale: never (1), sometimes (2), often (3), many times (4). The Confirmatory factor analysis (CFA) by generalized least squares (GLS) of the items showed that one factor explained 45% of the variance. All items exceeded coefficients over 0.60, except for those regarding discrimination within the family, which showed a coefficient of 0.47. The model had an appropriate goodness of fit, $\chi^2 = 680.33$, d.f. = 27, $p < 0.0001$. Internal consistency was also good (see **Table 1**).

Sense of Community

The Brief Sense of Community Scale created by Peterson et al. (2008). This instrument is based on the components of the SOC model provided by McMillan and Chavis (1986): fulfillment of needs, group membership, influence and emotional connection. This scale has been widely used in social science, both in Spain (i.e., by Hombrados-Mendieta et al., 2013) and internationally (i.e., Au et al., 2020). The questionnaire consists of eight items that are measured through a Likert-type scale: (1 = Strongly disagree; 5 = fully agree). The SOC Global Index was calculated by summing the eight items. The CFA of items showed that one factor explained 58.13% of the variance. All factor loadings are higher than 0.60, except for one item, which showed 0.47; goodness of fit is high ($\chi^2 = 545.26$, d.f. = 20, $p < 0.0001$). As

it can be seen on **Table 1**, the questionnaire has a good internal consistency.

Psychological Distress

The Spanish version of the Goldberg General Health Questionnaire (GHQ-12) was used (González et al., 2013). This instrument focuses on the interruptions of normal psychological functioning, rather than psychopathological traits. It includes within its scope personality disorders or patterns of adjustment related to distress. This questionnaire has proved to be an effective tool for the evaluation of mental health symptoms in clinical patients and the general population (González-Castro and Ubillos, 2011; Martos-Méndez et al., 2020). It consists of 12 items which are answered through a four-point Likert-type scale (0–3) ranging from (0) = Not at all, to (3) = Much more than usual (e.g., *“Have you felt constantly overwhelmed and stressed?”*). The CFA with GLS estimation shows that one factor explained 37.35% of the variance; factor loadings range from 0.33 to 0.73, with the majority exceeding 0.50. Goodness of fit is appropriate ($\chi^2 = 533.58$, d.f. = 54, $p < 0.0001$) and Cronbach's α is good (**Table 1**).

Satisfaction With Life

The five-item Satisfaction with Life Scale (SWLS), developed by Pavot and Diener (1993b), was used to assess life satisfaction or the cognitive component of well-being. This scale includes general items for interviewed participants to assess the domains of their lives according to their own values, thus reaching a global assessment of their own life satisfaction. This scale has been widely used because its normative data include highly diverse populations such as convicts, older adults, abused women or intercultural collectives, amongst other (Pavot and Diener, 1993a; Elgorriaga et al., 2016). The confirmatory factor analysis of this questionnaire shows that only one factor explains 71.6% of the variance. All items have loadings over 0.70 and the scale has an appropriate goodness of fit index ($\chi^2 = 68.96$, d.f. = 5, $p < 0.0001$). The scale has a Cronbach's α that is also good (**Table 1**).

Social Exclusion Feelings (Moscato et al., 2014)

This scale consists of four items using a five-point Likert-type scoring system (1 = strong disagreement; 5 = strong agreement). It assesses the experience of feeling excluded in the host country. This scale has been used with migrant population in Spain and it is an appropriate instrument to assess rejection feelings

experienced in host communities (“I receive few services due to being a foreigner in Spain”; “I sometimes feel excluded or ignored in Spain”; “I sometimes feel like I am treated with little respect”; “It is difficult to find work with my level of education in Spain”). The scale has a Cronbach’s $\alpha = 0.70$. Only one factor explained 54.8% of the variance; two items have coefficients over 0.80 and two over 0.30. The scale has a moderated Cronbach’s alpha (Table 1).

Plan of Analysis

Analyses were carried out using IBM SPSS Statistics 20. Descriptive statistics were initially calculated, along with correlations between variables and differences based on gender and geographical origin.

In order to calculate the network of relations from the suggested model in Figure 1, multiple regressions were carried out with perceived discrimination, SOC and interaction both as predictor variables; gender, geographical origin, age and time of residence in the city were considered covariables; the rest of variables were considered as dependent from the regression equation. These analyses were conducted using the PROCESS version 3.4.1 tool in SPSS 20 (Hayes, 2018). Before carrying out regression analyses, a log transformation was performed, $\ln(x)$, on perceived discrimination and time of residence, with the aim of improving their skewness indexes, with values of 1.53 and 1.27 respectively, which are notably higher than 0. Their skewness was improved after the log transformation, as it can be seen on Table 1. The remaining variables are also shown in it; all remained below \mp and close to 0. After the transformations all variables were standardized. Dummy variables were created for gender (0 = woman; 1 = man) and geographical origin. Two dummy variables were created for geographical origin: migrants from Eastern Europe are codified as 1 in the first dummy variable and the remaining as 0; Latin American migrants are codified as 1 in the second variable and the remaining as 0. Therefore, African migrants are considered as the reference category, which is 0 in both dummy variables.

Calculations were exclusively carried out with those participants who completed all scales and without substituting lost values. $N = 1590$ for the regression of psychological distress and $N = 1636$ for the regressions of life satisfaction and exclusion feelings. Multicollinearity diagnostics indicated that the variance inflation factor (VIF) did not exceed in none of the cases 1.1; this indicates an acceptable level of multicollinearity between variables.

RESULTS

Descriptive Analyses

Table 1 summarizes descriptive statistics, Cronbach’s alpha and correlations between the study’s variables, which were calculated without replacement. Migrants who participated in this study perceive low levels of discrimination; they state medium levels of SOC; their psychological distress

and satisfaction with life is medium; their social exclusion feelings are medium.

Perceived discrimination relates negatively to SOC and satisfaction with life. It relates positively to psychological distress and social exclusion feelings. SOC relates positively to satisfaction with life. Conversely, it relates negatively to psychological distress and social exclusion feelings.

Table 2 shows the differences between variables based on geographical origin and gender. Some differences can be observed between the three groups of migrants regarding discrimination, satisfaction with life and social exclusion feelings. Migrants from Africa are the ones who experience more discrimination, as compared to migrants from Latin America, who experience the least. Migrants from Africa feel more excluded than migrants from Eastern Europe and Latin America.

Regarding gender, there are differences in satisfaction with life but not in psychological distress and social exclusion. Men perceive more discrimination than women. The latter have higher SOC than the former. Women’s satisfaction with life is higher than men’s.

Predicting Psychosocial Well-Being Variables

Results from moderating regression analyses are shown in Table 3. Perceived discrimination is considered predicting variable, SOC as moderator and those related to psychosocial well-being are considered dependent variables. For all cases, gender, geographical origin, age and length of residence in the city are considered as covariables. As it can be observed, regressions from each dependent variable are statistically significant.

Covariables of gender and age do not have a significant effect on **psychological distress**. SOC decreases this variable whereas discrimination increases it. The effect from the interaction of both variables is considerable. Discrimination increases psychological distress, but this decrease when SOC is higher (see Figure 2).

All covariables have significant effects on **satisfaction with life**: migrants from Latin America, women, younger migrants and those who have lived longer in the city feel more satisfied with life. This variable is positively influenced by SOC and negatively by discrimination; interaction between both variables is considerable. The negative effects of discrimination on satisfaction with life decrease when migrants have high SOC (see Table 4).

Finally, for the case of **social exclusion feelings**, all covariables except for gender have significant effects. Migrants from Eastern Europe and Latin America feel less excluded, as compared to those who come from Africa. Older migrants feel more excluded, as compared to those who have lived longer in the city, who feel less excluded. Discrimination as independent variable increases exclusion feelings significantly, whereas SOC decreases them. Interaction between the independent variable and the moderating variable is considerable; social exclusion feelings caused by perceived

TABLE 2 | Means and standard deviations of key variables by geographical origin and gender.

| | Geographical origin | | | | | | Gender | | | | | |
|------------------------|---------------------|------|--------|------|---------------|------|---------|-------|------|-------|------|---------|
| | Africa | | Europe | | Latin America | | F | Women | | Men | | F |
| | M | SD | M | SD | M | SD | | M | SD | M | SD | |
| Discrimination | 1.55 | 0.52 | 1.40 | 0.49 | 1.35 | 0.43 | 25.20** | 1.41 | 0.48 | 1.46 | 0.51 | 5.36* |
| Sense of community | 3.19 | 0.95 | 3.20 | 0.92 | 3.19 | 0.91 | 0.04 | 3.27 | 0.94 | 3.11 | 0.91 | 13.60** |
| Psychological distress | 11.28 | 5.38 | 11.30 | 5.60 | 10.91 | 5.65 | 0.90 | 11.16 | 5.62 | 11.14 | 5.50 | 0.01 |
| Satisfaction with life | 4.21 | 1.37 | 4.28 | 1.42 | 4.54 | 1.34 | 9.41** | 4.48 | 1.37 | 4.20 | 1.38 | 17.43** |
| Exclusion feelings | 2.73 | 0.93 | 2.49 | 0.97 | 2.40 | 0.87 | 18.99** | 2.52 | 0.94 | 2.55 | 0.94 | 0.35 |

* $p < 0.05$; ** $p < 0.01$.

discrimination decrease when migrants have higher levels of SOC (see **Table 4**).

DISCUSSION

The present study suggests a theoretical model in which **perceived discrimination** predicts three indicators of psychosocial well-being (*psychological distress*, *satisfaction with life* and *social exclusion feelings*) in the migrant population. Along with this direct relation of discrimination, the model also includes the moderating effect of **sense of community**. The SOC plays a moderating role on the effect of perceived discrimination and it suggests that the negative effects of discrimination on the indicators of psychosocial well-being are lower when migrants have a higher SOC. Conversely, such negative effects are higher when migrants' SOC is lower.

After testing this theoretical model, results achieved show the following:

Hypothesis 1: As it was expected, **perceived discrimination** relates to lower levels of *satisfaction with life*, and higher levels of *psychological distress*. These results match with results from studies that confirm perceiving discrimination is the main trigger factor for stress amongst migrants, leading to a decline in mental health (Finch et al., 2000; Liebkind and Jasinskaja-Lahti, 2000; Jasinskaja-Lahti et al., 2006; Schunck et al., 2015; Alvarez-Galvez, 2016; Urzúa et al., 2016; González-Rábago et al., 2017), *satisfaction with life* (Branscombe et al., 1999; Brown et al., 2000; Brown, 2001) and *physical well-being* (Krieger and Sidney, 1996; Finch et al., 2001; Nazroo, 2003; Pascoe and Smart Richman, 2009). Perceived discrimination is also proved to predict higher *social exclusion feelings* (Herz and Johansson, 2012; Oxman-Martinez et al., 2012).

Hypothesis 2: Results obtained from direct analyses prove that **SOC** relates to higher levels of *satisfaction with life* and less *psychological distress*. Therefore, isolation from the community is linked to a decline in health and the appearance of mental health problems (Pickett and Wilkinson, 2008; Mair et al., 2010; Pan and Carpiano, 2013). Developing a good SOC relates positively to

integration (Cooper et al., 1992; Herrero et al., 2011; Hombrados-Mendieta et al., 2013) and a good satisfaction with life (Sarason, 1986; Malone, 2001). As it was expected, SOC is also linked to lower levels of *social exclusion feelings*. SOC is considered crucial during the process of integration in the new country (Nauck, 2001; Birman et al., 2002).

After analyzing direct effects,

Hypothesis 3 suggested to delve into the study's variables by analyzing the moderating effects of SOC: significant interactions were found between *psychological distress* and *satisfaction with life*. Although **discrimination** increases *psychological distress* and decreases the migrants' *satisfaction with life*, the **SOC** acts like a shock-absorbing factor, easing these negative effects and preserving individuals' well-being. As it has been suggested by previous studies, the SOC is a strong protective factor against mental health problems and *satisfaction with life*. It takes in individuals under the protective environment of the community and therefore stable social relations between migrants and native population should be promoted (Cochrane and Stopes-Roe, 1977; Cooper et al., 1992; Farrell et al., 2004; Simich et al., 2005; Albanesi et al., 2007; Basabe et al., 2009; Herrero et al., 2011; Hombrados-Mendieta et al., 2013; Liu and Zhao, 2016). These relations contribute to reduce the appearance of depressive symptoms and suicidal thinking caused by isolation from the community and perceived discrimination (Clare, 1974). *Social exclusion feelings* caused by perceived discrimination decrease when migrants have higher SOC. This means that interaction between the independent variable and the moderating variable is significant. It could be said that in our study, SOC acts as a buffering variable and protective factor against the negative effects caused by discrimination and rejection experienced in the host country, which would positively affect migrants' integration and adaptation. These results match with studies that confirmed migrants were able to rebuild their social networks in the host country and that SOC acted as a protective factor against the negative effects of discrimination and stress caused by the acculturation

TABLE 3 | Regressions analyses testing the moderating effects of sense of community in the relationship of perceived discrimination to psychosocial well-being variables.

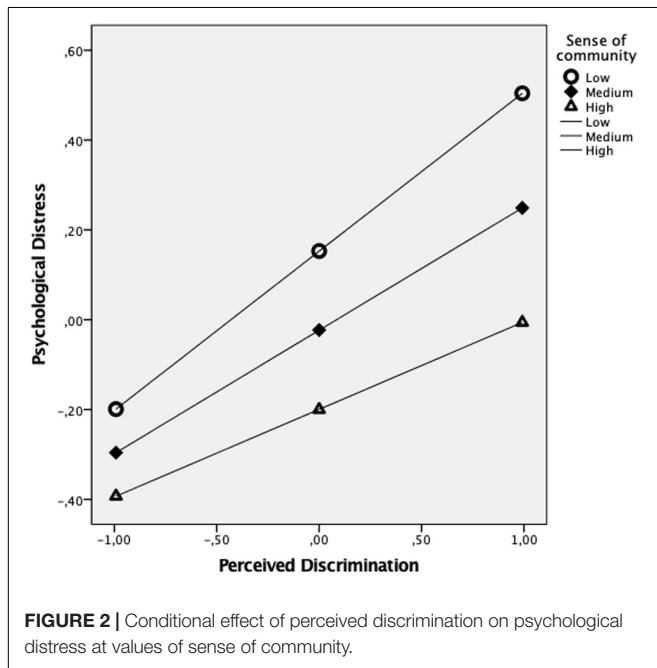
| | Psychological distress | | | | | Satisfaction with life | | | | | Exclusion feelings | | | | | | |
|---------------------------------|--|-------|--------|-------|--------|---|--------|-------|---------|--------|---|--------|-------|--------|--------|--------|--------|
| | Coefficient | SE | t | p | 95% CI | Coefficient | SE | t | p | 95% CI | Coefficient | SE | t | p | 95% CI | | |
| Constant | -0.030 | 0.048 | -0.624 | 0.533 | -0.125 | 0.065 | 0.025 | 0.588 | 0.557 | -0.060 | 0.111 | 0.116 | 0.045 | 2.601 | 0.009 | 0.029 | 0.204 |
| Discrimination (DIS) | 0.275 | 0.025 | 10.788 | 0.000 | 0.225 | 0.325 | -0.244 | 0.023 | -10.755 | 0.000 | -0.288 | 0.375 | 0.023 | 16.046 | 0.000 | 0.329 | 0.421 |
| Sense of community (SOC) | -0.177 | 0.025 | -7.104 | 0.000 | -0.225 | -0.128 | 0.356 | 0.022 | 15.944 | 0.000 | 0.313 | -0.147 | 0.023 | -6.389 | 0.000 | -0.192 | -0.102 |
| DIS x SOC | -0.080 | 0.023 | -3.498 | 0.000 | -0.125 | -0.035 | 0.042 | 0.021 | 2.027 | 0.043 | 0.001 | -0.055 | 0.021 | -2.597 | 0.009 | -0.096 | -0.013 |
| Geographical origin Dummy 1 | 0.084 | 0.058 | 1.430 | 0.153 | -0.031 | 0.198 | -0.035 | 0.052 | -0.675 | 0.500 | -0.138 | -0.154 | 0.054 | -2.850 | 0.004 | -0.260 | -0.048 |
| Geographical origin Dummy 2 | 0.039 | 0.057 | 0.684 | 0.494 | -0.072 | 0.150 | 0.140 | 0.051 | 2.739 | 0.006 | 0.040 | -0.189 | 0.052 | -3.601 | 0.000 | -0.292 | -0.086 |
| Gender Dummy 1 | -0.068 | 0.046 | -1.454 | 0.146 | -0.159 | 0.024 | -0.110 | 0.042 | -2.639 | 0.008 | -0.192 | -0.053 | 0.043 | -1.232 | 0.218 | -0.137 | 0.031 |
| Age | 0.040 | 0.025 | 1.620 | 0.106 | -0.008 | 0.089 | -0.113 | 0.022 | -5.066 | 0.000 | -0.156 | 0.100 | 0.023 | 4.386 | 0.000 | 0.055 | 0.145 |
| Length of residence in the city | -0.053 | 0.025 | -2.105 | 0.035 | -0.103 | -0.004 | 0.068 | 0.023 | 2.994 | 0.003 | 0.023 | -0.095 | 0.023 | -4.069 | 0.000 | -0.141 | -0.049 |
| | $R^2 = 0.161$ $F = 38.02$ $p = 0.000$ | | | | | $R^2 = 0.290$ $F = 83.13$ $p = 0.000$ | | | | | $R^2 = 0.254$ $F = 69.42$ $p = 0.000$ | | | | | | |
| | ΔR^2 interaction = 0.006 $F = 12.23$ $p = 0.000$ | | | | | ΔR^2 interaction = 0.002 $F = 4.11$ $p = 0.043$ | | | | | ΔR^2 interaction = 0.003 $F = 6.74$ $p = 0.009$ | | | | | | |

process (Golding and Burnam, 1990; Jibeen and Khalid, 2010; Hombrados-Mendieta et al., 2013). Results also match other studies that point to the importance of social cohesion and positive contact with native population and neighbors (Berkman and Glass, 2000; Kawachi and Berkman, 2000; Fisher and Sonn, 2002; Browning and Cagney, 2003). This might be due to the collective's needs being satisfied by the native community to a larger extent than by their fellow citizens. Native population are sources of information about the traditions and habits of the host country (Domínguez-Fuentes and Hombrados-Mendieta, 2012; García-Cid et al., 2017). Therefore, when SOC develops thanks to positive interactions with the native population it plays a vital role in the process of integration and well-being faced by migrants (Searle and Ward, 1990).

Hypothesis 4: based on the results obtained from analyzing covariables, older migrants feel more excluded, but the length of time spent reduces such feelings. According to what other studies suggest, the longer the time an individual spends in the host society, the more opportunities he or she has to create ties with the community and feel part of it (Prezza et al., 2008; Millán-Franco et al., 2019a). Migrants from Eastern Europe and Latin America feel less excluded as compared to African migrants, who express feeling more discrimination. This is in line with other studies which suggest that the cultural shock is decisive for the adaptation process (Jonsson et al., 2012; Kim, 2017; Jonsson et al., 2018); similar results were found in other studies carried out in Málaga (Cofrades, 2010) and Spain (Ioé, 2003), where African migrants showed worst indexes of well-being, health, social support and life satisfaction, amongst other, as well as feeling more discriminated. When cultural values, symbols and, sometimes, even language are shared, there is less probability to suffer discrimination from the native population (Nesdale and Mak, 2003; Jasinskaja-Lahti et al., 2006; Cuddy et al., 2008; Ward, 2009; Berry and Ward, 2016). Regarding gender differences, men are observed to perceive more discrimination, while women express higher SOC and SWL. These results are in line with those studies which noted the positive relation between SOC and SWL in migrants (Farrell et al., 2004; Simich et al., 2005; Herrero et al., 2011; Hombrados-Mendieta et al., 2013; Millán-Franco et al., 2019b). Furthermore, they show how discrimination deteriorates SWL and hinders social cohesion and feeling part of the host community, which is less in men (Wray-Lake et al., 2008; Amit and Bar-Lev, 2015). Another possible explanation for the results obtained is that, as pointed out by previous studies, men perceive more discrimination than women, while women deal better with unjust treatment and internalize their symptoms and their status is lower in society (Karlsen and Nazroo, 2002; Himle et al., 2009), being victims of the mentioned three fold discrimination (Szymanski and Lewis, 2015; Neblett et al., 2016).

TABLE 4 | Conditional effect of Perceived discrimination on psychosocial well-being variables at values of the Sense of community.

| Sense of community | Psychological distress | | | | | | Satisfaction with life | | | | | | Exclusion feelings | | | | | |
|--------------------|------------------------|-------|--------|-------|--------|-------|------------------------|-------|---------|-------|--------|--------|--------------------|-------|--------|-------|--------|-------|
| | Effect | SE | t | p | 95% CI | | Effect | SE | t | p | 95% CI | | Effect | SE | t | p | 95% CI | |
| | | | | | LL | UL | | | | | LL | UL | | | | | LL | UL |
| Low | 0.354 | 0.032 | 11.013 | 0.000 | 0.291 | 0.417 | -0.285 | 0.029 | -9.941 | 0.000 | -0.342 | -0.229 | 0.430 | 0.030 | 14.519 | 0.000 | 0.372 | 0.488 |
| Medium | 0.275 | 0.025 | 10.788 | 0.000 | 0.225 | 0.325 | -0.244 | 0.023 | -10.755 | 0.000 | -0.288 | -0.199 | 0.375 | 0.023 | 16.046 | 0.000 | 0.329 | 0.421 |
| High | 0.195 | 0.036 | 5.405 | 0.000 | 0.124 | 0.266 | -0.202 | 0.032 | -6.273 | 0.000 | -0.266 | -0.139 | 0.320 | 0.033 | 9.634 | 0.000 | 0.255 | 0.385 |



CONCLUSION

The theoretical model suggested has been verified: the SOC plays a moderating role on the negative effects of perceived discrimination regarding the variables of psychological distress, satisfaction with life and social exclusion feelings. The effects of these variables are lower when migrants have higher SOC, whilst consequences are more negative for migrants who have low SOC.

Results obtained from the study highlight how important for the migrant population it is to rebuild social networks in the host country and develop a good SOC. Therefore, designing interventions to strengthen positive interactions between the native and the migrant population is suggested.

Before concluding, some limitations of the study should be noted. Data were collected using self-report questionnaires. When self-report questionnaires are applied, the researcher assumes that participants' responses accurately reflect their feelings (Heppner et al., 1992). In order to compensate this limitation, the aim is to address migrants through individual interviews or discussion groups in future studies. These

qualitative techniques would complement and improve the empirical study carried out. However, these techniques add some complexity to the analysis because numerous elements make contacting the different sample groups and the possibility to carry out meetings in different moments more difficult. For instance, the collective's own idiosyncrasy, the fact that migrants move throughout the country in search of better life and work conditions, the role played by women in some cultures or because due to their irregular situation, they prefer to stand aside (Maya, 2001).

In addition, these results may not adequately reflect the association between these variables in other countries and even regarding the different regions of Spain, and thus it would be of interest to replicate these results in countries other than Spain and other Spanish cities with different social and economic features. Therefore, a more complex research is suggested for future studies, which would broaden the areas of study. For instance, throughout the Andalusian territory or other relevant areas in terms of migrant population, such as Madrid or Catalonia.

It should also be noted that the present study used a cross-sectional design, and thus caution should be exercised when making causal inferences based on the data available. Moreover, as Holmbeck (1997) remarks, the relations between the independent variable, mediator, and outcome may not necessarily be causal. However, the present study provides useful data that help deepen our understanding of the relations between these variables.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved. In conducting the study, accepted principles of ethical and professional conduct have been followed (Reference number: CEUMA: 37-2016-H). We obtained ethical approval for the research from the Ethics Committee of the University of Málaga. All subjects gave written informed consent in accordance with

the Declaration of Helsinki. The protocol was approved by Ethics Committee of the University of Málaga.

AUTHOR CONTRIBUTIONS

AG-C, IH-M, and LG-J contributed to conception and design of the work, collected and analyzed the data, performed substantial contributions to revising the work critically, and wrote the manuscript. MM-F and GM analyzed the data and wrote the

manuscript. All the authors involved approved the final version of the manuscript to be published.

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The Effects of the 2016 Copa América Centenario Victory on Social Trust, Self-Transcendent Aspirations and Evaluated Subjective Well-Being: The Role of Identity With the National Team and Collective Pride in Major Sport Events

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Following a neo-Durkheimian perspective, major sporting events such as the World Cup or the America's Cup differ from other collective rituals because they promote interest throughout the nation due to their massiveness and international character. In order to increase the scientific knowledge related to these type of rituals, the aim of this study was to observe the effects that the Chilean victory in the 2016 Copa América Centenario had on social variables such as trust, self-transcendent aspirations, and evaluated subjective well-being (SWB) of both fans and non-fans. In addition, two longitudinal structural equation models (SEMs) were performed to estimate the effect of identity with the national team before the final match on evaluated SWB, trust, and self-transcendent aspirations post-final. A total of 648 Chilean participants (mean age = 38.58; *SD* = 10.96) answered the questionnaire before the final match. Out of these, 409 completed our measures after the final. The results show that fans presented higher scores in many of the studied variables before and after the final compared to non-fans. Identification with the national team (before the final) prospectively and significantly predicted pride in the national team and pride in the country (after the final). In addition, these two forms of collective pride mediated the relationship between identification with the national team (before the final) and evaluated SWB (after the final). The results are discussed emphasizing the importance of these kinds of specific massive rituals and their effects.

Keywords: major sport events, collective rituals, identification with the national team, collective pride, evaluated subjective well-being, social trust, self-transcendent aspirations

INTRODUCTION

Collective emotions and rituals play an important role in people's lives by creating, maintaining, and reinforcing the identification, cohesion, and solidarity between human groups (Durkheim, 1912). Following Durkheim's (1912) perspective, rituals can be defined as moments of collective effervescence, where the fact of congregating to carry out actions generates a special energy in the participants. Thus, participants in these collective rituals tend to experience a feeling of connection with others, leading them to have feelings of empowerment and positivity (Durkheim, 1912). Indeed, Collins's theory of interaction ritual change (IRC; Collins, 2004) supports Durkheim's idea of "collective effervescence," arguing that rituals promote high levels of "emotional energy." This high emotional energy, thus, encourages participants in rituals to continue interacting with each other.

Collective rituals often happen during major sport events, such as the Copa América Centenario – one of the most important soccer tournaments in Latin America. Within these events, countries are looking forward to succeeding, and flags and other national symbols abound. Participants synchronize their singing in support for their teams, in songs such as their national anthem (Collins, 2004; Sullivan and Day, 2019). Additionally, due to their media, political, and social repercussions, these kinds of rituals generate special interest throughout the nation, and their massiveness and international character turn mega-events of this type into global phenomena (Von Scheve and Ismer, 2013; Beyer et al., 2014; Unanue et al., 2020).

Much of the scientific literature has related collective rituals to the social cohesion of the in-group. However, given the wide nature of the rituals, there could be differences in the way they contribute to social cohesion and in the mechanisms involved in this process (Whitehouse and Lanman, 2014; Watson-Jones and Legare, 2016). In this sense, major sporting events share some characteristics in their nature that it is important to highlight. First, although they generate a great deal of immediate effervescence, their effects do not seem to last very long. Second, they always have a competitive component that implies a relationship of rivalry with other teams. Third, they produce a national identification effect that transcends much more than what is generated in rituals within small groups. Fourth, and finally, in these major sport events, victory or defeat favor the experience of collective emotions such as pride or shame, which condition their social, cognitive, and behavioral effects at both the collective and individual levels (Von Scheve and Salmela, 2014; Sullivan and Day, 2019; Unanue et al., 2020; Vargas-Salfate et al., 2020).

Although much progress has been made in studying the effects of these international major sport events, many questions remain unanswered, specifically those related with the mechanisms through which major sport events, national team identification, and national pride interact. In this sense, more studies are required to help us to understand the social effects that the interrelation of these mechanisms in this type of ritual generates (Watson-Jones and Legare, 2016). In addition, more data are needed to understand how these collective emotions

induced by the event could generate an impact on the perceived well-being of the spectators, as well as on their self-transcendent aspirations and trust (Unanue et al., 2020).

Due to the competitive nature and international character of major sport events such as the Copa América, we believe that it is interesting to deepen the study of how these massive rituals influence self-transcendent aspirations, trust, and evaluated SWB of both fans and non-fans. We expect that this study can shed light over the mechanisms involved in these processes and to contribute to the understanding of how collective pride and identity influence these important social effects.

The Relevance of Social Identity in Major Sport Events

As occurs in other collective rituals, collective identification is a fundamental process in order to understand the social effects that major sport events generate (Sullivan, 2018). According to Tajfel's (1979) theory of social identity, when people are part of a group, they develop a sense of who they are based on their membership of the group. This encourages people to acquire a sense of social identity that generates a world of "them" and "us" based on a process of social categorization. In this way, social identity is enhanced by the existence of other groups that promote a social comparison effect (Vargas-Salfate et al., 2020). Thus, participation in collective events can increase social identification and identity-related behavior helping individuals to become who they are as social beings (Khan et al., 2015a).

During sports competitions, an interesting social identity effect is usually generated, due to the identification between the spectators and their respective teams (Sullivan, 2014a). The competitive idiosyncrasy of this type of event promotes, among the participants, the experience of feeling "we" are better than "they" (Mehus and Kolstad, 2011), and the unpredictability of the results in their dramatic nature as well as the surprise elements of tragedy and joy characterize these major sport events (Collins, 2012).

Additionally, the fact that there are teams that represent each country and the strong media and social repercussion of these major sport events, favors the enhancement of national patriotism (Collins, 2004). In line with this, a study conducted by Stieger et al. (2015) found a significant increase in identification with the national team and patriotic pride was observed after winning the World Cup in 2006. This is consistent with another study by Von Scheve et al. (2014) in the framework of the 2010 Soccer World Cup, which demonstrated that the emotional entrainment that occurred during the event increased national identification and impacted the emotional meaning of national symbols.

Collins (2004) defined these feelings of national identification and patriotism as temporary moments of "ecstatic nationalism" due to their short durability, but also due to the significant effervescence that occurs in events of this type. This process of national identification is exacerbated by the competitive nature of sports tournaments, where the matches are competitive zero-sum situations. This highly competitive scenario makes intergroup conflict more likely, derived from the dispute over scarce resources (Huddy, 2003) and emphasizes the context of

struggle between nations, making national identities salient (Von Scheve et al., 2017), and stereotypes are commonly used to highlight intergroup distinction (Garland, 2004; Vincent et al., 2010). As we mentioned before, international major sport events are also rich in the use of symbols such as flags, anthems, shields, soccer team jerseys, and a language that intensifies competitiveness and the importance of victory, which in turn deepens intergroup tension. Although in-group identity does not imply out-group hate, when this identification with the group becomes dominant, hostility and fear within the in-group will appear, especially in a context of scarce resources and feelings of fear generated by out-group hostility (Brewer, 2001).

In a study of the 1996 UEFA European Football Championship, Maguire and Poulton (1999) affirm that the media rhetoric around these sport events boosts invented traditions and “national habitus codes,” especially when this rhetoric is characterized by a conflict-related language that promotes historical rivalries or highlights the differences between national in-groups and out-groups (Inthorn, 2007). Another good example of the competitive spirit and tension between countries participating in major sport events is pointed out by Sullivan (2014b) in his study about the 2014 World Cup in Brazil. The author describes the fear that Brazilians felt about the possibility that their classic Latin American rival could win the World Cup on Brazilian soil, and how the victory of Germany over Argentina in the final helped to avoid possible humiliation. This exacerbated intergroup tension because the competitive setting of sport events seems to play an important role in the creation of people’s identities. This coincides with Tajfel’s (1979) perspective about how the existence of other groups highlights the perception of similarity with the group, which reinforces the image and self-esteem of the group itself (Wann and Grieve, 2005).

Despite the important effect of emotional contagion that major sport events such as the Copa América can produce among people (Unanue et al., 2020), it has been seen that this effect may differ between those who are interested in soccer and those who are not (Von Scheve and Ismer, 2013; Sullivan, 2018). For this reason, we believe that the level of identification that fans feel with the national team is essential in order to understand how these moments of ecstasy due to victory can foster the experience of collective pride and generate social and cognitive effects (Mutz, 2019). According to Durkheim’s (1912) theory, rituals must imply a shared attention and interest of the group toward the activity that is being carried out, so that the processes of identification with the group and the experimentation of collective emotions can be generated.

Our study aims to understand the relevance of the identification process of fans of the national team in the experience of collective pride after Chile’s victory against Argentina in the 2016 Copa América Centenario. In line with previous research, our aim is to deepen the study of the social effects derived from these mega-events, exploring the differences between those who are *fans* (people who like soccer) and those who are non-fans (people who do not like soccer). Regarding the specific studies of major sport events, it is important to highlight the differences that may exist between those fans who feel strongly identified with the national team and those people in the

country who may be secondary recipients of the effects of an event of this nature (Pawlowski et al., 2014; Unanue et al., 2020). In a recent study conducted by Mutz (2019), variations in viewers’ life satisfaction were found during the Euro 2016 tournament in Germany, although the size of the effect was relatively small. However, the differences were much more pronounced for those soccer-liking viewers compared to non-viewers. This is in line with the Team Identification-Social Psychological Health Model which posits that identification with a sports team promotes social connections that have an impact on psychological health (Stieger et al., 2015). These effects can go beyond the psychological consequences as Khan et al. (2015a) found in a longitudinal study of a month-long pilgrimage in India, where improvements in self-assessed health could be (partially) explained by the sense of shared identity experienced by the participants in this massive event.

The Social Effects of Major Sport Events Following Durkheim’s Perspective

According to what Durkheim (1912) has proposed, collective rituals fulfill a very relevant social function and favor affiliation with group members, thereby creating a sense of collective unity. For Durkheim, this occurs because people who participate in the rituals share attentional and emotional experiences, which favors a state of collective perception called “collective effervescence,” as mentioned earlier.

Different subsequent studies have tried to verify the social function that this type of ritual and its collective effervescence generate on the members of the group. For example, social sharing has been shown to promote a positive emotional climate, emphasizing positive feelings such as trust and hope (Rimé, 2007). Thus, participation in collective rituals favors other social functions such as social cohesion, cooperation, and the perception of social support (Reddish et al., 2013; Páez et al., 2015). A special emphasis has been placed on the fact that the synchrony of movements that are generated between the people who participate in the ritual, promotes a similarity between them, favoring people to act and think similarly (Whitehouse and Lanman, 2014). This goes in line with the tendency to imitate other’s behavior that occurs in crowded places (Le Bon, 1947; Turner et al., 1987) and with the studies of Páez et al. (2015) and Reddish et al. (2016) that show that self-transcendent beliefs and prosocial behaviors in rituals are produced specifically due to the synchronicity of movements and the emotional synchrony that occur among the participants. Fischer et al. (2013) posit that group rituals that involve more synchronization of body movements are related with more trust, cooperation, and feelings of oneness than those group rituals with less synchronicity of movements. In this way, the convergence of the participants, both in their way of acting and in their experienced emotions, once again reinforces the similarity between them (Páez and Rimé, 2014). Some authors have pointed out that this synchrony even increases the cooperation when there is a shared objective among the participants and feelings of connection and trust between the members of the group are produced (Fischer et al., 2013). This convergence seems to be very important for the emergence of trust between

people, because the greater the perception of similarity of other people, the more they are trusted (Delhey and Newton, 2005). Considering all of this, collective rituals seem to promote trust between people and cooperation due to their commitment to the group (Hobson et al., 2018).

Generalized trust or the belief that others will not deliberately or knowingly do us harm and will take care of our interests if this is possible, it is especially important in large-scale society characterized by high levels of mobility, heterogeneity, and individualism (Delhey and Newton, 2005). Modern world implies an impersonal, rational-legal, and bureaucratic context that produces alienation, disillusionment, and distrust toward those we do not know and especially toward those we do not consider as ourselves (Delhey and Newton, 2005). This trust in those one does not know (generalized trust) is particularly important due to its relation with beneficiary effects on the nation because it promotes cooperation between all the citizens, even those that are different both socially and culturally (Torpe and Lolle, 2011), and it has been also related to variables such as absence of corruption, accumulation of wealth, democracy, income equality, etc. (Delhey and Newton, 2005).

According with the above, it is important to highlight that major sport events such as soccer world championships, the European Cup, or the Copa América are rituals where chants are generated, and national anthems are sung before the matches, which favors national identification (Collins, 2012; Unanue et al., 2020). This repetition of the chants and the sharing of common goals in this type of ritual also elicit a feeling of trust among the fans (Drury et al., 2005) and the affectively charged objects such as flags and national shields help to make salient the values, norms, and beliefs that the group shares, which in turn strengthen identification with the group, and promote prosocial behaviors (Beyer et al., 2014). In this way, generalized trust has an important role as a social resource that contributes to the prosperity of individuals and nations (Torpe and Lolle, 2011). Likewise, due to the reasons given above, we believe that it is very important to deepen this study, specifically in the context of a massive ritual such as the Copa América.

Different studies have linked major sport events with an exacerbation of nationalism and a strengthening of national identity (Ismer, 2011; Erik Meier et al., 2019). In this sense, Collins (2014) has suggested a neo-Durkhemian theory to explain how rituals promote an identification of individuals with the nation through what he calls interaction rituals, which are characterized by having a mutual focus of attention that channels collective emotions toward a sense of identity and common solidarity. These kinds of rituals, such as major sport events, can in turn, through the exacerbation of nationalism, symbolize rivalry and struggle between countries (Ismer, 2011; Møller, 2014). They are rituals that could greatly strengthen cohesion and solidarity among the in-group, given that there is a rival, which can even generate violent acts against the out-group in defense of the in-group (Besta et al., 2015). This goes in line with Tajfel's (1979) ideas, that when the identity of the group develops in comparison with other groups, it can promote an in-group bias that enhance a self-concept and positive perception of the members of the group itself.

The above is also consistent with a study by Becker et al. (2007) where it was observed that after the 2006 World Cup in Germany, there was an exacerbation of nationalism that caused an increase in xenophobia toward minority groups (Becker et al., 2007).

On the other hand, data from a recent study conducted by Vargas-Salfate et al. (2020) show that sports macro-events can favor the self-affirmation of the group, especially when victory occurs, but this does not necessarily lead to out-group derogation. In this way, although in-group identity does not imply out-group hate, when this identification with the group becomes dominant, hostility and fear within the in-group will appear, especially in a context of scarce resources and feelings of fear generated by out-group hostility (Brewer, 2001). Finally, the data are still vague in relation to understanding the scope of the social effects that these rituals have on the people of the country, assuming that they are national rituals in which there is a competition against a rival and where many people are affected because the massiveness of these events (De Rivera, 2014).

The present study tries to verify whether the social effects of these rituals after Chile's victory in the 2016 Copa América Centenario generate greater trust, following the idea of the nationalization effect of this type of ritual, proposed by Collins (2014). On the other hand, the aim is also to see whether the victory promote other social effects such as self-transcendent aspirations that go beyond the self and seek the common good helping others and improving society (Oriol et al., 2020). For this, following the self-determination theory, and in particular the goal content theory (Kasser and Ryan, 1996), we included an indicator that seeks to inquire about the aspirations of people to carry out altruistic actions for the benefit of the global community. In relation to this, a recent study conducted by Martela et al. (2019), differentiates the aspirations of social adherence (which imply the aspiration of being part of a social group), which are considered extrinsic aspirations, and the aspirations of community contribution, which are considered intrinsic aspirations and focus attention on the needs and concerns of others (conspecifics and non-conspecifics).

As mentioned above, different previous studies show that collective rituals can promote prosocial behavior and self-transcendent beliefs (Páez et al., 2015; Reddish et al., 2016), however, major sport events are considered competitive rituals between countries, in which the fans of each country have a social adherence to their own national teams. In this sense, more information is needed in order to understand if this type of specific collective and massive rituals can also generate self-transcendent goals toward the community beyond the group itself.

Major Sport Events and Subjective Well-Being

In recent years, the interest in major sport events has gone beyond their social effects and has become relevant due to their impact on the subjective well-being (SWB; Diener, 1984) of its participants (Pawłowski et al., 2014; Páez et al., 2015). SWB refers to the global assessment that people make about their lives (Jebb et al., 2020) and is characterized by having an affective component (the experience of positive affect and

the absence of negative affect) and a cognitive component (a person's evaluation of their life as a whole; Diener, 1984).

As already mentioned, major sport events are characterized by a significant presence of emotional effervescence among their participants (Collins, 2004). This is an experience of high positive affect that could also explain the increase in the participants' cognitive levels of well-being (Stieger et al., 2015; Unanue et al., 2020). In this sense, various authors suggest that the experience of positive affect can generate a bottom-up effect on evaluation, cognitive judgment, and decision-making (Andrade and Ariely, 2009; Von Scheve and Ismer, 2013). In this vein, the studies conducted by Páez et al. (2015), with a sample of collective rituals, found that these collective events reinforce positive affect rather than decrease negative affect. The authors also found a strong sharing of the emotions experienced and a perception of emotional synchrony that increased the psychological well-being of the participants.

The results of the study conducted by Unanue et al. (2020) showed an increase in the cognitive component of SWB before and after the final of the 2015 Copa América Chile. However, this cognitive indicator corresponded to the so-called "evaluated SWB," which assesses life satisfaction in the moment. According to the studies carried out by Kahneman and Riis (2005), the evaluated well-being implies momentary cognitive judgment regarding life satisfaction, while global well-being implies a retrospective judgment about the different aspects of life for determining satisfaction with life as a whole. This reinforces the idea that these major sport events could have effects on well-being, but these effects do not seem to be as durable over time as in other types of collective rituals (Rimé et al., 2010; Unanue et al., 2020).

In addition to the increase in the experience of individual positive affect, collective rituals have been seen to favor the emergence of collective emotions among their participants (Sullivan, 2014a, 2018). In this sense, wellness studies have explained the bottom-up effect of affects on the cognitive assessment of a person's own well-being considering individual affects (for a review, see Diener et al., 2018) but much less is known about the effect that collective emotions can have on the cognitive component of well-being. It seems that collective emotions can have important repercussions on a collective level (referring to group behavior, beliefs, etc.) but also a bottom-up effect on different individual cognitive variables (Von Scheve and Ismer, 2013; Goldenberg et al., 2020).

The Role of Collective Pride in the Victories at Major Sport Events

As already mentioned, major sport events such as the America Cup (Copa América) are characterized by being massive rituals where there is significant group emotional intensity and where these shared emotional experiences also extend to the entire nation (Collins, 2004; Ismer, 2011). These experiences of collective emotional effervescence can encourage people to stop being aware of the "self" and this emotional communion that occurs with the collective, favors the fusion of "me" with "us" (Walker, 2010; Páez et al., 2015). On the other hand, the common experiences that people have in relation to exposure to the

same discourses, symbols, values, norms, attitudes, etc., are elements that will influence the appearance of a particular emotion that then gives way to a collective emotional orientation (Christophe and Rimé, 1997).

This gives rise to the experience of collective emotions that allude to the collective as the entity that experiences emotion, so these transcend the individual (Goldenberg et al., 2014; Sullivan, 2018). Specifically, collective emotions are considered a macro-level phenomenon as a product of the emotional dynamics generated among people who are living or experiencing the same situation (Goldenberg et al., 2020). In this sense, different investigations have studied the role that collective pride has in major sport events such as the soccer World Cup 2010 in South Africa (Møller, 2014; Sullivan, 2018) or the soccer World Cup 2014 in Brazil (Sullivan, 2014b). Specifically, in a study carried out by Kersting (2007), with a representative sample of Germans at the national level, it was observed that 78% of the respondents showed they felt national pride during the World Cup in Germany in 2006. However, this pride decreased significantly after the championship was over. Similar data have recently been found in a study conducted by Gassmann et al. (2019), in which it was observed that when Germany won the 2014 World Cup there was a significant increase in national pride and, conversely, in 2018, when the team was eliminated in the group stage, national pride decreased significantly. Furthermore, as in other studies, it appears that these effects were only temporary and not sustainable over time.

Some authors consider that collective pride occurs when the crowd celebrates a sporting or political victory, which is perceived as a positive group achievement (Møller, 2014; Sullivan, 2014a). The effect of this collective pride promotes the feeling of "us" that favors sharing with the rest of the group, unlike what happens with the pride of a specific individual (Delvaux et al., 2015).

In the case of Chile, where the national team was expected to play a modest role in this type of competition, its victory could have generated an intense manifestation of national pride and, therefore, it could suppress the feelings of shame as happened to the Dutch soccer team in the 2008 European soccer championship (van Hilvoorde et al., 2010). In accordance with this, for Collins (2004), the experience of collective pride after the victory may be a key factor in understanding the social effects of ecstasy or high emotional energy that occurs in this type of macro sport event (Collins, 2004).

Considering all the factors, collective pride seems to be a strong collective emotion in major sport events. Despite the fact that collective pride has been regarded as a collective emotion that favors its extension within the group (Sullivan, 2018), it may also be that this pride, so intensely generated by these international events, may promote signs of arrogance toward other groups, as was observed at the 2006 World Championship in Germany (Sullivan, 2014a). In accordance with this, even though collective pride may favor a sense of identity fusion with the group, the present study does not have enough data to analyze whether or not collective pride favors self-transcendent aspirations beyond the group itself. Unlike what happens with other individual emotions considered to be transcendent, such as gratitude, compassion, or awe,

which favor the tendency toward prosociality (Stellar et al., 2017), collective pride is an emotion that seems to have fundamentally the effect of uniting fans from the same group, while the championship lasts or, if victory occurs, immediately afterwards. The exacerbation of the competitiveness of this type of tournament, enhanced by collective pride, could explain these effects in the in-group.

Finally, Von Scheve and Ismer (2013) emphasize that the top-down effect of experiences of collective emotions, such as pride after victory, can favor a group narrative that enables its effect to transcend cognition and individual behavior. As previously suggested, the bottom-up effect that the experience of individual affects can have on the SWB of viewers has already been studied. However, more studies are needed that will allow us to understand the effect that collective emotions such as pride can have.

The Present Research

Following Durkheim's perspective and the other authors presented above, we argue that major sport events such as the 2016 Copa América Centenario can be considered a collective ritual even though each has unique characteristics. As already seen, in this type of event, there is a competitive context between groups, with an exacerbation of symbols and national identity, that can generate an impact on the social effects produced within and outside the groups. These effects can also be closely linked with sports results and with the subsequent experience of emotions such as collective pride, which has been shown to have a particularly relevant role in major-sport rituals of this type (Sullivan and Day, 2019).

In this sense, our study aims to observe the effects that the Chilean victory in the 2016 Copa América Centenario had on social variables such as trust in the people of the country, self-transcendent aspirations, and the perceived SWB of both *fans* and *non-fans*. A further aim is to study the mediating role of pride regarding the national team and pride in the country post-final. In order to determine the effect of the ritual and the differences between before and after the victory in the final, comparisons were made between people who like soccer (*fans*) and those who do not like soccer (*non-fans*). In addition, two longitudinal structural equation models (SEM) were performed to estimate the effect of identity with the national team before the final, on evaluated SWB, trust, and self-transcendent aspirations post-final. Specifically, the following hypotheses were proposed:

H1: It is expected to find at two moments in time – before the match (T1) and after the match (T2) – significant differences between Chilean *fans* and *non-fans*, regarding (a) identification with the national team, (b) pride in the national team, (c) pride in the country, (d) trust, (e) self-transcendent aspirations, and (f) evaluated SWB. We hypothesized that fans would show higher scores in all the variables mentioned previously in comparison with non-fans.

H2: It is expected to find, for the group of Chilean fans, significant differences between T1 and T2 regarding

(a) identification with the national team, (b) pride in the national team, (c) pride in the country, (d) trust, (e) self-transcendent aspirations, and (f) evaluated SWB. We hypothesized that the victory would lead to an increase from T1 to T2 in all the variables previously mentioned for the group of fans.

H3: It is expected that identification with the national team prospectively predicts higher pride in the national team (H3a) as well as higher pride in the country (H3b) at T2.

H4: It is expected that both pride in the national team as well as pride in the country mediates the relationship between identification with the national team and trust.

H5: It is expected that both pride in the national team as well as pride in the country mediates the relationship between identification with the national team and self-transcendent aspirations.

H6: It is expected that both pride in the national team as well as pride in the country mediates the relationship between identification with the national team and evaluated SWB.

MATERIALS AND METHODS

Participants and Procedure

Our research was carried out in accordance with the guidelines of the American Psychological Association and the British Psychological Society. The protocol was approved and followed the recommendations of the Research Ethics Committee (Comité Ético de Investigación) of a prestigious university in Chile.

Chilean participants answered our core measures before and after the final match of the 2016 Copa América Centenario Tournament between Chile and Argentina. It started on Sunday June 26, 2016 at 20:00 h. Chilean time (GTM-3). The match ended the same day, around 22:45 h. The day before the match, participants were contacted in order to answer Wave 1 questions (T1) and were asked for their future participation as the study had a longitudinal design. Respondents were informed that the Wave 1 survey would close 5 min before the start of the final match. Almost immediately after the match had finished, all participants who had answered at T1 were sent an email asking them to complete Wave 2 (T2) which had identical measures. Participants were informed that the Wave 2 survey would close on Tuesday June 28 just before midnight (23:59 h.). Thus, the T2 measures were collected from June 26 at midnight to Tuesday June 28, 2016 at midnight.

Following Unanue et al. (2020), respondents were contacted through email, using a convenience sampling method (Saunders, 2011) in order to achieve as much participation as needed in this unusual type of circumstance (i.e., high effervescence). At T1, participants were sent an introductory email containing a brief description of the study, information about it, and a web link to a questionnaire using Qualtrics software. They were informed that they could withdraw from the study at any time without penalty and were asked to sign an informed consent form electronically before starting the questionnaire.

In total, 648 Chilean participants between the ages of 18 and 71 (mean age = 38.58; *SD* = 10.96) answered the questionnaire at T1. Out of these, 409 participants between the ages of 18 and 71 (mean age = 39.25; *SD* = 11.41) completed our measures at T2. **Table 1** shows the profiles of our respondents, in terms of gender distribution, age, economic activity, and income. **Table 2** shows descriptive statistics and Z-order correlations for our main study variables at both T1 and T2.

Regarding attrition, those participants who only completed the questionnaire at T1 (*N* = 239) did not differ significantly in terms of age [*t* (646) = 1.66; *p* = 0.10], *pride in the country* [*t* (646) = 0.00; *p* = 1.00], *pride in the national team* [*t* (646) = -1.11; *p* = 0.26], *evaluated SWB* [*t* (432.24) = 1.05; *p* = 0.30], *identification with the national team* [*t* (646) = -0.28; *p* = 0.78], *trust* [*t* (646) = 1.65; *p* = 0.10], and *self-transcendent*

aspirations [*t* (646) = 1.82; *p* = 0.07] of those who participated in the two waves (*N* = 409). Participants only differed in the proportion of men and women who responded to both waves, from those who responded only to the first wave [χ^2 (1) = 8.05, *p* = 0.01]. Men were more likely to drop out of the survey than women. Therefore, we concluded that attrition is not problematic.

Distributions were adequate for all constructs (George and Mallery, 2010). Asymmetry values were appropriate for *pride in the country* (T1: -0.84; T2: -1.07), *pride in the national team* (T1: -1.47; T2: -1.85), *evaluated SWB* (T1: -1.11; T2: -0.97), *identification with the national team* (T1: -0.43; T2: -0.56), *trust* (T1: -0.22; T2: -0.23), and *self-transcendent aspirations* (T1: -1.09; T2: -1.35). Kurtosis values were appropriate for *pride in the country* (T1: 0.38; T2: 0.88), *pride*

TABLE 1 | Participant's profile at T1 and T2 (*N* = 409).

| | | Gender | | | | | |
|------------------|--------------------|----------|------|----------|------|----------|------|
| | | Total | | Male | | Female | |
| | | <i>N</i> | % | <i>N</i> | % | <i>N</i> | % |
| Sample | | 409 | | 177 | | 232 | |
| Age range | 18–25 | 54 | 13.2 | 24 | 13.6 | 30 | 12.9 |
| | 26–45 | 239 | 58.4 | 100 | 56.5 | 139 | 59.9 |
| | 46–55 | 81 | 19.8 | 31 | 17.5 | 50 | 21.6 |
| | 55 or more | 35 | 8.6 | 22 | 12.4 | 13 | 5.6 |
| Economy activity | Student | 49 | 12.0 | 24 | 13.6 | 25 | 10.8 |
| | Employee | 297 | 72.6 | 126 | 71.2 | 171 | 73.7 |
| | Housewife | 7 | 1.7 | 2 | 1.1 | 5 | 2.2 |
| | Retired | 6 | 1.5 | 3 | 1.7 | 3 | 1.3 |
| | Unemployed | 20 | 4.9 | 3 | 1.7 | 17 | 7.3 |
| | Not specified | 30 | 7.3 | 19 | 10.7 | 11 | 4.7 |
| Personal income | Lower than average | 5 | 1.2 | 2 | 1.1 | 3 | 1.3 |
| | Average | 124 | 30.3 | 43 | 24.3 | 81 | 34.9 |
| | High than average | 280 | 68.5 | 132 | 74.6 | 148 | 63.8 |

TABLE 2 | Means (SD) and zero-order correlations between demographic and main variables at T1 and T2.

| | <i>M</i> | <i>D</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|----------|----------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|--------|--------|--------|
| 1. Gender | 1.52 | 0.50 | | | | | | | | | | | | | |
| 2. Age | 38.58 | 10.96 | -0.09* | | | | | | | | | | | | |
| 3. Identification with the national team T1 | 3.27 | 1.11 | -0.09* | -0.05 | | | | | | | | | | | |
| 4. Identification with the national team T2 | 3.37 | 1.14 | -0.03 | -0.11* | 0.85** | | | | | | | | | | |
| 5. Pride in the country T1 | 7.38 | 2.32 | 0.05 | 0.12** | 0.37** | 0.39** | | | | | | | | | |
| 6. Pride in the country T2 | 7.48 | 2.29 | 0.01 | 0.11* | 0.41** | 0.42** | 0.73** | | | | | | | | |
| 7. Pride in the national team T1 | 7.85 | 2.59 | -0.07 | -0.09* | 0.76** | 0.75** | 0.41** | 0.40** | | | | | | | |
| 8. Pride in the national team T2 | 8.34 | 2.43 | 0.05 | -0.11* | 0.69** | 0.75** | 0.36** | 0.046** | 0.82** | | | | | | |
| 9. Trust T1 | 5.47 | 2.00 | 0.01 | 0.05 | 0.05 | 0.07 | 0.15** | 0.17** | 0.05 | 0.07 | | | | | |
| 10. Trust T2 | 5.64 | 1.97 | -0.03 | 0.09 | 0.15** | 0.13** | 0.17** | 0.22** | 0.09 | 0.11* | 0.74** | | | | |
| 11. Self-transcendent aspirations T1 | 5.84 | 1.12 | 0.21** | 0.05 | 0.11** | 0.10* | 0.16** | 0.18** | 0.07 | 0.11* | 0.17** | 0.16** | | | |
| 12. Self-transcendent aspirations T2 | 5.91 | 1.12 | 0.22** | 0.02 | 0.07 | 0.10* | 0.14** | 0.11* | 0.02 | 0.04 | 0.12* | 0.11* | 0.78** | | |
| 13. Evaluated SWB T1 | 7.98 | 1.67 | 0.01 | 0.08* | 0.08 | 0.04 | 0.20** | 0.16** | 0.08* | 0.02 | 0.19** | 0.13** | 0.17** | 0.10* | |
| 14. Evaluated SWB T2 | 8.11 | 1.49 | 0.01 | 0.05 | 0.15** | 0.16** | 0.19** | 0.33** | 0.015** | 0.017** | 0.18** | 0.18** | 0.15** | 0.14** | 0.75** |

SWB, subjective well-being. **p* < 0.05; ***p* < 0.01.

in the national team (T1: 1.51; T2: 2.96), evaluated SWB (T1: 1.64; T2: 1.09), identification with the national team (T1: -0.63; T2: -0.55), trust (T1: -0.49; T2: -0.49), and self-transcendent aspirations (T1: 1.32; T2: 2.28).

The little MCAR test (Little, 1988) showed that missing data were completely at random [$\chi^2(159) = 182.49, p = 0.10$]. So, based on the above, we followed the recommendations of Newman (2014) and we used a full information maximum likelihood estimation in all our structural models, which allowed us to include all the 648 participants in our models, regardless of missing data patterns (Muthén et al., 1987). We conducted a sensitivity power analysis G*Power 3.1 (Faul et al., 2009) to estimate the statistical power of our SEM. With a power of 0.80, 43 parameters, and including 409 participants who completed the two waves, our study was sufficiently powered to detect a predictor with a population effect size of $f^2 = 0.0151$. Thus, our data at T1 ($N = 648$) and at T2 ($N = 409$) met the minimum requirements and were adequate for estimating the associations between our core constructs.

Measures

The questionnaire was translated into Spanish, and equivalence of meaning with the English version was checked following an established back-translation procedure (Brislin, 1970). Following Unanue et al. (2020), we used single-item questions in some cases, aiming to keep the survey as short as possible, as well as to encourage respondents' further participation.

Pride in the Country

On an 11-point scale, ranging from 0 (not at all) to 10 (very much), participants answered the following question: *How proud are you of your country?*

Pride in the National Team

On an 11-point scale, ranging from 0 (not at all) to 10 (very much), participants answered the following question: *How proud are you of your national soccer team?*

Evaluated Subjective Well-Being

On an 11-point scale, ranging from 0 (extremely unhappy) to 10 (extremely happy), participants answered the following question: *Taking all things together, how happy would you say you are with your life right now?*

Identification With the National Team

We adapted the "identification with the natural environment" scale developed by Unanue et al. (2014). Participants answered on a 5-point scale, ranging from 1 (strongly disagree) to 5 (strongly agree) the following three questions: *I see myself as someone who empathizes with my country's national soccer team; To me, getting involved with my country's national soccer team gives me a greater sense of who I am; and I identify myself with my football national team.* Cronbach's alphas were good both at T1 ($\alpha = 0.84$) and T2 ($\alpha = 0.87$). We averaged the three items to build our identification measure.

Generalized Trust

Respondents rated the following three questions on an 11-point scale ranging from -5 (absolutely unreliable) to +5 (absolutely reliable): *"To what extent are the inhabitants of your country unreliable or reliable?"; "To what extent are the neighbors of your country unreliable or reliable?"; and "To what extent are foreigners living in your country unreliable or reliable?"* Cronbach's alphas were good at both T1 ($\alpha = 0.78$) and at T2 ($\alpha = 0.83$). We averaged the three items to build our trust measure. Importantly, this measure captured trust and distrust in relation to all the inhabitants of the country regarding they were locals or not.

Self-Transcendent Aspirations

Following Kasser and Ryan's (1996) sub-scale of community involvement, participants responded as to how willing they would be to *actively support humanitarian/social causes, spend their time helping others who are struggling, and take actions to help society.* Respondents rated these questions on a 7-point scale ranging from 1 (not at all) to 7 (completely). Cronbach's alphas were good both at T1 ($\alpha = 0.84$) and at T2 ($\alpha = 0.90$). We averaged the three indicators to build our social aspiration measure.

Demographics

We used sex (male = 1) and age (in years) as control variables.

RESULTS

Plan of Analysis

First, we carried out a mean differences analysis to test H1 and H2. For H1, we performed a Student's *t*-test for independent samples to explore the statistical differences between fans and non-fans for all of our constructs at both T1 and T2. Additionally, to test H2, we used the Student's *t*-test for dependent samples, to statistically explore the soccer fan differences between T1 and T2 for all our constructs. In both cases, SPSS 25 software was used. In addition, we calculated the effect size for each means comparison through Cohen's *d* (Cohen, 2013).

To test H3–H6, we conducted an auto-regressive prospective analysis using SEM with observed variables. **Figure 1** shows the hypothesized model 1, where the structural longitudinal relationships between trust, self-transcendent aspirations, identification with the national team, pride in the country, and pride in the national team were estimated. It allowed us to test H3, H4, and H5. **Figure 2** shows the hypothesized model 2, where the structural longitudinal relationships between evaluated SWB, identification with the national team, pride in the country, and pride in the national team were estimated. It allowed us to test H6. Mplus 8.0 (Muthén and Muthén, 2017) software was used to model the longitudinal relationships between our main constructs. In accordance with standard statistical criteria (Hu and Bentler, 1999; Kline, 2015), we evaluated the model fit using the root mean square error of approximation (RMSEA), and the comparative fit index (CFI). RMSEA values <0.06 (or <0.08) and CFI >0.95 (or >0.90) will be considered as evidence of a good – or acceptable – fit.

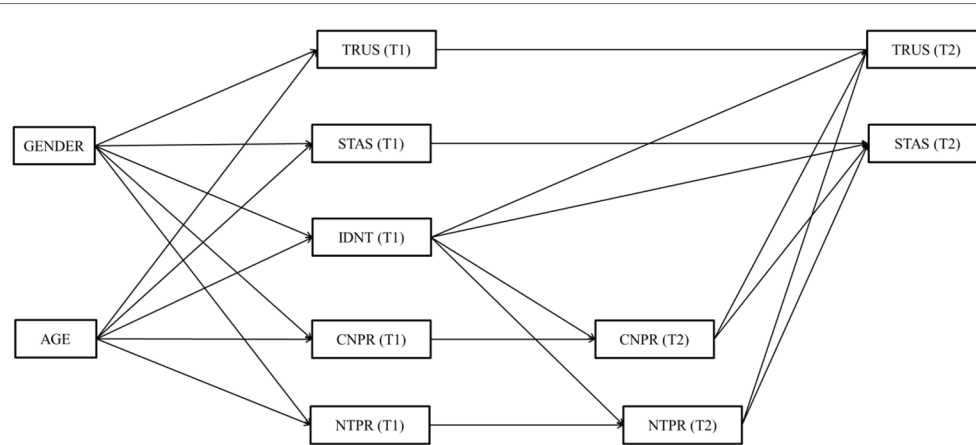


FIGURE 1 | Hypothesized Model 1. TRUS, trust; STAS, self-transcendent aspirations; IDNT, identification with the national team; CNPR, pride in the country; NTPR, pride in the national team. T1, Time 1; T2, Time 2.

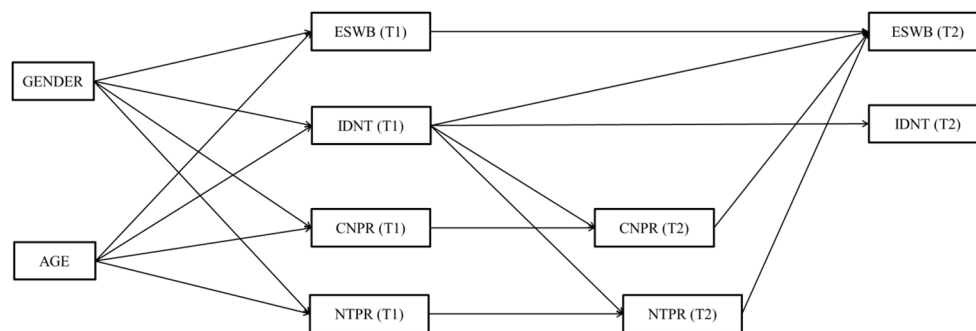


FIGURE 2 | Hypothesized Model 2. ESWB, evaluated subjective well-being; IDNT, CNPR and NTPR. T1, Time 1; T2, Time 2.

Differences Between Fans and Non-fans: Analysis of Mean Differences at T1 and T2 (H1)

The objective of this section was to compare the mean differences between soccer *fans* and *non-fans* for all our constructs, both at T1 and T2. **Table 3** shows the results of the means analysis prior to the final match of the tournament (T1). We found that, for soccer *fans*, identification with the national team, pride in the country, and pride in the national team were significantly higher than for soccer *non-fans* prior to the tournament final (T1). Mean differences ranged from large ($d = 1.45$) to medium ($d = 0.44$) in accordance with Cohen's d (Cohen, 1992). In contrast, we did not find significant differences between *fans* and *non-fans* regarding trust, self-transcendent aspirations, and evaluated SWB at T1. **Table 4** shows the results of the means analysis after the game (T2). We found that at T2, soccer *fans* showed higher identification with the national team, pride in the country, pride in the national team, trust, and evaluated SWB than *non-fans* did. Mean differences ranged from large ($d = 1.74$) to medium ($d = 0.23$). However, we did not find significant differences for self-transcendent aspirations between

fans and *non-fans* at T2. Based on the above, H1 was partially supported at T1, and mostly supported at T2.

Mean Differences in Fans From T1 to T2 (H2)

The main objective of this section was to compare the changes in all our constructs before the final match (T1) and after the final match (T2) for soccer *fans*. **Table 5** shows the main results. We found that football fans showed higher identification with the national team, pride in the national team, and evaluated SWB at T2. Mean differences ranged from medium ($d = 0.20$) to small effect sizes ($d = 0.11$). No other significant differences were found. Thus, H2 was partially supported.

Structural Models

In this section, we tested H3–H6.

Model 1 (H3–H5)

We conducted an autoregressive model, in which each dependent measure at T2 was regressed on its own measure at T1 (in order to control for stability paths), as well as on the other respective predictors at T1. We allowed all variables to covary

TABLE 3 | Means changes in core variables from fans and non-fans at T1.

| | Fans at T1 | | | Non-fans at T1 | | | M1-M2 | t | df | p | sig | d |
|---------------------------------------|------------|------|------|----------------|------|------|-------|-------|--------|-------|-----|------|
| | n1 | M1 | SD1 | n2 | M2 | SD2 | | | | | | |
| Identification with the national team | 506 | 3.58 | 0.92 | 142 | 2.17 | 1.03 | 1.41 | 14.77 | 208.61 | .0000 | *** | 1.45 |
| Pride in the country | 506 | 7.61 | 2.17 | 142 | 6.55 | 2.62 | 1.06 | 4.41 | 198.80 | .0000 | *** | 0.44 |
| Pride in the national team | 506 | 8.60 | 1.72 | 142 | 5.16 | 3.31 | 3.44 | 11.94 | 162.90 | .0000 | *** | 1.30 |
| Trust | 506 | 5.47 | 1.97 | 142 | 5.45 | 2.11 | 0.02 | 0.10 | 646.00 | .0919 | | |
| Self-transcendent aspirations | 506 | 5.88 | 1.06 | 142 | 5.69 | 1.32 | 0.19 | 1.75 | 646.00 | .0080 | | |
| Evaluated SWB | 506 | 7.97 | 1.65 | 142 | 8.01 | 1.73 | -0.04 | -0.30 | 646.00 | .0763 | | |

n, Sample; M, Mean, SD, Standard deviation; t, t de student; df, degrees of freedom; p, p-value; d, Cohen's d. T1, Time 1; T2, Time 2. SWB, subjective well-being. ***p < 0.001.

TABLE 4 | Means changes in core variables from fans and non-fans at T2.

| | Fans at T2 | | | Non-fans at T2 | | | M1-M2 | t | df | p | sig | d |
|---------------------------------------|------------|------|------|----------------|------|------|-------|-------|--------|-------|-----|------|
| | n1 | M1 | SD1 | n2 | M2 | SD2 | | | | | | |
| Identification with the national team | 338 | 3.73 | 0.87 | 91 | 2.05 | 1.04 | 1.67 | 14.02 | 125.91 | 0.000 | *** | 1.74 |
| Pride in the country | 353 | 7.79 | 2.08 | 95 | 6.29 | 2.63 | 1.50 | 5.13 | 127.20 | 0.000 | *** | 0.63 |
| Pride in the national team | 353 | 9.02 | 1.50 | 95 | 5.81 | 3.38 | 3.21 | 9.01 | 104.14 | 0.000 | *** | 1.23 |
| Trust | 329 | 5.77 | 1.93 | 89 | 5.18 | 2.07 | 0.59 | 2.51 | 416.00 | 0.012 | * | 0.29 |
| Self-transcendent aspirations | 324 | 5.89 | 1.12 | 87 | 5.97 | 1.14 | -0.08 | -0.56 | 409.00 | 0.579 | | |
| Evaluated SWB | 338 | 8.19 | 1.46 | 103 | 7.84 | 1.58 | 0.35 | 2.06 | 439.00 | 0.040 | * | 0.23 |

n, sample; M, mean; SD, standard deviation; t, t de student; df, degrees of freedom; p, p-value; d, Cohen's d. T1, Time 1; T2, Time 2. SWB, subjective well-being. *p < 0.05; ***p < 0.001.

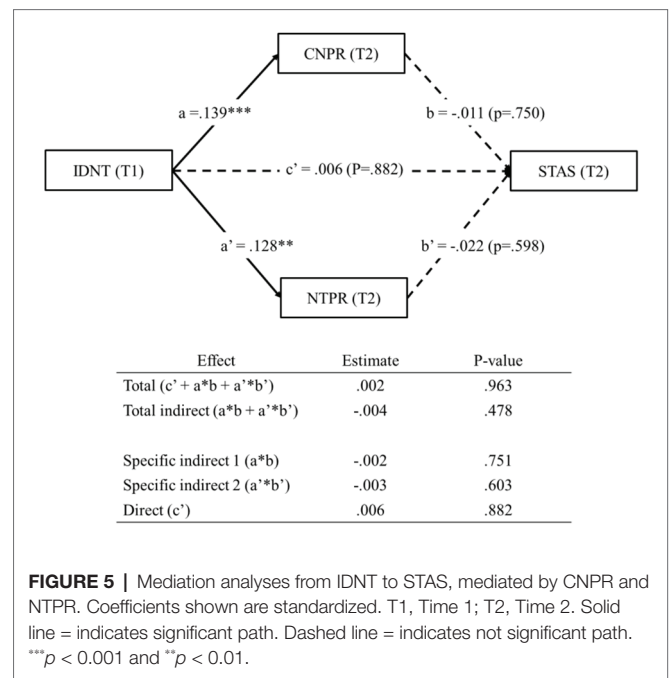
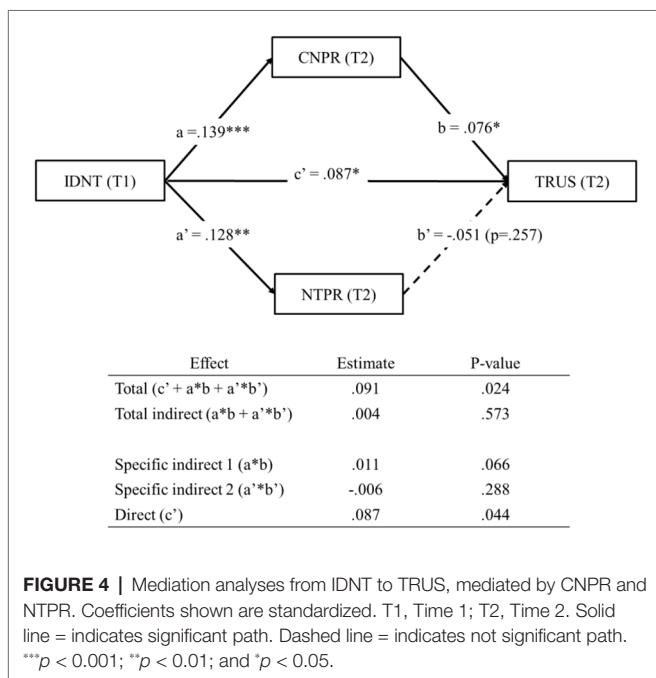
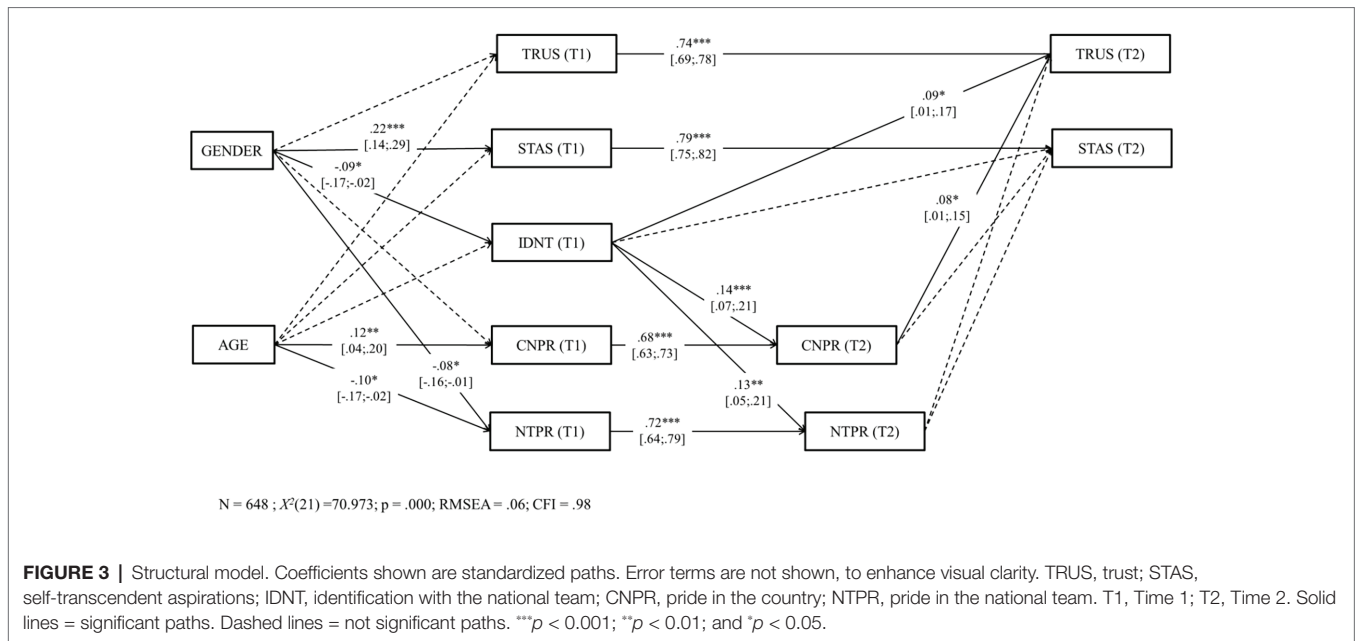
TABLE 5 | Means changes in core variables from T1 and T2 for fans.

| | n | T1 | | T2 | | t | df | p | sig | d |
|--|-----|------|------|------|------|-------|-----|-------|-----|-------|
| | | M | SD | M | SD | | | | | |
| Identification towards the national team | 316 | 3.59 | 0.91 | 3.69 | 0.88 | -3.11 | 315 | 0.002 | ** | -0.12 |
| Pride in the country | 316 | 7.59 | 2.13 | 7.73 | 2.05 | -1.48 | 315 | 0.140 | | |
| Pride in the national team | 316 | 8.59 | 1.72 | 8.95 | 1.55 | -5.16 | 315 | 0.000 | *** | -0.20 |
| Trust | 316 | 5.62 | 1.94 | 5.76 | 1.93 | -1.71 | 315 | 0.089 | | |
| Self-transcendent aspirations | 316 | 5.91 | 1.08 | 5.89 | 1.14 | 0.46 | 315 | 0.645 | | |
| Evaluated SWB | 316 | 8.04 | 1.54 | 8.21 | 1.43 | -2.89 | 315 | 0.004 | * | -0.11 |

n, sample; M, mean; SD, standard deviation; t, t de student; df, degrees of freedom; p, p-value; d, Cohen's d. T1, Time 1; T2, Time 2. SWB, subjective well-being. *p < 0.05; **p < 0.01; ***p < 0.001.

freely within each time point. Sex and age were used as control variables, following Ribeiro et al. (2011). See **Figure 3** for the results and the model. The fit of Model 1 was good, $\chi^2(21) = 70,973$, $p = 0.000$, CFI = 0.98, RMSEA = 0.06. All variables at T2 were significantly and positively predicted by their own variable at T1. H3 was fully supported. First (H3a),

we found that identification with the national team at T1 was a significant and positive predictor of pride in the country at T2 [$\beta = 0.14$, 95% CI (0.07, 0.21), $p < 0.001$]. Second (H3b), identification with the national team at T1 was a significant and positive predictor of pride in the national team at T2 [$\beta = 0.13$, 95% CI (0.05, 0.21), $p < 0.01$]. We also found that



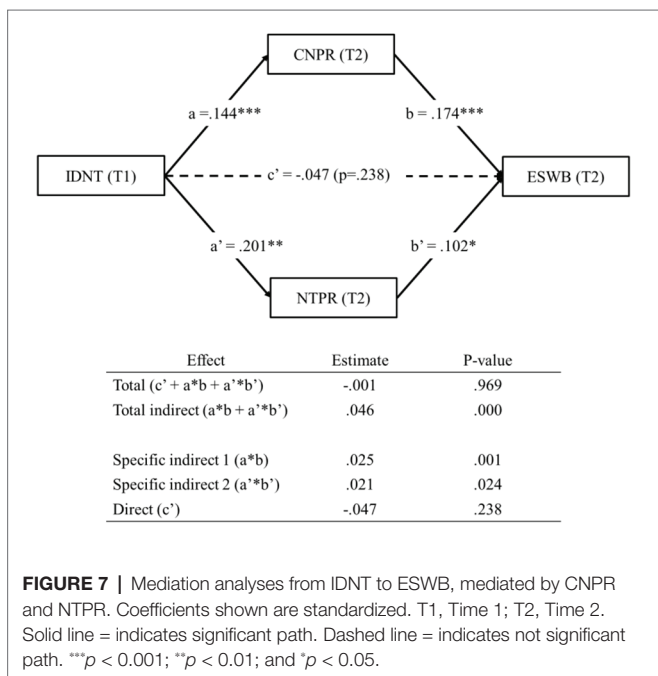
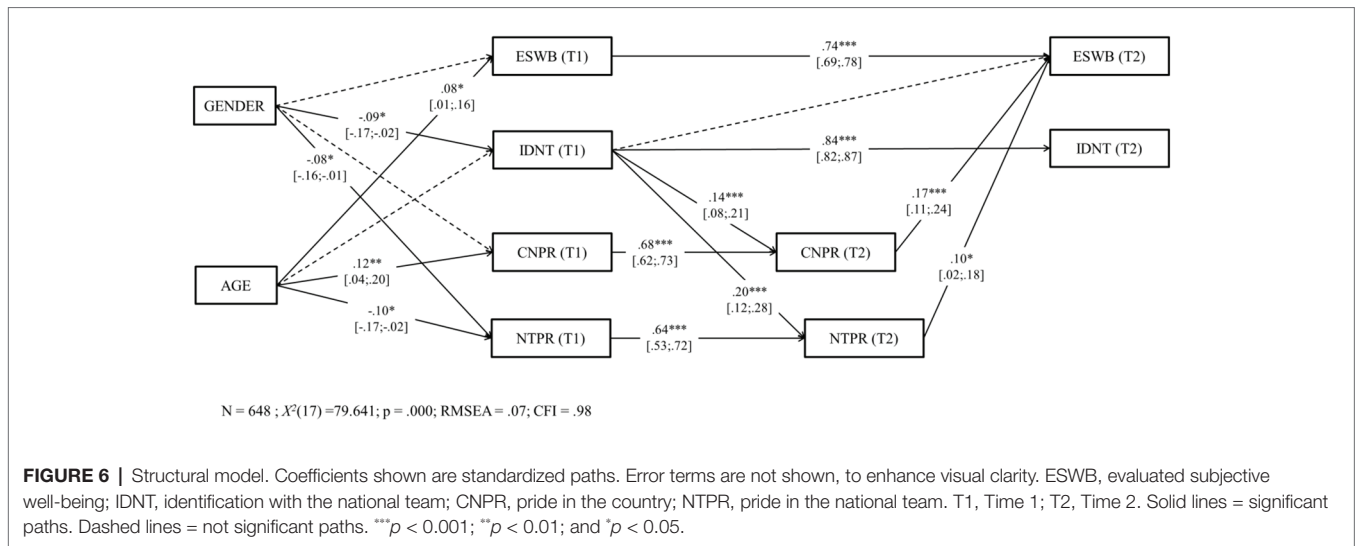
identification with the national team at T1 was a significant and positive predictor of trust at T2 [$\beta = 0.09$, 95% CI (0.01, 0.17), $p < 0.05$]. Also, pride in the country at T2 was a significant and positive predictor of trust [$\beta = 0.08$, 95% CI (0.01, 0.15), $p < 0.05$] at T2. No other significant path was found.

Multiple Mediation Analysis (H4–H5)

Figure 4 shows our multiple mediation analysis, which was aimed to test whether pride in the country and pride in the national team mediate the relationship between identification with the national team and trust (H4). The results show that the indirect effect of “identification with the national team through

pride in the country” on trust was not statistically significant ($\beta = 0.011$, $p = 0.066$; specific indirect 1 in **Figure 4**). Moreover, the indirect effect of “identification with the national team through pride in the national team” on trust was also not statistically significant ($\beta = -0.006$, $p = 0.288$; specific indirect 2 in **Figure 4**). Thus, given the above analysis, H4 was not supported.

Figure 5 shows that our multiple mediation analysis aimed to test whether pride in the country and pride in the national team mediate the relationship between identification with the national team and self-transcendent aspirations (H5). The indirect effect of identification with the national team through pride in the country on self-transcendent aspirations was not



[$\beta = 0.14$, 95% CI (0.08, 0.21), $p < 0.001$] and pride in the national team [$\beta = 0.20$, 95% CI (0.12, 0.28), $p < 0.001$] at T2.¹ Also, pride in the country at T2 was a significant and positive predictor of evaluated SWB at T2 [$\beta = 0.17$, 95% CI (0.11, 0.24), $p < 0.001$]. Additionally, pride in the national team at T2 was a significant and positive predictor of evaluated SWB at T2 [$\beta = 0.10$, 95% CI (0.02, 0.18), $p < 0.05$]. No other significant path was found.

Multiple Mediation Analysis (H6)

Figure 7 shows our multiple mediation analysis, which was aimed to test whether pride in the country and pride in the national team mediated the relationship between identification with the national team and evaluated SWB (H6). The indirect effect of “identification with the national team through pride in the country” on evaluated SWB was statistically significant ($\beta = 0.025$, $p < 0.01$; specific indirect 1 in Figure 7). Moreover, the indirect effect of “identification with the national team through pride in the national team” on evaluated SWB was also statistically significant ($\beta = 0.021$, $p < 0.05$; specific indirect 2 in Figure 7). Consequently, the direct effect of identification with the national team and evaluated SWB were not significant ($\beta = -0.047$, $p = 0.238$). Thus, H6 was fully supported.

statistically significant ($\beta = -0.002$, $p = 0.751$; specific indirect 1 in Figure 5). Moreover, the indirect effect of identification with the national team through pride in the national team on self-transcendent aspirations was also not statistically significant ($\beta = -0.003$, $p = 0.603$; specific indirect 2 in Figure 5). Thus, H5 was not supported.

Model 2 (H6)

In this section, we followed the same procedure as in Model 1. The pattern of findings and the model can be found in Figure 6. The fit of Model 2 was good, $\chi^2(17) = 79.641$, $p = 0.000$, CFI = 0.98, RMSEA = 0.07. All variables at T2 were significantly and positively predicted by their lagged variable at T1. Identification with the national team at T1 was a significant and positive predictor of both pride in the country

DISCUSSION

Major sport events – especially final matches – are collective rituals where teams compete against each other to become the champion. Therefore, the results of the teams when they reach the final can largely condition how people experience the collective ritual, that could be experience with a strong disappointment or shame if their teams lose or, conversely, with a strong explosion of pride if they win (Sullivan and Day, 2019; Unanue et al., 2020).

¹Model 1 was used to test H3. Model 2 also includes two paths that were reported in Model 1. This was due to the fact that Model 2 extended Model 1 through a more complex mediational model. However, the estimates for these common paths may differ slightly.

Supporting H1, we found differences between *fans* and those spectators who do not consider themselves fans, regarding several key variables both at T1 (before the final match) and T2 (after the final match). At T1, we found that fans showed higher scores in identification with the national team, pride in the country, and pride in the national team in comparison with non-fans at T1. These data reinforce the relevance that attention and shared interest have in these rituals, as Durkheim (1912) has already pointed out. When there is a shared interest in the ritual, people generate a greater identity with the group, which in turn favors collective effervescence (Collins, 2004; Sullivan and Day, 2019). Therefore, despite the fact that the collective ritual can also have a secular effect on those spectators who are not fans, this effect is less with respect to the fans, who show greater identification with the group and more strongly experience collective emotions such as pride. This difference between fans who like soccer and non-fans who do not, is crucial in order to understand the effects produced after the final.

Importantly, after the Chilean victory (T2), it was also found that fans remain showing higher identification with the national team and more pride in them, as well as pride in the country. Additionally, significant differences were also observed regarding trust, as well as SWB. In this way, the Chilean victory had repercussions at the social level (trust, identification, and pride) but also at the individual level (SWB).

Previous results corroborate the relevance that collective effervescence has in in-group social effects, particularly in this type of major sport events. Indeed, Collins (2004) points out that when the teams of each country compete, a group effect of identification of fans with the nation emerges (Von Scheve and Ismer, 2013). Interestingly, the social trust questions used in this study explore the level of fans' trust in everyone in the country, including immigrants. This is a relevant fact, if we consider that in the study of Germany's victory in the 2006 World Cup, racist acts were observed against ethnic minorities (Becker et al., 2007). In contrast, the results of this study of the Chilean population show an increase in trust in everyone living in the country, integrating them into the same social category. Against our prediction, no differences were observed between fans and non-fans regarding self-transcendent aspirations, either at T1 or at T2. Research has shown that major sport events have very short-term effects (Unanue et al., 2020). Therefore, one plausible explanation comes from the fact that, maybe, self-transcendent aspirations involve long-term goals, which are difficult to change in just a few days.

The Copa América Centenario is a major sport event where the teams compete to be the champion. Therefore, increases in identification with the nation are expected as a result of the competitiveness with out-groups if the country succeeds. This theorization explains why our results show the social effects on the fans' trust in the categorized people within the social group "my country," unlike what happens in other non-competitive collective rituals that favors prosocial behavior toward conspecifics and non-conspecifics. Furthermore, as previous studies related to major sport events and other types of collective rituals had pointed out, in our study, we were able to observe a clear effect on the well-being of those people

who actively participated in these events (Páez et al., 2015; Unanue et al., 2020; Vargas-Salfate et al., 2020). This goes in line with social identity researchers that highlight the effects that a shared social identity and the sense of "we-ness" have on health and well-being (Khan et al., 2015b).

Our data also support H2. As predicted, we found significant increases from T1 to T2 for Chilean fans regarding identification with the national team, pride in the national team, and evaluated SWB. However, no changes were observed regarding either national pride or the social effects. We believe that this can be explained by the fact that the identification with the national team and with the country was already very high prior to the final. As verified in the previous hypothesis, there were already significant differences between fans and non-fans prior to the final.

For fans of any country, reaching the final is already a highly relevant achievement since it implies winning the different qualifying phases prior to the final great match. According to this, the Chilean victory also had an effect on evaluated SWB, due to the effervescence of positive affect that increases with positive results and collective pride (Sullivan and Day, 2019; Unanue et al., 2020). In the classic theory of Tajfel (1979), claims have been made in relation to the fact that groups increase their self-esteem as a group, when there is an element of out-group competitiveness, which can have important effects both at the collective and individual levels. According to the above, the final match and the Chilean's victory could increase this group self-esteem, which in our study can be seen reflected in an increase in pride in the national team after the final.

H3–H6 aimed to specifically test to what extent the identity that fans experience with the national team in this type of sporting event can prospectively explain the social effects and the effects on well-being after the final. In line with what some authors suggest, we also aimed to investigate the bottom-up effect that collective emotions such as pride have when they are experienced in a ritual (Von Scheve and Salmela, 2014; Goldenberg et al., 2020); and in this specific case, as a result of the victory obtained by Chile.

First, the results show that identification with the national team (T1) prospectively and significantly predicted the two forms of collective pride we studied. These results once again reinforce the existence of a nationalization effect in this type of major sport event, where people identify strongly with their national teams, generating a shared feeling of "us" in reference to "my country." In other words, a victory can be considered an achievement not only by the national team, but by the entire country, which increases the national pride (Ismer, 2011; Sullivan and Day, 2019). The effects on well-being could also be explained by the increment of socially shared emotions and by the perceived similarity and unity that characterizes collective gatherings (Páez et al., 2015).

It is interesting to notice that our results show a significant direct effect of collective national pride (T2) on trust in the people of the country, but that effect is not significant when collective pride is related to the national team. Data regarding the mediating effect of collective pride show that there is no indirect effect between national identification and social indicators of trust and self-transcendent aspirations. Identification with

the national team (T1) predicts post-final trust (T2) despite the effect of the collective pride; however, there is no significant direct effect on self-transcendent aspirations.

Regarding the effect on the evaluated SWB, an indirect effect was observed considering both types of collective pride together and separately. That is to say that, unlike what happens with the social effects, the collective pride experienced because of victory favored the increase in the level of evaluated well-being. Therefore, these results would corroborate the hypothesis of the bottom-up effect that the experience of collective emotions has for cognitive evaluations such as, in this case, those related to one's own well-being (Von Scheve and Ismer, 2013; Delvaux et al., 2015). In this regard, it should be noted that the measure of evaluated well-being is considered a cognitive evaluation of satisfaction with life at the moment, which differs from the question regarding satisfaction with life as a whole, which implies more prospective cognitive judgments (Kahneman and Riis, 2005).

Finally, it is observed that the indirect effect through collective national pride showed the strongest effect on the evaluated well-being in comparison with collective pride in the national team. These results reinforce the idea that in this type of major sport events, when the team obtain victory in the tournament, fans and other spectators categorize this achievement as "our achievement as a country."

CONCLUSION

One of the most important collective rites today in terms of scope and massiveness is international major sport events, and an increasing number of governments have tried to host such events, assuming that these events and national sports triumphs can boost national pride, identification, social cohesion, and international prestige (Elling et al., 2014; Pawlowski et al., 2014).

In sum, this study shows that major sport events are collective rituals that have similarities with other social manifestations, but that there are key features to highlight. First, there are important differences in group identification and in the experience of collective pride between fans and non-fans. The effect that victory has, both in social effects and in the well-being experienced, will be different for people who like soccer and for those who do not.

Regarding the social effects, in our study soccer fans increased their trust in everyone in the country, including immigrants, after the victory in the final. However, there was no increase in self-transcendent aspirations, which are more universal in nature and transcend the in-group. Regarding the effects on well-being, before and after the victory, there are significant levels of collective pride in the national team but also pride in the country. This reinforces the idea that major sport events, where national teams participate, generate an important effect of nationalization through the experience of collective pride. This collective pride experienced after the victory (both about the national team and the country) mediates the relationship between identification with the national team before the final and satisfaction with life, showing a bottom-up effect of the collective affective experience on individual cognitive judgment. However, no mediating effect was observed on either social trust or self-transcendent aspirations.

We believe that our study contributes to a deeper understanding of how these major sport events can influence collective emotions. In order to build a more united society, it is important to broaden the range of emotions displayed among people and promote a greater sense of respect for others as equals. To build a social identity consistent with the values of a democratic world, different rituals are also needed that promote a feeling of belonging to a global community. From here, it is also possible to ask whether these mega-events that exacerbate competitiveness are consistent with a more inclusive and respectful society with diversity.

Finally, our study can provide some guidelines to governments when considering hosting this type of major sport event. We believe that these events should promote more inclusive values, such as tolerance, multiculturalism, and democracy. In this way, experiences of self-transcendence with feelings of unity and social fusion could be promoted. Here, for example, it might be useful to reinforce messages of inclusion and tolerance, precisely highlighting the differences between countries and the value of this multiculturalism gathered in the same place. In this line, to avoid seeing the other competing teams as a homogeneous out-group that does not consider the individual characteristics and instead reduces them to an out-group category, the personal characteristics of the players from other teams could be highlighted (their customs, family, and interests). This could help to highlight the uniqueness of people and to promote more inclusive values that can counteract the characteristic competitiveness of major sport events of this type.

Limitations and Further Research

As in almost all research, some limitations should be acknowledged. First, evaluated SWB was measured using a single item. However, the use of single item questions in well-being research has been highly accepted due to its good psychometric properties (Campbell et al., 1976; Saunders, 2011). For example, our life satisfaction question is the most extensively used question for measuring the cognitive component of SWB (Helliwell et al., 2013).

Second, we included in our models only evaluated SWB which captured a specific time frame ("at this time"). We did this because previous studies (e.g., Unanue et al., 2020) suggest that this kind of victory only affect life satisfaction in the short run. Third, regarding out-group effects, the indicator of self-transcendent aspirations allows one to assess the transcendental objectives of a universal nature, but it would be important to be able to use specific indicators related to social effects in relation to rival countries. For example, self-transcendent aspirations in relation to other countries or specifically regarding the rival country in the championship final (i.e., Argentina, in our study).

For future studies, it would be interesting to observe the role that other collective emotions could have in other types of rituals. In major sport events, there is a specific competitive context exacerbated by national symbols. That is why collective pride in the case of victory or shame in the case of defeat is so important for the effects of this type of ritual on fans (Sullivan and Day, 2019). This does not happen in other rituals, so it is important to understand the differences in the experience

of collective emotions and the effects that these have on the collective and individual levels. We believe that future research can go into greater depth on the social effects that major sport events of this type have on the out-group, measuring, for example, levels of trust or self-transcendent aspirations toward immigrants and exploring the role that pride plays here. Finally, future studies could also test hypothesized models that include the interrelationship between general trust, self-transcendent aspirations, and well-being to deepen in the theoretical and empirical connections of these variables, as this could also play an important role on the social effects of major sport events.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

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ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Research Ethics Committee of Adolfo Ibáñez University. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

The data set was collected by WU and DC. The first drafts were written by XO and DB. The data analysis was performed by MG and XO. The survey was built by WU. All the authors listed here have made a substantial, direct, and intellectual contribution to the final version of the manuscript. All of them wrote and revised the final paper and approved it for publication collaboratively.

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The Centrality of Events, Religion, Spirituality, and Subjective Well-Being in Latin American Jewish Immigrants in Israel

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This study aims to explore the impact of migration as a central event in personal identity, spirituality, and religiousness on subjective well-being (SWB). The sample was composed of 204 Latin American immigrants living in Israel, with ages ranging from 18 to 80 years ($M = 48.76$; $SD = 15.36$) across both sexes (Men = 34.8%; Women = 65.2%). The results show that, when analyzing the effects on SWB, Positive and Negative Affect, Centrality of Event, Religious Crisis, and Spiritual Transcendence present as the most relevant explanatory variables within the models. However, contrary to expectation, the present study identifies positive associations between the centrality of migration and SWB. Motivations for emigration should be explored in further studies as they could be mediating the relationship between centrality of events and SWB.

Keywords: migration, centrality of events, religion, spirituality, subjective well-being

INTRODUCTION

Since the creation of the State of Israel in 1948, about 92,000 Jews migrated from Latin America (Lesser, 2016) and well over half this group have come from Argentina (58%), with smaller groups from Brazil (11%), Uruguay (9%), Chile (6%), Mexico (4%), Colombia (3%), Venezuela (2%), and other countries (7%) (Babis, 2016). Although ideological, political, and religious reasons for *aliyah* have featured emphatically in the academic literature (Babis, 2016), Latin Americans' motivations to migrate to Israel frequently include financial and political factors, and anti-Semitism (Rein, 2010, 2013; Siebzeiner, 2010, 2016; Klor, 2016). For example, the cyclical behavior of the Argentine economy and the 2-year anti-Semitic campaign that followed the kidnapping of Eichmann contributed to a surge in the number of Argentine immigrants to Israel in 1963 (Rein, 2001) and, besides the impact of anti-Semitism on migrants' decisions, most were seriously affected by the country's economic fluctuations, recessions, and currency devaluations (Krupnik, 2020). Political persecution during military regimes in some Latin American countries, like Argentina and Chile, has also been flagged as factors that influenced this immigration during the 1970s (Babis, 2016). More recently, the 1992 attack on the Israeli Embassy in Buenos Aires, the 1994 bombing of the AMIA Jewish Community Center in Buenos Aires, and Argentina's political and economic crisis between 1999 and 2002 have also been flagged among events that

have led to Latin American emigration to Israel (Krupnik, 2011; Sznajder, 2015; Babis, 2016; Lesser, 2016).

Migration, Trauma, and Well-Being

According to the literature, when migration is triggered by preservation motivation – when physical, social, and psychological security for self and family are motivators of emigration – it can be a stressful and traumatic event, and may have a negative impact on mental health (Finklestein and Solomon, 2009; Vathi and King, 2017). Migrants from socio-politically unstable countries may have been in situations where their lives or those of friends and family members, were in danger, so they not only have to negotiate the process of adaptation to a new social environment (Babis, 2016; Hashemi et al., 2019), but also may simultaneously experience vulnerability to various psychological symptoms related to higher levels of depression, post-traumatic stress disorder (PTSD), and lower levels of subjective and psychological well-being (Foster, 2001; Kalir, 2015; Tartakovsky et al., 2017). Gal (2020) has recently explored childhood experiences of anti-Semitism during Argentina's last military dictatorship (1976–1983). She interviewed 15 participants, applying the narrative approach method and observations: the thematic textual analysis of these interviews centered on the behavioral and emotional expressions of these immigrants' past experiences in their current lives as adult immigrants in Israel. The findings revealed that participants were exposed to severe manifestations of anti-Semitism during their childhood and that their present-day experiences include a variety of negative, long-term emotional and behavioral reactions.

The Centrality of Traumatic Events in Personal Identity and Well-Being

Personal memories give meaning and structure to people's life stories and help bolster individual identity (Baerger and McAdams, 1999; Watson and Dritschel, 2015). According to Berntsen and Rubin (2006), autobiographical memory is usually slanted toward positive life events, so that people tend to remember more positive than negative events from their lives, thus supporting a more positive view of themselves. A conventional life script contains more positive than negative events, often about such culturally expected role transitions as a graduation or a wedding (Berntsen and Rubin, 2006). However, for some individuals, a negative event perceived as traumatic, highly stressful, or shocking, like the loss of a loved one or a near-death experience, could, under certain circumstances, become pivotal. People who define specific stressful or traumatic events as being central to their identities believe that these events make their lives different from those of most other people, and that people who have not experienced these types of events think differently than they do (Berntsen and Rubin, 2006; Vermeulen et al., 2019). These memory characteristics are usually associated with feelings of being detached from other individuals within their own society, with implications for psychological well-being (Watson and Dritschel, 2015). Hence, if migrants'

traumatic memories form “turning points” in the organization of experiences, they may form a central component of personal identity and be harmful to mental health (Bernstein et al., 2003; Cerniglia and Cimino, 2012; Staugaard et al., 2015; Brooks et al., 2017). Results from the systematic review by Gehrt et al. (2018) of 92 publications show that centrality of event probes aspects of autobiographical memory that are of broad relevance to clinical disorders and have specific implications for PTSD.

Religion, Spirituality, and Coping

In stressful times, some individuals tend to turn to religion for support, and although research shows that religion can be a positive force for mental health, it can also have a negative emotional impact in experiences of religious crisis, defined as conflicts related to religion, co-religionists, and relationships with God (Piedmont, 2012; Shilo et al., 2016; Abu-Raiya et al., 2020). Because of this, when triggered by Jewish identity, religion, and spirituality could be related to positive and negative coping mechanisms for post-migration stressors (Koenig et al., 2012; Rosmarin et al., 2017; Pirutinsky et al., 2019). Among other positive and negative issues, while religious affiliation and practice can provide social support for immigrants, they may also prompt feelings of rejection by the religious community when people are unable to live according to strict moral and religious standards (Piedmont, 2009; Dein et al., 2012; Weber and Pargament, 2014; Kim et al., 2020).

Regarding spirituality, while for some authors it may provide a strong sense of connectedness with others, which could help in coping with traumatic events (Braganza and Piedmont, 2015; Sigamoney, 2018; Khurshed and Shahnawaz, 2020), other authors argue that spiritual people without a religious framework are more vulnerable to developing mental disorders (King et al., 2013). Among other positive and negative issues, while spirituality could give people meaning and a sense of purpose (Piedmont, 2012; Le et al., 2019), harmful spirituality includes rigidity of belief, coercion, and the alienation of spirituality groups or cult members from outside supports (Galen, 2015; Kao et al., 2020).

The Present Study

This study aims to explore relationships between centrality of event (migration) in personal identity, religion, spirituality, and subjective well-being (SWB). We postulated that, being central to identities, the experience of migration, spirituality, and religion, are associated with well-being.

MATERIALS AND METHODS

Participants

The sample was composed of 204 Latin American immigrants living in Israel, with ages ranging from 18 to 80 years ($M = 48.76$; $SD = 15.36$), of both sexes (Men = 34.8%; Women = 65.2%). Participants were born in Argentina (54.3%), Bolivia (0.5%), Chile (7.1%), Colombia (17.3%), Costa Rica (1.5%), Cuba

(0.5%), Ecuador (1.5%), Guatemala (0.5%), México (2%), Perú (4.6%), República Dominicana (0.5%), Uruguay (5.6%), and Venezuela (4.1%), all countries sharing a language and a broad social and cultural identity (Vergara et al., 2010; Campos-Winter, 2018). Migration dates ranged from 1963 to 2019 ($M = 12.16$ years; $SD = 11.62$ years).

Measures

Brief Centrality of Event Scale

The Brief Centrality of Event Scale (CES; Berntsen and Rubin, 2006) is a seven-item self-administered questionnaire that gauges how central an event is to a person's identity and life-story (e.g., "I feel that this event has become part of my identity"/"Siento que este evento se ha transformado en parte de mi identidad"). In this study, it was specified that participants should focus on the event of migration to Israel. Responses are given *via* a Likert-type scale with five anchors ranging from 1 = "totally disagree" to 5 = "totally agree." For the purposes of the present study, a version was validated and adapted to the Argentine context by Simkin et al. (2017), which reported adequate internal consistency ($\alpha = 0.86$) and fit statistics [CFI = 0.99, RMSEA = 0.6, and CI (0.03, 0.08)]. In the current study sample, CES has also shown adequate internal consistency ($\omega = 0.90$) and fit statistics [CFI = 0.99, RMSEA = 0.05, and CI (0.0, 0.1)].

Affect Balance Scale

The Affect Balance Scale (ABS; Warr et al., 1983) is an 18-item self-administered questionnaire measuring both positive (e.g., "Have you felt very happy?"/"¿Te has sentido muy alegre?") and negative (e.g., "Have you felt like crying?"/"¿Te has sentido con ganas de llorar?") affective experiences. Responses are given *via* a Likert-type scale with five anchors ranging from 1 = "never" to 5 = "very frequently." For the purposes of the present study, a version was validated and adapted to the Argentine context by Simkin et al. (2016), which reported adequate internal consistency for both positive ($\alpha = 0.77$) and negative affect ($\alpha = 0.86$), and fit statistics [CFI = 0.94, RMSEA = 0.5, and CI (0.04, 0.06)]. In the current sample, ABS has also shown adequate internal consistency for both positive ($\omega = 0.90$) and negative affect ($\omega = 0.81$), and fit statistics [CFI = 0.96, RMSEA = 0.07, and CI (0.06, 0.08)].

Satisfaction With Life Scale

Satisfaction With Life Scale (SWLS; Diener et al., 1985) is a five-item self-administered questionnaire that measures satisfaction with life (e.g., "The conditions of my life are excellent"/"Las condiciones de mi vida son excelentes"). Responses are given *via* a Likert-type scale with seven anchors ranging from 1 = "strongly disagree" to 7 = "strongly agree." For the purposes of the present study, the version validated and adapted to the Argentine context by Moyano et al. (2013) was used, which reported adequate internal consistency ($\alpha = 0.75$). In the current sample, SWLS also shown adequate internal consistency ($\omega = 0.90$) and fit statistics [CFI = 0.99, RMSEA = 0.05, and CI (0.0, 0.1)].

Assessment of Spirituality and Religious Sentiments Scale

Assessment of Spirituality and Religious Sentiments Scale (ASPIRES-SF; Piedmont, 2010) is a 35-item self-report questionnaire that measures Religious Sentiments and Spiritual Transcendence. On the one hand, Religious Sentiment consists of two dimensions: Religious Involvement (e.g., "How often do you pray?"/"¿Cuán seguido reza?") and Religious Crisis (e.g., "I feel that God is punishing me"/"Siento que Dios me está castigando"). Spiritual Transcendence, on the other, includes three further dimensions: Prayer Fulfillment (e.g., "I find inner strength and/or peace from my prayers or meditations"/"Encuentro fuerza interior y/o paz en mis rezos y/o meditaciones"), Universality (e.g., "I feel that on a higher level all of us share a common bond"/"Siento que en un nivel superior todos compartimos un vínculo común"), and connectedness ("Although they are dead, memories, and thoughts of some of my relatives continue to influence my current life"/"Aunque ya fallecidos, recuerdos y pensamientos de algunos de mis parientes continúan influenciando mi vida actual"). The version used in this study was adapted to the Argentine context by Simkin (2017), with reported adequate internal consistency for Religious Involvement ($\alpha = 0.84$), Religious Crisis ($\alpha = 0.68$), Prayer Fulfillment ($\alpha = 0.91$), Universality ($\alpha = 0.76$), and Connectedness ($\alpha = 0.57$), and adequate fit statistics reported both for Religious Sentiments [CFI = 0.99, RMSEA = 0.037, and CI (0.000, 0.060)] and Spiritual Transcendence [CFI = 0.95, RMSEA = 0.069, and CI (0.062, 0.076)]. In the current study sample, ASPIRES also shown adequate internal consistency for Religious Involvement ($\omega = 0.95$), Religious Crisis ($\omega = 0.91$), Prayer Fulfillment ($\omega = 0.83$), Universality ($\omega = 0.84$), and Connectedness ($\omega = 0.64$), and adequate fit statistics both for Religious Sentiments [CFI = 0.99, RMSEA = 0.007, CI (0.004, 0.009)] and Spiritual Transcendence [CFI = 0.97, RMSEA = 0.007, and CI (0.006, 0.008)].

Procedure

A non-probability sampling was carried out to select the cases. Participants were invited to collaborate voluntarily, and their consent was obtained. It was explained to the respondents that the data gathered from the study would be used exclusively for scientific purposes according to the code of ethics established by the National Council for Scientific and Technical Research (CONICET; Res. D No. 2857/06), and under Argentina's National Law 25,326.

Data Analysis

Statistical analyses were performed using IBM SPSS Statistics 25 (Armonk, NY, United States) and EQS 6.4 (Byrne, 1994; Bentler, 2006) for Windows. Goodness of fit for the regression models considered R as an indicator of the effect size and R^2 adjusted as an indicator of total variance (Freiberg and Fernández Liporace, 2015; Darlington and Hayes, 2016; Schroeder et al., 2016). The models' assumptions of

multicollinearity, homoscedasticity of the residuals, and non-autocorrelation were tested to confirm its goodness of fit (Freiberg and Fernández Liporace, 2015). The Durbin-Watson statistic was used to examine the non-autocorrelation – with possible values ranging from 0 to 4, assuming the independence of the residuals, with values in this study lying between 1.30 and 1.75. Likewise, condition index and variance inflation factor (VIF) were used in the diagnosis of multicollinearity, the former being below 30 and the latter below 10.

RESULTS

A correlational analysis was conducted to examine the associations between the variables under study (Cohen et al., 1983; Curtis et al., 2016). The results shown in **Table 1** suggest Centrality of Events is associated with Positive Affect, Satisfaction with Life, Religious Involvement, Religious Crisis, Prayer Fulfillment, Universality, and Spiritual Transcendence (**Table 1**).

Three regression models were subsequently tested, including Positive Affect, Negative Affect, and Satisfaction with Life as dependent variables, and Centrality of Event, Spiritual Transcendence, and Religious Crisis as independent variables.

A stepwise regression analysis with backward method was used to address the research questions. Three models were obtained, in which Negative Affect was predicted by Religious Crisis, Positive Affect was predicted by Centrality of Events and Spiritual Transcendence, and Satisfaction with Life was predicted by Centrality of Event and Religious Crisis (Berlanga-Silvente and Vilà-Baños, 2014; Hayes and Rockwood, 2017) (**Table 2**).

As can be seen in **Tables 2** and **3**, the model's goodness of fit has been verified (**Table 3**).

The results show that, when analyzing the effects on SWB, Positive Affect, and Negative Affect, and Centrality of Event, Religious Crisis, and Spiritual Transcendence appear as the most relevant explanatory variables in the models (**Table 4**).

Finally, the relations between Centrality of Events, Religion, Spirituality, and SWB in Latin American Jewish Immigrants in Israel were tested using structural equation modeling, evaluated from the CFA model fitting solution by the Standardized Root

Mean Squared Residual (SRMR), as it is suggested for continuum variables (Shi et al., 2018; Pavlov et al., 2020). The results indicated a good model fit (**Table 5**).

Figure 1 represents the path model and the different loadings among each latent construct.

Concordant with the regression analyses, Centrality of Event, Religious Crisis, and Spiritual Transcendence appears as the most relevant variables explaining SWB – both Positive and Negative Affects.

DISCUSSION

This study aimed to explore the impact of migration as a central event in Personal Identity, Spirituality, and Religiousness on SWB. First, our research contributes both to the literature on psychological studies of migration and the psychology of religion.

For psychological research on migration, Centrality of Event plays a significant role in a deeper understanding of the relevance of migration experiences in immigrants' personal identities. This could partially explain the associations between migration and well-being. Indeed, more research on the relationship between migration and SWB is needed, given that most studies in the field focus on anxiety, depression, or PTSD, as the deficit model that has dominated psychology for decades (Cobb et al., 2019). It is therefore necessary to consider the positive effects of migration on individuals, which can contribute to the development of different facets of identity and psychological well-being. Migration can contribute to personal growth and the achievement of new life opportunities. If the early stages can lead to high levels of anxiety about uncertainty at the same time, they can promote new life projects (Bobowik et al., 2015).

For the psychology of religion – and especially for lines of research focusing on the relationship between religion and SWB (Demir, 2019) – migration to Israel is also a relevant topic, both because of the role of spiritual and religious beliefs linked to the process of migration to Israel, and the stressful conditions in migration processes that could be harmful to well-being.

TABLE 1 | Correlations between variables of interest.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------|----------|----------|----------|----------|----------|----------|---------|---------|---------|----|
| 1. CES | 1 | | | | | | | | | |
| 2. NA | -0.120 | 1 | | | | | | | | |
| 3. PA | 0.533** | -0.373** | 1 | | | | | | | |
| 4. SWL | -0.479** | -0.475** | 0.699** | 1 | | | | | | |
| 5. RI | 0.240** | 0.008 | 0.186** | 0.138* | 1 | | | | | |
| 6. RC | -0.234** | 0.284** | -0.211** | -0.253** | -0.312** | 1 | | | | |
| 7. C | 0.115 | 0.062 | 0.134 | 0.076 | 0.143* | -0.019 | 1 | | | |
| 8. PF | 0.264** | -0.027 | 0.227** | 0.163* | 0.847** | -0.353** | 0.061 | 1 | | |
| 9. U | 0.295** | -0.133 | 0.339** | 0.217** | 0.562** | -0.379** | 0.296** | 0.657** | 1 | |
| 10. ST | 0.306** | -0.023 | 0.300** | 0.204** | 0.787** | -0.350** | 0.321** | 0.915** | 0.804** | 1 |

NA, Negative Affect; PA, Positive Affect; SWL, Satisfaction with Life; CES, Centrality Event Scale; ST, Spiritual Transcendence; RI, Religious Involvement; RC, Religious Crisis; PF, Prayer Fulfillment; C, Connectedness; U, Universality.

* $p < 0.05$; ** $p < 0.01$.

Centrality of Event and Subjective Well-Being

The results show migration to Israel to be a central event in the identities of Jewish Latin American immigrants. However, contrary to expectations, the present study has identified positive associations between the centrality of migration and SWB. According to the literature on the latter, traumatic and strongly negative events are not as frequently experienced as positively or neutrally perceived events, except for those who experience extremely negative life circumstances (Diener and Diener, 1996; Diener et al., 2018). In this light, “positive” and “negative” perceptions of migration to Israel as a central event may be mediated by motivations for emigration. As mentioned above, ideological and religious reasons have been mentioned among Latin Americans’ motivations for emigration to Israel alongside anti-Semitism and financial and political factors (Rein, 2010, 2013; Siebzechner, 2010, 2016; Klor, 2016). Similar motivations were identified by Tartakovsky and Schwartz (2001) as they developed the Motivation for Emigration Scale, focused on Russian Migrants to Israel. Hence, as there are no precedents for similar measures among Latin American migrants, new scales are needed to advance along this line

of research. Furthermore, for a deeper understanding of motivations behind emigration, it is also important to explore not only motivations behind emigrations but also the historical events that have triggered them, specifically for those who emigrate because of anti-Semitism or for political or economic reasons.

An understanding of Latin Americans’ motivations for emigration could go some way to explaining the relationship between the centrality of migration and SWB, but there are other factors not yet properly studied within social psychology that are also relevant to this line of research. As Babis (2016) has pointed out, post-migration stressors for Latin Americans are strong and go beyond language barriers: the *integration/isolation* process among immigrants is relevant to the community as a whole. Even though acculturation has been widely studied among immigrants in Israel, most of the research has focused on Russians (Roccas et al., 2000; Tartakovsky, 2012) and Africans (Nakash et al., 2015, 2016). Acculturation is particularly relevant in Israel, as intergroup conflict is high in that country (Ditlmann and Samii, 2016; Dugas et al., 2018). Exploring Latin Americans’ perceptions of intergroup conflict in Israel could also be relevant to understanding the relationships between centrality of events, acculturation, and SWB.

Finally, as Argentines are the largest groups among Latin Americans, most research focuses on them. Future studies should focus on identifying the singularities of migratory experiences according to the specificities of each country.

TABLE 2 | Goodness of fit for regression models.

| | <i>R</i> | <i>R</i> ² | <i>R</i> ² adjusted | <i>SE</i> | Durbin-Watson |
|-----|----------|-----------------------|-----------------------------------|-----------|---------------|
| NA | 0.284 | 0.081 | 0.076 | 6.96 | 1.805 |
| PA | 0.552 | 0.305 | 0.298 | 6.01 | 1.839 |
| SWL | 0.500 | 0.250 | 0.243 | 4.07 | 2.076 |

NA, Negative Affect; PA, Positive Affect; SWL, Satisfaction with Life.

TABLE 3 | Condition index – multicollinearity.

| | | Condition index | VIF |
|-----|-----|-----------------|-------|
| NA | RC | 5.102 | 1.000 |
| PA | CES | 8.916 | 1.103 |
| | ST | 13.295 | 1.103 |
| SWL | CES | 4.949 | 1.058 |
| | RC | 14.672 | 1.058 |

NA, Negative Affect; PA, Positive Affect; SWL, Satisfaction with Life; CES, Centrality Event Scale; RC, Religious Crisis; ST, Spiritual Transcendence.

Religion, Spirituality, and Subjective Well-Being

As expected, where religion and spirituality are concerned, Religious Crisis and Spiritual Transcendence played an important role in explaining Satisfaction with Life, Positive Affect, and Negative Affect (Piedmont, 2012; Piedmont and Friedman, 2012).

TABLE 5 | Goodness-of-fit.

| | <i>X</i> ² _(df) | <i>CFI</i> | <i>IFI</i> | <i>NFI</i> | <i>GFI</i> | <i>SRMR</i> |
|-------|---------------------------------------|------------|------------|------------|------------|-------------|
| Model | 19.197 ₍₄₎ | 0.965 | 0.95 | 0.94 | 0.97 | 0.046 |

CFI, comparative fit index; *IFI*, incremental fit index; *NFI*, (Non) normed fit index; *GFI*, goodness of fit index; *SRMR*, standardized root mean squared residual.

TABLE 4 | Regression analysis for Negative Affect, Positive Affect, and Satisfaction with Life.

| | | <i>B</i> | <i>IC 95%</i> | <i>SE</i> | <i>Beta</i> | <i>t</i> | <i>Sig.</i> |
|-----|------------|----------|------------------|-----------|-------------|----------|-------------|
| NA | (constant) | 20.334 | [17.784; 22.885] | 1.294 | | 15.720 | 0.000 |
| | RC | 0.722 | [0.384; 1.061] | 0.172 | 0.284 | 4.210 | 0.000 |
| PA | (constant) | 10.622 | [5.650; 15.593] | 2.521 | | 4.213 | 0.000 |
| | CES | 0.635 | [0.476; 0.794] | 0.080 | 0.487 | 7.890 | 0.000 |
| | ST | 0.067 | [0.013; 0.121] | 0.027 | 0.151 | 2.439 | 0.016 |
| SWL | (constant) | 8.065 | [4.300; 11.829] | 1.909 | | 4.224 | 0.000 |
| | CES | 0.378 | [0.273; 0.484] | 0.053 | 0.444 | 7.070 | 0.000 |
| | RC | -0.245 | [-0.448; -0.041] | 0.103 | -0.149 | -2.369 | 0.019 |

NA, Negative Affect; PA, Positive Affect; SWL, Satisfaction with Life; CES, Centrality Event Scale; ST, Spiritual Transcendence; RC, Religious Crisis.

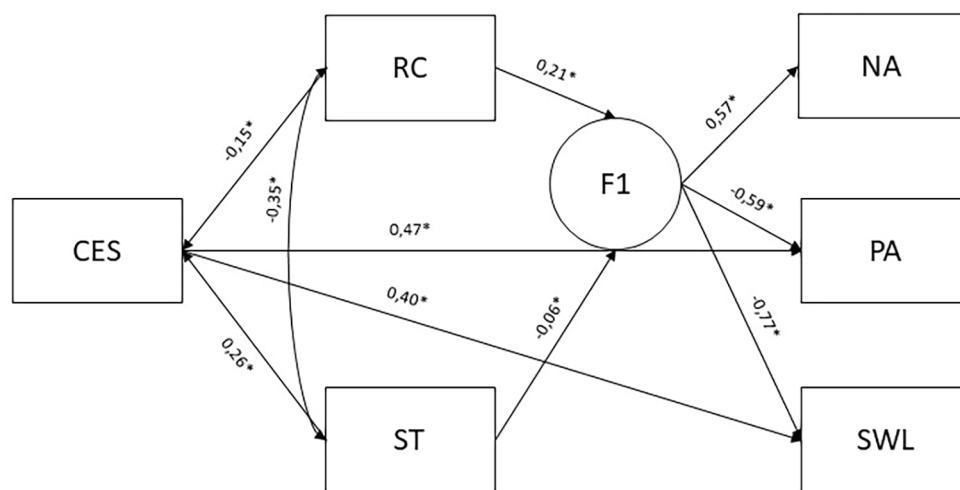


FIGURE 1 | Structural model of Spiritual Transcendence, Religious Crisis, and Centrality of Event predicting Subjective Well-Being, with standardized estimates. NA, Negative Affect; PA, Positive Affect; SWL, Satisfaction with Life; CES, Centrality Event Scale; ST, Spiritual Transcendence; RC, Religious Crisis.

Because of the study’s small sample size (Kline, 2016; Goodboy and Kline, 2017), future studies should explore how motivations for emigration, centrality of events, spirituality, religion, and well-being interact with each other within larger samples (N > 400; Kline, 2016; Medrano and Muñoz-Navarro, 2017).

CONCLUSION

Migration to Israel could be considered a Central Event in Migrants’ Identities, having either a positive or negative impact on well-being. Future research is needed to elucidate what variables might be mediating this association. First, this study has only focused on SWB, but “negative” mental health variables such as depression, anxiety, and PTSD should be explored as much as “positive” mental health variables such as Psychological and SWB (Cobb et al., 2019). Second, motivations for emigration should be explored as they may be mediating the relationship between centrality of events and mental health. Third, other variables should be considered within this model. Acculturation and perception of intergroup conflict may be two of the most important related variables. Fourth, religion and spirituality play a specific role in the specific case of migration to Israel and await further assessment. Last, as most studies among Latin Americans focus on Argentines, more research is needed to explore other countries’ migration singularities.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Universidad de Buenos Aires, ethics committee. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

HS devised the structure, analyzed the literature, ran the data analysis, and wrote the manuscript.

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Fear of Loneliness: Development and Validation of a Brief Scale

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This research aims to develop and validate a Spanish version of The Brief Scale of Fear of Loneliness (BSFL). Participants were 1385 youth and adults, 347 from a pilot sample and 1032 from the final version, whose ages were in the range of 18 to 40 years. Two instruments, the Rosenberg Self-Esteem Scale and the De Jong Gierveld Loneliness Scale, in their Peruvian versions, were used to support the relationship with other variables. Results show that the BSFL should be interpreted as a one-dimensional measure, the same ones that were examined at the exploratory level and verified at the confirmatory moment (RMSEA < 0.08, CFI > 0.95), and its reliability is considered good ($\omega > 0.88$). In addition, the quality of the item content was reviewed by six expert judges for relevance and validity, with Aiken's V being greater than 0.70. It is concluded that the BSFL is a valid and precise short instrument that can be used in future research studies.

Keywords: loneliness, solitude, belonging, instrument validation, isolation, fear

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INTRODUCTION

Loneliness

It has been known for a long time that 71% of people between 18 and 24 years old report feeling lonely sometimes or often, and between 25 and 34 years old the figure drops slightly to 69% (Parlee, 1979). Recent figures reveal 17% of people between 18 to 24 years old and 25 to 35 years old said they felt alone quite often and very often, respectively, also experiencing anxiety and concern about feeling alone (YOUNGOV, 2016). Likewise, according to a prevalence study carried out in the United Kingdom, it is known that women under 25 years of age present greater amounts of loneliness than men, with 9 and 6% respectively, claiming to always feel alone (Victor and Yang, 2012). Similar results are reported in university students in Amsterdam, where the prevalence of loneliness reaches 23% (Pijpers, 2017).

Loneliness is characterized by a lack of satisfaction in interpersonal relationships (Andersson, 1993), which arises when support and social networks are impaired (Perlman and Peplau, 1981), and the individual experiences feelings of isolation, not belonging, incomprehension, rejection (Rook, 1984), or lack of company (Francis, 1976). Furthermore, loneliness includes deficiencies, disagreements, isolation, and psychological pain manifested in sadness, boredom, and a feeling of emptiness (Stein and Tuval-Mashiach, 2015).

Loneliness has been linked to many other variables. For example, in the biological field, it has been observed that loneliness has been related to different variables such as blood pressure, cortisol levels, hypersensitivity to stressors and immunosuppression (Brown et al., 2017, 2019). From a clinical point of view, there is evidence of a relationship with suicidal ideation and behavior (Chang et al., 2017; Calati et al., 2018), depressive symptoms, and social anxiety (Lasgaard et al., 2011;

Danneel et al., 2019). Regarding family related factors, a relationship has been found with the interaction with parents in their positive communication and time together (Majorano et al., 2017), with family cohesion and adaptability (Fujimori et al., 2017), and with stress in the academic context (Stoliker and Lafreniere, 2015). Finally, in the intra and interpersonal dimensions, it has been associated with shyness (Bian and Leung, 2015; Muyan et al., 2018), avoidance (Demirli and Demir, 2014), anxiety to speak (Odaci and Kalkan, 2010), and self-esteem (Chiao et al., 2019). On the other hand, loneliness has a mediating effect on the relationship between excessive use of social networks and real-life social interaction in university students (Ndasauka et al., 2016), as well as on the relationship between social skills and depressive and anxious symptoms (Moeller and Seehuus, 2019). Furthermore, it is known that loneliness is greater in men than in women (Wiseman et al., 1995), however, with small effect sizes (Maes et al., 2019).

Despite the fact that loneliness has been studied in relation to many variables from various fields, there are no studies that explore fear of the experience of loneliness *per se*, which has been considered for a time as painful and acute in young and adult population, more than in other ages (Rokach, 2000).

Fear of Loneliness

Fear is an unpleasant experience that implies a degree of awareness of the individual (Uribe et al., 2007), with its etymology being associated with the suspicion of future danger or harm (Real Academia and Española, 2014). Despite this, the term fear can be understood as an attitude toward something (Uribe et al., 2007; Simkin and Quintero, 2017) that triggers behaviors of fight, escape, or avoidance (Bay and Algase, 1999) to the topic, situation or place (Wong et al., 1997), that are products of the beliefs that the individual experiences and generates, and have an impact in their daily life (Al-Namankany et al., 2012). Nonetheless, the terms fear and anxiety are used interchangeably (Tomás-Sábado, 2016), although the latter has a more cognitive component (Whitley, 1992; Catherall, 2003), while the first one is more behavioral in nature (Blanchard and Blanchard, 1990a,b). Despite this, there is a reciprocal interaction between them (Bandura, 1977).

In this sense, the Fear of Loneliness (FL) can be understood as an attitude of avoidance accompanied by worrying thoughts and feelings of abandonment that the individual experiences when she/he is alone. This definition can be used to interpret the scores on the scale.

The notion of studying the responses of fear toward a specific object is not new since it is known that there are scales that measure fear of negative evaluation (Gallego et al., 2007; Zubeidat et al., 2007), of death (Tomás-Sábado et al., 2007; López and Calle, 2008), flying (Dongil and Wood, 2009), and even fear of dental treatment (Armfield, 2010; Al-Namankany et al., 2012; Ibrahim et al., 2017). Therefore, it is not strange to conceptualize loneliness as a specific fear.

The problem of loneliness takes on particular relevance in the current context, considering aspects such as the lack of sense of belonging linked to the increasing levels of individualism (Santos et al., 2017). In addition, the phenomenon of sustained growth

in the use of social networks must also be considered, which in some cases is associated with the feeling of loneliness (Song et al., 2014). In this sense, and considering that the feeling of loneliness has been shown to be associated with self-esteem in many different populations (Creemers et al., 2012; Domagala-Krecioch and Majerek, 2013; Kong and You, 2013; Tian, 2016), it could be thought that the fear of loneliness today plays a key role in people's well-being, as well as in the constitution of their identities. Due to the above, it is necessary to design and validate instruments that measure this particular construct.

The Present Research

There are various instruments that have measured loneliness since the 1970s (Russell et al., 1978), 80s (Russell et al., 1980; De Jong-Gierveld and Kamphuls, 1985), 90s (Russell, 1996; Cramer and Barry, 1999) as well as periods after 2000 (Hughes et al., 2004; Maes et al., 2015). Despite this, there is no instrument that measures FL; with the closest being the Fear Survey Schedule (Rubin et al., 1969). Although these authors developed a scale with 122 items, five of which are related to fear of isolation or loneliness, they do so in a general way, without considering criteria that allow addressing the phenomenon in a more specific and complete way. In this context, the purpose of the study is to develop and validate a Brief Scale of FL in youth and adults, considering the content-based evidence through expert judgment, testing the internal structure of the scale through exploratory and confirmatory analysis, the calculation of the reliability using the omega coefficient and the establishment of the invariance according to sex.

MATERIALS AND METHODS

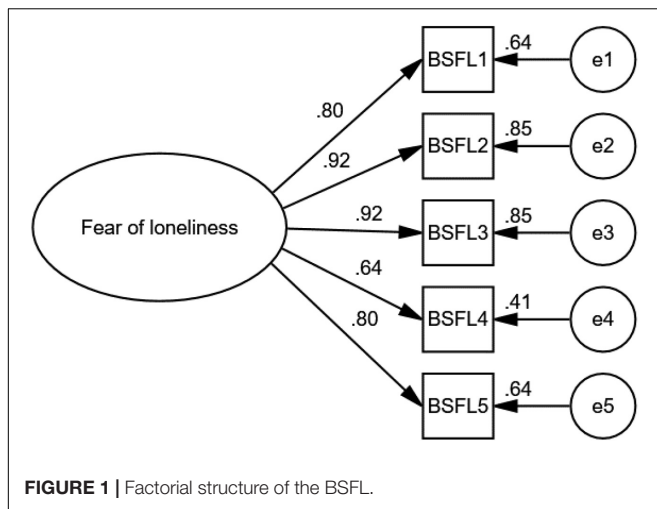
Participants

Participants were 1385 youth and adults split in two groups. The first one was made up of 347 people between 18 and 40 years old (Average = 23.26; *SD* = 6.51), with 204 being women and 143 men. With these participants the EFA was performed. The participants were university students from the faculties of Health Sciences (49.86%), Business (20.75%), Engineering (12.97%), Architecture and Design (6.63%) and Rights and Political Sciences (4.03%), which were in academic cycles from 1st to 10th. The second group consisted of 1,032, whose ages also ranged from 18 to 40 years (Mean = 21.09; *SD* = 3.38), with 795 being women and 237 men, and whose responses were used for the CFA. It is worth mentioning that these young people and adults were university students. From the faculties of Health Sciences (89.44%), Engineering (3.88%), Administration (2.62%), Architecture and Design (1.55%), Business (1.16%), Law and political science (1.07%), and Communications (0.3%). All the participants were people residing in the northern area of Metropolitan Lima.

Instruments

The Brief Scale of Fear of Loneliness (BSFL)

It is made up of five items belonging to a single factor. Possible responses indicated frequency, where 0 = Never; 1 = Rarely;



2 = Sometimes; 3 = Almost always; and 4 = Always. Psychometric properties are the object of the present study.

The Rosenberg Self-Esteem Scale ([RSE]; Rosenberg, 1965)

It made up of 10 items, distributed into five negative or inverse items, and five positive items, with a Likert scale ranging from 1 to 4. The psychometric properties of the RSE in Peru were adequate (Ventura-León et al., 2018).

The De Jong Gierveld Loneliness Scale ([DJGLS]; De Jong-Gierveld and Kamphuls, 1985)

It is a scale made up of 11 items with a scale ranging from 0 to 3. However, the answers must be dichotomized, so that the DJGLS reaches a maximum score of 11 points. Psychometric properties in Peru were analyzed by Ventura-León and Caycho (2017).

BSFL Construction Procedures

For the construction of the BSFL, the recommendations of the International Test Commission were followed (International Test Commission [ITC], 2018). Initially, different databases (Redalyc, Scielo, Scopus, Proquest, Google Scholar, Taylor and Francis, Sage) were reviewed in order to search for different theories where FL is addressed. First, the variable was operationalized by means of a specification table where the definition was set and five items emerged. Second, the five items were submitted to the scrutiny of six expert judges who rated the relevance and validity of the items on a scale of 0 (not at all) to 3 (totally); furthermore, the responses were quantified using Aiken's V (Ventura-León, 2019). Third, the BSFL was applied to a pilot sample of 347 people who signed an informed consent and then answered the scale; their answers were subjected to an exploratory factor analysis to verify the quality of the items and if they belong in the factor (Ferrando and Lorenzo-Seva, 2014). Finally, the scale was applied to 1,032 participants, whose responses were subjected to confirmatory factor analysis and other statistical techniques for information processing. In this final application, two tests validated in Peru are incorporated. One, about Loneliness to examine the incremental validity, because it is known that

in the face of new measures it is necessary to evaluate its functioning with an available alternative that measures the same or something similar (Hunsley and Meyer, 2003) and a self-esteem scale also validated in Peruvian context to examine the relationship with another variable and provide evidence of the predictive capacity of the BSFL (American Educational Research Association [AERA] et al., 2014).

Analysis of Data

Statistical analyses were performed with two open access programs: FACTOR version 10.9 for exploratory factor analysis (EFA) and Rstudio version using the 'lavaan' library (Rosseel et al., 2018). In the first stage, a preliminary analysis of the items was carried out considering kurtosis and asymmetry, where values greater than ± 1.5 would reflect a distortion of normality (Ferrando and Anguiano-Carrasco, 2010).

In the second stage, the dimensionality analysis of the scale was carried out in two modalities: (a) EFA, for which it was necessary to review the sample adequacy measures (KMO and Bartlett's sphericity test). The estimation method was robust unweighted least squares (RULS) with a matrix of polychoric correlations by the ordinality of the data, and for the determination of the number of factors, parallel analysis was used, a simulation technique that compares random values with empirical values (Timmerman and Lorenzo-Seva, 2011); (b) confirmatory factor analysis (CFA) where the following adjustment indices were used (Hu and Bentler, 1999): χ^2 , Root Mean Square Error of Approximation (RMSEA < 0.06), Weighted Root Mean Square Root (WRMR < 1), Comparative Adjustment Index (CFI > 0.95) and Tucker-Lewis Index (TLI > 0.95). In addition, the estimator was Weighted Least Square Mean and Variance Adjusted (WLSMV) because it was ordinal data (Brown, 2015). In both types of factor analysis (EFA and CFA), the belonging of an item to a factor was determined by factor loadings greater than or equal to 0.30 (Kline, 2015).

In a third stage, reliability was estimated using the omega coefficient (ω) that reflects the proportion of common variance shared by the items (Ventura-León and Caycho-Rodríguez, 2017), where values above 0.70 are considered recommendable.

In the fourth stage, factor invariance according to sex was calculated under the recommendations of Wu and Estabrook (2016), who point out that in the case of ordinal data the invariance cannot be examined only by restricting a set of parameters at a time. In this way, configural invariance (base model), metric invariance (thresholds, loading constrained to be equal across groups), scalar invariance (thresholds, loadings, intercepts) and strict invariance (thresholds, loadings, intercepts, residual) were tested. Theta -parameterization was used which allows the calculation of the residuals (strict invariance). Also, the WLSMV was used as an estimator (Brown, 2015). To observe the suitability of the invariance, minimal differences were established between the two models according to those presented by Finch and French (2018), who point out that an RMSEA (Δ RMSEA) < 0.01 is adequate for ordinal variables and what Chen (2007) postulated, where CFI (Δ CFI) \leq 0.01 is adequate. It is worth mentioning that this continuous cut-off point is

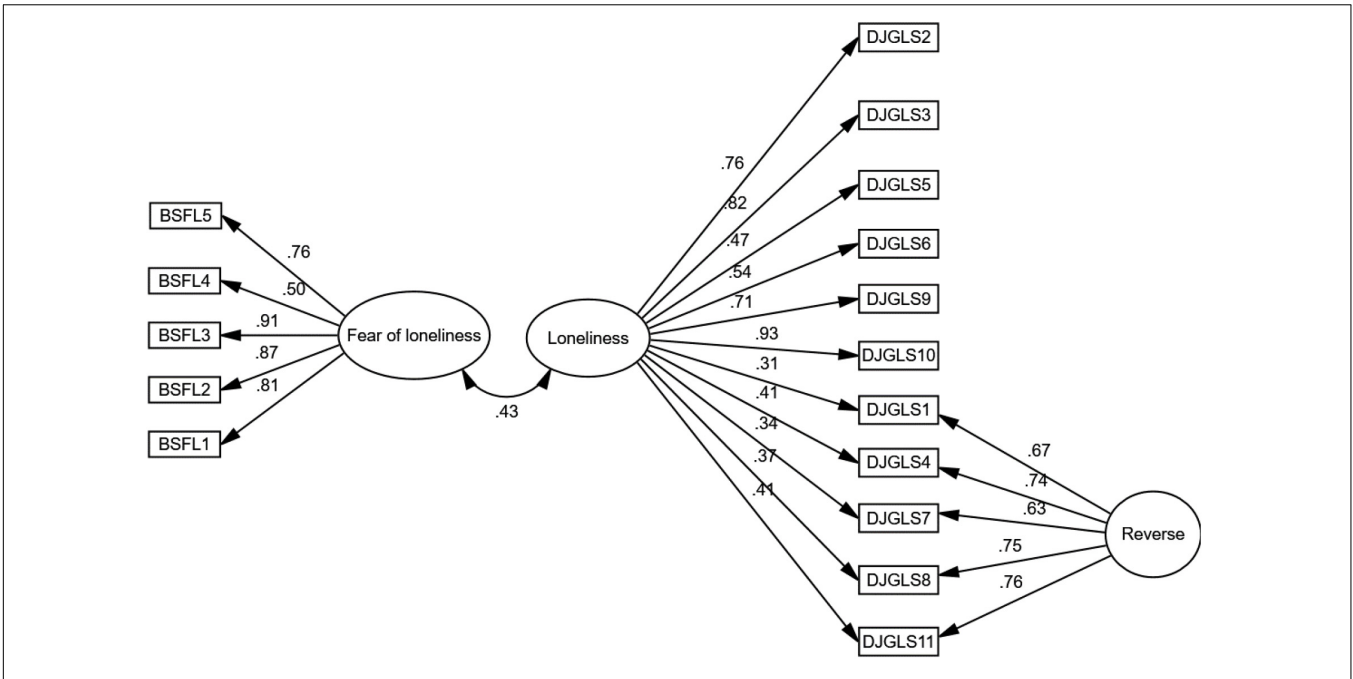


FIGURE 2 | Structural model of the relationship between the BSFL and DJGLS.

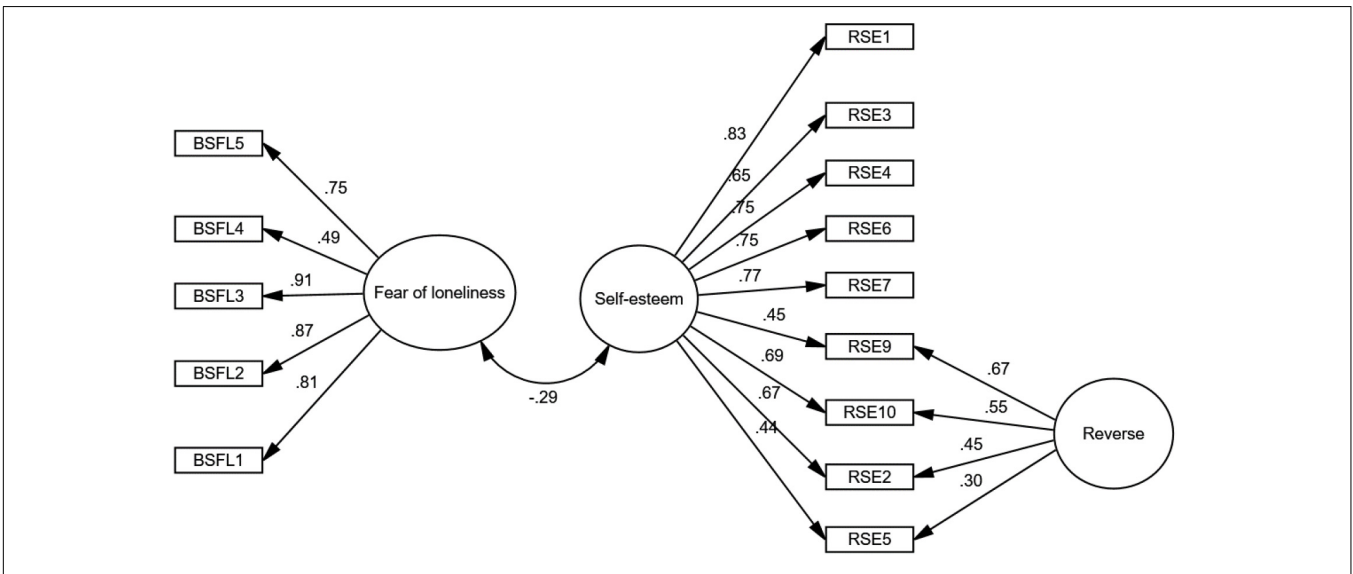


FIGURE 3 | Structural model of the relationship between BSFL and RSE.

TABLE 1 | Descriptive Statistics of the BSFL.

| Item | M | SD | g1 | g2 | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 |
|------|-----------|-----------|-----------|------------|--------|--------|--------|--------|--------|
| 1 | 1.11/1.04 | 1.11/0.93 | 0.77/0.69 | 0.13/0.10 | 1.00 | 0.73 | 0.73 | 0.43 | 0.67 |
| 2 | 1.02/0.91 | 1.02/0.94 | 0.78/0.96 | 0.22/0.65 | 0.66 | 1.00 | 0.84 | 0.57 | 0.69 |
| 3 | 1.01/0.86 | 1.01/0.92 | 0.89/0.92 | 0.34/0.35 | 0.70 | 0.80 | 1.00 | 0.60 | 0.69 |
| 4 | 1.58/0.97 | 1.58/0.97 | 0.36/0.56 | -0.17/0.05 | 0.41 | 0.42 | 0.42 | 1.00 | 0.55 |
| 5 | 1.42/0.98 | 1.42/0.98 | 0.66/0.66 | 0.13/0.16 | 0.62 | 0.61 | 0.63 | 0.48 | 1.00 |

From the//symbol to the left EFA and to the right CFA; From the diagonal down the matrix of the EFA and upward of the CFA. M, mean; SD, standard deviation; g1, asymmetry; g2, kurtosis.

used because it does not have a categorical version, as there are minimal differences between the models.

The fifth stage consisted of contrasting the evidence in relation to other variables. Therefore, correlations were modeled from SEM with the De Jong Gierveld loneliness scale (Ventura-León and Caycho, 2017) and Rosenberg’s Self-esteem (Ventura-León et al., 2018), following Cohen’s recommendations for the magnitude of the effect (2009) where: $r \geq 0.10$ is small; $r \geq 0.30$ is considered moderate; $r \geq 0.50$ shows a strong effect.

RESULTS

Evidence Based on Content

The analysis of the content of the items was carried out by expert judges who rated the scale based on two criteria: (a) Representativeness, indicating the correspondence between the content of the items and the definition of the construct, and (b) Relevance, the importance of including the items on the scale. An Aiken’s V of 1.00 is observed for all items in the two criteria, suggesting evidence about the content of the BSFL.

Preliminary Analysis of the Items

As seen in **Table 1**, items 4 and 5 have a higher arithmetic mean. All items show kurtosis and asymmetry values below ± 1.5 (Ferrando and Anguano-Carrasco, 2010) with positive kurtosis, except for item 4. Additionally, the Mardia coefficient was calculated, which presented a value of 45.98, which indicates little deviation from multivariate normality.

Evidence Based on Internal Structure

For the EFA (**Table 2**), RULS were used, with a polychoric correlation matrix and Parallel Analysis (PA) with optimal implementation (Timmerman and Lorenzo-Seva, 2011). The KMO test (0.83) and Bartlett’s sphericity test [$\chi^2(10) = 743.9, p < 0.001$] indicated that it is possible to carry out an EFA (Abad et al., 2012).

The PA pointed out the existence of a single underlying factor, which explains 66.68% of the total variance, with an Eigenvalue of 3.33. Goodness of fit indices were excellent ($\chi^2 = 10.70, df = 5, p = 0.060$; RMSEA = 0.06, CFI = 1.00, WRMR = 0.05). It should be noted that robust Chi square was used with mean and scaled variance (Asparouhov and Muthen, 2010).

The CFA (**Figure 1**) was carried out with a second group of participants ($N = 1032$) in order to verify what was obtained in the EFA. A single factor structure was modeled that revealed good goodness of fit ($\chi^2 = 12.93, df = 5, \chi^2/df = 2.59, RMSEA = 0.04, CFI = 1.00, TLI = 1.00$).

Reliability

Reliability was calculated for each of the moments of the factor analysis. Thus, at the exploratory level the omega coefficient is considered good ($\omega = 0.88$) and at the confirmatory level considered excellent ($\omega = 0.91$). In this way, it can be seen that the factor loads are strong.

Factor Invariance According to Sex

Table 3 shows the measurement invariance, which was evaluated starting from a base model called configural invariance (M1), metric (M2), scalar (M3), strict (M4), the estimator used WLSMV was robust because it considers ordinal variables (Brown, 2015). In this sense, the base model examined the fit in both groups without restrictions on some of the parameters. Then, the M2 model, which is a model where the loads and thresholds of each item so that they have the same value in men and women. It is seen that the difference between M1 and M2 are minimal ($\Delta CFI < 0.01$), accepting the hypothesis that the thresholds are invariant. Subsequently, invariance in loads, thresholds and intercepts is examined adding restrictions on all items across subgroups (M3). It is observed that the difference between M3 and M1 is minimal ($\Delta CFI < 0.01$). Finally, the strict invariance is evaluated where the loads, thresholds, intercepts and residuals are the same in the two groups, examining that the differences are within expectations ($\Delta CFI < 0.01$).

In view of the fact that factorial invariance was achieved, we proceeded to examine the differences according to sex through the latent means. In relation to the fear of loneliness, it is observed that women ($M = 0.85$) present a slightly higher value than men ($M = 0.81$); although it is not statistically significant and the effect size is trivial [$t(405.89) = 0.70, p = 0.482, d = 0.05$].

TABLE 2 | Standardized factor loadings of the BSFL in the exploratory factor analyses.

| Item | F1 | h ² |
|---|-----------|----------------|
| (1) I fear someone may leave me [Temo que alguien pueda abandonarme] | 0.80 | 0.64 |
| (2) The idea of being alone worries me [La idea de estar solo me preocupa] | 0.85 | 0.73 |
| (3) I am afraid of being alone [Tengo miedo a estar solo] | 0.88 | 0.77 |
| (4) When I am alone, I look for someone's company [Cuando estoy solo, busco la compañía de alguien] | 0.52 | 0.27 |
| (5) I am concerned that someone is leaving my side [Me preocupa que alguien se aleje de mi lado] | 0.76 | 0.57 |
| ω | 0.88 | |
| Load/h ² mean | 0.76/0.59 | |
| Eigenvalue | 3.33 | |
| % of Variance | 66.68 | |

$h^2 =$ communality; F1 = Fear of loneliness.

TABLE 3 | Analysis of factor invariance according to the gender of the BSFL.

| Models | $\chi^2(df)$ | $\Delta\chi^2$ | Δdf | p | CFI | ΔCFI |
|--------|--------------|----------------|-------------|-------|------|--------------|
| M1 | 31.88 (10) | - | - | - | - | - |
| M2 | 37.17 (20) | 7.68 | 10 | 0.011 | 0.99 | 0.001 |
| M3 | 34.58 (24) | 1.25 | 4 | 0.075 | 0.99 | 0.002 |
| M4 | 41.13 (28) | 5.88 | 4 | 0.052 | 0.99 | -0.001 |
| M5 | 49.09 (33) | 6.78 | 5 | 0.035 | 0.99 | -0.001 |

M1: configural; M2: threshold; M3: metric; M4: scalar; M5: strict.

Incremental Validity

The incremental validity of the BSFL was evaluated with a similar test that was validated in the Peruvian context, such as the DJGLS (De Jong-Gierveld and Kamphuls, 1985). In this sense, the results (Figure 2) show a moderate relationship ($r = 0.43$, CFI = 0.93; RMSEA = 0.06; SRMR = 0.08); which is good, because if the correlation is very high it would imply a conceptual overlap.

Evidence Based on the Relationship With Other Variables

To evaluate convergence with other tests, a concurrency method was used. In this sense, the scores of the BSFL of the participants were correlated with the RSE (Rosenberg, 1965). The results showed (Figure 3) that RSE was negatively correlated with BSFL ($r = -0.29$, CFI = 0.94; RMSEA = 0.07; SRMR = 0.07). In this way, the predictive power of the BSFL is revealed.

DISCUSSION

Loneliness is a frequent event in youth and adulthood and for many years it has been known that the prevalence reaches 69% (Parlee, 1979) and that there is a concern about feeling alone in this age group (YOUGOV, 2016). Although there are various instruments that have measured loneliness since the 1970s (Russell et al., 1978, 1980; De Jong-Gierveld and Kamphuls, 1985; Russell, 1996; Cramer and Barry, 1999; Hughes et al., 2004; Maes et al., 2015). There is no instrument that assesses the fear of loneliness. In this sense, the main objective of the present study was to develop and validate a Brief Scale of Fear of Loneliness in Young People and Adults.

Regarding the evidence of validity, the content of the items was reviewed through the judgment of experts who found high representativeness and relevance of the items in the BSFL, which is often a forgotten action, but one that is necessary (International Test Commission [ITC], 2018). This accompanied by the Aiken's V coefficient (Ventura-León, 2019) allowed verifying the quality of the items.

Regarding its internal structure, the BSFL is a one-dimensional measure of fear of loneliness. Thus, the EFA produced with polychoric correlation matrices by the ordinality of the data, revealed that a single factor underlies the five items, which explains 66.68% of the variance of the construct. Likewise, their factor loads were > 0.30 (Kline, 2015). These findings were corroborated by the CFA, which showed excellent goodness of fit indices (Hu and Bentler, 1999). Similarly, the assumption of one-dimensionality is consistent with theoretical arguments of previous studies regarding fear of a specific object (Zubeidat et al., 2007; Dongil and Wood, 2009; Ibrahim et al., 2017).

Regarding the reliability of the BSFL, it revealed good values both in its exploratory version ($\omega = 0.88$) and confirmatory ($\omega = 0.91$). These results are consistent with cut-off points established by various authors who suggest that values > 0.70 are considered acceptable (Ventura-León and Caycho-Rodríguez, 2017).

In relation to incremental validity, a similar test with Peruvian validation was used, as it is a recommendation by Hunsley and Meyer (2003). This in order to observe that if there is a relationship between both tests, that it is not large enough to suppose a conceptual overlap (American Educational Research Association [AERA] et al., 2014). These findings reveal that the BSFL measures something similar to the DJGLS, but not the same; therefore, they are constructs that are associated, but not the same.

To provide evidence based on the relationship with other variables, the convergence of the BSFL was evaluated, which demonstrated its predictability by presenting a moderate correlation ($r = 0.29$; Cohen, 1988) with the loneliness scale adapted to the Peruvian context (Ventura-León and Caycho, 2017) and the self-esteem scale (Ventura-León et al., 2018) showing an expected theoretical direction. Thus, the correlation between loneliness and self-esteem is consistent with previous studies; evidencing that experiencing fear of loneliness is associated in a moderate way with the self-assessment of the self (Brewer and Kerlake, 2015; Błachnio and Przepiorka, 2019; Chiao et al., 2019).

It is important to note that the present study reviewed the gender invariance of the BSFL. The measurement invariances (configurational, thresholds, and factor loads) were stable across the groups. In this sense, the items measure the latent trait in men and women in the same way (Brown, 2015), which is a requirement of the measurement instruments for comparison by groups (Byrne, 2008). Therefore, the one-dimensional structure of the BSFL according to sex, indicates that in the sample of Peruvian youth and adults (men and women) they conceptualize FL in an equivalent way, a situation that suggests that the factor structure is similar in both groups and that the differences between men and women are real and not the product of a measurement bias.

Regarding the theoretical implications, having this scale will allow evaluating theoretical models and seeing the relationship that the fear of loneliness (and not only the feeling of loneliness) has with well-being, the sense of belonging and with the construction of identity of individuals, in a society that becomes more and more individualistic (Santos et al., 2017) and consumer of social networks, which, in some cases, increase people's feelings of loneliness (Song et al., 2014). Regarding the practical implications, the scale developed, due to its reduced number of items, allows a pragmatic and rapid measurement of the fear of loneliness in large populations, which would allow to orient preventive interventions on the psychosocial variables commonly associated with loneliness (drug use, excessive use of the internet, for example).

The study has some limitations. First, more participants are required in the invariance analysis for further studies. Second, it was not feasible to review the temporal stability of the scale; so, a test-retest is recommended in future studies. Third, the participants were people with higher studies, so the scale can only be interpreted for a population with similar characteristics; it is recommended to explore its operation in other populations.

It is concluded that the BSFL is a measure that has evidence of validity, reliability in its scores, being invariant regarding sex and

predicting other behaviors quite well. Therefore, it is a short self-reported measure, easy and quick to apply, which will be useful in future research studies.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

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JV-L involved in planning and supervised the work, processed data, performed the analysis, drafted the manuscript, and designed the figures. AS-V contributed in preparation of the published work, specifically critical review, commentary. TC-R and MB-P performed the measurements, sample design, aided in interpreting the results, and worked on the manuscript. AR contributed in presentation of the published work, specifically writing the initial draft (including substantive translation). All authors discussed the results and commented on the manuscript.

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Basque Ethnic Identity and Collective Empowerment: Two Key Factors in Well-Being and Community Participation

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Social identity is a factor that is associated with well-being and community participation. Some studies have shown that ethnic identity goes along with empowerment, and that interaction between the two leads to greater indices of well-being and community participation. However, other works suggest a contextual circumstance (i.e., perceiving one's own group as a minority and/or being discriminated) may condition the nature of these relations. By means of a cross-sectional study, we analyzed the relations of social identification (or identity fusion) and collective psychological empowerment with personal well-being, social well-being and community participation in a sample of Basques. A total of 748 Basques participated (63.1% women; age $M = 39.28$; $SD = 12.13$). Individuals who were highly identified or fused with Basque speakers and who were highly empowered showed higher indices of well-being (both personal and social) and of community participation than non-fused individuals with low empowerment. The results also suggest that social identification (or identity fusion) offsets the negative effects of perceiving the group as a linguistic minority. Collective psychological empowerment proved to be an especially relevant factor that needs to continue to be explored.

Keywords: ethnic identity, identity fusion, collective identity, perceived collective efficacy, collective empowerment, personal well-being, social well-being, community participation

INTRODUCTION

Promotion of well-being is clearly a desirable goal for all individuals, and also for all human groups. Unraveling the amalgam of factors that influence well-being is, precisely, one of the great contributions of social sciences (Salvador-Carulla et al., 2014). Among these factors, social identity stands as a remarkable element that has a positive influence on well-being (Haslam et al., 2009; Jetten et al., 2012). Indeed, some studies (e.g., Molix and Bettencourt, 2010;

Lardier et al., 2018) have shown that synergy or interaction between ethnic identity and psychological or individual empowerment can contribute to both well-being and to community participation. Notwithstanding, there are other collective factors, such as collective psychological empowerment (CPE) (Drury and Reicher, 2009) that may contribute to well-being and community participation, but that have been less investigated (Staples, 1990; Soares et al., 2015). However, neglecting the role that this sort of social variable plays in the study of well-being may lead to lower awareness of its function and, therefore, lower capacity to develop individuals and societies with greater degrees of well-being. Moreover, understanding how the differential interaction of underlying collective factors affects increased community participation in highly diverse ethnic groups proves essential.

The vast majority of studies that have analyzed social identity and empowerment as related to well-being, have been carried out with the participation of people from vulnerable groups as, for example, African Americans and Latinos in the United States context (Gutiérrez, 1995; Phinney, 1996; Syed and Juang, 2014; Karaś et al., 2015; Lardier, 2018; Lardier et al., 2018). The Basque ethnic group¹ is a collective which, due to its particular characteristics, sparks great interest for the study of social identity and empowerment. This is a collective that resides in the Basque Country, a region currently split between Spain and France. This group has its own culture and differentiated language (Euskera)², by means of which it has reinforced its identity (Trask, 1997; Roman, 2015). After a great setback and the damage to its culture and language during the Francoist dictatorship (1939–1975), this collective has begun to recover and reinforce its Basque identity to this day (Urla and Burdick, 2018). The countless popular initiatives of Basques are a display of an active collective that is proud of its identity, a collective that has achieved major milestones regarding its culture and language, *Euskera* or Basque (Urla, 2012; Urla and Burdick, 2018), a key aspect in this study.

The Basque collective holds a good socioeconomic position in comparison with other groups in its surroundings (Urla and Burdick, 2018), yet at the same time, we can currently find different indicators of discrimination against and threat to *Euskera*, including prejudice toward the language and a limited use in public life (Gorter et al., 2012). In this work, we refer to Basques as the ensemble of individuals who have a feeling of belonging, closeness and/or affinity toward Basque speakers, *euskaldunak*. Basque speakers whose mother tongue is Euskera account for 15.35% of the Basque Country's population. However, 29.62% of the inhabitants of the Basque Country have acquired language ability in Euskera, even though it is only practiced by 12.6% in public life (Sociolinguistic Cluster, 2020). This situation makes the Basque community a linguistic minority, whose language (and identity) is in a vulnerable situation and

a clear disadvantage compared to Spanish (or French). Despite the prestige that Basque enjoys today (i.e., Euskera has taken on enormous presence in the formal educational sphere and provides clear advantages in accessing numerous job positions, especially in the public sector), this language is perceived by some sectors as an imposed language, difficult to learn and unnecessary on a day-to-day basis, in such a way that for many, learning Basque is based on external and instrumental motivations. Other people reject it because they perceive that it is politicized and, instead of considering it as part of the Basque culture, they associate it with specific political options or ideologies (Amorrortu et al., 2009). The coexistence of both languages, therefore, is not without problems and political tensions. Additionally, another factor to be taken into account in order to understand the nature of the social identity of the Basques is their recent past. Part of the adult population lived through the Francoist dictatorship (1939–1975), and the majority of the people has also lived the period of the armed, social and political crisis of the Basque conflict (1959–2011). So, this is a collective where the linguistic-cultural aspect holds an important central role in its ethnic identity and that, despite that currently it is not suffering from a situation of social stigmatization- as occurs with most ethnic groups analyzed in the literature - (Gutiérrez, 1995; Karaś et al., 2015; Lardier, 2018; Lardier et al., 2018), it is a group of people that has seen the expression of their language violated (Mínguez Alcaide et al., 2014, 2015) and that is currently still working to achieve their full potential.

Taking into account all the above, this study analyzes the relations of social identification (or identity fusion) and CPE with personal well-being, social well-being and community participation in a sample of Basques.

Social Identity, Social Identification and Identity Fusion, and Their Relation to Well-Being and Community Participation

Firstly, we must make a small yet important distinction between social identity and social identification. *Social identity* customarily defined as “the individual's knowledge that he [or she] belongs to certain social groups together with some emotional and value significance to him [or her] of the group membership” (Tajfel, 1972, p. 31), is not exactly the same as the *social identification* originally defined by Tajfel (1978) as the positive emotional valuation of the relationship between self and in-group (see Postmes et al., 2013, p. 599). Social identity refers to the group as a (perceived) entity, while social identification is a more specific concept and refers to the relation or subjective affiliation of the individual with the group (Postmes et al., 2005, 2013; Postmes and Jetten, 2006; Leach et al., 2008).

Based on the classic theory of social identity, we understand that personal identity and social identity are antagonistic, meaning that when one of them is activated, the other is eclipsed or canceled (Gómez et al., 2020). This rigid distinction can be fairly problematic (Baray et al., 2009; Swann et al., 2012), since even when speaking of a (hypothetical) purely personal identity, it is difficult for social aspects not to be activated, and vice versa. A person's identity is inevitably both personal and social

¹Ethnic identity is “a complex construct including a commitment and sense of belonging to the group, positive evaluation of the group, interest in and knowledge about the group, and involvement in social activities of the group” (Phinney et al., 1996, p. 168).

²Euskera is an isolated language whose roots bear no relation to Indo-European languages. Its origin, as well as the origin of the Basques themselves, is a riddle whose solution continues to challenge many scholars.

(Vignoles, 2011), so an approach that establishes an absolute distinction between both identities, from our perspective, is removed from the psychological and social reality of this phenomenon. In the same fashion, identity fusion theory (Swann et al., 2009) posits that, far from being antagonists, personal and social identity mutually influence each other, so that they can activate and feed back into one another simultaneously. As with social identification, identity fusion theory focuses on the individual and in-group relations, and not on inter-group relations like the classic theory of social identity (Postmes et al., 2013; Gómez et al., 2020). In this sense, we believe that an approach focused on social identification and the theory of identity fusion is necessary.

Identity fusion could be a differentiated construct from social identification (Gómez et al., 2020), but the fact that they are both closely related (Swann et al., 2012; Zumeta et al., 2016; Bortolini et al., 2018), and share aspects with the social identity theory (Leach et al., 2008; Postmes et al., 2013; Gómez et al., 2020) justifies our consideration of identity fusion as part of

the processes of social identification and social identity. In **Table 1** different concepts are discussed, as well as another series of related terms.

In any event, what is certain is that social identity is an important predictor of a wide range of health and well-being indicators. This is because social identity covers psychological needs that are fundamental for human beings, such as the psychological need for belonging (Greenaway et al., 2016), for social support (Kearns et al., 2017) and for social resources, including shared meanings and ways of understanding (Haslam et al., 2009). Moreover, social identity protects human beings from depression, providing a sense of purpose, meaning and control in life (Dingle et al., 2013; Cruwys et al., 2014; Postmes et al., 2019).

Recent meta-analyses have shown that social identity and/or identification toward different groups (whether ethnic, organizational, national, etc.) are relevant factors for the well-being of people (see **Table 2**). The evidence suggests that ethnic identity, particularly for those belonging to ethnic

TABLE 1 | Definitions of “social identity” and other related concepts in relation to personal identity or Self.

| References | Denominations | Definitions | Focus on self |
|---------------------------|-------------------------------|---|---------------|
| | Social identity | | |
| Tajfel (1972) | | “(. .) the individual's knowledge that he [or she] belongs to certain social groups together with some emotional and value significance to him [or her] of the group membership” (p. 31). | Low |
| Thoits and Virshup (1997) | | “(. .) socially constructed and socially meaningful categories that are accepted by individuals as descriptive of themselves or their group” (p. 106). | High |
| | Social identification | | |
| Tajfel (1978) | | “(. .) as the positive emotional valuation of the relationship between self and in group” (p. 28–29). | High |
| Postmes et al. (2019) | | “(. .) it is one of the processes by which social identities are internalized” (p. 111). | High |
| Gómez and Vázquez (2015) | Identity fusion | “(. .) a visceral feeling of “oneness” with the group wherein the personal self (characteristics of individuals that make them unique) joins with a social self (characteristics of individuals that align them with a group) and the borders between the two become porous” (p. 482). | High |
| | Ethnic identity | | |
| Phinney et al. (1996) | | “(. .) as a complex construct including a commitment and sense of belonging to the group, positive evaluation of the group, interest in knowledge about the group, and involvement in social activities of the group” (p. 168). | High |
| Phinney (1996) | | “(. .) fundamental aspect of the self that includes a sense of membership in an ethnic group and the attitudes and feelings associated with that membership” (p. 922). | High |
| Ashmore et al. (2004) | Collective identity | “(. .) is defined here in terms of a subjective claim or acceptance by the person whose identity is at stake (. .). That is, although others may refer to one in terms of a particular social category, that category does not become a collective identity unless it is personally acknowledged as self-defining in some respect” (p. 81). | High |
| Mael and Ashforth (1992) | Organizational identification | “(. .) is a specific form of social identification where the individual defines him or herself in terms of their membership in a particular organization” (p. 105). | High |
| Espinosa and Tapia (2011) | National identification | “(. .) national identity is a specific sub-type of social identity” (p. 71). | Low |
| Cicognani et al. (2015) | Sense of community | “(. .) the perception of similarity with others, a recognized interdependence, a willingness to maintain such interdependence offering or making for others what is expected from us, the feeling to belong to a totally stable and reliable structure” (p. 28). | High |
| Proshansky (1978) | Place identity | “(. .) those dimensions of self that define the individual's personal identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideas, beliefs, preferences, feelings, values, goals, and behavioral tendencies and skills relevant to this environment” (p. 155). | High |

TABLE 2 | Meta-analysis on relations between social identity (or identification) and well-being.

| Authors | Sample | Variables | Studies and sample | Effects size associations | Results |
|------------------------|---|--|---|---|--|
| Espinosa et al. (2015) | General population and university students of Argentina, Peru and Mexico. | - National identity. - Social well-being | <i>K</i> = 5 studies <i>N</i> = 1825 | National identification correlates: <i>r</i> = 0.21 with social integration <i>r</i> = 0.13 with social acceptance <i>r</i> = 0.12 with social contribution <i>r</i> = 0.16 with social actualization. | Results show evidence of weak but significant relationships between national identification and the different dimensions of social well-being. Effect sizes are heterogeneous between nations. |
| Postmes et al. (2019) | Population of diverse ethnicity and backgrounds: European, Latino, African-American, European-American, First Nation, various Asian countries and so forth. | - Group identification. - Depression. | <i>K</i> = 76 studies <i>N</i> = 31,016 | Group identification correlates: <i>r</i> = -0.15 with less depression <i>r</i> ₂ = -0.28 with interactive groups <i>r</i> ₂ = -0.11 with social categories <i>r</i> ₂ = -0.24 with non-stigmatized groups <i>r</i> ₂ = -0.10 with stigmatized groups. | Results reveal that group identity has a modest negative association with depression. Studies that focused on identification with interactive groups had larger effect sizes than studies that focused on social categories. Moreover, studies of non-stigmatized groups had larger effect sizes than studies of stigmatized groups. |
| Smith and Silva (2011) | People of color from USA: 33% African Americans, 35% Asian Americans, 21% Hispanic, 5% Native Americans, 1% Pacific Islander Americans, 5% from "other" non-White groups. | - Ethnic Identity. - Self-esteem. - Coping ability. - Symptoms of depression. | <i>K</i> = 184 studies <i>N</i> = 41,626 | Ethnic identity correlates: <i>r</i> = 0.17 with general personal well-being <i>r</i> = 0.07 with mental health (distress) <i>r</i> = 0.24 with self-esteem <i>r</i> = 0.25 with well-being. | Results reveal a modest association between ethnic identity and personal well-being. Ethnic identity correlates more strongly with self-esteem and well-being than with distress. No differences were observed across participant race, gender, or socioeconomic status. These findings support the general relevance of ethnic identity across people of color. |
| Steffens et al. (2017) | Workers of a large variety of jobs. | - Organizational identification. - Work group identification. - Psychological or physiological health and well-being, including burnout. | <i>K</i> = 58 studies <i>N</i> = 19,799 | Both organizational and work group identification correlate <i>r</i> = 0.21 with health <i>r</i> = 0.27 with psychological well-being <i>r</i> = 0.18 with absence of stress. | Analysis identified a modest relationship between health and for both work group and organizational identification. The relationship is stronger (a) for indicators of the presence of well-being than absence of stress, (b) for psychological than physical health. |
| Steffens et al. (2019) | People from group interventions enhancing social identification. | - Intervention enhancing social identification. - Well-being and health outcomes. | <i>K</i> = 27 studies <i>N</i> = 2,230 | Social identification-building interventions impact <i>r</i> = 0.31 on health <i>r</i> = 0.33 increasing self-esteem <i>r</i> = 0.32 increasing well-being <i>r</i> = -0.23 to <i>r</i> = -0.29 reducing stress, anxiety and depression. | Results indicate that social identification-building interventions had a moderate-to-strong impact on health. More impact on increasing physical health and quality of life than reducing stress. |

minorities is significantly associated with a typical effect of $r = 0.17$ with well-being, regardless of race, gender and socioeconomic status (Smith and Silva, 2011), and of $r = 0.15$ with the absence of depression amongst a population of diverse ethnicity and backgrounds (Postmes et al., 2019). In fact, the data suggest that social identification has a greater impact on psychological well-being than on depression reduction (Smith and Silva, 2011; Steffens et al., 2017). In turn, amongst a population of diverse ethnicity and backgrounds, identification with non-stigmatized collectives protects more from depression than identification with stigmatized collectives (Postmes et al., 2019).

The rejection-identification model suggests that, perceived racial prejudice has negative consequences on the individual but, at the same time, suggests that a strong identification with the own stigmatized group itself can also offset these negative effects and promote well-being (Branscombe et al., 1999). Moreover, a series of studies indicates that ethnic identity can be a more important factor for well-being amongst individuals belonging to discriminated ethnic minorities than for ethnic majorities³ or dominant collectives (mainly white people) (Crocker et al., 1994; Phinney, 1996; Carter et al., 2001, 2005; Mossakowski, 2003; Syed and Juang, 2014). In fact, by the simple fact that the group itself (regardless of being discriminated against) is perceived as a minority in-group identification can become more salient, and thus more closely associated to well-being than when the group is majority (Tajfel and Turner, 1986; Phinney et al., 1996). Therefore, according to the literature, it may be that the perception of being a minority and or discriminated also plays a relevant role in ethnic identity (Hipolito-Delgado and Zion, 2017) and its relation to well-being. In this regard, analyzing the existing association between social identification (or identity fusion) and well-being (personal and social) in a linguistic minority, but not necessarily a stigmatized group, takes on special value.

Lastly, social identification is also an important factor associated with greater commitment, participation and pro-group behaviors (Chavis and Wandersman, 2002; Perkins et al., 2002; Shamir and Kark, 2004; Gómez et al., 2011; Swann et al., 2012; Speer et al., 2013; Christens and Lin, 2014). A meta-analysis (Talò, 2018) concluded that three of the six factors most associated with community participation were aspects related to social identification (Vignoles, 2011): sense of community, community identity and place identity.

Psychological Empowerment (PE) and Collective Psychological Empowerment (CPE)

Gutiérrez (1995) defines psychological empowerment (PE) as “the process of increasing personal, interpersonal, or political power, so that individuals, families and communities can take action to improve their situations” (p. 229). Most studies that fall under the social nature of empowerment have conceptualized and analyzed PE in individual terms or from the perspective of the

power an individual perceives they hold through social structures (organizations and communities) (Perkins and Zimmerman, 1995; Molix and Bettencourt, 2010; Christens et al., 2011; Lardier et al., 2018). However, empowerment must also be analyzed and conceptualized in collective terms (Staples, 1990). In fact, the main components of PE are group identification, group consciousness and perceived collective efficacy (Gutiérrez, 1995). Moreover, change and social justice are viewed as a means of empowerment and achieved through collective work (Gutiérrez, 1995; Speer and Hughey, 1995; van Zomeren et al., 2008; Drury and Reicher, 2009; Christens et al., 2011; Peterson, 2011).

Drury and Reicher (2009) define CPE as a positive social psychological transformation related to a sense of being able to shape the social world. This transformation occurs for members of subordinated groups who override existing relations of dominance. Group identification is the driving force behind CPE, and empowerment is experienced as a life-changing experience. Thus, through this experience, individuals perceive themselves as more confident and empowered at an individual level, as well. A concept similar to CPE is Bandura's (1997) perceived collective efficacy. Perceived collective efficacy is defined as a shared belief of a group in its ability to organize and carry out the actions required to reach certain objectives. With CPE, the shared belief of group members would be at least partially based on the conviction that a social change can be made and that political power can be increased (Drury and Reicher, 2009).

Relation of Perceived Collective Efficacy, Empowerment and Social Identification With Well-Being and Community Participation

Prior studies have shown that both *self-efficacy* and *perceived collective efficacy* may be related, and that both are associated with greater psychological well-being, self-esteem, life satisfaction, better stress management (Bandura, 1997; Devonport and Lane, 2006; Siu et al., 2007; Viel-Ruma et al., 2010; Çalik et al., 2012; Roos et al., 2013) and intense positive emotions (Zumeta et al., 2020). In turn, the study by Soares et al. (2015) showed that individual empowerment was also related to collective empowerment, and that both of them were associated with higher quality of life and better stress management. However, while individual empowerment was only associated with the psychological aspect of quality of life (e.g., self-esteem, body image and physical appearance, feelings), collective empowerment was associated with all aspects of quality of life, both in psychological, as well as physical, social and environment terms.

Other studies have shown that social identification, PE, collective efficacy, well-being and community participation are factors that are closely related (Ohmer, 2007; Cicognani et al., 2008, 2015; Tamasas, 2010; Christens et al., 2011; Speer et al., 2013; Christens and Lin, 2014). Additionally, in the field of organizations, other studies have shown that the relations between organizational identification and well-being at work are mediated by perceived collective efficacy (Borgogni et al., 2010; van Dick and Haslam, 2012; Avanzi et al., 2015).

³For example, Americans of European origin may be considered as members of (majority) ethnic groups (Phinney, 1996).

Lastly, the work by Lardier et al. (2018) showed that a strong ethnic identity in African Americans was associated with higher PE (specifically, greater sociopolitical control). Additionally, participants with high scores in ethnic identity and also in PE had a lower risk of drug consumption, higher community participation and a greater sense of community than participants with lower scores in ethnic identity and PE. Moreover, through a structural equations model, Lardier (2018) showed that ethnic identity was a mediator for the relation existing between the sense of community and community participation with PE.

In the same line as the study by Lardier et al. (2018) and Molix and Bettencourt (2010) found that relations between ethnic identity, PE and well-being were different between ethnic minorities in the United States and white Americans. While higher levels of ethnic identity predicted greater PE and greater well-being amongst ethnic minorities, these relations were scant and unreliable amongst white participants. Moreover, for ethnic minorities, the relation between ethnic identity and well-being was significantly mediated by PE, which was not the case for the white American group.

As a whole, these results suggest that the influence of different forms of social identification on well-being and community participation may be the result, at least partially, of the association between social identification and empowerment. Furthermore, the studies by Molix and Bettencourt (2010) showed that these relations may be stronger in minority collectives than in dominating majority collectives.

OBJECTIVES AND HYPOTHESES

The main objective of this study was to analyze the relationship between identification with Basque speakers or ethnic identity fusion (EIF), as well as CPE with personal well-being, social well-being and community participation in a group of Basques. It was predicted that: i) EIF and CPE will be closely related (H1); ii) EIF and CPE will have a positive relationship with the following variables: personal well-being (H2a), social well-being (H2b) and community participation (H2c); iii) Both EIF and CPE will have a positive synergistic or interactive effect on well-being (personal and social) (H3a) and on community participation (H3b), such that the participants fused with Basque speakers who are highly empowered will have higher indices of well-being and community participation than the rest of participants. In turn, in an exploratory fashion, we will analyze the effect of perception of integration of the Basque Language –*Euskera*– in the socio-cultural environment, as a measurement of the group's perception as a linguistic minority or majority. Firstly, we will explore correlations with different variables separately (in the group perceiving themselves as a minority versus those who perceive themselves as a majority). Furthermore, the possible synergistic or interactive effect of the perception of the linguistic minority-majority and of the EIF on well-being and community participation will be analyzed. Regarding this objective, based on the rejection-identification model (Branscombe et al., 1999) and the meta-analytical results (Smith and Silva, 2011), no hypothesis is set forth because

there is evidence in both directions: identification may be greater and more positive when one forms part of a minority, and this could be a factor more closely associated with well-being and community participation, or the opposite effect may occur. Moreover, the aforementioned specific linguistic context of the present study (linguistic minority ethnic group, but not suffering socioeconomic or employment discrimination) represents a particularity that, to our knowledge, has not been previously analyzed.

MATERIALS AND METHODS

Participants

This cross-sectional study is part of another broader work of research on the *Korrika*, a mass recreational, non-competitive race that runs through the Basque Country every two years to defend and promote the Basque language. During the race, individuals and/or representatives from different popular associations or institutions pass a baton, so that this “race” shares the message conveying that *Euskera* never stops, thanks to the collaboration of all those participating. A total of 748 people (63.8% women and 36.2% men) participated in this study, with ages ranging between 18 and 73 years ($M = 39.28$; $SD = 12.13$), who intended to take part in the aforementioned event. Moreover, all participants were residents in the Basque Country.

Procedure

Alfabetatze eta Euskalduntze Koordinakundea (AEK; the association that organizes the *Korrika* event) collaborated with the research team by sending an email invitation to all *Korrika* collaborators, requesting their voluntary participation in the research. On the other hand, researchers went to the capitals of the Basque Country and collected the emails from those who had been willing to participate in *Korrika* and in this research. Participants responded to the survey online through the Qualtrix XM platform three weeks before the *Korrika* event began.

Measures

All instruments were translated from Spanish to Euskera with the reverse translation method (Balluerka et al., 2007). First, the Spanish scales were translated into Basque independently by two authors with a broad command of Spanish and Basque, and who were familiar with both cultures. Subsequently, the two translations were compared and discussed until a consensual Basque version of the scales was reached. Second, two other authors independently translated all the scales of the Basque version into Spanish (reversed method) and reached a consensual version of it. Finally, the four team members, with the supervision of a Basque philologist, compared each of the scales (original and inversely adapted), ensuring that the meaning of the items was the same.

The scales in Basque were tested with a pilot study with a Basque-speaking sample. Alternatively, participants in the present study had the option of completing the survey in Spanish,

TABLE 3 | Matrix of correlations, descriptive statistics and reliability of scales.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 7.1 | 7.2 | 7.3 | 7.4 | 8 |
|----------------------------|-------|-------|--------|---------|--------|---------|--------|--------|--------|--------|--------|---------|
| 1. Age | – | 0.07 | 0.07 | –0.18** | –0.08* | –0.10** | 0.003 | –0.05 | 0.07 | 0.07 | 0.06 | –0.20** |
| 2. EIF CA | | – | 0.86** | 0.13** | 0.12** | 0.11** | 0.09** | 0.14** | 0.10** | 0.05 | –0.04 | 0.17** |
| 3. EIF CON | | | – | 0.13** | 0.12** | 0.15** | 0.13** | 0.19** | 0.11** | 0.10** | –0.005 | 0.16** |
| 4. CPE | | | | – | 0.08* | 0.47** | 0.35** | 0.29** | 0.26** | 0.21** | 0.20** | 0.19** |
| 5. LMP | | | | | – | 0.14** | 0.10** | 0.16** | 0.03 | 0.05 | 0.04 | 0.21** |
| 6. Personal well-being | | | | | | – | 0.41** | 0.34** | 0.26** | 0.34** | 0.19** | 0.18** |
| 7. Social well-being | | | | | | | – | 0.71** | 0.68** | 0.64** | 0.69** | 0.31** |
| 7.1. Social integration | | | | | | | | – | 0.35** | 0.44** | 0.23** | 0.45** |
| 7.2. Social acceptance | | | | | | | | | – | 0.16** | 0.39** | 0.06 |
| 7.3. Social contribution | | | | | | | | | | – | 0.14** | 0.39** |
| 7.4. Social actualization | | | | | | | | | | | – | –0.007 |
| 8. Community participation | | | | | | | | | | | | – |
| Asymmetry | 0.39 | 0.14 | –0.85 | –0.52 | 0.46 | –0.56 | 0.05 | –0.44 | –0.21 | –0.21 | 0.11 | –0.32 |
| Kurtosis | –0.57 | –1.98 | 0.18 | 0.72 | –0.56 | 0.30 | 0.08 | 0.25 | 0.24 | –0.06 | –0.23 | –0.41 |
| Average | 39.16 | 1.46 | 4.29 | 7.66 | 2.81 | 7.77 | 3.29 | 3.9 | 3.14 | 3.55 | 2.52 | 3.59 |
| SD | 12.12 | 0.50 | 0.78 | 1.27 | 1.08 | 1.10 | 0.46 | 0.60 | 0.63 | 0.70 | 0.78 | 0.81 |
| Cronbach α | – | – | – | 0.88 | – | 0.88 | 0.78 | 0.68 | 0.56 | 0.77 | 0.83 | 0.73 |

N = 742. EIF CA, Ethnic Identity Fusion as a categorical variable (fused-non-fused); EIF CON, Ethnic Fusion Identity as a continuous variable; CPE, Collective Psychological Empowerment; LMP, Linguistic Minority-Majority Perception; SD, Standard Deviation. **p* < 0.05 and ***p* < 0.01.

although most did so in Euskera (*n* = 630). As seen in **Table 3**, the reliability of the scales ranged from $\alpha = 0.73$ to $\alpha = 0.88$.

Ethnic Identification-Ethnic Identity Fusion

The Identity Fusion (Swann et al., 2009) pictographic measure was used. This instrument contains five images. Each one of them has two circles representing the degree of fusion between the Self and the Group, with different degrees of overlapping between both circles. The response range goes from 1 to 5, such that a higher level of identity fusion (overlapping between circles) matches a higher score. Participants selected the image that best represented the relationship they felt toward Basque-speaking individuals, *euskaldunak*. This measure was used as a continuous measurement, which indicated the degree of identification with Basque speakers. Moreover, participants who were totally fused with the group (those who chose the fifth drawing) were categorically differentiated from participants who selected the other categories, in line with the identity fusion theory. This theory posits that there is a qualitative leap between fused and non-fused individuals, such that fused individuals are the ones who would differentiate from others in feeling a strong feeling of collective Basque identity.

Collective Psychological Empowerment-Perceived Collective Efficacy

The study based on the Collective Efficacy Questionnaire for Sports (CEQS, Martínez et al., 2011) was adapted to the context and used. Participants followed these instructions: “State to which extent you believe *euskaldunak* are capable of the following things” on a 10-point scale (1 = *Not capable at all* and 10 = *Very capable*). The items were the following: “Being together,” “Carrying out actions,” “Having a positive attitude,” and “Showing enthusiasm.” Moreover, two items made *ad hoc* were added, which attempt to address the cognitive aspect of CPE

as understood by Drury and Reicher (2009) on the perception of the collective’s ability to transform society and achieve the collective’s objectives: “Fomenting social change” and “Achieving shared objectives.”

Perception of Linguistic Minority-Majority

Participants were asked to rate how Basque-speaking or *euskaldun* they thought the community (town or neighborhood) they lived in was on a 5-point scale: 1 = *Not euskaldun or almost not euskaldun*, 2 = *A little euskaldun*, 3 = *Fairly euskaldun*, 4 = *Very euskaldun* or 5 = *Totally euskaldun*). This measure was designed *ad hoc*.

Personal Well-Being

The Pemperton Happiness Index (Hervás and Vázquez, 2013) was used to assess two dimensions of well-being: *General well-being* and *Eudaimonic well-being*. We used a 10-point response scale (1 = *Totally disagree* and 10 = *Totally agree*), (e.g., “I think my life is useful and worthwhile”; “I feel very connected to the people around me”).

Social Well-Being

The brief Social Well-Being scale was used (Keyes, 1998; adapted by Blanco and Díaz, 2005). Four of the five dimensions of the original scale were measured: Social Integration (a feeling of belonging and being accepted – e.g., “I feel I belong to something I could call a community – neighborhood, town or the Basque Country”); Social Acceptance (an accepting view of human nature and trust in others – e.g., “I believe that people are kind”); Social Contribution (a belief in having something to contribute to society – e.g., “I have something valuable to give to the world”); Social Actualization (a belief in the potential and growth of society, and therefore a feeling of hope about

its future – e.g., “The world is becoming a better place for everyone”). The response scale ranged from 1 = *Not at all* to 5 = *A lot*. In the Euskera and Spanish version of this scale, the items worded in negative terms were inverted to improve comprehension (García and Magaz, 2009).

Community Participation

In order to measure the habit of participating in the community and in collective Basque events, the following three items were created *ad hoc*: “I collaborate in some way in certain initiatives (festivals, events, special days, celebrations, races, etc.) in my town or neighborhood, organizing, working, having meetings, etc.,” “I attend or take part in some way in certain initiatives (festivals, initiatives, special days, celebrations, races. . .) in my town or neighborhood” and “I participate in mass initiatives (demonstrations, initiatives, races, celebrations, competitive activities: *Basque pelota* soccer games, *bertsolaritza*, etc.) that are related to the Basque Country.” We used a 5-point response scale (1 = *Never or rarely*, 2 = *Every so often*, 3 = *Sometimes*, 4 = *Often*, 5 = *Always or almost always*).

Data Analysis

Language and Gender Differences

Before proceeding to the main analyses, we verified the possible effect of the language used to complete the questionnaires (Spanish vs Euskera) and gender in correlations between variables examined in this study. Differences in correlations between participants (Spanish vs Euskera) were not statistically significant. In the case of gender, only one significant difference was observed in the association between perception of linguistic minority-majority and social acceptance ($r = 0.18$ for men and $r = -0.05$ for women, $z = 3.01$; $p = 0.002$). As such, subsequent analyses were conducted, considering the sample as a whole. All analyses were carried out with SPSS 25.0.

Group Profile Creation

Regarding EIF, and following the recommendations of Swann et al. (2009), participants who felt complete fusion between the self and Basque speakers were assigned to participant group “Fused.” All other participants who felt lesser fusion between the self and Basque speakers were assigned to the participant group “Not Fused.” Additionally, regarding CPE, two groups were created: a group with high scores “Highly Empowered” (40% of the participants with the highest scores), and a group with low scores “Not Very Empowered” (40% of the lowest scores). Thus, we eliminated 20% of the participants with intermediate scores from the analysis, in order to achieve a more refined analysis. Finally, we created another variable by combining “Fused vs Not Fused” and “Highly Empowered vs Not Very Empowered,” which gave way to the following four categories: Fused and Highly Empowered (Group 1); Not Fused and Highly Empowered (Group 2); Fused and Not Very Empowered (Group 3) and, lastly, Not Fused and Not Very Empowered (Group 4). In turn, each group was assigned a score based on the third hypothesis to contrast the interaction (Rosenthal and Rosnow, 2008): Group 1 = 4; Group 2 = -1; Group 3 = -1; Group 4 = -2.

On the other hand, two groups were created based on the perception of linguistic minority-majority: participants who ranked 1 (*Not at all or almost not euskaldun*) or 2 (*Slightly euskaldun*) were assigned to the participant group “Perceived Minority,” and those who ranked 4 (*Euskaldun*) or 5 (*Very euskaldun*) were assigned to the participant group “Perceived Majority.” Participants who ranked 3 (*Fairly euskaldun*) were eliminated from the analyses, since these were participants with intermediate scores.

Another variable was created by combining the perception of linguistic minority-majority and fused-not fused, bearing the following four categories: Perceived Minority and Fused (Group 1); Perceived Minority and Not Fused (Group 2); Perceived Majority and Fused (Group 3), and, lastly, Perceived Majority and Not Fused (Group 4). Additionally, the following scores were assigned, based on the rejection-identification model (Branscombe et al., 1999), as counterweights for interaction (Rosenthal and Rosnow, 2008): Group 1 = -1; Group 2 = -2; Group 3 = 4; Group 4 = -1.

Lastly, descriptive analyses and correlations between the different variables in the entire sample were performed and a MANOVA was conducted to analyze the effect and interaction of the EIF (Fused-Not Fused) and the CPE (Highly Empowered-Not Very Empowered) on the criterion variables. The same correlations were performed separately for each group (Perceived Minority vs Perceived Majority), and another MANOVA was conducted to analyze the effect and interaction of the perception of linguistic minority-majority (Perceived Minority and Perceived Majority) and EIF (fused/non-fused).

RESULTS

Correlations Between Variables in the Entire Sample

Firstly, the correlations between the different variables in the entire sample were analyzed (see **Table 3**). The EIF (as a continuous variable) and CPE had an average-low positive association (H1). Moreover, the EIF had average-low positive correlations with the other criterion variables (except for the social well-being dimension: social actualization) (H2a, H2b, and H2c). As far as the CPE is concerned, it resulted in stronger positive associations with all the aforementioned variables. Of note are CPE’s correlations with personal well-being (H2a) and social well-being (H2b), which were high, especially for personal well-being ($r = 0.47$, $p < 0.001$), and a bit more modest regarding community participation (H3b). These results offer support to the first two hypotheses. In addition, the perception of linguistic minority-majority also resulted in positive associations with EIF, with CPE, and with other criterion variables, except for three dimensions of social well-being (social acceptance, social contribution, and social actualization). Lastly, it is interesting to note that the EIF as a categorical variable (fused-not fused) generally showed correlations that were slightly lower when compared with the EIF as a continuous variable.

Effect of EIF and EPC on Criterion Variables

The EIFs effect was significant, Wilks' lambda = 0.943, $F(6, 549) = 5.515$, $p < 0.001$, $\eta_p^2 = 0.057$, as well as the CPE's, Wilks' lambda = 0.788, $F(6, 549) = 24.545$, $p < 0.001$, $\eta_p^2 = 0.212$, although the size of the effect with EIF was small. The interaction between these variables was not statistically significant, Wilks' lambda = 0.99, $F(6, 549) = 0.926$, $p < 0.476$, $\eta_p^2 = 0.01$. However, when applying the aforementioned contrast (Group 1 = 4; Group 2 = -1; Group 3 = -1; Group 4 = -2), significant effects of the r were found on criterion variables (except for the social well-being dimension: social actualization), which suggests that there may be some interaction between EIF and CPE (see Table 4). Moreover, to test the third hypothesis, *post hoc* analyses were conducted using the independent variable coming from the combination of the "Fused-Not Fused" profile and the "Highly Empowered-Not Very Empowered" profile (four groups or categories). *Post hoc* comparisons showed that participants from Group 1 (Fused and Highly Empowered) had significantly higher scores in all criterion variables than Group 3 (Fused and Not Very Empowered), and also than Group 4 (Not Fused and Not Very Empowered), but in this latter case, the social actualization dimension was excepted. Likewise, although Group 1 (Fused and Highly Empowered) scored higher than Group 2 (Not Fused and Highly Empowered) on almost all variables, the difference was only statistically significant in the social integration and community participation dimensions.

Effects of Linguistic Minority-Majority Perception and EIF on Criterion Variables

With the sub-sample perceived as a linguistic minority, associations of EIF with personal well-being and social integration remained statistically significant. However, the

association with other variables lost statistical significance. On the other hand, with the sub-sample perceived as a linguistic majority, associations of EIF with CPE, with social well-being, with the social acceptance dimension and with community participation remained statistically significant, but ceased to be statistically significant with respect to the other variables (personal well-being, social integration and social contribution dimensions) (see Tables 5, 6). Neither in the general sample nor in any of the sub-samples was the relationship between EIF and the social actualization dimension significant. On the other hand, relations between CPE and other variables persisted in both sub-samples, except for EIF in the sub-sample that perceived itself as a minority, as mentioned. Despite all the differences between both sub-samples at a descriptive level, these differences were not statistically significant (e.g., $z = 1.11$; $p = 0.263$ for the relation between EIF and CPE).

In addition, MANOVA shows that the effect of the EIF variable (Fused vs Not Fused) was significant (Wilks lambda = 0.96, $F(7, 504) = 2.993$, $p < 0.004$, $\eta_p^2 = 0.04$), as well as the effect of the perceived linguistic minority-majority (Wilks' lambda = 0.944, $F(7, 504) = 4.294$, $p < 0.001$, $\eta_p^2 = 0.06$). The interaction between both variables was not significant = 0.99, $F(7, 504) = 0.513$, $p < 0.825$, $\eta_p^2 = 0.007$). However, upon applying the aforementioned contrast (Group 1 = -1; Group 2 = -2; Group 3 = 4; Group 4 = -1), significant effects of the r on the criterion variables were found, excepting social contribution and social actualization dimensions, which suggests that there could be some interactions between EIF and perceived linguistic minority-majority on the other variables (see Table 7).

Lastly, a *post hoc* analysis was conducted, using the combined variable of linguistic minority-majority and fused-not fused to this end. On the one hand, Group 1 (Perceived Minority and Fused) scored higher than Group 2 (Perceived Minority and

TABLE 4 | Post hoc comparisons between EIF and CPE-profile groups in criterion variables.

| Variables | Group 1: Fused and Highly Empowered (n = 167) | Group 2: Not Fused and Highly Empowered (n = 143) | Group 3: Fused and Not Very Empowered (n = 106) | Group 4: Not Fused and Not Very Empowered (n = 142) | r | Differences in the Average | η_p^2 |
|--------------------------|---|---|---|---|--------|---------------------------------------|------------|
| Personal well-being | M = 8.30 (SD = 1.00) | M = 8.20 (SD = 0.90) | M = 7.29 (SD = 1.04) | M = 7.18 (SD = 1.12) | 0.32** | 1, 2 > 3***, 4*** | 0.20 |
| Social well-being | M = 3.43 (SD = 0.49) | M = 3.40 (SD = 0.43) | M = 3.18 (SD = 0.33) | M = 3.12 (SD = 0.42) | 0.23** | 1, 2 > 3***, 4*** | 0.09 |
| SW: Social integration | M = 4.14 (SD = 0.57) | M = 4.01 (SD = 0.60) | M = 3.90 (SD = 0.51) | M = 3.70 (SD = 0.59) | 0.24** | 1 > 2*, 3**, 4*** 2 > 4*** 3 > 4** | 0.08 |
| SW: Social acceptance | M = 3.28 (SD = 0.62) | M = 3.24 (SD = 0.67) | M = 3.08 (SD = 0.58) | M = 2.90 (SD = 0.62) | 0.18** | 1 > 3**, 4*** 2 > 3*, 4*** 3 > 4* | 0.06 |
| SW: Social contribution | M = 3.72 (SD = 0.77) | M = 3.68 (SD = 0.62) | M = 3.50 (SD = 0.67) | M = 3.38 (SD = 0.64) | 0.14** | 1 > 3*, 4*** 2 > 4*** | 0.04 |
| SW: Social actualization | M = 2.60 (SD = 0.83) | M = 2.66 (SD = 0.81) | M = 2.24 (SD = 0.67) | M = 2.48 (SD = 0.73) | 0.07 | 1 > 3*** 2 > 3***, 4* 4 > 3* | 0.04 |
| Community participation | M = 3.84 (SD = 0.74) | M = 3.58 (SD = 0.87) | M = 3.64 (SD = 0.79) | M = 3.35 (SD = 0.85) | 0.20** | 1 > 2**, 3*, 4*** 3 > 4** | 0.05 |

SD, Standard deviation; SW, Social well-being. Wilks' Lambda, 0.73, $F(18, 1553.292) = 10.072$, $p < 0.001$, $\eta_p^2 = 0.099$. * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.

TABLE 5 | Matrix of correlations, descriptive statistics and reliability of the scales with the sub-sample that perceives itself as a Linguistic Minority in its environment.

| | EIF CON | CPE | PW | SW | IN | AC | CON | ACT | CP |
|-------------------|---------|-------|--------|--------|--------|--------|--------|--------|--------|
| EIF CON | – | 0.08 | 0.13* | 0.06 | 0.16** | 0.05 | 0.04 | –0.06 | 0.09 |
| EPC | | – | 0.44** | 0.34** | 0.27** | 0.25** | 0.25** | 0.15** | 0.18** |
| Asymmetry | –0.82 | –0.57 | –0.52 | –0.19 | –0.46 | –0.32 | –0.41 | 0.03 | –0.27 |
| Kurtosis | 0.33 | 0.99 | 0.14 | –0.09 | 0.31 | 0.29 | 0.27 | –0.26 | –0.53 |
| Average | 4.21 | 7.52 | 7.58 | 3.24 | 3.86 | 3.12 | 3.52 | 2.48 | 3.42 |
| SD | 0.80 | 1.31 | 1.14 | 0.45 | 0.60 | 0.61 | 0.69 | 0.76 | 0.82 |
| Cronbach α | – | 0.89 | 0.89 | 0.76 | 0.64 | 0.52 | 0.74 | 0.83 | 0.70 |

N = 342. EIF CON, Ethnic Identity Fusion as continuous variable; CPE, Collective Psychological Empowerment; PW, Personal Well-being; SW, Social Well-Being; IN, Social Integration; AC, Social Acceptance; CON, Social Contribution; ACT, Social Actualization; CP, Community Participation; SD, Standard Deviation. **p* < 0.05 and ***p* < 0.01.

TABLE 6 | Matrix of correlations, descriptive statistics and reliability of the scales with the sub-sample that perceives itself as a Linguistic Majority in its environment.

| | EIF CON | CPE | PW | SW | IN | AC | CON | ACT | CP |
|-------------------|---------|--------|--------|--------|--------|--------|--------|-------|--------|
| EIF CON | – | 0.18** | 0.14 | 0.15* | 0.08 | 0.16* | 0.10 | 0.04 | 0.17* |
| EPC | | – | 0.52** | 0.34** | 0.31** | 0.20** | 0.26** | 0.15* | 0.31** |
| Asymmetry | –1.10 | –0.11 | –0.61 | 0.28 | –0.38 | –0.42 | –0.06 | 0.16 | –0.44 |
| Kurtosis | 0.59 | –0.27 | 0.59 | 0.08 | –0.09 | 0.31 | –0.28 | –0.14 | –0.20 |
| Average | 4.42 | 7.76 | 7.91 | 3.33 | 4.07 | 3.16 | 3.60 | 2.5 | 3.80 |
| SD | 0.74 | 1.13 | 1.01 | 0.45 | 0.59 | 0.66 | 0.69 | 0.79 | 0.78 |
| Cronbach α | – | 0.85 | 0.87 | 0.77 | 0.69 | 0.60 | 0.77 | 0.85 | 0.78 |

N = 190. EIF CON, Ethnic Identity Fusion as continuous variable; CPE, Collective Psychological Empowerment; PW, Personal Well-being; SW, Social Well-Being; IN, Social Integration; AC, Social Acceptance; CON, Social Contribution; ACT, Social Actualization; CP, Community Participation; SD, Standard Deviation. **p* < 0.05 and ***p* < 0.01.

Not Fused) on the CPE, on personal well-being, on the social integration dimension and on community participation. On the other hand, Group 3 (Perceived Majority and Fused) showed no significant difference in any of the variables in comparison with Group 4 (Perceived Majority and Not Fused). In turn, Group 1 (Perceived Minority and Fused) also did not differ in comparison with Group 3 (Perceived Majority and Fused), nor in comparison with Group 4 (Perceived Majority and Not Fused), except in community participation, where Group 1 scored lower than Group 3. Lastly, Group 3 (Perceived Majority and Fused) scored statistically significantly more than Group 2 (Perceived Minority and Not Fused) on all variables, excepting social contribution and social actualization.

In summary, the participants who perceive themselves as a linguistic minority in their surroundings and are not fused score less on the CPE, on well-being in general (except for social contribution and social actualization) and on community participation than participants who are fused and perceive themselves as a linguistic majority. However, scores on CPE, personal well-being and social integration of participants who also perceive themselves as a linguistic minority but who are fused, are comparable to the scores of participants who perceive themselves as a linguistic majority.

DISCUSSION

Even though group identification has been acknowledged as one of the main driving forces behind empowerment (Gutiérrez,

1995; van Zomeren et al., 2008; Drury and Reicher, 2009), studies on the effects of ethnic identity and PE are still scarce (Hipolito-Delgado and Zion, 2017; Lardier, 2018; Lardier et al., 2018; Molix and Bettencourt, 2010; Tamasas, 2010). Moreover, to our knowledge, there are no prior studies that studied empowerment (or efficacy) from a purely collective perspective in relation to ethnic identity and its psychological effects. The objective of this study was to analyze, in a singular population (i.e., an ethnic group in a situation of linguistic minority but not stigmatized), the relations of the identification as Basque speakers (or EIF) and CPE with personal well-being, social well-being and community participation. The results showed that individuals who are highly identified or fused with Basque speakers and who are highly empowered had higher indices of well-being (both personal and social) and of community participation than non-fused individuals with low empowerment.

Association of Ethnic Identity Fusion and Empowerment (or Efficacy) With Well-Being and Community Participation

As hypothesized, the association between EIF and CPE was significant. In general, its size was less than the association between ethnic identity and PE (individual) found in other studies (Tamasas, 2010; Lardier, 2018; Lardier et al., 2018, 2019), although the difference was only statistically significant in comparison with the study by Lardier et al. (2018). It should be noted that the samples in these studies were mainly

TABLE 7 | Post hoc comparisons between EIF and Linguistic Minority-Majority Perception profile groups in criterion variables.

| Variables | Group 1: Minority and Fused (n = 138) | Group 2: Minority and Not Fused (n = 192) | Group 3: Majority and Fused (n = 102) | Group 4: Majority and Not Fused (n = 82) | r | Differences in averages | η_p^2 |
|--------------------------|---------------------------------------|---|---------------------------------------|--|---------|---|------------|
| CPE | M = 7.70 (SD = 1.21) | M = 7.43 (SD = 1.36) | M = 7.89 (SD = 1.17) | M = 7.55 (SD = 1.05) | 0.13 ** | 1 > 2* 1 = 3 = 4 2 = 4 | 0.02 |
| Personal well-being | M = 7.74 (SD = 1.11) | M = 7.49 (SD = 1.15) | M = 8.01 (SD = 1.00) | M = 7.80 (SD = 1.00) | 15** | 1 > 2* 1 = 3 = 4 2 < 4* | 0.03 |
| Social well-being | M = 3.27 (SD = 0.43) | M = 3.23 (SD = 0.43) | M = 3.36 (SD = 0.47) | M = 3.29 (SD = 0.43) | 0.09* | 1 = 2 1 = 3 = 4 2 = 4 | 0.01 |
| SW: Social integration | M = 3.96 (SD = 0.51) | M = 3.80 (SD = 0.62) | M = 4.08 (SD = 0.62) | M = 4.03 (SD = 0.55) | 0.14** | 1 > 2** 1 = 3 = 4 2 < 4** | 0.03 |
| SW: Social acceptance | M = 3.17 (SD = 0.60) | M = 3.07 (SD = 0.62) | M = 3.24 (SD = 0.62) | M = 3.06 (SD = 0.71) | 0.09* | 1 = 2 = 3 = 4 | 0.01 |
| SW: Social contribution | M = 3.54 (SD = 0.69) | M = 3.52 (SD = 0.66) | M = 3.62 (SD = 0.75) | M = 3.58 (SD = 0.60) | 0.03 | 1 = 2 = 3 = 4 | 0.003 |
| SW: Social actualization | M = 2.41 (SD = 0.73) | M = 2.55 (SD = 0.76) | M = 2.49 (SD = 0.80) | M = 2.50 (SD = 0.79) | -0.002 | 1 = 2 = 3 = 4 | 0.005 |
| Community participation | M = 3.55 (SD = 0.76) | M = 3.34 (SD = 0.85) | M = 3.86 (SD = 0.75) | M = 3.70 (SD = 0.81) | 0.20** | 1 > 2* 3 = 4 1 < 3** 1 = 4 2 < 4*** | 0.06 |

CPE, Collective Psychological Empowerment; SW, Social Well-Being; EIF, Ethnic Identity Fusion. Wilks' Lambda = 0.887, $F(21, 1447.766) = 2.953$, $p < 0.001$, $\eta_p^2 = 0.039$. * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.

formed by young African Americans, and the measurements used were specific to measure ethnic identity. It is possible that age (Smith and Silva, 2011; Rivas-Drake et al., 2014), a more vulnerable socioeconomic situation (Morrison et al., 2011) and/or the instruments used influenced the relation between ethnic identity and empowerment. Moreover, we should also take into account that the empowerment measured in these studies was analyzed in individual, and not collective, terms.

On the other hand, regarding the other correlations, it should be highlighted that EIF, as a continuous variable, showed positive correlations with effect sizes that fell under the ranges found in meta-analyses on personal well-being (Smith and Silva, 2011) and social well-being (Espinosa et al., 2015), as well as within the ranges found in certain studies on community participation (Tamanas, 2010; Speer et al., 2013; Christens and Lin, 2014; Lardier, 2018; Lardier et al., 2018). Therefore, it could be argued that the association between ethnic identification and the personal well-being of Basques in this study is comparable to that found in studies conducted with people of color in the United States, for example, African Americans, Asian Americans, and Hispanic (Smith and Silva, 2011). Furthermore, the associations of EIF as a categorical variable (fused-not fused) were always slightly lower (except for community participation), and in this study, there is no evidence that confirms what Swann et al. (2009) suggest regarding the existence of a qualitative difference between fused and not-fused individuals.

Collective psychological empowerment had a high correlation with personal well-being, as well as social well-being, and medium-low correlation with community participation. Social factors, such as social well-being tend to be related to personal well-being (Keyes, 2006), as occurs in this study. In any event, the fact that CPE shows such a high correlation with personal well-being in this study is worthy of reflection. On the one hand, given that PE and CPE may be related (Staples, 1990; Bandura, 1997; Roos et al., 2013; Soares et al., 2015), it is possible that CPE was reflecting the PE of each individuals, such that the collective and its members reinforce (Staples, 1990) the perception of control or mastery over the environment (Martínez-Zelaya G. et al., 2015). This explanation, and in light of this work's approach, where we have defended the importance of studying PE in collective terms, is clearly insufficient. In fact, the studies by Roos et al. (2013) and Soares et al. (2015), perceived collective efficacy and collective empowerment have proven to play an important role, even greater than the role of self-efficacy and individual empowerment in satisfaction and quality of life. Thus, collective empowerment may have a positive and prominent influence on both social and personal well-being. It may be that in certain populations such as the Basque, the collective aspects (in this case, CPE), take on an especially important role, not only in other social variables, but also in individual variables such as personal well-being. We bear in mind that the participants in this study are individuals who are committed to *Euskera* (a central aspect of Basque identity) and that, additionally, they have a very high identification or identity fusion scores, i.e., a self where the personal and the social aspects are very

interwoven (Gómez and Vázquez, 2015). Thus, a desirable and necessary objective is to analyze the effects of PE and CPE on personal and social well-being in a differentiated fashion, and to study all these variables in other populations with a lower degree of identification or identity fusion. We will discuss these objectives later on.

Synergy or Interaction Between the Fusion of Ethnic Identity and Collective Psychological Empowerment

The results show that fused and highly empowered participants have higher indices of personal well-being, social well-being and community participation than the rest of participants. However, the data show that CPE holds greater weight than EIF over the criterion variables. In fact, the hypothesis of interaction or synergy is partially supported by the contrast and *post hoc* analyses (although not by the MANOVA), only for the social integration and community participation dimension. This may be due to the fact that the participants in this study are individuals who actively defend *Euskera*, with a high degree of identification with Basque speakers. As such, it makes sense that this identification is more related to social integration (feeling of belonging and being accepted), but not so much with other variables. In turn, just as the meta-analysis by Talò (2018) showed, the factors most associated with community participation are forms of social identification, such as sense of community and collective identity, among others. These results are in line with what was found in the studies by Lardier et al. (2018) and Molix and Bettencourt (2010), in which significant relationships were also found between identity, empowerment, well-being, and community participation for American ethnic minorities (mainly youth). However, it is interesting to note that these relationships did not exist among white Americans (Molix and Bettencourt, 2010). The authors suggest that this disparity may be due to the fact that the acceptance of group identity as positive may be a coping strategy to mitigate the negative effects of social stigma and promote well-being for ethnic minorities, whereas for white Americans this coping strategy would not serve, as they lack this social stigma. This explanation, however, does not serve to understand these associations in the Basque community, since this group not only enjoys a good socio-economic position, but has managed to turn the shame of knowing Basque into pride. Later on we will try to give a plausible explanation to understand why these relationships also occur in the Basque community.

Minority-Majority Perception and EIF

Post hoc results suggest that, just as shown in the results, being fused with Basque speakers and perceiving that one's social group is a majority in the immediate environment has a positive effect on well-being and on community participation, and that not being fused and perceiving that Basque speakers are a minority has a negative effect. In addition, another result that is worth highlighting for its own importance is that in participants who have a fused identity, the negative effect of perceiving themselves as a minority is mitigated in the following variables: in CPE,

in personal well-being, in the social integration dimension, and in community participation, while when the environment is perceived as a Basque-speaking majority, it appears that the effect of identification is diluted. These results are in line with studies that maintain that ethnic identification can be an effective tool to confront the effects associated with being a minority, and that, as such, defend ethnic identification as a particularly important factor for minority and/or discriminated groups (Crocker et al., 1994; Phinney et al., 1996; Branscombe et al., 1999; Mossakowski, 2003; Carter et al., 2005; Molix and Bettencourt, 2010).

In order to understand what these results mean, it is necessary to take into account that the social groups usually studied in this area, including empowerment tend to be vulnerable collectives (Gutiérrez, 1995; Karaś et al., 2015; Lardier, 2018; Lardier et al., 2018), while the Basque collective possesses a series of particularities that should be considered separately. The achievements in terms of culture, and especially language, are clearly coherent with the Basque collective's perception of power to change society and reach its objectives. However, these achievements, as well as the end of the Basque conflict, are very recent and, therefore, we still find certain indicators of vulnerability, such as the fragile situation of *Euskera* (Sociolinguistic Cluster, 2020) and specific indicators of discrimination against the language in some contexts (Gorter et al., 2012). Furthermore, at present, the political actions of the Spanish and French governments are sometimes perceived as a threat to the survival of *Euskera*, and therefore, to the Basque identity.

According to the social identity theory, when a collective is a minority and perceives relevant threats that concern its identity, the identity is activated (Crocker and Luhtanen, 1990) and this can begin empowerment processes (Gutiérrez, 1995). It may be that, despite the generally good socioeconomic position of this social group and the achievements reached as far as the language is concerned, the awareness of being a linguistic minority both in the world and within the population of the Basque Country as a whole, contributes to the fact that the identification or degree of identity fusion with Basque speakers and, especially, empowerment, act as especially important factors for well-being.

Limitations and Future Research

This study has a series of limitations that should be addressed. Firstly, this is a cross-sectional study, so it is not possible to establish a temporal relation between the variables with certainty. Furthermore, this work has other limitations that should be considered in future research.

On the one hand, it is a convenience sample and cannot be considered a representative sample of the Basque population. Furthermore, the sample is not sufficiently varied in terms of EIF. The average identity fusion of participants is very high, 4.28 ($SD = 0.77$, on a scale of 1 to 5). Participants in this study are active individuals who are in the habit of running in *Korrika*, which, as already mentioned, is a mass recreational race to defend and promote the Basque language. As such, it is very likely that this sample does not represent the variability

in EIF that we might find in the general Basque population. Also, the sample was composed mostly by women. This may be due to the fact that women are usually the main transmitters and promoters of culture and language, and in this specific case of *Korrika* and *Euskera* (Del Valle, 1988). Additionally, although the age of participants in this study reflected great variability (ranging between 18 and 73 years), not all age ranges were equally represented. In the future, it would be desirable to study these same relations in a sample of Basque citizens with higher variability in EIF, as well as in a more balanced sample regarding gender and age.

Regarding the scale used to measure EPC, in future studies, it would be advisable to also consider including elements that capture the affect associated with the perception of the capacity to enhance change and greater social justice (Drury and Reicher, 2009), as well as measures for sociopolitical control (Peterson et al., 2011), that provide a better measurement of empowerment in collective terms. Additionally, it would be enriching to consider including both types of empowerment, individual and collective, and to analyze the relation between them, as well as their effects.

Another issue of interest, given the aforementioned particularities of the population of this study, is the possible effect of the perception of a threat to, or discrimination against this population. Although a variable related to linguistic minority-majority perception was included, it would also be desirable to include measures designed to more directly assess the perception of being a discriminated or disadvantaged group, since this perception could be a key factor to clarify the relations between EIF, CPE and well-being (Crocker et al., 1994; Phinney et al., 1996; Branscombe et al., 1999; Mossakowski, 2003; Carter et al., 2005; Molix and Bettencourt, 2010).

Finally, regarding future research, it is important to consider other factors analyzed in previous studies and that may influence relations between social identification and well-being: i) size and nature of the group targeted in the study, including proximal groups (organizational groups, volunteer groups, friends, family, community, town, place, etc.) or larger and distal (nation, ethnicity, race, gender, religion, etc.) (Postmes et al., 2019); ii) socioeconomic status of the individuals themselves; iii) the political, socioeconomic (per capita income, human development index, distance from power, etc.) and cultural (individualism-collectivism) characteristics of the country and the group targeted by the study (Morrison et al., 2011; Espinosa et al., 2015).

CONCLUSION

Based on the results of this work, it is possible to conclude that CPE, along with social identification (or identity fusion) are important factors that positively influence well-being (both personal and social) and community participation, with empowerment standing out as especially noteworthy. On one hand, considering the role of empowerment in this study, and on the other, this collective's characteristics (which are unusual in this field), we believe that this work contributes to the emerging knowledge about the relation between social identification

(or identity fusion) and empowerment and its influence on well-being and community participation.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by University of the Basque Country's Ethics Committee for Research Involving Human Beings. The patients/participants provided their written informed consent to participate in this study.

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AUTHOR CONTRIBUTIONS

JZ, SC, and AP contributed to the design and implementation of the research, and analyzed and interpreted the data. JZ collected the study's data. All the authors discussed the results, and contributed to the writing and editing of the manuscript.

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Belonging and Social Integration as Factors of Well-Being in Latin America and Latin Europe Organizations

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Background: Studies and meta-analyses found individual, meso and micro-social factors that are associated with individual well-being, as well as a positive socio-emotional climate or collective well-being.

Aim: This article simultaneously studies and examines these factors of well-being.

Method: Well-Being is measured as a dependent variable at the individual and collective level, as well as the predictors, in three cross-sectional and one longitudinal studies. Education and social intervention workers ($N = 1300$, $K = 80$) from Chile, Spain and Uruguay participate; a subsample of educators ($k = 1$, $n = 37$) from the south central Chile and from Chile, Uruguay and Spain ($n = 1149$); workers from organizations in Latin America and Southern Europe, military cadets from Argentina ($N < 1000$); and teams ($K = 14$) from Spanish companies.

Results: Individual and collective well-being indicators were related, suggesting that the emotional climate as a context improves personal well-being. Individual factors (emotional creativity and openness and universalism values), psychosocial factors (low stress, control over work and social support supervisors and peers) were positively associated with personal well-being in education and social intervention context. Organizational dynamic or transformational culture is directly and indirectly associated with individual well-being through previously described psychosocial factors. Group processes such as internal communication and safe participation, task orientation or climate of excellence as well as leadership style that reinforces participation and belonging, were positively associated with collective well-being in labor and military context and predict team work socio-emotional climate in a longitudinal study- but were unrelated to individual well-being. Transformational leadership plays

a mediating role between functional factors and social-emotional climate in work teams. Organizational role autonomy, functional organizational leadership, integration and resources were associated with collective well-being in organizations. Organizational leadership moderates the relationship between task orientation and collective well-being in military context.

Conclusion: Individual and microsocial factors influence personal well-being. Meso level factors favorable to well-being through processes which reinforce social belonging, influence directly collective well-being and indirectly personal well-being. Leadership that reinforces participation and belonging play a central role for emotional climate. Stress and emotional climate playing an important pivotal role for psychological well-being.

Keywords: belonging, factors, organizations, social integration, well-being

INTRODUCTION

This article examines the relative importance of factors in well-being in Latin America and Southern European organizations. We briefly review the theoretical antecedents of well-being in organizations, which will then be examined empirically in the following four studies in students and workers from six countries. The International Labor Organization (ILO)¹ states that well-being at the workplace concerns all aspects of professional life. In this sense, the quality and safety of the physical climate, the socio-emotional climate and work organization are of great importance. There are studies that report a direct relationship between productivity levels, health and the general well-being of the workforce (Martín, 2011; Steffens et al., 2016; Kickbusch et al., 2017; World Health Organization, 2020). Regarding the well-being of organizations, this implies processes such as collective identification and social integration, as well as multi-level efforts. The concept of identification with the organization implies a perception of unity or belonging to it. As such, this would be a determining variable to explain desirable consequences therein (Mota et al., 2018). When belonging to an organization is part of an individual's social identity, its norms and values are incorporated into the cognitive concept of the self, as well as the attraction and/or desire to belong to it (Davila and Jiménez, 2012). In turn, we understand that social integration (Hirsch et al., 2008) is a multidimensional construct that can be defined as the extent to which individuals participate in a variety of social relationships, like labor roles and organizations (Holt-Lunstad et al., 2010), and this includes cohesion, group identification (Knight and Eisenkraft, 2015), support and social capital (Hirsch et al., 2008). According to the theory inspired by Durkheim (Hirsch et al., 2008; Song, 2013), well-being would be in proportion to the degree of social integration of individuals in the groups of which they form a part (Song, 2013). Thus, social integration is associated with a lower risk of mortality (Holt-Lunstad et al., 2010, 2015)

and greater health behaviors (DiMatteo, 2004; Holt-Lunstad et al., 2010, 2015).

Criteria for Membership and Social Integration in Organizations

There are multiple factors at different levels that explain well-being in organizations². As an individual-level dependent variable (DV), this article reviews well-being indicators like stress reactions (BSCs), the concept of quality of life linked to health (QLLH), the hedonic view or subjective well-being (SHWB), psychological or eudemonic well-being (PWB), and social well-being (SWB). In turn, as micro-social level DV, we study the concept of the socio-emotional climate, regarding hedonic group well-being, related to the predominance of positive collective emotions and social cohesion. As individual-level explanatory variables, we review emotional creativity (EC) and motivational values (MV) (Schwartz, 2012), such as openness to change (OVC) and self-transcendence benevolence (TVB) and universalism (TVU). In the same fashion, we examine gender, seniority with the organization (SO), degree of knowledge and previous participation in work teams (KPW), agreement with the methodology (AM) used at the organization and the intention to stay (IS) at it. The latter two are, respectively, indicators of professional satisfaction and commitment to the organization. As explanatory variables of micro-social level, we examine group processes that facilitate integration and participation. That is, the internal participation and communication within the group (IPaCG), and task-orientation and a climate of excellence (TOaCE). At this level, we also analyze the concepts of excessive psychological demands at work or job-place stress (EPs), control over work or autonomy in one's position (CWa) and leadership that reinforces participation and belonging to the organization (LpB) which includes the different leadership styles. Finally, and as variables of meso social level, we examine the characteristics of the labor role (AR and LeR), the culture and organizational structure that reinforces participation

²See level of analysis, predicted and predicted variables, study of the article to which it is applied, measurement instrument and example of items in document: [on line resources 2](#).

¹See acronyms in document: [on line resources 1](#).

and integration in the organization (CSO). This includes transformational and transactional culture and organizational leadership (LpO).

Well-Being as an Explained Variable at the Individual and Micro-Social Level

At an individual level, two basic elements of well-being are BSCs and QLLH. BSCs are different forms of behavior that are sometimes related to stress. Symptoms such as dry mouth, tendency to perspire, stomach pain, and more, may be explained by the physiological alterations that occur in the body when the “fight-or-flight” response is activated. Long-term stress has a negative effect on the health of the individual who suffers it. It may make itself known only through experiential symptoms of an emotional variety (nervousness, irritability, distress, anger, etc.) or through the cognitive and behavioral consequences related to it, including greater risk of traffic accidents, lethal decisions and erroneous decisions at work. On the other hand, QLLH is defined as the score an individual gives to his/her degree of well-being in different areas of life, considering the impact that a disease and its consequences may have on the aforementioned areas. This includes perception of physical and mental health and vitality. Thus, positive mental health implies a lack of symptoms of anxiety and depression. Good mental health in professional terms is related to quality of leadership, predictability, social support and meaning of work. In this regard, vitality is very similar to “*joie de vivre*” and has been shown to have a high negative correlation with feeling burnout on the job (Hervás and Vázquez, 2013; Moncada et al., 2014).

The SHWB or subjective well-being falls under a hedonic vision of well-being. We can identify both the affective and the cognitive aspects of this focus (Sojo et al., 2016; Martín-María et al., 2017; Diener et al., 2018). AHWB refers to a person’s experience of pleasant and unpleasant feelings (Tov, 2018). SWL has often been called life satisfaction, which is a judgmental process, wherein the person assesses quality of life based on his/her own criteria (Vanhoutte and Nazroo, 2016). EWB or eudaimonic well-being includes acceptance and appreciation of oneself, or self-esteem, having positive relationships with other people, feeling capable of effectively working and acting, and that one is learning or undergoing personal growth, that includes a purpose in life and a feeling of personal psychological and social autonomy (Suh and Koo, 2008; van Tuin et al., 2020). For its part, social well-being (SWB) refers to the extent to which one’s surroundings provide for a full life or facilitate realization of the most valuable human potential (Ryan et al., 2008; Mackenzie et al., 2018). Finally, EPWB, or psychological well-being is composed by SHWB, EWB and SWB (Ryan and Deci, 2001; Hervás and Vázquez, 2013; Ryff, 2014).

At microsocial level, well-being could be conceived of as group hedonic well-being (GHWB). Organizational climate has been defined as the relatively shared perception of interactions and their meanings that characterize a group or organization. Organizational psychology defines socio-emotional climate as “a particular form of organizational climate that specifically refers to the collective mood of the members of the organization and

their attitudes toward their colleagues and leaders, as well as the organization as a whole. In this regard, the climate, although related to the culture of the organization, is different from it, since it is a function of the political organization and organizational procedures, as opposed to the beliefs, values and suppositions of its members” (Ashkanasy and Dorris, 2017, p. 79). The emotional culture of the group, organization or nation are the shared affective values, norms, mechanisms, scenarios and suppositions that govern the emotions that people must feel and express (Páez et al., 2013; Barsade and Knight, 2015; Bobowik et al., 2017). The positive climate is characterized by positive emotions, which are created and then fed by the organization’s structure (Ashkanasy and Dorris, 2017). Three aspects of teamwork, closely related to GHWB, are trust, bonding and satisfaction with participation. The first two refer to the establishment of bonds of affection on the team. Trust assesses the extent to which members have confidence in the team’s ability to carry out their task and help each other. On the one hand, it is based on the team’s power, or the collective belief that they will be able to successfully complete the task (Tröster et al., 2014). On the other hand, it is based on the psychological certainty or belief, held by each one of the members, that they will not be threatened and/or rejected from the team (Hülsherger et al., 2009; DeChurch and Mesmer-Magnus, 2010). At the same time, bonding is based on managing diversity as a source of resources, and conflict from a cooperative perspective, in search of mutual benefit. By last satisfaction with participation refers to how much team members like their colleagues and the team in general (Johnson and Avolio, 2019; Settles et al., 2019). A meta-analysis found that positive group affect³ was consistently associated with social integration and task performance (Knight and Eisenkraft, 2015).

In line with the aforementioned, the following hypotheses are proposed:

H1: Confirming the nomological well-being network, the indicators of individual level and collective level will be associated with each other. Demonstrating the independence of the constructs, the associations between well-being indicators will be less than 0.70.

Predictors of Well-Being at the Individual, Micro and Mesosocial Level

EC is understood as the ability to experience novel and complex combination of emotions in an appropriate, authentic and original way (Averill, 2009). Emotional intelligence is a similar concept (Gong and Jiao, 2019). While EC requires divergent thinking, where the process and generation of an adequate response are just as important as originality, EI requires convergent thinking and solving emotional problems so the experience is recognized with precision (O’Connor et al., 2019). EC has been found to be positively related to positive emotional experiences, like positive affect and hope (Sharma and Mathur,

³In this review of emotional climate, studies were included on group affect or moods, because as a construct, this includes emotions. Moreover, group moods often represent traces of past collective emotions (Menges and Kilduff, 2015) and act as the context wherein emotions may arise (Páez et al., 2013). A predominant pleasant mood is a defining element of a positive emotional climate.

2016), as well as self-esteem (Oriol et al., 2016). In the same way EC was also associated with a high intensity of negative affect, which is congruent with the fact that EC is associated with neuroticism, a personality trait linked to emotional reactivity and negative affect (Averill, 1999; Runco, 2014). However, EC, which is associated with a more adaptive hetero regulation (da Costa, 2018), very likely is also associated with a more positive socio-emotional climate, helping to decrease the negative emotions of others and increase the positive ones. MVs (Castro et al., 2017) are guides to the actions of people and their personal interests. For this reason, they do not always align with the organizations. These values may be viewed as orientations for action and meet one or more needs: biological, for coordinated social interaction, for survival and for well-being of groups (Schwartz, 2012; Castro et al., 2017). OVCs (which emphasize self-direction, hedonism, and stimulation), linked to needs of self-determination and competency, as well as orientation toward variety and gratification, have been associated with the well-being of individuals. Thus TVUs, oriented toward justice and well-being for all individuals, as well as TVB, which emphasizes social support for those near to us, have been associated with well-being (Bobowik et al., 2011; Zubieta et al., 2012; Schwartz and Sortheix, 2018).

Regarding gender, the meta-analysis by Batz-Barbarich et al. (2018) found no statistically significant differences in satisfaction with life and for satisfaction with work between genders. Once the publication bias was corrected, differences were significant ($d = -0.03$ for life satisfaction and $d = -0.011$ for job satisfaction) but small, in favor of men. The meta-regression had an effect size of $r = -0.12$ for gender inequality in female well-being. Another meta-analysis (Purvanova and Muros, 2010), which studied the relation between gender and burnout, found women slightly more emotionally burned out than men ($\delta = 0.10$), and men were slightly more de-personalized than women ($\delta = -0.19$). According to Batz and Tay (2018), most of the meta-analysis' results conclude that gender differences are significant in terms of satisfaction with life, with men having higher life satisfaction levels. A study ($K = 154$ countries) suggested that women report higher levels of negative affect than men. One possible explanation is that an underlying related theme is the responsibility of caring for dependents, since women often assume the role of primary caregivers (Sharma et al., 2016; Chawla and Sharma, 2019).

Regarding SO, the results from a survey conducted with employees in the United States and Korea showed that the positive relationship between people-oriented leadership and affective organizational commitment were moderated by rank and years at the organization. It was observed that the positive relationship was stronger when the rank was higher and the SO was shorter (Hong et al., 2016). Peiró et al. (2019) found that, at Spanish companies, the likelihood of obtaining high well-being and performance was associated with a temporary contract (see De Neve and Ward, 2017), being between 35 and 50 years old and playing a managerial role (see intention to stay). Finally, Romero (2001) found that younger workers with fewer years at the organization showed greater psychological well-being and job satisfaction, while other studies found the opposite

(Oshagbemi, 2000) or a U shaped association (Ronen, 1978). As for KPW, a longitudinal study (Nielsen and Randall, 2012) found that levels of autonomy and satisfaction in the job, before the intervention, predicted the degree of employee participation in planning and executing the intervention. Participation and changes in work procedures were significantly associated with well-being after the intervention. Another study found that knowledge about teamwork had an impact on the team's results, and that team learning behavior mediated between knowledge of teamwork and its results (Guchait et al., 2015). AM was conceived as a job-satisfaction indicator that could be defined as the individual's psychological willingness toward their job which involves an emotional or affective response (Cantarelli et al., 2016). The meta-analysis by Bowling et al. (2010) found at the same time a positive relationship between job satisfaction and life satisfaction, subjective well-being and positive affect. Finally, IS can be defined as the desire of those working at an organization to stay there (Ogbonnaya et al., 2018) and in the professional sector (da Costa, 2018), with a high degree of relevant implication in organizational effectiveness. Ratifying this, a multi-level analysis found an indirect positive association in patients' satisfaction through well-being of employees and intention to stay. The strength of this relation appears to be reinforced by the training that the organization provided to its employees (Ogbonnaya et al., 2018).

The following hypotheses are formulated:

H2: Emotional creativity, Openness to change and Self-transcendence values will be positively associated with well-being.

H3: According to the theory, gender differences in well-being will be found to explain less than 3% of the variance ($d < 0.20$ or $r < 0.10$) and those that are found will benefit men. Following the theory, we also postulate that differences found in pro-well-being factors will sometimes favor men and other women.

H4: The less seniority and the greater knowledge about team work, commitment and job satisfaction the greater the well-being.

At a microsocioal level, IPaCG is a process related to belonging and social integration. This is characterized by participation in decision-making and communication between group members and with the organization. When people can participate in decision-making, they have influence and feel free to speak, they display greater commitment and they tend to invest more energy in their work. In this regard, open and fluid communication encourages a non-threatening psychological climate, characterized by comradeship and mutual support. Another communication method is through ICTs. Work teams use them to share information quickly and effectively amongst members. To achieve high coordination for better performance and results, it is important that members have the same degree of knowledge and mastery over them (Müller and Antoni, 2020). TOaCE refers to a climate of excellence, describing the shared concern for excellent quality in conducting tasks, associated with a shared vision or results. Task orientation includes the

process wherein the team reflects on its objectives, strategies, procedures and processes and assesses each individual's work to improve efficacy and coordination (Hülsherger et al., 2009). Team member coordination may be explicit [visible and external coordination patterns (Chang et al., 2017), or implicit (Rico et al., 2008)], referring to team members' knowledge, their experience in conducting a certain task, and how to efficiently integrate this knowledge (Butchibabu et al., 2016; Bachrach et al., 2019). It has been proven that team coordination is a group process that increases team performance over time (Marques-Quinteiro et al., 2019; Rico et al., 2019; Braun et al., 2020)⁴. The review by Nielsen et al. (2017) found that the correlation of group-level variables with well-being was significant, $r = 0.25$.

The concept of CWa, implies influence (or autonomy) and skill development (Chiang et al., 2013). Autonomy means that members participate in deciding on the work methods used by management, the possibilities for development, the opportunities afforded by conducting a task to put members' skills into practice and the possibility of acquiring new skills. On the one hand, this has to do with the levels of complexity and variety of tasks. On the other hand, the work has meaning if it helps to positively tackle their demands (Moncada et al., 2014). Autonomy as an organizational resource ($K = 54$), correlated ($r = 0.31$) with well-being (Nielsen et al., 2017). Adaptation is a behavioral emergent (DeChurch and Mesmer-Magnus, 2010) referring to autonomy and control over work at a team level. In general, the team uses cognitive, verbal and behavioral activities to organize task activities. In turn, the team can assess the situation of adaptation, learn what it needs to meet demands and draw up strategies and responses to improve adaptation or to make it more satisfactory. The team's adaptive performance emerges as the members conduct the different tasks and display different types and amounts of actions while carrying out those tasks (Christian et al., 2017). Previous studies show that this capability is the best predictor of a team's performance (DeChurch and Mesmer-Magnus, 2010; de Wit et al., 2012).

EPs are an organizational process that may hinder social integration and well-being. Its quantitative aspect refers to the work volume in relation to the time available to complete it. The qualitative aspect considers that psychological requirements are different depending on whether one works with and for people, thus defining psychological requirements as emotional (Moncada et al., 2014). In occupational hazard prevention, psychosocial factors are health hazards that originate in work organization, generating responses that can be risk factors for health. Stress, chronic tension, and events that lead to negative changes have been associated with low well-being (Schneiderman et al., 2005).

Regarding LpB, the quality of exchanges between leaders and members has been researched as a facilitator for well-being. High-quality or positive behavior of supervisors includes a willingness to listen and show support, respect, and interest in members' well-being. It also includes a tendency to value and express support for the employees' work. Transformational leadership leads

collaborators to perform beyond their expectations, going above and beyond their own interests for the good of the organization (Avolio et al., 2009; Molero et al., 2010; Hermosilla et al., 2016). The description of this style of leadership is based on the effects that the leader causes in their followers; thus, it is considered broader and more effective than transactional leadership or a lack of leadership. Conceptually, transformational leaders set out to act as an example to be followed (charisma), giving meaning to the actions of their subordinates (inspiration), encouraging the search for alternative solutions to everyday problems (intellectual stimulation), and they tend to be concerned about the individual needs of their subordinates (Nader and Sánchez, 2010; Banks et al., 2016). Another leadership style is transactional, which uses rewards and negotiation with subordinates in exchange for reaching organizational objectives and goals. Those who use this style tend to closely supervise their subordinates' activities to prevent possible errors or deviations from established norms and procedures (Arnold, 2017).

In most studies on organizational settings, social support (Taylor, 2011; Chawla and Sharma, 2019) was focused on the support provided within the organization. A lack of support from superiors has to do with a lack of specific staff management principles and procedures to guide this role to act as an element to support the work conducted by the team or department they manage. It is also related to a lack of clear guidelines and training regarding fulfillment of this role (Moncada et al., 2014). Meta-analyses found that supervisor social support in the workplace was associated with life satisfaction, job satisfaction and health (Kossek et al., 2011; Eby et al., 2013; Mathieu et al., 2019). It was also found that is crucial in buffering the effect of work-related stress on perceived health, and increasing the physical and mental health among military personnel (Hsieh and Tsai, 2019). The quality of leadership has to do with staff management principles and procedures, as well as training and available time for managers to apply them. The correlation of leadership-level variables (of quality studies and transformation $k = 7$) with well-being was significant, $r = 0.27$ (Nielsen et al., 2017). To underline this, another meta-analysis found that high-quality relationships between the supervisor and the employee were positively associated with well-being ($r = 0.35$) (Huell et al., 2016). Finally, emotionally expressive leaders (e.g., charismatic or transformational) induce group members to experiment and express positive emotions of high activation that are easily communicated and lead followers to experience a positive emotional climate (Barsade and Knight, 2015; da Costa, 2018).

EMPW can be recognized as a manifestation of quality leadership. As such, it refers to the extent to which the team coordinator promotes the participation of members in the team. Colleagues who feel empowered will be more effective (Paolucci et al., 2018) and will develop more proactive and innovative behaviors (Huang, 2017), improving both their own creativity and the implementation of the ideas that are generated (Rhee et al., 2017). Finally, SL is the team's capability to distribute leadership amongst its members in opposition to of centralizing it in one sole individual (Nicolaidis et al., 2014). This is viewed as the "dynamic and interactive process between the members of a team whose objective is for some to address the others to achieve

⁴In Study 4, implicit coordination is analyzed, since *ad hoc* teams must carry out a specific task in a period of 6 months, going from a transition phase (training phase) to an action phase (operation phase).

the goals of the team, of the organization, or of both (Wang et al., 2011; Drescher et al., 2014; Uhl-Ben et al., 2014). At this point one might say that a characteristic of shared leadership is promotion of greater trust (Nicolaidis et al., 2014) and cohesion (Mathieu et al., 2015) in the team. Moreover, it has been demonstrated that it improves satisfaction and well-being with the team (Montano et al., 2017). Studies that examined the impact of leadership on the organizational climate, found a large positive effect. This suggests that leadership style plays a pivotal role dealing with organizational process and in the establishment of a positive climate (Pérez Vallejo and Fernández Muñoz, 2020).

Taken into account the aforementioned variables and ideas, the following hypotheses were proposed:

H5: Low psychological demands or work stress, high control over work, leadership that reinforces participation and belonging, internal participation and communication in the group, task orientation, and climate of excellence, will be positively associated with both individual and collective well-being.

H5a: At the team level, leadership that reinforces participation and belonging will mediate between task orientation and climate of excellence and collective well-being.

The LR provides freedom and independence to members to determine which procedures must be used to conduct the task, and how they can increase the likelihood of successful implementation of above task (Hammond et al., 2011). The meta-analysis conducted by Stewart (2006) in Hülsherger et al. (2009) found that autonomy, along with coordination within the team, contributed to better performance. Thus, another key variable that may be related to well-being are: predictability, role clarity, and professional demands. The first one predictability refers to adequate and sufficient information and that is on time, in order to be able to properly complete the job and adapt to changes. The second one role clarity implies knowledge of one's own job position and the positions of people in the organization, the tasks to be completed, objectives, existing resources, and responsibilities beyond professional autonomy. Finally, contradictory professional demands, which may entail professional or ethical confrontations, generally unleash role conflict (Moncada et al., 2014). The expectation of the emotional labor role (LeR) refers to the fact that employees must display appropriate (positive or negative) emotions to clients or consumers. According to this, in retail, food, travel and entertainment industries, there is an expectation that employees must display positive emotional expressions or provide "service with a smile." On the other hand, with other jobs (police, debt collector), it is expected that employees display negative emotions. A neutral or a poker face is expected with jobs related to health and treating serious diseases, or at court. Thus, there is clear evidence that emotional work, particularly hiding the emotions one feels or expressing dissonant emotions, has harmful effects on well-being and health (Ashkanasy and Dorris, 2017; Diener et al., 2020). In this sense, the meta-analysis by Hülsherger and Schewe (2011) found that superficial

performance or simulating emotions that are not felt is related to a negative mood, emotional exhaustion or burnout and decreased job satisfaction.

Regarding CSO, it should be noted that while organizational culture (OC) refers to beliefs, values and ideologies that are shared by members of one same organization (Schneider et al., 2013; Hofstede et al., 2014, the OS in this case) has to do with the integration that exists at the organization, as well as available resources, to appropriately carry out work at said organization. Bass and Avolio (1992) in Nader et al. (2006) consider that organizational cultures can be characterized based on their predominant leadership style. In general, transformational cultures have a sense of purpose, constantly redefining their mission, vision, rules and principles, and their commitments are long-term ones. In these organizations, leaders and followers share interests and a sense of shared destiny and are interdependent. The team's and organization's well-being is more important for leaders and followers than their own interests and benefit. Moreover, the managers act as mentors, trainers, behavioral models, and leaders (Bass and Avolio, 2007). They are characterized by having a flexible structure and so, they tend to be more informal and dynamic, encouraging teamwork and personal growth at the same time (Belbin, 2010a,b). This type of culture has been associated with fewer role conflicts and greater organizational efficacy (Vázquez Alatorre, 2013; Ayestarán, 2016; Hartnell et al., 2019). In contrast, transactional cultures are mainly focused on terms of explicit and implicit contractual relations and tend to be very bureaucratic and structured. In these organizations, commitments tend to be short-term ones, and individual own interests prevail over the collectives. There is greater presence of role conflicts, with less organizational efficacy (Vázquez Alatorre, 2013).

Regarding organizational integration and resources, we might point out that the former is related to how different company departments coordinate their operations. A highly integrated organization has strong connections between departments and teams, and so, each section works under a coherent set of rules and strategies. Integration is associated with performance, although it can also be associated with well-being, since highly integrated organizational cultures may instill a similar feeling of social or collective identity (such as Japanese corporations, for example) (Dextras-Gauthier et al., 2012). Moreover, those organizations that tolerate uncertainty and mistakes become a less stressful context for employees. Finally, the existence of material and human resources facilitates a quality work environment (Winter et al., 2014; Hartnell et al., 2019).

Adding up to this, and as far as LpO is concerned, while direct leadership is characterized by face-to-face interactions with members of a group or team, which reinforces identification, cohesion and group learning, organizational leadership indirectly influences many more people indirectly. Thus, organizational leadership is linked to development, use of resources, organizational learning, human resources management to improve human capital (da Costa et al., 2014), reinforcement of commitment, and organizational climate (Fischer et al., 2017). This stands for leadership behaviors oriented toward reinforcing

trust and a quality relationship with subordinates were associated ($r = 0.31$) with psychological well-being (Dunst et al., 2018).

From the perspective of explanation in social psychology through the articulation of levels of analysis, micro social factors are embedded in organizational context, and these psychosocial factors mediate and explain the influence of organizational culture on well-being (Doise and Valentim, 2015). Finally, Study 3 is conducted in a military institution and therefore we must take into account its organizational culture. Because military's organizational culture is masculine and oriented towards toughness and manliness (Hofstede, 1988 in da Costa, 2018), it is expected that the functional processes within it will be more beneficial to male than female cadets.

H6: Low emotional labor role, high autonomy role, culture and organizational structure that reinforce participation and integration and functional organizational leadership will be positively associated with the individual and collective well-being. In addition, we postulated that the transformational style of culture and leadership will be associated more strongly and positively with the well-being than the transactional.

H6a: Low psychological demands or work stress, high control over work and leadership that reinforces participation and belonging mediate the positive relationship between culture and organizational structure that reinforces participation and integration and individual well-being.

H6b: In military culture, the positive relationship between task orientation and the climate of excellence with collective well-being will be moderated by organizational leadership that reinforces participation and belonging as well as by gender (male will benefit more), enhancing the association between them. In the same vein, it is expected that gender will moderate the relationship between leadership and collective well-being.

MATERIALS AND METHODS

The studies were conducted between 2015 and 2018 in 6 Ibero-American countries: Argentina (E3, MS and WS), Brazil (E3, WS), Chile (E1, 2 and 3, WS), Spain (E1, 2, 3 and 4, WS), Mexico (E3, WS), and Uruguay (E1 and 2, WS).

Study 1: Psychosocial Favorable Factors to Well-Being in Three Countries: Educational and Social Intervention Organizations

This study seeks to contrast the postulated associations between individual indicators of well-being: behavioral, somatic and cognitive reactions to stress (BSCs), quality of life linked to health (QLLH), affective hedonic view of subjective well-being (AHWB), cognitive hedonic view of subjective well-being or satisfaction with life (SWL), eudaimonic vision or psychological well-being and personal optimal development (EPWB) as well as to show the relative independence between them in a sample of

teachers and social intervention educators from three countries (H1). It also seeks to contrast hypotheses 2–6, i.e., to test the positive association between individual well-being (EPWB) and emotional creativity (EC), values of openness to change (OVC) and transcendence values (TV) (H2), gender differences (H3) as well as positive correlation of well-being with low seniority in the organization (SO); high agreement with the methodology (AM) in the workplace and intention to stay (IS) in your organization for the long term (H4). We also want to contrast the positive relationship between psychosocial factors (EPs, CWa, LpB – social support and quality leadership) and EPWB (H5); as well as the negative relationship between EPWB and emotional labor role (LeR) and the positive association with an organizational culture that reinforces participation and integration. By doing so, it is expected that a transformational organizational culture will be associated positively and more strongly with well-being than a transactional organizational culture (H6). Finally, in this study we want to verify that the above-mentioned psychosocial factors (EPs, CWa, and LpB) mediate between a culture that reinforces participation and integration (CSO) and individual well-being (EPWB) (H6a).

Sample

Participants $N = 1300$ subjects ($N = 1084$ women, aged between 19 and 69 years, $M = 41$, $SD = 11$), who belonged to $K = 80$ organizations or educational and social-intervention units in Chile, Spain (Autonomous Community of the Basque Country or CAPV) and Uruguay. The sample of educational professionals doubled the social intervention sample⁵.

Procedure

The individuals received a booklet with different scales to be answered on paper or online for a period of between 50 and 75 min (only some of them are addressed in this article). Data collection was supervised by some of this article's co-authors or staff trained to do so in each one of the three countries.

Instruments

The BSCs and QLLH are measured with 12-item scales, respectively (see instruments on **Table 2** of **Supplementary Material**). The first includes behavioral, somatic, and cognitive symptoms of stress (Setterlind, 2001 in Moncada et al., 2014); the second includes dimensions of perceived physical health, mental health and vitality (Ware and Sherbourne, 1992). They both use a *Likert-like* scale with 5 anchor points (always = 1 to 5 = never) for BSCs, and for the first dimension (perceived physical health) of QLLH (totally true = 1 to 5 = totally false). Another two dimensions (mental health and vitality) are answered with 6 anchor points (always = 1 to 6 = never). Cronbach's $\alpha: 0.98$ for BSCs and QLLH > 0.70 for the three dimensions. AHWB is measured with 20 items (10 positive affectivity and 10 negative affectivity) (Fredrickson, 2013), using a *Likert-like* scale with 5 anchor points (nothing = 0 to 4 = a lot). They were asked how they felt during the last week of their professional activity. Cronbach's $\alpha: > 0.80$ for both dimensions. SWL is measured through 5 items

⁵See sociodemographic data of the participating sample by country from Study 1 in: **on line resources 3**.

and 10 anchor points (very unsatisfactory = 1 to 10 = very satisfactory). This instrument (Diener, 1996) is designed to assess an individual's degree of satisfaction with certain aspects of their life, such as work, income, family, their person and life in general. Cronbach's α :0.70, although each domain is specific to itself. Finally, EPWB is measured with the instrument by Hervás and Vázquez (2013), consisting of 11 items related to different areas of well-being, meaning hedonic, eudaimonic and social. A Likert-type scale is used for responses (totally disagree = 0 to 10 = totally agree). Cronbach's α :0.85 for samples from the three countries.

EC is measured with a 17-item scale with 6 anchor points (totally disagree = 1 to 6 = totally agree). The instrument by Soroa et al. (2015) is adapted to Spanish from the scale by Averill's. Cronbach's α : 0.82. OVC and self-transcendence (Schwartz, 2012) as TVU are measured with 9 items and 6 anchor points (that sounds a lot like me = 6 to 1 = that does not sound like me at all). Cronbach's α :0.82 (openness to the experience) and 0.87 (universalism). To measure psychosocial factors EPs, CWa, and LpB, 26 items and 5 anchor points are used (always = 4 to 0 = never). For this study, dimensions 1, 2, and 4 of CoPsoQ-Istas21 were used (Moncada et al., 2014). Cronbach's α : 0.70 for the three dimensions. The emotional work entailed by LeR (Ortiz et al., 2012) is also measured through 21 items and 5 anchor points (very rarely = 1 to 5 = very frequently). Cronbach's α : 0.83. Finally, the CSO (transformational and transactional culture) is measured through 28 items (Nader et al., 2006), using a dichotomous scale (Spearman Brown: <0.70, it was necessary to eliminate items 1, 7 and 19 from transactional culture in the three samples). Finally, gender, SO, AM, and IS were measured (see scales and instruments in **Supplementary Material 2**).

Data Analysis

In this study, a cross-sectional design was used with convenience samples mated by professional characteristics. Correlations, regressions, and mediational analyses were conducted amongst explanatory and explained variables of well-being, using SPSS 24 and process 3.4, Model 4. Scores were standardized and the correlations weighted by the inverse of the variance using the CMA program (Borenstein et al., 2014) for estimate a global effect size in this study.

RESULTS

To test H1, we examined the relations between well-being variables, using CMA to estimate a general effect size for the three samples. EPWB was associated with low BSCs ($r = 0.46$), IC 95% [0.41; 0.50], with QLLH ($r = 0.52$) IC 95% [0.48 to 0.56], lower negative AHWB ($r = -0.35$), IC 95% [-0.39; -0.30] and higher positive AHWB ($r = 0.45$), IC 95% [0.40 to 0.49], as well as higher SWL ($r = 0.58$), IC 95% [0.55; 0.62]. Relations between variables were all > 0.70 (H1) (see **Table 1**)⁶. To test H2, relations between individual predictor variables were examined with well-being. EPWB is associated with greater EC (weighted correlation

$r = 0.14$), IC 95% [0.09; 0.19]. This latter variable was also associated with lower QLLH ($r = -0.062$), with negative AHWB ($r = 0.17$) and more EPs ($r = -0.12$), although also with SWL ($r = 0.087$) and positive AHWB ($r = 0.21$), all of them $p < 0.05$ (H2a). EPWB was also associated with sharing OVC ($r = 0.25$) IC 95% [0.09; 0.19] and TVU ($r = 0.23$), IC 95% [0.19; 0.29]. Regarding H4, higher AM was associated with EPWB ($r = 0.27$, $p = 0.0001$) in the three samples. The greater the IS at the job position, the greater the well-being ($r = 0.13$, $p = 0.001$) in two of the three countries. On the other hand, SO was neither generally nor specifically associated with well-being in any of the countries. At microsocial level (H5), well-being was associated with CWa ($r = 0.31$), IC 95% [0.26; 0.36], with low EPs ($r = -0.28$), IC 95% [-0, 33; -0, 23] and high-quality LpB ($r = 0.31$), IC 95% [0.26; 0.36] (see by country on **Table 2**)⁷.

To test H6, relations between meso-social-level predictor variables were examined with well-being. LeR, particularly the expression of negative emotions, neutral emotions, and emotional dissonance, were significant and negatively associated with all indicators and specifically with EPWB ($r = -0.23$, $r = -0.10$ and $r = -0.17$, respectively). The expression of positive emotions, although associated with AHWB, also did so with lower QLLH and greater negative AHWB. Control over interaction was positively associated with all indicators, just like sensitivity and empathy (except for QLLH and EPs). Examination of organizational culture showed that association of transformational culture with well-being is positive ($r = 0.25$), IC 95% [0.20; 0.30] and negative with transactional culture ($r = -0.11$), IC 95% [-0.16; -0.05] (see by country on **Table 3**)⁷ (H6).

To examine the specific contribution of explanatory variables to well-being, we conducted a multiple regression of well-being (Hervás and Vázquez, 2013) on individual variables (EC and MV), on microsocial-level variables (CWa, EPs, and LpB) and meso-social or organizational variables (CSO). The multiple regression was significant, $F(8,1121) = 30, 38$, $p = 0.0001$, R^2 adjusted = 0.17. OVCs predicted well-being ($\beta = 0.12$, $p = 0.002$) along with TVUs ($\beta = 0.09$, $p = 0.017$), EC ($\beta = 0.078$, $p = 0.007$), low EPs (β standardized = -0.15 , $p = 0.0001$), high CWa ($\beta = 0.14$, $p = 0.0001$), LpB ($\beta = 0.10$, $p = 0.006$) and transformational CSO ($\beta = 0.09$, $p = 0.002$). Only transactional culture did not obtain a significant coefficient ($\beta = 0.004$, $p = 0.88$) (see **Table 4**).

Using transformational CSO as a meso level predictor and controlling individual variables (gender, OVC, TVU and EC), a mediational analysis showed that the indirect effect of the CSO on the EPWB occurred through low EPs ($\beta = 0.02$), IC 95% [0.01; 0.04], as well as through high levels of CWa ($\beta = 0.04$), IC 95% [0.02; 0.07] and LpB ($\beta = 0.04$), IC 95% [0.008; 0.07]. This effect explains 55% of the total effect (see **Figure 1**). The overall model was significant: $R^2 = 0.44$, $F(8,1101) = 32, 82$, $p < 0.001$ (H6a).

Gender Differences

We sought to discover the relation of gender with well-being indicators and possible differences between men and women.

⁶See Relationship between psychological well-being and other forms of well-being by nation in table one: **on line resources 4**.

⁷See **online resources 4**.

TABLE 1 | Association between the variables that make up the nomological network of well-being at the individual level (Study 1).

| Variables | N | M | SD | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------|------|-------|-------|---------|---------|---------|---------|--------|--------|
| (1) BSCs | 1298 | 45.20 | 8.18 | – | | | | | |
| (2) QLLH | 1268 | 53.36 | 9.23 | 0.65** | – | | | | |
| (3) AHWB positive | 1361 | 23.44 | 7.19 | 0.26** | 0.40** | – | | | |
| (4) AHWB negative | 1359 | 8.852 | 6.39 | –0.50** | –0.49** | –0.26** | – | | |
| (5) SWL | 1334 | 38.53 | 6.64 | 0.34** | 0.47** | 0.40** | –0.33** | 0.47** | |
| (6) EPWB | 1352 | 81.33 | 13.74 | 0.42** | 0.45** | 0.41** | –0.31** | 0.45** | 0.55** |

BSCs, behavioral, somatic and cognitive reactions to stress; QLLH, quality of life linked to health; AHWB, affective hedonic view of subjective Well-Being; SWL, cognitive hedonic view of subjective Well-Being or satisfactorial with life; EPWB, eudaimonic vision or psychological Well-Being and personal optimal development. ** $p < 0.01$.

TABLE 2 | Relationship between individual and microsocial level predictor variables with psychological well-being by country (Study 1).

| Variables | Chile | | | | Spain | | | | Uruguay | | | |
|-----------|-------|--------|-------|---------|-------|--------|-------|---------------------|---------|--------|-------|---------|
| | n | M | SD | R | n | M | SD | r | n | M | SD | r |
| Gender | 342 | 1.66 | 0.473 | 0.03 | 284 | 1.79 | 0.415 | –0.091 [†] | 697 | 1.91 | 0.288 | 0.02 |
| EC | 352 | 64.98 | 13.07 | 0.07 | 289 | 62.1 | 9.96 | 0.13* | 689 | 65.10 | 12.07 | 0.18** |
| OVC | 355 | 28.32 | 4.951 | 0.18** | 294 | 18.8 | 5.95 | 0.14** | 689 | 26.84 | 4.924 | 0.29** |
| TVU | 355 | 15.99 | 1.773 | 0.27** | 296 | 7.69 | 4.48 | 0.23** | 718 | 15.15 | 2.291 | 0.25** |
| SO | 241 | 2010.2 | 7.643 | –0.02 | 245 | 1985.9 | 180.7 | 0.04 | 649 | 2005.6 | 9.985 | –0.04 |
| AM | 243 | 2.99 | 1.098 | 0.35** | 264 | 3.56 | 1.003 | 0.25** | 673 | 3.057 | 1.010 | 0.28** |
| IS | 244 | 1.62 | 0.535 | 0.20** | 260 | 1.75 | 0.537 | –0.007 | 652 | 1.60 | 0.562 | 15** |
| EPs | 361 | 12.80 | 4.307 | –0.17** | 294 | 12.4 | 3.24 | –0.29** | 716 | 13.88 | 3.505 | –0.30** |
| CWa | 360 | 26.46 | 6.798 | 0.23** | 294 | 26.71 | 5.41 | 0.32** | 697 | 26.45 | 5.403 | 0.35** |
| LpB | 361 | 27.12 | 8.025 | 0.22** | 280 | 28.26 | 5.70 | 0.36** | 700 | 27.35 | 6.137 | 0.32** |
| EPWB | 353 | 77.82 | 13.71 | – | 296 | 79.53 | 11.5 | – | 703 | 83.84 | 14.12 | – |

Gender = 1 = men; 2 = women; EC, emotional creativity; OVC, openness to change values; TVU, values of transcendence universalism; SO, seniority in the organization; AM, agreement with the methodology in the workplace; IS, intention to stay; EPs, excess of psychological demands at work or work stress; CWa, control over work, role autonomy; LpB, leadership that reinforces participation and belonging; EPWB, eudaimonic vision or psychological Well-Being and personal optimal development. ** $p < 0.01$, * $p < 0.05$, [†] $p < 0.10$.

TABLE 3 | Relationship between mesosocial level predictor variables with well-being by country (Study 1).

| Variables | Chile | | | | Spain | | | | Uruguay | | | |
|----------------|-------|-------|-------|---------|-------|---------|-------|---------|---------|-------|-------|---------|
| | n | M | SD | r | n | M | SD | r | n | M | SD | r |
| LeR | 347 | 71.88 | 12.84 | –0.11* | 276 | 71.43 | 9.463 | 0.06 | 637 | 68.54 | 11.87 | –0.13** |
| LeR NE | 350 | 11.86 | 4.907 | –0.21** | 282 | 12.42 | 3.981 | –0.11* | 696 | 11.39 | 4.543 | –0.26** |
| LeR NEE | 349 | 10.67 | 3.131 | –0.07 | 283 | 10.83 | 2.548 | 0.02 | 697 | 10.06 | 2.994 | –0.11** |
| LeR PE | 350 | 16.80 | 3.053 | –0.04 | 284 | 16.11 | 2.951 | 0.16** | 694 | 16.07 | 3.428 | 0.05 |
| LeR ED | 348 | 12.02 | 4.548 | –0.11* | 281 | 11.11 | 3.488 | –0.08 | 687 | 11.69 | 4.300 | –0.23** |
| LeR SandE | 350 | 13.26 | 2.210 | 0.12* | 284 | 13.58 | 1.692 | 0.15** | 689 | 12.44 | 2.362 | 0.08* |
| LeR CINT | 350 | 7.220 | 2.207 | 0.12** | 282 | 7.361 | 1.750 | 0.27** | 705 | 6.748 | 2.016 | 0.20** |
| CSO Transform. | 350 | 2.25 | 9.108 | 0.10* | 273 | 5.076 | 5.739 | 0.28** | 650 | 4.181 | 6.742 | 0.26** |
| CSO Transacc. | 348 | 0.160 | 5.575 | –0.07 | 273 | –0.2088 | 5.080 | –0.25** | 657 | 2.168 | 4.673 | –0.17** |

LeR, emotional labor role; LeR NE, negative expression of emotions in the work role; LeR NEE, neutral expression of emotions in the labor role; LeR PE, positive expression of emotions in labor role; LeR ED, emotional dissonance in the labor role; LeR SE, sensitivity and empathy in the labor role; LeR CINT, control of interaction in the labor role; CSO, culture and organizational structure that reinforces participation and integration (transformational and transactional). ** $p < 0.01$, * $p < 0.05$.

Regarding EPWB, no statistically significant differences were found in Chile or Uruguay [$r_{(333)} = 0.03$, $p = 0.27$, $r_{(675)} = 0.02$, $p = 0.33$], although they were found, to a lesser extent, in Spain [$r_{(283)} = –0.091$, $p = 0.06$]. Men report greater positive AHWB ($r = –0.075$, $p = 0.006$), although not homogeneously [Chile

$r_{(235)} = –0.14$, $p = 0.017$, Spain $r_{(240)} = –0.026$ and Uruguay $r_{(620)} = 0.02$, $p = 0.33$]. No gender differences were found in negative AHWB in the three countries⁸ (H3).

⁸Only significant correlations are shown, all other scores are available on request.

TABLE 4 | Regression of well-being on individual, psychosocial and organizational culture factors (Study 1).

| Variable | Model 1 | | Model 2 | | | Model 3 | | | |
|--------------------------------|---------|-----------|---------|--------|-----------|---------|--------|-----------|-----------|
| | B | SE B | B | B | SE B | B | B | SE B | B |
| EC | 0.012 | 0.032 | 0.10*** | 0.011 | 0.032 | 0.10*** | 0.009 | 0.034 | 0.78*** |
| OVC | 0.026 | 0.085 | 0.12** | 0.028 | 0.082 | 0.12** | 0.027 | 0.008 | 0.12** |
| TVU | 0.026 | 0.012 | 0.08* | 0.025 | 0.012 | 0.08* | 0.029 | 0.012 | 0.09* |
| EPs | | | | -0.058 | 0.011 | 0.16*** | -0.055 | 0.011 | -0.15*** |
| CWa | | | | 0.035 | 0.081 | 0.15*** | 0.034 | 0.084 | 0.14*** |
| LpB | | | | 0.028 | 0.072 | 0.14*** | 0.022 | 0.080 | 0.10** |
| CSO transformational | | | | | | | 0.017 | 0.006 | 0.09** |
| CSO transactional | | | | | | | 0.003 | 0.008 | 0.010 n.s |
| R ² | | 0.052 | | | 0.017 | | | 0.018 | |
| F for change in R ² | | 24.140*** | | | 42.464*** | | | 30.138*** | |

EC, emotional creativity; OVC, openness to change values; TVU, values of transcendence, universalism; EPs, excess of psychological demands at work or work stress; CWa, control over work, role autonomy; LpB, leadership that reinforces participation and belonging; CSO, culture and organizational structure that reinforces participation and integration (transformational and transactional). **p* < 0.05, ***p* < 0.01, ****p* < 0.001.

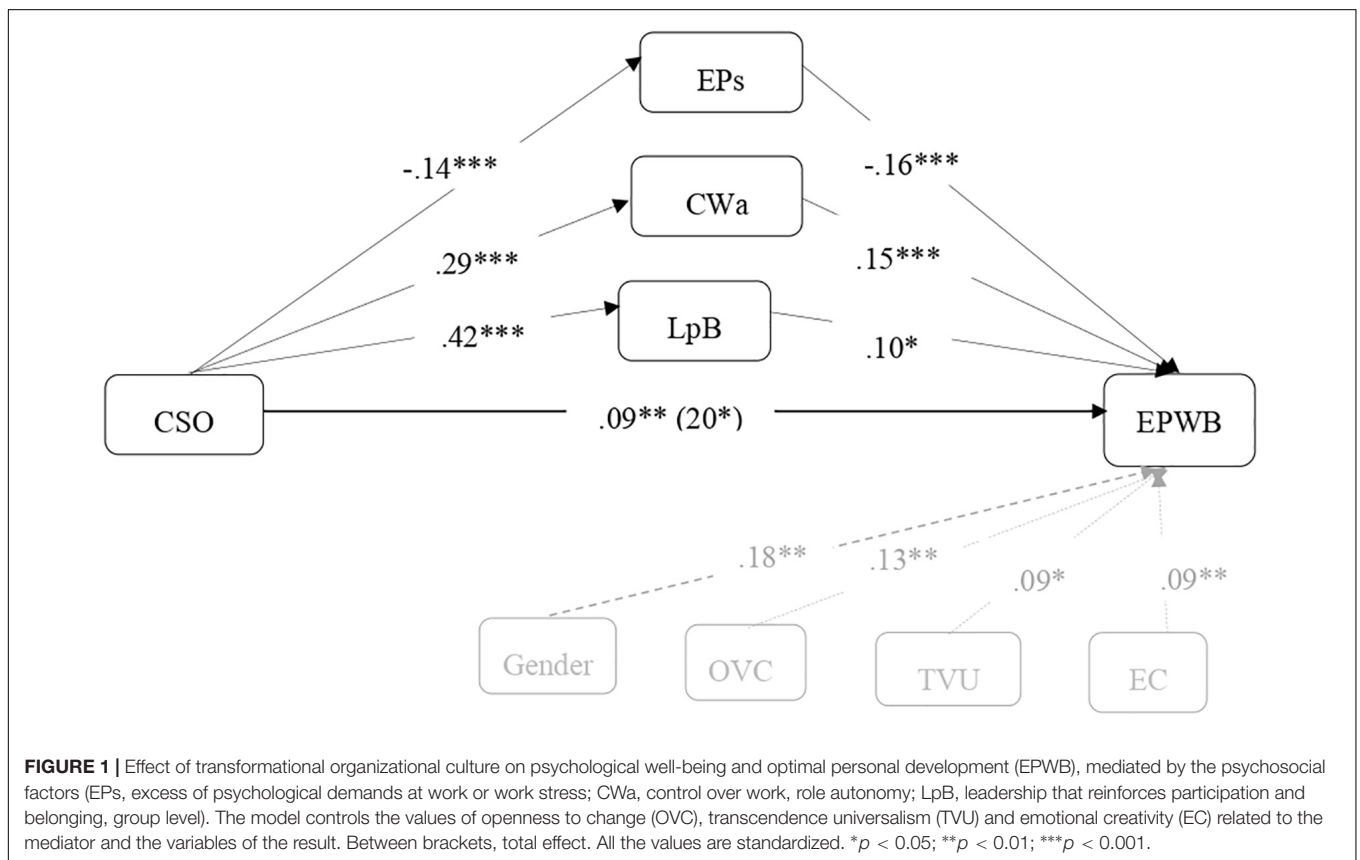


FIGURE 1 | Effect of transformational organizational culture on psychological well-being and optimal personal development (EPWB), mediated by the psychosocial factors (EPs, excess of psychological demands at work or work stress; CWa, control over work, role autonomy; LpB, leadership that reinforces participation and belonging, group level). The model controls the values of openness to change (OVC), transcendence universalism (TVU) and emotional creativity (EC) related to the mediator and the variables of the result. Between brackets, total effect. All the values are standardized. **p* < 0.05; ***p* < 0.01; ****p* < 0.001.

DISCUSSION

In the general sample and by country, indicators of well-being were associated with one another, supporting H1 on the positive association between well-being indicators. Specifically, psychological well-being, was associated with having less stress and better quality of life, with life satisfaction and with affect balance. The strength of association between variables means that they are interrelated, yet they constitute independent

constructs, in congruence with H1. As postulated by H2, emotional creativity, as well as the values of openness to change and transcending the self, were positively associated with well-being. Emotional creativity played an ambivalent role, associated both with well-being, and with psychological demands in the labor role, and lower quality of life in relation to health. Emotional creativity includes three dimensions: emotional preparedness, novel and authentic and useful emotional reactions. Studies show that is the dimension of novelty that

is related positively to negative outcomes, while preparedness and effectiveness/authenticity are related to positive outcomes (Averill, 2009; Runco, 2014). These results suggest that attention and cognitive processing of intense emotion has “particular” effects on well-being and coping with stress. Probably because of the complexity and originality of creative emotions, different from schemas and cultural available scripts to describe them, high EC participants find difficulties with categorizing and identifying their emotions. Complexity and diversity of emotions also made difficult to elaborate linguistically and express affective state (Averill, 2009; Runco, 2014; Abuladze and Martskvishvili, 2016). Results confirm that certain values are individual factors of well-being. Openness to change (self-direction) and self-transcendence (universalism) are healthy values. They are cognitive representations of self-actualization or growth needs. Self-direction values and universalism are related to Deci and Ryan self-determination theory autonomy, competence and relatedness needs, respectively. Motivation to pursue healthy values enhances directly well-being because it satisfies intrinsic and self-actualizing needs. These healthy values afford well-being because they lead to positive and prosocial perceptions, attitudes and behaviors, like benevolent view of social world, trust in others and altruism (Schwartz and Sortheix, 2018).

Differences in well-being between genders were marginal, explaining maximum 1.9% of variance, in concordance with H3. Results support studies that had found greater hedonic affective well-being in men, and reject that women report more negative affectivity in these samples. Consistent with our hypothesis 4, agreement with the methodology at the workplace and the intention to stay long-term at the workplace are clearly associated with well-being. On the contrary, lower seniority was not associated with well-being, questioning this part of the hypothesis. It was argued that recent entry into an organization was associated with greater initial satisfaction (Romero, 2001). However, it is also possible that people who stay long term in an organization can enhance control of their environment, obtain status and rewards, and consequently increase their satisfaction (Ronen, 1978). In particular, young teachers and educators could have a greater workload in more stressful settings, which may explain why the lower the seniority, the worse the perception of the social-emotional climate. Consistent with the H5, the results showed that high levels of control at work, social support and quality leadership, and low levels of psychological demands (Moncada et al., 2014) predicted well-being. Meso-social-level factors were also associated with well-being, in particular emotional labor, as H6 stated. This study confirmed that expressing and handling emotions as part of the labor role undermines well-being. In other words, having to express even positive emotions takes a toll, since this is associated with stress and negative affectivity, as well as lower perceived health. The importance of an organizational culture that facilitates social integration (Knight and Eisenkraft, 2015) was confirmed, because supporting H6 a transformational culture was associated with well-being. The opposite occurred with the transactional culture, which was associated with more stress, less control and less social and quality support. However, this result did not bear a significant multivariate coefficient, so

the results relativize the negative nature for well-being of this type of culture. Along these lines, psychosocial factors were associated with a more transformational culture, mediating between culture and individual well-being, in concordance with H6a. To conclude, it should be stated that this study has limitations, the most noteworthy being that the sample was of convenience and that this is a correlational, not longitudinal or causal relationship study, which means that the results should be taken with caution.

Study 2: Psychosocial Favorable Factors to Well-Being in Three Countries: The Case of a School With High SVI⁹ in Talca, Chile

This study analyzes the presence of risk factors for well-being in an educational organization with high school vulnerability¹⁰ (Ministerio de Desarrollo Social y Familia, 2020). Study 1 showed that well-being was linked to low stress, high control in the work role and social support – quality leadership low emotional work and an organizational culture and structure that most reinforces participation and integration in the organization. It also found medium-high level of autonomy, high stress and medium-low levels of social support and quality leadership of these sectors in the three countries (results not shown in this research). This second study explored whether these associations and well-being profile were replicated in the sample of educators and in particular in a Chilean school located in a difficult social context. The study of well-being in Chile, specifically in education, is a research priority (see López et al., 2017). Teachers’ well-being is relevant to the effectiveness of the teaching-learning process (Lever et al., 2017). Working conditions, both at the system and school level, can have an impact on teachers’ well-being (Viac and Fraser, 2020) and on students’ performance (Roorda et al., 2011; López et al., 2017).

⁹ The school in Talca (Group 1) shows a School Vulnerability Index (SVI) (Herrera et al., 2017; <https://www.junaeb.cl/ive>; Turra et al., 2015; López et al., 2017) of 85%.

¹⁰ JUNAEB (2020) defines vulnerability as “a dynamic condition resulting from the interaction of multiple individual and contextual risk and protection factors that are present in a person’s life cycle.” These manifest themselves “in behaviors or events of greater or lesser risk (biological, psychological, social, economic, cultural and/or environmental)” that can be measured for intervention, taking into account the development and well-being of individuals, families and communities. JUNAEB uses the National System of Allocation with Equity (SINAE) to evaluate school vulnerability (conditions of poverty and school risk) in infant education up to university level. The IVE –an indicator used by SINAE in the framework of JUNAEB’s School Feeding Programmes (PAE) – measures the approximate risk of dropping out of school, through the socio-economic evaluation of its students, operating as a criterion for the allocation of PAE resources. The IVE reflects the percentage of school students with priority to receive this aid. Students in the first category or priority are those in extreme poverty, or who are destitute in urban areas or poor in rural areas, or who belong to SENAME (national service for minors), according to the social protection sheet (FPS). Students in the second category or priority are those who according to the FPS are in a situation of poverty and have a high probability of dropping out of the school system. Those in the third category or priority are those who are in poverty but do not qualify for the first two categories. The IVE measures the percentage of students in the school who are in one of the three categories. This indicator, which ranges from 0 to 100, is defined by the addition of students in these categories over the total of students. For instance an IVE of 83 means that eighty-three students over one hundred are in risk of poverty (Holtz Guerrero, 2020).

This study aims to test the diagnostic capacity and relevance of the instruments used in the education sample in Chile, Spain, and Uruguay. As far as we know, this is the first comparative diagnosis, which is carried out on an education sample, in these three countries. Cut-off points of psychosocial factors are applied to scores of work stress; of control over work and to leadership that reinforces participation and belonging (which includes social support and quality leadership), emotional labor and culture and organizational structure that reinforces participation and integration (transformational culture) and individual well-being. Results are used to have a descriptive vision of the similarities between teachers from schools in the same locality and Country (Chile), students of Education from a private university (Chile), teachers from the region (Uruguay) and from a more culturally and economically distant area (Spain). We postulated that the profile would be similar in the Latin American samples (in Uruguay a large part of the schools in the sample could be categorized in “vulnerability”¹¹⁹), that a medium low psychosocial risk level would be found in the students of pedagogy of the private university and that the Spanish teachers would show the most positive psychosocial profile, due to the relative development of the country. In addition, it should be mentioned that the Spanish sample belongs to an educational center that develops a methodology that necessarily implies control over the tasks and team work.

This article also aims to confirm hypotheses 3–6 in the education sub-sample. That is, to know the specific association of individual well-being with gender (H3), low seniority in the organization; agreement with the methodology in the workplace and the intention to stay in your organization in the long term (H4); also with the psychosocial factors specified above (H5); as well as with meso-level variables such as the role of emotional labor and of the organizational culture that reinforces participation and integration. In this sense, we expected to confirm that a transformational organizational culture in schools is positively and more strongly associated with well-being than a transactional one (H6).

Sample

One thousand one hundred eighty-five individuals participated in this study. $n = 37$ [28 (75%)] women between 23 and 61 years of age ($M = 39.14$, $DT = 10.23$) kindergarten and primary education teachers at a public education establishment in the city of Talca, Chile (Group 1, high vulnerability school); $n = 164$ (123 (77%) women, between 19 and 66 years of age ($M = 38.23$, $DT = 12.79$) of educational establishments in the city of Talca, Osorno and Valparaiso, Chile (Group 2); $n = 43$ [26 (61%)] women, between 20 and 32 years of age ($M = 23.35$, $DT = 2.51$) student teachers from a private university -campus Talca, Chile- (Group 3) and $n = 31$ [7 (23%)] women, between 22 and 54 years of age ($M = 24.93$, $DT = 5.91$) student teachers from a private university -campus Santiago de Chile, Chile (Group 4); $n = 212$ [172 (86%)] women, between 25 and 60 years of age ($M = 47.67$, $DT = 8.56$) kindergarten and primary teachers in

Public education establishments in the territories of Guipuzcoa, Alava, and Vizcaya (Group 5) and $n = 699$ [600 (86%)] women, between 22 and 69 years of age ($M = 43.69$, $DT = 9.54$) kindergarten and, to a greater extent, primary school teachers belonging to the country's public institution of Montevideo in Uruguay (Group 6)¹²⁰.

Procedure

This study was carried out within the framework of a general project developed in Chile, Spain and Uruguay in a sample of education and social intervention. In this case, teachers and university students of Pedagogy responded collectively and face to face during a period of 50–75 min a battery of instruments (only some of them are addressed in this study). The sample of Chilean teachers from Talca (Group 1) also answered the scale SusesoIstas21 (Candia et al., 2016). This instrument, which allows the assessment and measurement of psychosocial risks at work, is an adaptation of the Spaniard CoPsoQ-Istas21 Questionnaire (Moncada et al., 2014). The Chilean version of the instrument showed that in Group 1, 57% show high stress and low control of work; and almost 60% show low social support and quality leadership¹³¹¹. Profile found by the SusesoIstas21 in Group 1 (dimensions of stress, control of work, and social support and quality leadership) was replicated with CoPsoQ-Istas21 (dimension 1, 2, and 4). Although the profile was similar with both instruments, the SusesoIstas21 categorizes more people in risk scores (this is another study). Below, we examine the profile of the other samples to get an overview of the situation of teachers in the three countries.

Instruments

In this study, we addressed well-being (Diener, 1996; Fredrickson, 2013; Hervás and Vázquez, 2013); psychosocial factors (Moncada et al., 2014), emotional labor role or LeR (Ortiz et al., 2012) and CSO (Nader et al., 2006) (for a more detailed version of the instruments see Study 1 and resource on line 2). Psychosocial factors were measured by some dimensions of CoPsoQ-istas21. This is an open access instrument of evaluation and prevention of psychosocial risks promoted by Scandinavian trade unions and researchers, which has been translated and validated by the CCOO trade union in Spain. CoPsoQ-Istas21 Questionnaire was applied and validated by the Sub-secretary of Economic and Social Affairs in Chile, creating a Chilean version called SusesoIstas21. In this study SO, AM and IS¹⁴¹² association with well-being and gender differences were also analyzed. Focus groups (Allen, 2017) were held, when possible, during the sessions to return the research results to the participating centers. We wanted to know the teachers' perception of the results. The next step was to invite them to create working groups and plan short,

¹⁰See Study 1 and Sociodemographic data of the participating sample by country in: **on line resources 5**.

¹¹Other results were that 68% showed risk scores in the reward dimension (measuring the balance between the effort invested in completing the tasks and the reward obtained for them) and 57% in the dual presence dimension (measuring the concern with fulfilling domestic and work tasks).

¹²See scales and instruments at: **on line resources 2**.

⁹<https://www.ceip.edu.uy/tiempo-completo-modelo-pedagogico-fundamentacion/>

medium – and long-term – actions based on the diagnosis of their school.

Data Analysis

Descriptive frequencies analyses were carried out. Tercile cut-off points were applied to the aforementioned sub-sample, comparing the results with paired samples of professors (Group 2) of the same zone (Chile) and the other two countries (Spain and Uruguay Groups 5 and 6 respectively) and upper-education students (Groups 2 from the same zone of the sub-sample and 3 from the capital of the country, Chile). Correlations were carried out, similar to those conducted in Study 1, but in this case using only the global teacher's sample (Groups 2, 5, and 6) and the Group 1. Finally, mean comparisons were made between the Talca sample, supposedly the most negative context, and the Spanish sample, as the most positive context.

RESULTS

Categorization of Responses According to Scales by Country and Sub-Sample

Compared with the sample of Chilean education and pedagogy students (groups 3 and 4) and with teachers from Spain and Uruguay (groups 5 and 6), the teachers from Chile (group 2) and Talca (Group 1) display a medium-high level of Eps (group 6 reports a slightly higher level), lower CWa (the rest display a better profile), as well as low LpB in their organization (the others display a similar and better profile) (see **Table 5**). They also display relative lower AHWB and medium-high levels of EPWB. As previously mentioned teachers from Talca (group 1) displayed psychosocial risk levels above 50% in all dimensions of the equivalent Chilean questionnaire (see da Costa, 2018). Applying the cutoff points from the Spaniard scale (Moncada et al., 2014), around 9/10 subjects from this educational center display high EPs, 3/10 low CWa and 6/10 low LpB quality.

Regarding LeR a similar profile was found between the samples. The school in Talca reports that almost 54% of the members who participated in this study report high expression of negative emotions as part of their role (versus 44% of group 2, 69% of group 5 and 50% of group 6), although did not report high emotional dissonance (20% versus 20% of group 2, 9% of group 5 and 22% of group 6). Regarding the organizational culture, and broadly distanced from the other samples, this educational establishment perceives low levels of transformational CSO in its organization, in addition to medium-low levels of transactional CSO.

To examine the specific hypothesis of the negative profile of Talca teachers by respect to Spanish teachers, means were compared between the Group 1 sample and the Spanish sample with a paired *t*, using the *dt* from the first sample for the contrast. Chilean teachers (Group 1) displayed greater EPs ($M = 14.27$ vs. $M = 13.14$, $t = 2.14$, $p < 0.04$), lower CWa ($M = 22.5$ vs. $M = 26.2$, $t = 4.24$, $p < 0.001$) and LpB ($M = 23.36$ vs. $A = 28.16$, $t = 4.22$, $p < 0.001$) than Spanish teachers. Regarding

BH, teachers from Group 1 displayed a similar level of positive affectivity as in the comparison sample ($M = 21.8$ vs. $M = 22.35$, $t = n.s$). On the other hand, Chilean teachers display greater negative affectivity ($M = 12$ vs. $M = 7$, $t = 4.7$, $p < 0.001$). The EPWB of Chilean teachers from Talca was lower than their counterparts in Spain ($M = 71.5$ vs. $M = 79.45$, $t = 3.45$, $p = 0.001$).

Gender Differences

Regarding H3, unifying the sample of teachers from Chile (Groups 1 and 2), men show a higher EPs profile than women, although the score is marginal ($M = 12.89$ vs. $M = 12.54$, $t = 0.18$, $p < 0.07$). They also show greater emotional dissonance $r_{(189)} = -0.14$, $p = 0.02$ ($M = 12.86$ vs. $M = 11.35$, $t = 0.20$, $p < 0.05$). No statistically significant differences in these variables are found in Group 1. In this group, men show greater social support and quality leadership $r_{(35)} = -0.34$, $p < 0.02$ ($M = 28.22$ vs. $M = 22.80$, $t = 0.21$, $p < 0.046$), empathy and sensitivity $r_{(35)} = -0.39$, $p < 0.009$ ($M = 14.62$ vs. $M = 12.66$, $t = 0.25$, $p < 0.02$) as well as control of interaction in the work role $r_{(35)} = -0.43$, $p < 0.005$ ($M = 8.50$ vs. $M = 6.44$, $t = 0.28$, $p < 0.009$). Female teachers from the Spanish sample show greater expression of positive emotions in the work role $r_{(198)} = 0.23$, $p = 0.001$ ($M = 16.29$ vs. $M = 14.28$, $t = -3.08$, $p = 0.02$) as well as greater empathy and sensitivity in the work role $r_{(198)} = 0.24$, $p = 0.001$ ($M = 13.78$ vs. $M = 12.61$, $t = -3.30$, $p = 0.001$). Finally, no statistically significant differences are found in Uruguay except in EPs, where female teachers show a somewhat higher score $r_{(675)} = 0.06$, $p < 0.05$ ($M = 13.83$ vs. $M = 13.13$, $t = -0.17$, $p < 0.09$).

Psychosocial Risks, Emotional Work Role Factors, Organizational Culture, and Their Relationship With Well-Being Indicators

Psychosocial risks factors and organizational culture are associated with well-being with a profile similar to Study 1 in the global sample of educators in concordance with H4, 5 and 6¹³. In Talca sub-sample (Group 1) agreement with the methodology used in their workplace correlated with affect balance and psychological well-being (see **Table 6**) (H4). EPs is negatively correlated with AHWB and e affect balance, and marginally so with SWL. CWa is positively and significantly associated to AHWB (negatively with negative affectivity), SWL and also to EPWB (H5). Empathy and sensitivity as a demand of the labor role held by educators display a similar profile. The emotional labor of expressing negative emotions in the work role was positively and significantly associated with negative affectivity, and negatively with SWL. Finally, emotional dissonance was associated, to a lesser extent and negatively, with positive affectivity and balance of affect. Correlation with negative AHWB is positive and marginal. The relation between the indicators of well-being and CSO in this sample were n.s. (H6).

¹³Given that the N is small and therefore the statistical power is lower, only the significant values are highlighted in the text.

TABLE 5 | Psychosocial risk level, EPWB, AHWB, LeR affective and CSO that reinforces participation and integration (Study 2).

| | Teachers | | Students Pedagogy chilenos | | Teachers | |
|--|---|--|---|--|---------------------------------|------------------------------|
| | Group 1 Chileans in the South Central Region ¹ | Group 2 Other teachers South Center ² | Group 3 South Central Region ³ | Group 4 Metropolitan region ⁴ | Group 5 ACBC Spain ⁵ | Group 6 Uruguay ⁶ |
| EPs (Moncada et al., 2014) | | | | | | |
| Low risk (0–7) | 8.1% | 10.2% | 7% | 12.9% | 3.8% | 4% |
| Medium risk (8–11) | 16.2% | 20.5% | 20.9% | 41.9% | 34% | 20.3% |
| High risk (12 or more) | 75.7% | 69.3% | 72.1% | 45.2% | 62.2% | 75.7% |
| CWa (Moncada et al., 2014) | | | | | | |
| Low risk (0–18) | 30.6% | 16.3% | 16.3% | 6.5% | 5.8% | 6.9% |
| Medium risk (19–25) | 38.9% | 24.1% | 16.3% | 6.5% | 37.5% | 36.1% |
| High risk (26 or more) | 30.6% | 59.6% | 67.4% | 87.1% | 56.7% | 57% |
| LpB (Moncada et al., 2014) | | | | | | |
| Low risk (0–24) | 50% | 35.5% | 23.3% | 20% | 23.3% | 30.3% |
| Medium risk (25–31) | 36.1% | 38% | 51.2% | 4.4% | 53.4% | 49% |
| High risk (32–40) | 13.9% | 26.5% | 25.6% | 76% | 23.3% | 20.8% |
| EPWB (Hervás and Vázquez, 2013) | | | | | | |
| Low Well-Being (74 and less) | 50% | 41.5% | 44.2% | 53.3% | 36% | 24.2% |
| Medium risk (75–83) | 41.7% | 23.8% | 32.6% | 30% | 32.2% | 16.9% |
| High Well-Being (84 or more) | 8.3% | 34.8% | 23.3% | 16.7% | 31.8% | 58.9% |
| AHWB (Fredrickson, 2013) | | | | | | |
| Negative Balance (0 or less) | 18.9% | 5.4% | 7% | 11% | 9% | 14.5% |
| Slightly positive balance (1–10) | 29.7% | 16.7% | 16.3% | 11% | 15.7% | 19.8% |
| Positive balance (11 or more) | 51.4% | 78% | 76.7% | 78% | 75.2% | 65.7% |
| LeR (Ortiz et al., 2012) | | | | | | |
| Low levels of empathy and sensitivity (8 or less) | 2.8% | 3.1% | 2.3% | 0% | 1.9% | 5.4% |
| Medium level of empathy and sensitivity (9–13) | 41.7% | 31.4% | 44.2% | 50% | 34.6% | 57% |
| High level of empathy and sensitivity (14 or more) | 55.6% | 65.4% | 53.5% | 50% | 63.5% | 37.6% |
| Low expression of negative emotionality (8 or less) | 30.6% | 35.2% | 14% | 6.7% | 14.4% | 23.9% |
| Medium level of negative emotional expression (9–10) | 16.7% | 20.8% | 16.3% | 16.7% | 16.7% | 17% |
| High level of negative emotional expression (11 or more) | 52.8% | 44% | 69.8% | 76.7% | 68.9% | 50.1% |
| Low levels of emotional dissonance (10 or less) | 40% | 44.7% | 25.6% | 23.3% | 47.6% | 37.1% |
| Medium levels of emotional dissonance (11 to 15) | 40% | 35.8% | 25.6% | 46.7% | 43.8% | 41% |
| High levels of emotional dissonance (16 or more) | 20% | 19.5% | 48.8% | 30% | 8.7% | 21.9% |
| CSO (Nader et al., 2006) | | | | | | |
| Low transformational CSO (–6 and less) | 54.3% | 14.8% | 11.6% | 6.7% | 9.8% | 9.8% |
| Medium level of transformational CSO (–5 and 5) | 37.1% | 22.2% | 23.3% | 30% | 32.6% | 36.2% |
| High level of transformational CSO (6 or more) | 8.6% | 63% | 65.1% | 63.3% | 57.5% | 54% |
| Low transactional CSO (–6 and less) | 45.7% | 15.4% | 9.3% | 0% | 12.4% | 7.4% |
| Medium level of transactional CSO (–5 and 5) | 48.6% | 57.4% | 46.5% | 63.3% | 68.1% | 62.7% |
| High transactional CSO (6 o más) | 6.7% | 27.2% | 44.2% | 43.3% | 19.5% | 30% |

Sub-sample analyzed Group ¹n = 37 (Talca); Group ²n = 164 (Valparaíso, Talca and Osorno); Group ³n = 43 (Talca) 4 ⁴n = 31 (Santiago de Chile), Group 5 ⁵n = 212 (Guipuzcoa and Bizkaia); Group 6 ⁶n = 699 (Uruguay). EPs, excess of psychological demands at work or work stress; CWa, control over work, role autonomy; LpB, leadership that reinforces participation and belonging; EPWB, eudaimonic vision or psychological well-being and personal optimal development; AHWB, affective hedonic view of subjective well-being; LeR, emotional labor role, LeR SE, sensitivity and empathy in the labor role; LeR NE, negative expression of emotions in the labor role; LeR ED, emotional dissonance in the labor role; CSO, culture and organizational structure that reinforces participation and integration (transformational and transactional).

TABLE 6 | Association between individual, micro and mesosocial level variables and well-being in education sample (Study 2).

| | Chilean, Spanish, and Uruguay teachers | | | | | | | | | Chile, Talca | | | | | | | | |
|----------------|--|---------|---------|---------|---------|---------|----------------|----------------|---------|--------------|--------|--------|--------|-------|--------|----------------|----------------|--------|
| | N | 1 | 2 | 3 | 4 | 5 | 6 | | 7 | n | 1 | 2 | 3 | 4 | 5 | 6 | | 7 |
| | | | | | | | T ¹ | S ² | | | | | | | | T ² | S ³ | |
| Gender | 1000 | -0.02 | -0.08** | -0.07* | -0.007 | -0.04 | -0.005 | -0.05 | 0.10** | 36 | -0.07 | 0.06 | -0.03 | -0.10 | 0.04 | -18 | 0.13 | 0.06 |
| EPs | 1030 | -0.41** | -0.43** | -0.31** | 0.39** | -0.44** | -0.33** | -0.22** | -0.23** | 36 | 0.05 | 0.007 | -0.28* | 0.32* | -0.35* | -0.23† | -0.16 | -0.20 |
| CWa | 1020 | 0.17** | 0.29** | 0.38** | -0.22** | 0.39** | 0.41** | 0.24** | 0.29** | 36 | -0.21 | -0.23† | 0.32* | -0.17 | 0.29* | 0.54** | 0.36* | 0.34* |
| LeR | 960 | -0.21** | -0.21** | -0.08** | 0.22** | -0.19** | -0.11** | -0.05 | -0.10** | 34 | 0.03 | -19 | 0.007 | 0.27† | -0.15 | 0.39* | 0.12 | 0.12 |
| LeR NE | 1020 | -0.23** | -0.26** | -0.22** | 0.25** | -0.30** | -0.21** | -0.17** | -0.21** | 36 | 0.03 | -0.26† | 0.003 | 0.30* | -0.16 | 0.32* | 0.29* | 0.15 |
| LeR NEE | 1020 | -0.14** | -0.15** | -0.06 | 0.17** | -0.14** | -0.08** | -0.03 | -0.10** | 35 | 0.05 | 0.11 | -0.08 | 0.09 | -0.10 | 0.32* | 0.21 | 0.23† |
| LeR PE | 1020 | -0.06* | -0.07* | 0.06* | 0.06* | -0.006 | -0.006 | 0.09** | 0.05 | 36 | 0.07 | 0.007 | 0.02 | -0.15 | 0.09 | -0.008 | -0.003 | -0.10 |
| LeR ED | 1010 | -0.27** | -0.26** | -0.16** | 0.29** | -0.28** | -0.18** | -0.12** | -0.15** | 35 | -0.09 | -0.03 | -0.27† | 0.26† | -0.31* | 0.02 | -0.07 | -0.10 |
| LeR SandE | 1010 | 0.03 | 0.04 | 0.11** | -0.04 | 0.09** | 0.09** | 0.07* | 0.03 | 36 | 0.12 | 0.05 | 0.40** | -0.16 | 0.33* | 0.51** | 0.06 | 0.37* |
| ReL CINT | 1025 | 0.13** | 0.14** | 0.22** | -0.18** | 0.25** | 0.19** | 0.12** | 0.13** | 36 | -0.18 | -0.25† | 0.23† | 0.19 | 0.04 | 0.23† | -0.13 | 0.12 |
| LpB | 1020 | 0.23** | 0.31** | 0.33** | -0.31** | 0.41** | 0.37** | 0.22** | 0.32** | 36 | -0.11 | 0.06 | 0.27† | -0.21 | 0.28* | 0.37* | 0.12 | 0.31* |
| CSO Transform. | 960 | 0.13** | 0.16** | 0.24** | -0.18** | 0.27** | 0.21** | 0.10** | 0.21** | 35 | -0.24† | -0.04 | -0.05 | 0.29* | -0.19 | -0.12 | -0.29* | -0.12 |
| CSO Transacc. | 960 | -0.21** | -0.22** | -0.14** | 0.28** | -0.26** | -0.18** | -0.07* | -0.08** | 35 | -0.05 | -0.11 | 0.17 | -0.22 | 0.22 | 0.31* | 0.07 | 0.23† |
| SO | 850 | 0.004 | -0.02 | -0.003 | -0.009 | 0.003 | -0.02 | 0.006 | 0.01 | 36 | 0.006 | -0.19 | -0.04 | 0.19 | -0.13 | -0.07 | -0.02 | -0.15 |
| AM | 890 | 0.29** | 0.32** | 0.27** | -0.24** | 0.32** | 0.34** | 0.21** | 0.29** | 36 | 0.09 | -0.05 | 0.18 | -0.31 | 0.28* | 0.53** | 0.22† | 0.39** |
| IS | 890 | 0.15** | 0.14** | 0.16** | -0.22** | 0.24** | 0.26** | 0.07* | 0.13** | 10 | -0.03 | -0.03 | 0.83** | 0.47† | 0.24 | 0.64* | 0.37 | 0.36 |

1 = BSCs (behavioral, somatic and cognitive reactions to stress); 2 = QLLH (quality of life linked to health); 3 = AHWB positive (affective hedonic view of subjective Well-Being); 4 = AHWB negative (affective hedonic view of subjective Well-Being); 5 = affect balance; 6 = SWL (cognitive hedonic view of subjective Well-Being or satisfaction with life), ¹Job satisfaction; ²Satisfaction with yourself; 7 = EPWB (eudaimonic vision or psychological Well-Being and personal optimal development). Gender = 1 = women, 2 = men. EPs, excess of psychological demands at work or work stress; CWa, control over work, role autonomy; LeR, emotional labor role; LeR NE, negative expression of emotions in the labor role; LeR NEE, neutral expression of emotions in the labor role; LeR PE, positive expression of emotions in the labor role; LeR ED, emotional dissonance in the labor role; LeR SE, sensitivity and empathy in the labor role; LeR CINT, control of interaction in the labor role; LpB, leadership that reinforces participation and belonging; CSO, culture and organizational structure that reinforces participation and integration (transformational and transactional); SO, seniority in the organization; AM, agreement with the methodology in the workplace; IS, intention to stay. **p < 0.01, *p < 0.05, †p < 0.10.

DISCUSSION

Regarding the first objective of this study, to have a descriptive vision of the similarities of teachers in different nations and context, the general profile of the educators from the three countries shows that participants perceive high levels of psychological stress, low-medium levels of social support and quality leadership, high levels of demand to express negative emotions (although not emotional dissonance), medium-high levels of work control and of transformational culture in their organizations. The profile of the first three variables is one of risk, and it also shows that emotional dissonance is not a dominant element in these samples, but rather having to express negative emotions to control students (according to statements made by participants interviewed in focus group). Social support (Turner and Turner, 2013), which is at medium-low level with the majority of the general sample, is associated with psychological adjustment (Bender et al., 2019) and with greater life satisfaction (Chu et al., 2010). Its absence can be a clear symptom of lack of well-being. On the other hand, work control was at medium-high levels in most groups. This might explain the medium-high and high profile of psychological and hedonic well-being of teachers in the three countries. This suggests that resilience processes are present in the educators participating in this study.

Regarding to second objective, results confirm that psychosocial risk factors are higher in the sample of Chilean teachers than in the Spain sample. Two of the environmental psychological and social characteristics that facilitate well-being, such as low work-load and stress, support from peers and quality leadership are absent or at a low level in the Talca sub-sample. Moreover, educators from Talca at the analyzed educational establishment displayed risk levels in the following variables: psychological demands or stress, control of work or autonomy, social support and quality leadership, compensation, and double presence, measured with SusesoIstas21 (data not shown). Talca teachers also perceives low levels of transformational CSO in its organization, in addition to medium-low levels of transactional CSO. This deficient organizational culture profile must be understood within the framework of Chilean institutional operation. The difficulty in planning to make structural changes to management at this educational establishment was mentioned, as it is under the Municipal Department of Education, and because of the rigidity of its transactional culture. The people at this establishment perceive the absence of transformational culture. On the other hand, the context wherein the school operates must be considered, where students are very vulnerable socially with socioeconomic fragility and intra-family violence, leading to greater demands placed on teachers. However, professionals in the counseling department raise the possibility of intervening at an individual and group level in order to contribute to improving the well-being of these educators.

In concordance with H3 gender differences were not strong and heteroclite. Contrary to what was expected (Kenworthy et al., 2014), in the total teachers' sample women report higher EPWB. And men report higher stress and emotional dissonance than women in the global Chilean sample. The opposite was found in Uruguay where women score higher on EPs as expected

(Galanakis et al., 2009). One possible explanation is that primary household responsibilities (Sharma et al., 2016; Chawla and Sharma, 2019) have a greater interference with women's work. In contrast, due to job or employment loyalty, job interference would be less for men. Studies also report that differences may be between cohorts rather than in gender *per se* (Galanakis et al., 2009). Recall that the meta-analysis by Purvanova and Muros (2010) found that while women were more emotionally burned than men, men showed slightly more depersonalization than women. The meta-analysis by Kenworthy et al. (2014) linked emotional dissonance to burnout, finding that employees who faked their emotions at work also suffered from burnout. In this study, the relationship between excessive psychological demands at work or work stress and emotional dissonance was positive and significant for the sample of Chilean teachers (results not shown). Accumulated evidence indicates that these risk factors for well-being can be addressed through interventions (e.g., Galanakis et al., 2009; Mesmer-Magnus et al., 2012; Bolier et al., 2013; Chaplin and Aldao, 2013; Lever et al., 2017; Slempt et al., 2018; Mendoza-Castejon et al., 2020; Pyhältö et al., 2020), with a gender perspective (e.g., Shannon et al., 2019). In the group 1 men report high positive outcomes in emotional labor as well as higher quality leadership and support. The opposite was found in Spain where women showed higher scores in positive emotion expression, empathy and sensitivity in the work role. This last data is consistent with research that highlights the relevance of contextual factors in gender differences (Chaplin and Aldao, 2013; Olson et al., 2019). Considering that providing support for autonomy can be a practical leadership approach to fostering the satisfaction of basic needs, the internalization of work motivation, and positive work outcomes (Slempt et al., 2018), one might ask what leads the men in this Talca school (Group 1) to perceive more social support and quality leadership than their female counterparts? Moreover, the enormous accumulated evidence on leadership, social support and its well-being benefits show that it is also possible to intervene on this point (e.g., Kossek et al., 2011; Eby et al., 2013; Carreira, 2017; Mathieu et al., 2019; Tifferet, 2020).

AM and IS correlate with well-being in the global teacher sample, in line with H4. H5 was also supported: low EPs, high CWa and LpB were related to EPWB. Regarding to H6, LeR, NE, NEE, and ED, as well as transformational culture, were negatively related to EPWB. Profile of correlations were similar for Talca subsample, but only AM, CWa, and LpB associations were significant – probably because of the small sample size. As stated, one of this study's clear limitations is the size of the Talca sample. However, the results of the general education sample have conclusively confirmed hypotheses 4, 5, and 6. However, the results also suggest that the psychological disposition of the professionals toward their work and their high involvement with the organization, possibly influenced by the "vocational" character toward teaching, contributes as "a kind of palliative or compensatory mechanism" to the difficulties, risks or deficiencies that can be found in groups, organizations and systems that nestle them. At present, the educational center in Talca has started to carry out self-care activities at the end of each semester. This support consists of taking active breaks, carrying out reflection activities sent by the Ministry of Education and taking a walk

at the end of the year. However, the feasibility and effectiveness of these organizational improvements remains open. Decision makers should be reminded of the relevance of teachers to the community and thus contribute to its well-being (Roorda et al., 2011; López et al., 2017; Viac and Fraser, 2020).

Study 3: Favorable Factors to Well-Being in Five Countries: Labor and Military Organizations

This study involves military cadets from a higher education organization and workers from five countries and different employment contexts (including higher education organizations). With the sample of workers (WS) from two countries, the aim was to contrast the positive relationship between individual well-being (QLLH or health-related quality of life) and collective well-being (GHWB or socio-emotional climate), which in this study takes center stage as an explained variable (H1). We also sought to test hypotheses 2 to 6, that is, to check the positive association of collective well-being (GHWB) with the values of openness to change (OVC) and transcendence (TV) in a military sample (MS) (H2); gender differences in all samples (H3); as well as the positive correlation of collective well-being (GHWB) with seniority in the organization (SO), intention to stay (IS) in WS and the degree of knowledge and previous participation in work teams (KPW) in WS and MS (H4). We also seek to contrast (in MS and WS) the positive relationship of collective well-being (GHWB) with micro-social factors such as group participation and internal communication (IPaCG), task orientation and climate of excellence (TOaCE); the leadership style that contributes to reinforce social integration and participation (LpB) in MS and the negative relationship between collective well-being and somatic and cognitive reactions to stress (BSCs) in WS. Regarding leadership style, we think that the relationship would be stronger between collective well-being and transformational than with transactional leadership style (H5). At a mesosocial level we tried to contrast that labor role (LR) was positively associated with both individual (QLLH in WS) and collective well-being (GHWB in MS and WS); that both organizational leadership (LpO) and the culture and structure that reinforce participation and integration in the organization (CSO) are positively associated with collective well-being (GHWB). With regard to culture, we believe that the relationship would be stronger between collective well-being and the style of transformational versus transactional organizational culture (H6). Finally, it was postulated that the positive relationship between TOaCE and GHWB would be moderated by organizational leadership that reinforces organizational participation and integration (MS and WS). It was also postulated that gender would modulate the relationship between TOaCE and GHWB, as well as the relationship between LpO and GHWB. Military culture is characterized by strong values of masculinity in terms of competence, and toughness (Hofstede, 1998 in da Costa, 2018). Given the military's organizational culture, it is expected that the functional processes within it will be more beneficial to male than female cadet, as postulated by H6b.

METHOD

Sample

Participating in this study were $N = 1078$ individuals (63% men), workers with a professional contract (72%) and cadets from a military school (28%). They reported being between 18 and 75 years old ($M = 31.73$, $SD = 10.63$), and being residents in Latin America countries (81.4%–86.5% birthplace) and Southern Europe (14.2%–12.5%), 78.7% had tertiary studies¹⁶.

Procedure

Workers could respond on paper or online for a period of between 50 and 75 min, to different instruments. This study only addresses some of them. Completion was supervised by researchers or staff trained to this end in each one of the participating countries. Students' data was collected for a week at the Military Institute and was supervised by a team of researchers trained for the task. Both projects shared the group-level DV in this study.

Instruments¹⁷

Individual well-being was measured as QLLH, is measured through 12 items (general and mental health and vitality). These were selected from the instrument by Ware and Sherbourne (1992). A *Likert-like* scale with 5 anchor points was used for the first dimension (totally true = 1 to 5 = totally false) and 6 anchor points for the other two (always = 1 to 6 = never). Cronbach's α : 0.80 for the three dimensions. The BSCs were measured as described in Study 1 (Setterlind, 2001 in Moncada et al., 2014). Both instruments were only used with workers from Spain and Argentina. GHWB is measured through the socio-emotional climate dimension by da Costa et al. (2016) ($\alpha = 0.86$), along with the dimension of cohesion as a group process ($\alpha = 0.88$) from the same instrument for both samples ($r = 0.75$). A *Likert* scale with 7 anchor points is used (not applicable at all = 1 to 7 = highly applicable). Cronbach's α : 0.90. The MV are measured in this study with the same instrument as Study 1 (Schwartz, 2001) and 11 items. Cronbach's α : 0.69 (OVC) and 0.71 (self-transcendence: TVB and TVU). KPW is measured with 4 items (da Costa et al., 2016) using a dichotomous scale (1 = no, 2 = yes). Spearman Brown: 0.70. IPaCG, as well as TOaCE, are respectively evaluated with 3 items from group processes (da Costa et al., 2016) and 7 anchor points (not applicable at all = 1 to 7 = highly applicable). Cronbach's α : 0.84 and 0.86. LR is measured with 6 items and 7 anchor points (da Costa et al., 2016). Cronbach's α : 0.85 (complexity and challenge of the role) and 0.62 (autonomy) $r = 0.69$. Cronbach's α : 0.87. CSO is measured with 7 items and 7 anchor points (da Costa et al., 2016). Cronbach's α : 0.88 (organizational integration) and 0.81 (resources) $r = 0.74$, Cronbach's α : 0.90. LpB is evaluated with 34 items and 5 anchor points (totally disagree = 1 to 5 = totally agree). The perceived leadership in superiors (LpB) in the military setting is assessed (adapted from Castro Solano et al. in

¹⁶ See general and specific socio-demographic data by country participating in: **online resources 6**.

¹⁷ If not mentioned, they are instruments used on both samples (MS and WS).

Nader and Sánchez, 2010). Finally, LpO is evaluated with 4 items of positive leadership in the organization, using the aforementioned scale (da Costa et al., 2016) with 7 anchor points. Cronbach's α : 0.91. Gender, SO and the IS as the type of relationship had with their organization (1 = permanent, 2 = temporary, 3 = self-employed) are also analyzed in this study¹⁸.

Data Analysis

Correlations, regressions, and moderation were analyzed with Model 1 from Process 3.4. The CMA program, version 3, was applied (Borenstein et al., 2014) to analyze correlations for different samples and obtain a weighted average effect size. Associations are shown separately on **Table 7** and all together beginning with **Table 8**.

RESULTS

To test the first hypothesis (H1) in this study, Argentina's and Spain WS was used. The relationship between individual well-being (QLLH) and group (GHWB) well-being was analyzed with CMA. The average weighted association with the random model was $r = 0.29$, IC 95% [0.08; 0.49]. The heterogeneity test was not significant, $Q = 1.77$, $p = 0.18$. To test H2, a correlational analysis in the MS between OVC, TV and GHWB was conducted. The association was n.s. Regarding H4, a significant association was found between SO, with GHWB [$r_{(562)} = -0.16$, $p < 0.001$]; however, the relation with IS was n.s. The relation between KPW [$r_{(968)} = 0.13$, $p < 0.001$] with GHWB was significant, both in WS and in MS (see **Tables 7, 8**). Regarding H5 both in WS and in MS, IPaCG ($r = 0.74$ y 0.63) and TOaCE ($r = 0.76$ y 0.69) were respectively associated with GHWB in the organization (see **Table 7** for general sample). Concerning to H6, GHWB was associated with the perception of LR ($r = 0.62$), all $p = 0.001$.

With the objective of testing H5 with a personal well-being indicator, perceptions of group processes (PyGG and TOaCE) were analyzed with QLLH in Argentina and Spain (WS). The values found were n.s. In the sub-sample (or sample from Argentina and Spain), the negative relation between stress and individual and collective well-being hypothesized by H5 was confirmed: BSCs was negatively associated with individual well-being: using the random model, mean weighted association of $r = 0.50$, IC 95% [0.38; 0.61] was found significant for both countries. The heterogeneity test was not significant $Q = 0.21$, $p = 0.66$. Low BSCs were associated with GHWB, the average weighted correlation using the same model was $r = 0.19$, IC 95% [0.04; 0.33]. The heterogeneity test was not significant $Q = 0.405$, $p = 0.50$. Finally, the relation of the transformational LpB was analyzed with GHWB (MS). A positive association was found (see **Table 8**), specifically with the individual level transformational scale [$r_{(297)} = 0.15$, $p < 0.005$]. Regarding H6, the relation between GHWB and LR proved to be significant $r = 0.71$, (see **Table 7**) both in WS and in MS. The association of individual

well-being (QLLH), with role complexity in the Argentinean-Spanish sub-sample was n.s.

The perception of an integrative organization that invests resources to adequately conduct work was associated with GHWB $r = 0.68$ (see **Table 7**). The association of individual well-being (QLLH), with organizational integration and resources in the Argentinean-Spanish sub-sample was n.s. LpO was not correlated with QLLH in the Argentinean-Spanish sub-sample. Finally, the association of GHWB with LpO was $r = 0.66$ for the MS and 0.75 for WS, both $p = 0.001$. Transformational LpB ($r = 0.12$, $p < 0.01$) and LpO styles ($r = 0.66$, $p < 0.001$) were more strongly associated with well-being than transactional LpB ($r = 0.09$, $p < 0.10$) in MS (H6).

To verify H6b, moderation analyses were conducted using sex (WS and MS) and transformational leadership (individual level) (MS) as co-variables. The relation between TOaCE and GHWB $\beta = 0.39$ [0.31; 0.48], moderated by LpO $b = 0.36$ [0.28; 0.44] was positive and significant for Argentina. Gender, while it had a direct effect $\beta = -0.10$ [-0.18; -0.3] on MS, did not moderate the relation between LpB and GHWB, and it did not between TOaCE and GHWB, either (interactions are n.s., both with process and with hierarchical regression, see **Table 9**). Finally, controlling gender and individual approach (transformational leadership) in the MS, the analysis showed that the greater the perception of LpO favorable to participation and integration in the organization, the greater the effect of TOaCE in GHWB $\beta = 0.47$ IC [0.34; 0.59], but this effect decreases as this perception also decreases (average level $\beta = 0.38$ IC [0.29; 0.46]; and low level $\beta = 0.29$ IC [0.18; 0.39]) (**Figure 2** shows results from the moderating effects). The second moderation analysis (H6b) displayed a negative association, when an organizational structure with fewer resources and less integration is perceived, the effect of the TOaCE on GHWB is greater $\beta = 0.41$ IC [0.34; 0.48] and it decreases as said perception decreases (average level $\beta = 0.35$ IC [0.25; 0.41] and lower level $\beta = 0.31$ IC [0.23; 0.39]).

Gender Differences

Regarding the third hypothesis ($N = 900$), women perceive greater group hedonic well-being in their organizations ($r = 0.056$, $p = 0.045$), specifically in Argentina [$r_{(50)} = 0.39$, $p < 0.002$], Mexico [$r_{(134)} = 0.24$, $p < 0.002$] and Brazil [$r_{(273)} = 0.11$, $p < 0.04$] than men. In Spain and in the military setting, correlations were n.s. Women declare a more favorable vision of group processes, specifically of TOaCE ($r = 0.06$, $p = 0.03$), although not of IPaCG ($r = 0.03$, $p = 0.18$), they perceive better LR ($r = 0.11$, $p < 0.001$), specifically for autonomy ($r = 0.07$, $p < 0.02$), a more favorable CSO or structure ($r = 0.13$, $p < 0.001$), specifically for resources ($r = 0.18$, $p < 0.001$) and better perception of LpO ($r = 0.12$, $p < 0.001$) in their organization. There are practically no gender differences in LpB (military setting) and associations are marginal. In the sub-sample in Argentina women displayed greater well-being or quality of life related to health ($r = 0.24$, $p < 0.04$) than men. Differences in stress symptoms were n.s. In Spain, men displayed greater well-being ($r = -0.21$, $p < 0.001$) than women ($n = 0.72$), but also more behavioral stress symptoms ($r = -0.21$, $p < 0.01$) (H3).

¹⁸See scales and instruments at: [on line resources 2](#).

TABLE 7 | Relationship between individual and microsocial level predictor variables with psychological well-being (Study3).

| Variables | WS | | | | MS | | | |
|------------------------|----------|----------|-----------|-------------------|----------|----------|-----------|-------------------|
| | <i>n</i> | <i>M</i> | <i>SD</i> | <i>r</i> | <i>n</i> | <i>M</i> | <i>SD</i> | <i>r</i> |
| Gender | 613 | 1.49 | 0.500 | 0.06 [†] | 308 | 1.12 | 0.329 | -0.06 |
| SO | 562 | 4.101 | 1.384 | -0.16** | - | - | - | - |
| KPW experience | 684 | 2.915 | 0.8884 | 0.10** | 301 | 3.000 | 0.7023 | 0.12* |
| KPW training | 681 | 3.180 | 0.7304 | 0.13** | 307 | 3.130 | 0.7514 | 11* |
| IS | 552 | 0.1920 | 10.42 | 0.03 | - | - | - | - |
| OVC | - | - | - | - | 308 | 27.50 | 4.614 | -0.03 |
| TVU | - | - | - | - | 310 | 24.98 | 3.809 | -0.02 |
| IPaCG | 768 | 13.54 | 4.815 | 0.74** | 310 | 13.08 | 4.458 | 0.63** |
| TOaCE | 749 | 14.62 | 4.200 | 0.76** | 309 | 14.03 | 4.489 | 0.69** |
| LpB (transformational) | - | - | - | - | 290 | 54.11 | 18.143 | 0.12* |
| LpB (transactional) | - | - | - | - | 302 | 31.68 | 7.917 | 0.09 [†] |
| LR | 687 | 27.83 | 7.664 | 0.71** | 301 | 27.28 | 7.805 | 0.69** |
| CSO | 688 | 25.26 | 8.453 | 0.73** | 305 | 22.97 | 8.564 | 0.64** |
| LpO | 703 | 37.67 | 11.85 | 0.78** | 284 | 34.26 | 12.35 | 0.66** |
| GHWB | 683 | 28.16 | 8.590 | - | 305 | 27.05 | 7.504 | - |

Gender = 1 = women, 2 = men; SO, seniority in the organization; KPW, degree of knowledge and previous participation in work teams; IS, intention to stay; OVC, openness to change values; TVU, values of transcendence universalism; IPaCG, internal participation and communication in the group; TOaCE, task orientation, and climate of excellence; LpB, leadership that reinforces participation and belonging (transformational and transactional); LR, labor role; CSO, culture and organizational structure that reinforces participation and integration; LpO, organizational leadership that reinforces participation and belonging; GHWB, group hedonic Well-Being. ** $p < 0.01$, * $p < 0.05$, [†] $p < 0.10$.

DISCUSSION

This study corroborated the nomological network of well-being with individual and collective-level indicators, in a sub-sample of Spanish and Argentinean workers. Reaffirming that collective affectacts as a context that influences individual well-being, the hypothesis about the relationship between climate and well-being was confirmed. 9% of the variance in well-being as quality of life linked to health was explained by emotional climate. Showing the independence of the constructs, the associations between well-being indicators were below 0.70, as postulated in the first hypothesis. Contrary to expectations and H2, values for openness to change, as well as transcendence values, did not influence how the socio-emotional climate was perceived in the military setting.

The gender hypothesis was partially verified. While in Southern Europe men report (slightly) greater hedonic group well-being (in line with the third hypothesis), in Latin America, women are the ones who perceive a more positive socio-emotional climate (and show more favorable perception of group and organizational processes). In the military sample, no significant gender differences were found. In the same vein, in this sample gender did not moderated the relationship between the climate of excellence and organizational leadership with the collective well-being. We expected that given the masculine character of the military culture, it would be the men who would benefit more from functional organizational factors to generate a good emotional climate. This was not the case, which is consistent with the fact that female cadets do not perceive a worse emotional climate. The fact that there have been recent institutional reforms to incorporate women and modernize military culture probably explain this result.

The fourth hypothesis was broadly corroborated: the less seniority at an organization, the greater the perception of a positive socio-emotional climate at the organization, and consequently group hedonic well-being. This might suggest that long-term belonging puts a benevolent view of the organization into question. The intention to remain in the organization displayed the expected profile, although the relation with well-being was only significant in Brazil and Spain. Finally, the degree of competence and prior participation with work teams or innovation is associated with group hedonic well-being, both in the worker and in the military samples.

On the other hand, the hypotheses five and six at the meso-level were confirmed, since, the greater the internal participation and communication, the task orientation and the climate of excellence, and the control of the task and the complexity of the organizational role were, the better the socio-emotional climate was. However, these variables were not associated to individual well-being as stated by H5 and 6, suggesting that these meso-level processes are very distal and do not affect individual experience, but only the organizational climate. Instead, stress was found to be negatively associated with both emotional climate and individual well-being. This result suggests that stress in the workplace plays a center role. Nevertheless, it should be noted that this variable was measured as individual stress reactions in this study, therefore, it is not possible to say whether the perception of collective stress would be associated to individual well-being.

From another angle, the perceived transformational leadership of the superior, an individual level variable, was associated in the expected sense with the socio-emotional climate. Also, as expected by H5 the relationship was weaker—although

TABLE 8 | Relationship between individual and microsocial level predictor variables with psychological well-being by country (Study 3).

| Variables | WS | | | | | |
|------------------------|-----|--------|--------|----------------|----------------|--------------------|
| | n | Mean | SD | r ¹ | r ² | r ³ |
| Argentina | | | | | | |
| Gender | 50 | 1.34 | 0.479 | 0.11 | 0.23 | 0.30* |
| SO | 50 | 3.500 | 1.373 | -0.10 | -0.19 | -0.41** |
| KPW | 50 | 4.900 | 1.199 | -0.22 | 0.16 | 0.32* |
| IS | 50 | 1.240 | 0.5554 | 0.04 | 0.11 | 0.13 |
| IPaCG | 50 | 14.66 | 3.172 | 0.29* | -0.04 | 0.28* |
| TOaCE | 50 | 15.70 | 2.589 | 0.07 | -0.08 | 0.35** |
| LR | 50 | 29.72 | 4.965 | 0.35** | 0.09 | 0.01 |
| CSO | 50 | 28.10 | 5.761 | 0.40** | 0.24* | 0.47** |
| LpO | 50 | 43.84 | 5.686 | 0.42** | 0.14 | 0.28* |
| BSCs ¹ | 50 | 24.28 | 7.214 | - | 0.46** | 0.19 [†] |
| QLLH ² | 50 | 44.10 | 4.418 | - | - | 0.34** |
| GHWB ³ | 50 | 31.66 | 4.706 | - | - | - |
| Brazil | | | | | | |
| Gender | 242 | 1.60 | 0.490 | - | - | 0.08 |
| SO | 248 | 4.076 | 1.306 | - | - | -0.04 |
| KPW | 270 | 6.596 | 1.233 | - | - | 14* |
| IS | 247 | 1.295 | 0.6029 | - | - | 0.18** |
| IPaCG | 308 | 13.73 | 4.894 | - | - | 0.72** |
| TOaCG | 299 | 14.71 | 4.313 | - | - | 0.74** |
| LR | 275 | 27.60 | 7.797 | - | - | 0.73** |
| CSO | 275 | 25.82 | 8.762 | - | - | 0.74** |
| LpO | 288 | 38.31 | 11.81 | - | - | 0.78** |
| GHWB | 273 | 28.64 | 8.282 | - | - | - |
| Southern Europe | | | | | | |
| Gender | 153 | 1.46 | 0.500 | -0.21* | -0.31** | -0.12 [†] |
| SO | 100 | 4.840 | 1.488 | 0.02 | 0.08 | -0.16 [†] |
| KPW | 189 | 5.862 | 1.280 | 0.06 | 0.25** | 0.14* |
| IS | 82 | 1.426 | 0.5885 | -0.15 | -0.13 | 0.12 |
| IPaCG | 239 | 13.44 | 4.736 | 0.12 | 0.17* | 0.73** |
| TOaCG | 228 | 14.36 | 4.186 | 0.07 | 0.10 | 0.76** |
| LR | 191 | 28.00 | 7.331 | 0.03 | 0.11 | 0.66** |
| CSO | 191 | 24.42 | 8.447 | 0.007 | 0.07 | 0.69** |
| LpO | 206 | 35.88 | 12.11 | -0.02 | 0.04 | 0.74** |
| BSCs ¹ | 101 | 47.90 | 7.400 | - | 0.74** | 0.17* |
| QLLH ² | 101 | 44.43 | 6.973 | - | - | 0.26** |
| GHWB ³ | 193 | 27.18 | 9.043 | - | - | - |
| Mexico | | | | | | |
| Gender | 133 | 1.40 | 0.491 | - | - | 0.24** |
| SO | 133 | 3.646 | 1.142 | - | - | -0.14 |
| KPW | 133 | 5.812 | 1.547 | - | - | 0.15 |
| IS | 133 | 0.3083 | 12.24 | - | - | 0.06 |
| IPaCG | 132 | 13.25 | 4.981 | - | - | 0.79** |
| TOaCG | 133 | 14.55 | 4.423 | - | - | 0.86** |
| LR | 132 | 27.56 | 8.647 | - | - | 0.84** |
| CSO | 133 | 24.71 | 8.239 | - | - | 0.75** |
| LpO | 129 | 37.22 | 11.99 | - | - | 0.86** |
| GHWB | 128 | 28.14 | 8.980 | - | - | - |
| Latin America | | | | | | |
| Gender | 441 | 1.51 | 0.501 | - | - | 0.12** |
| SO | 447 | 3.892 | 1.287 | - | - | -0.09* |

(Continued)

TABLE 8 | Continued

| Variables | WS | | | | | |
|-----------|-----|--------|-------|----------------|----------------|----------------|
| | n | Mean | SD | r ¹ | r ² | r ³ |
| KPW | 469 | 6.179 | 1.432 | - | - | 0.12** |
| IS | 446 | 0.8027 | 6.728 | - | - | 0.05 |
| IPaCG | 505 | 13.74 | 4.770 | - | - | 73** |
| TOaCG | 498 | 14.84 | 4.174 | - | - | 0.76** |
| LR | 473 | 27.93 | 7.775 | - | - | 0.74** |
| CSO | 474 | 25.82 | 8.357 | - | - | 0.73** |
| LpO | 480 | 38.66 | 11.51 | - | - | 0.79** |
| GHWB | 467 | 28.87 | 8.184 | - | - | - |

The data for Chile is only presented in the section on Latin America as it is a very small sample of experts (n = 15). SO, seniority in the organization; KPW, degree of knowledge and previous participation in work teams; IS, intention to stay; IPaCG, internal participation and communication in the group; TOaCG, task orientation, and climate of excellence; LR, labor role; CSO, culture and organizational structure that reinforces participation and integration; LpO, organizational leadership that reinforces participation and belonging; BSCs, behavioral, somatic and cognitive reactions to stress; QLLH, quality of life linked to health; GHWB, group hedonic Well-Being; r¹, r², and r³, relationship of the variable with BSCs¹, QLLH² and GHWB³. **p < 0.01, *p < 0.05.

positive- with well-being, for transactional leadership. Results suggest that leadership style and behaviors have an important place in the creation of a positive organizational climate. Transformational leaders can constitute important affective events which heighten the positive feelings of their followers and seek to meet their emotional needs, reinforce satisfaction with job, creating trust and a supportive climate (Menges and Kilduff, 2015).

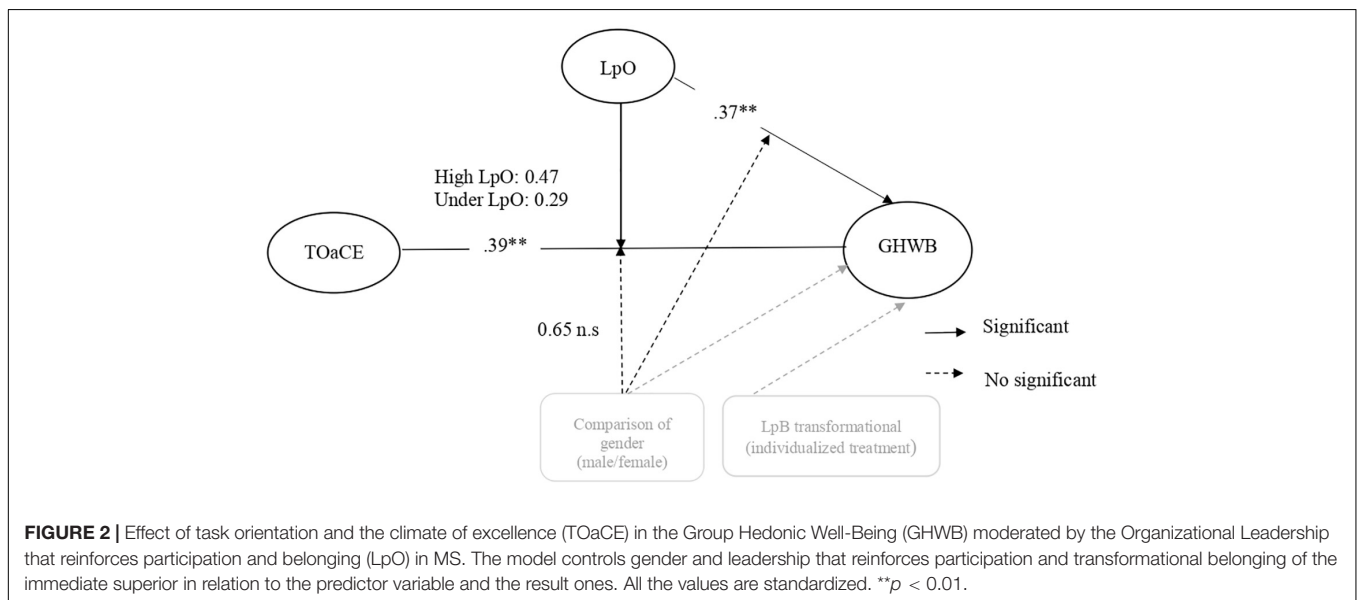
The perception of positive organizational leadership, as well as role complexity and the perception that the organizational culture is integrated and has resources, was associated with collective hedonic well-being, as had been postulated by H6. The macro and meso variables were strongly associated to each other and with less intensity to the individual ones, showing convergent validity. In addition, the variables of these levels -excluding climate-, were not associated to personal well-being. These result suggest that the micro and meso social influence on individual well-being transits through the socio-emotional climate, and reinforce the idea that the emotional climate of the team work acts as a context that influences personal affect and well-being- at the margin of other processes and beyond the shared experiences (Páez et al., 2013).

It was confirmed as expected by H6b that positive leadership moderates the relationship between a climate of excellence and collective well-being. The reinforcing role of task orientation and climate of excellence in relation to socio-emotional climate is more important when organizational leadership is positive and innovation-oriented, and weaker when the opposite occurs. Organizational leadership enhances the favorable role of the group process on collective well-being, thus supporting the idea that organizational leader style, and not only immediate superior leader behavior, has an important place in shaping the organizational climate and creation of a positive environment (Menges and Kilduff, 2015).

TABLE 9 | Summary of hierarchical regression analyses for moderating effects of task orientation and climate of excellence, gender and transformational style of the superior (Study 3).

| Predictor variable | Step 1 | Step 2 | Step 1 | Step 2 | Step 1 | Step 2 |
|--------------------|----------|----------|--------------------|--------------------|----------|----------|
| | Beta (β) | Beta (β) | Beta (β) | Beta (β) | Beta (β) | Beta (β) |
| TOaCE | 0.36** | 0.39** | 0.60** | 0.69** | | |
| LpO | 0.37** | 0.37** | | | 0.66** | 0.66** |
| LpB | 0.088* | 0.089* | | | | |
| Gender | -0.083* | -0.090* | -0.07 [†] | -0.08 [†] | -0.11* | -0.12* |
| TOaCE*LpO | | 0.077* | | | | |
| TOaCE*Gender | | | | 0.65 | | |
| LpO*Gender | | | | | | 0.02 |
| R2 | 0.758 | 0.763 | 0.484 | 0.89 | 0.441 | 0.449 |
| ΔR2 | | 0.05* | | 0.005 | | 0.008 |

TOaCE, task orientation, and climate of excellence; LpO, organizational leadership that reinforces participation and belonging; LpB, leadership that reinforces participation and belonging (transformational); Gender = 1 = women, 2 = man. *p < 0.05; **p < 0.01, [†]p < 0.10.



Finally, it was found that a structured and integrated organizational culture moderates the relationship between role complexity and collective well-being. A more integrated and resourceful organizational culture offset or lessen the part of role complexity in climate –even though a synergy or increase could also be expected as stated by H6b, results suggest a compensation process. The reinforcing role of complexity is more important when the culture is less integrated and weaker when the opposite occurs. The organizational strengths lessen the weight of the role complexity. As limitations of this study, it can be noted that it was correlational and that stratified random sampling was not performed.

Study 4: Factors That Contribute to Well-Being: The Case of Work Teams in Spain

This study uses the collective well-being indicator in a sample of workers from different Spanish organizations, in a longitudinal

intervention (T1 and T2). Specifically, they are workers in innovation teams. Firstly, the indicators which make up collective well-being are correlated (H1). The relationship of well-being with gender is also examined (H3); with the increased knowledge about teamwork (KPW) and the intention to stay (SO) (H4); with micro-social factors such as internal participation and safe communication (IPaCG), task orientation and climate of excellence (TOaCE), control over work (CWa), leadership that promotes participation and integration in the team (LpB) – represented in this study by transformational leadership (TL), shared leadership (SL), empowerment of the team facilitator (EMPW) – (H5). Finally, this study specifically contrasted the mediating role of leadership (TL – T1) between task orientation or climate of excellence (TOaCE) and collective well-being (GHWB) in T2 postulated by H5a.

Sample

The sources of information collection were the members of the work teams. The final sample was made up of 14 innovation

TABLE 10 | Association between the variables that make up the group hedonic Well-Being at the team level (Study 4).

| | N | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------|----------|-------------|-----------|----------|----------|----------|----------|----------|----------|
| Trust T1 | 79 | 4,00 | 0.64 | – | | | | | |
| Trust T2 | 39 | 3,97 | 0.59 | 0.65** | – | | | | |
| Bonding T1 | 76 | 4,19 | 0.66 | 0.58** | 0.47** | – | | | |
| Bonding T2 | 75 | 4,34 | 0.62 | 0.35** | 0.67** | 0.38** | – | | |
| Team satisfaction T1 | 76 | 4,46 | 0.76 | 0.65** | 0.41** | 0.59** | 0.27* | – | |
| Team satisfaction T2 | 75 | 4,43 | 0.68 | 0.38** | 0.55** | 0.26** | 0.53** | 0.43** | – |

* $p < 0.05$; ** $p < 0.01$.

teams ($n = 4$ y 7 members each one, $N = 80$). Participants were mostly women ($n = 52$, 63.4%; man $n = 30$, 36.6%), $M = 35.88$ years ($SD = 9.15$), with high studies ($n = 72$, 87.8%), and a seniority in their organization less than 15 years ($n = 65$, 79.3%; from 16 to 25 years $n = 9$, 11%; more than 26 years $n = 7$, 8.5%). 53.8% were baseline workers ($n = 43$), 25.0% intermediate commands ($n = 28$), and 11.3% belonged to the management team ($n = 9$)¹⁹.

Procedure

Different organizations were contacted through two different institutions (R + D). The organizations who showed interest signed a participation commitment and according to the methodology used. Those who were selected received a 12-h long training and sessions of monthly follow up over 5 months. These teams had to carry out a specific task (“the order”) commissioned by the organization, during a maximum period of 6 months. Information gathering was carried out before teams setting and once they had been completed.

Instruments

The KPW is measured with an instrument of 3 items (Martínez-Moreno et al., 2018), using a Likert-style scale of 5 anchor points (1 = never y 5 = very frequently). Cronbach's α : 0.66 in T1. The GHWB indicator was shaped by the trust and bonding dimensions (Ayestarán et al., 2006) and satisfaction with the team (Antino et al., 2014). The first two dimensions are measured with a Likert-style scale (8 and 7 items respectively) of 5 anchor points (strongly disagree = 1 to 5 = strongly agree), (Cronbach's $\alpha = 0.86$ in T1 and 0.89 in T1 and 0.85 in T2 respectively). Satisfaction with the team is measured with Likert-style scale (2 items) of 5 anchor points (strongly disagree = 1 to 5 = strongly agree). Cronbach's $\alpha = 0.78$ (T1) and 0.80 (T2). The relation between the variables was shown to be $r = 0.53$ which allows to be unified in one single variable named GHWB. Finally, Cronbach's Alpha of the global variable was 0.92 in T1 and 0.92 in T2. IPaCG evaluates the knowledge and management of the ICT in the job context (Martínez-Moreno et al., 2018). It is measured with a Likert-style scale (7 items) (never = 1 to 5 = very frequently). Cronbach's $\alpha = 0.77$ (T1). TOaCE is evaluated in this study through the coordination achieved in the team to develop the task and contribute to a climate of excellence. This variable was measured through 5 items (Lewis, 2003), with a response Likert-style scale of 5 anchor points (strongly disagree = 1 to 5 = strongly

agree). Cronbach's $\alpha = 0.88$ in T1 and 0.89 in T2. CWa was measured through the adaptation to the work and organizational environment, an instrument of 7 items (Ayestarán et al., 2006), using a Likert-style scale of 5 anchor points (7 items). Cronbach's α : 0.84 in T1 and 0.85 in T2. LpB is evaluated by the perceived transformational leadership in the team (Moriani et al., 2014). It is measured with a Likert-style scale (20 items) (never = 1 to 5 = very frequently). Cronbach's α : 0.77 to 0.88 (T1) and 0.83 to 0.90 (T2). EMPW (Ayestarán et al., 2006) with a scale (7 items) of 5 anchor points (rarely or never 1 = 5 very frequently), Cronbach's α : 0.92 (T19) and 0.93 (T2). SL in the team has been elaborated following the social media perspective (Carson et al., 2007), ergo, the team members value the leadership of each of them in the team using the scale of answer of 5 anchor points where 1 = nothing and 5 = absolutely²⁰.

Data Analysis

Descriptive statistics, correlations and reliability are provided in **Table 11**. Given the effect of sex discovered above, we conducted an exploratory follow up analysis, t -tests, to examine whether the differences in EMPW, IPaCG and KPW were significant. To test if LpB would play a mediator role between CWa and GHWB relationship, moderated and mediation regression analyses were conducted using the *bootstrapping* method with bias corrected and accelerated confidence estimates too (Hayes, 2018).

RESULTS

Concerning the dimensions of GHWB, our results pointed out that trust, bonding and team satisfaction positively correlated at T1 ($r < 0.58$, $p < 0.01$) and at T2 ($r < 0.53$, $p < 0.01$). Therefore, H1 is supported by our data (see **Table 10**). By respect to H4, our results pointed out that SO negatively correlated with GHWB at T1, $r = -0.23$, $p < 0.05$ as expected. Our results do not supported this hypothesis, because they indicated that KPW do not significantly correlate with GHWB neither at T1, $r = -0.14$, $p = n.s.$, nor T2, $r = -0.14$, $p = n.s.$ Regarding H5, our data also pointed out that IPaCG do not significantly correlated with GHWB at T1, $r = 0.19$, $p = n.s.$, and T2, $r = 0.12$, $p = n.s.$ as expected. However, GHWB at T1 positively correlated with TOaCE at T1 ($r = 0.75$, $p < 0.01$) and at T2 ($r = 0.34$, $p < 0.01$) and GHWB at T2 is predicted by TOaCE at T1 ($r = 0.45$, $p < 0.01$) and correlated with at T2 ($r = 0.64$, $p < 0.01$) too. Thus, H6 is partially

¹⁹See sociodemographic data of the participating sample by country in: **on line resources 7**.

²⁰See scales and instruments at: **on line resources 2**.

TABLE 11 | Association between individual, micro-social, and Well-Being level variables (Study 4).

| | N | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------------------------|----|------|------|---------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| (1) Gender | 82 | – | – | – | | | | | | | | | | | | | | | |
| (2) SO | 82 | – | – | 0.01 | – | | | | | | | | | | | | | | |
| (3) KPW | 79 | 3.51 | 1.23 | –0.26* | –0.06 | – | | | | | | | | | | | | | |
| (4) IPaCG | 79 | 2.87 | 0.73 | –0.24* | –0.15 | 0.27* | – | | | | | | | | | | | | |
| (5) GHWB T1 | 79 | 4.11 | 0.59 | –0.08 | –0.23* | –0.14 | 0.19 | – | | | | | | | | | | | |
| (6) GHWB T2 | 75 | 4.29 | 0.55 | –0.22 | 0.04 | –0.14 | 0.12 | 0.40** | – | | | | | | | | | | |
| (7) TOaCE T1 | 77 | 4.10 | 0.63 | –0.11 | –0.22* | –0.05 | 0.19 | 0.75** | 0.45** | – | | | | | | | | | |
| (8) TOaCE T2 | 75 | 4.26 | 0.70 | –0.20 | –0.05 | 0.08 | 0.21 | 0.34** | 0.64** | 0.49** | – | | | | | | | | |
| (9) CWa T1 | 77 | 3.85 | 0.72 | –0.08 | –0.21 | –0.01 | 0.03 | 0.67** | 0.42** | 0.69** | 0.33** | – | | | | | | | |
| (10) CWa T2 | 75 | 3.96 | 0.77 | –0.21 | –0.05 | –0.02 | 0.26* | 0.39** | 0.69** | 0.51** | 0.67** | 0.54** | – | | | | | | |
| (11) LpB transformational T1 | 77 | 3.83 | 0.63 | –0.18 | –0.21 | –0.02 | 0.23* | 0.69** | 0.50** | 0.67** | 0.52** | 0.62** | 0.56** | – | | | | | |
| (12) LpB Transformational T2 | 74 | 3.97 | 0.65 | –0.17 | –0.15 | –0.05 | 0.26* | 0.57** | 0.64** | 0.49** | 0.59** | 0.42** | 0.63** | 0.72** | – | | | | |
| (13) SL T1 | 78 | 3.89 | 0.75 | –0.13 | –0.12 | 0.05 | 0.12 | 0.34** | 0.34** | 0.51** | 0.36** | 0.50** | 0.39** | 0.38** | 0.30* | – | | | |
| (14) SL T2 | 75 | 3.85 | 0.74 | –0.03 | 0.04 | –0.04 | 0.20 | 0.32** | 0.46** | 0.36** | 0.43** | 0.23 | 0.49** | 0.31** | 0.54** | 0.36** | – | | |
| (15) EMPW T1 | 77 | 3.90 | 0.73 | –0.38** | –0.17 | 0.10 | 0.27* | 0.50** | 0.37** | 0.57** | 0.43** | 0.43** | 0.54** | 0.66** | 0.61** | 0.36** | 0.39** | – | |
| (16) EMPW T2 | 74 | 3.97 | 0.71 | –0.28* | –0.06 | 0.05 | 0.31** | 0.42** | 0.58** | 0.43** | 0.52** | 0.42** | 0.65** | 0.64** | 0.80** | 0.26* | 0.41** | 0.66** | – |

Gender (1 = women, 2 = man); SO, seniority in the organization; KPW, degree of knowledge and previous participation in work teams; IPaCG, internal participation and communication in the group; GHWB, group hedonic Well-Being; TOaCE, task orientation, and climate of excellence; CWa, control over work, role autonomy; LpB, leadership that reinforces participation and belonging (transformational); SL, shared leadership; EMPW, empowerment. * $p < 0.05$; ** $p < 0.01$.

supported by our data. **Table 10** also showed that GHWB at T1 and T2 positively correlated with CWa, at T1 ($r = 0.67, p < 0.01$ at T1; $r = 0.42, p < 0.01$ at T2) and is predicted by this variable at T2 ($r = 0.39, p < 0.01$ at T1; $r = 0.69, p < 0.01$ at T2). Our results underlined the positive correlation between participative leadership and GHWB, especially in the case of LpB with r values superior to 0.50. Specifically, TL T1 correlated with GHWB T1 $r = 0.69, p < 0.01$ and predicted GHWB T2 $r = 0.50, p < 0.01$. SL T1 correlates with GHWB T1 and predicted T2, both $r = 0.34, p < 0.01$. Finally in T2 TL and SL correlates with GHWB $r = 0.64$ and $r = 0.46$, both $p < 0.01$. EMPW T1 correlates with GHWB T1 $r = 0.50$ and predicted GHWB T2, $r = 0.42$, both $p < 0.01$. In T2 EMPW correlates with GHWB T2 $r = 0.58, p < 0.01$. Therefore, results support H5.

In accordance with the mediational facet of H5a, that LpB at T1 would play a mediating role between TOaCE at T1 and GHWB at T2, results indicated that TOaCE at T1 was positively related to GHWB at T2 when controlling for IPaCG [$\beta = 0.42, t_{(66)} = 3.85, p = 0.01$] and they also confirmed mediating role of LpB at T1 in this relationship because the direct effect of TOaCE on GHWB became non-significant when LpB mediator is included in the equation [$\beta = 0.20, t_{(65)} = 1.47, p = 0.15$]. The overall model was significant: $R^2 = 0.29, F(3,65) = 7.94, p < 0.001$ (see **Figure 3**).

Gender Differences

By respect to H3, as **Table 11** showed, gender (meaning that men score higher) correlates negatively but not significantly with GHWB T1 and T2. Sex also correlated with IPaCG ($r = -0.24, p < 0.05$), CPE ($r = -0.26, p < 0.05$), and empowerment at T1 ($r = -0.38, p < 0.01$) and at T2 ($r = -0.28, p < 0.05$). Additional t -tests conducted showed significant differences between women and men in PyCG, $t_{(77)} = -2.35; p = 0.02$, in KPW, $t_{(45)} = -2.05; p = 0.05$, and in EMPW at T1, $t_{(75)} = -3.48; p = 0.01$ and at T2, $t_{(72)} = -2.52; p = 0.01$. Our data indicated that women have less experience in working in teams ($M = 3.28, SD = 1.23$) and using ICTs (women, $M = 2.75, SD = 0.75$) than men (experience in teamwork, $M = 3.11, SD = 0.66$; PyCG, $M = 3.11, SD = 0.66$). They also perceive less empowerment at T1 ($M = 3.71, SD = 0.72$)

and T2 ($M = 3.81, SD = 0.73$) than men (EMPW T1, $M = 4.28, SD = 0.58$; EMPW T2, $M = 4.2, SD = 0.62$).

DISCUSSION

This last study has focused on analyzing which variables at the micro-social level are related to positive socio-emotional climate. Results support H1 because GHWB indicators correlates strongly, but lower than 0.70. With respect to H3, collective well-being was higher in men, but not significantly so. However, women in general showed lower scores than men on factors favorable to well-being. We believe that this is explained because, in this study, women have stated that they have less experience both in the degree of knowledge and management of ICTs and in previous experience in teamwork. Previous studies have shown that the perception of gender equality at work enhances the well-being of workers, especially women's (Chawla and Sharma, 2019), therefore human resources policies, which facilitate training in basic knowledge for the development of their work and that allow greater empowerment could contribute to a greater well-being of this group. H4 was supported by results, because seniority was negatively related to collective well-being. However, knowledge and experience in team work did not predict emotional climate. In this sense, this part of H4 was unsupported.

Globally H5 and 6 were confirmed: TOaCE and CWa predicted GHWB, showing how implicit coordination and adaptation to the team's environment are group processes that determine not only the functioning of the team but also the socio-emotional climate that is created in it, including a climate of trust and greater satisfaction in its members. Likewise, as Müller and Antoni (2020) point out, this study also shows that the degree of knowledge and management of ICTs is important for establishing greater implicit coordination in the team, which in turn will allow to probably develop a favorable socio-emotional climate. The team's ability to adapt to its environment and to the workload imposed by the task involves the division and distribution of tasks and support among team members. Feeling the support of team members when you are overwhelmed by the task relieves tension and stress (Seibert et al., 2011; Chawla and Sharma, 2019). Therefore, adaptation to the work environment and workload, in addition to being a clear antecedent of team performance (DeChurch and Mesmer-Magnus, 2010; de Wit et al., 2012; McEwan et al., 2017), also favors a favorable socio-emotional climate (Menges and Kilduff, 2015).

Results confirm the mediating role of transformational leadership between TOaCE and collective well-being, stated by H5a. This study has revealed the role of participatory leadership as a key factor for the development of a favorable socio-emotional climate in work teams. How the people coordinating the team exercises their leadership, their ability to empower and delegate responsibilities to team members contributes to the well-being of the team. When the transformational leader is able to empower members and delegate responsibilities, shared leadership can emerge (Davidson, 2020; Martínez-Moreno et al., 2018). Interestingly, the empowerment is perceived to a lesser degree in this sample by women. This study has some important

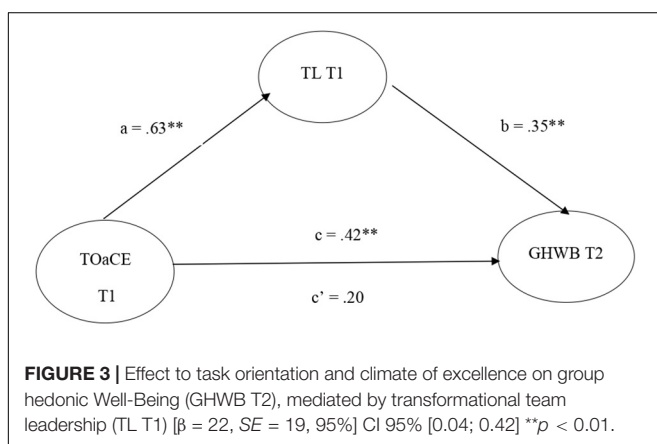


TABLE 12 | Main results of the studies and global effect size of two or more studies using the same predictive and well-being construct-at similar individual or collective level.

| | Study 1 Individual Cross sectional Explained variable | Study 3^a Individual Cross sectional Explained variable | Study 3 Collective Cross sectional Explained variable | Study 4 Collective Longitudinal Explained variable | Conclusion |
|---|---|--|---|--|---|
| Predictive variables and hypothesis | EPWB N = 1.300 | QLLH N = 350 | GHWB N = 1078 | GHWB N = 80 | Hypothesis were |
| H1: Confirming the nomological network of well-being, the indicators of individual level and collective level will be associated with each other. Showing the independence of the constructs, the associations between well-being indicators will be lesser than 0.70. | Supported average correlation between all pairs well-being indicators $\bar{r}_{(17)}^b = 0.42$ range -0.35 (negative affect) to 0.58 | $r = 0.29$ with collective Well-Being or climate | | Supported average correlation between GHWB indicators $\bar{r}_{(2)} = 0.55$ Rang 0.26 to 0.65 | Supported for individual (in one study) and collective well-being weighted $\bar{r}_{(30)}^c = 0.34$ |
| H2: Individual-level predictors values of openness to change and self-transcendence will be associated with well-being. PVQ scale study 1 and 3 | $r = 0.25$ and $r = 0.23$ | – | $r = 0.02$ WS and $r = 0.03$ MS n.s. | – | Supported for individual well-being in one study Individual variables are unrelated to collective well-being |
| H2 EC as a « particular » trait, will be associated with positive and negative affectivity. | $r = 0.14$ EPWB $r = 0.21$ positive AHWB $r = 0.17$ negative AHWB | – | – | – | Supported for individual well-being in one study |
| H3: Minor differences in well-being will be found and these will favor males. | Chile $r_{(333)} = 0.03, p = 0.27$; Spain $r_{(283)} = -0.091, p = 0.06$; Uruguay $r_{(675)} = 0.02, p = 0.33$ | – | Women report higher collective well-being $r = 0.056, p = 0.045$, in all but two samples | $r = -0.08$ n.s. | Absence or Minor differences in favor of males for individual well-being Unsupported Minor differences in favor of females for collective level weighted $\bar{r}_{(1878)} = 0.046$ |
| H4: The less seniority and the greater knowledge and participation in work team, commitment and job satisfaction (agreement with organizational methods and intention to stay), the greater the well-being. | SO = 0.01 n.s. AM $r = 0.29$ IS $r = 0.13$ | – | SO $r = -0.16$ IS = n.s. KPW $r = 0.13$ | SO $r = -0.23$ KPW $r = -0.14$ n.s. | Supported for collective well-being for SO $\bar{r}_{(1138)} = -0.16$ Supported in one of two studies for IS Supported for collective well-being KPW weighted $\bar{r}_{(1138)} = 0.11$ |

(Continued)

TABLE 12 | Continued

| | Study 1 Individual Cross sectional Explained variable | Study 3 ^a Individual Cross sectional Explained variable | Study 3 Collective Cross sectional Explained variable | Study 4 Collective Longitudinal Explained variable | Conclusion |
|---|--|---|--|--|--|
| H5: The micro-social predictive factors (control over work and leadership that reinforce participation and belongingness) will be associated with both individual and collective well-being. (Istas 2 CWa study LpB Istas 4 study 1 | $r = 0.33$ $r = 0.28$ | – | | | Supported for individual well-being |
| H5: Stress will be negatively associated to well-being. Istas1 EPs Study 1 and BSCs Setterlind scale Study 3 | $r = -0.28$ | $r = 0.50$ BSCs (positive scores means low stress) | $r = 0.19$ | – | Supported for individual well-being weighted $\bar{r}_{(1650)} = -0.33$ and collective level |
| H5: Transformational leadership, and shared and quality leadership, will be associated with well-being. LpB Transformational leadership style Nader's scale Study 3 and Moriano's scale Study 4, shared leadership scale SL and quality leadership EMPW scale in Study 4 | | | $r = 0.15$ | $r = 0.50$ $r = 0.34$ $r = 0.42$ $\bar{r}_{(3)} = 0.42$ | Supported for collective well-being weighted $\bar{r}_{(1388)} = 0.17$ |
| H5: At the team level, transformational leadership will mediate between group coordination or autonomy and collective well-being. | | | | Mediational analysis confirm that transformational leadership mediates between group coordination/autonomy and emotional climate | Supported for collective well-being |
| H6: Predictive factors at the mesosocial level like orientation to work and participation and communication will be associated with well-being. TOaCE and IPaCG FINO scale in study 3, knowledge and management of the ICT in the job context and coordination achieved in the team Lewin's scale in study 4 | – | n.s. correlations | $r = 0.74$ WS and 0.63 MS $r = 0.68$ $r = 0.76$ WS and 0.69 MS $r = 0.74$ | $r = 0.45$ $r = 0.12$ | Supported for collective well-being in two studies but no association with individual well-being |

(Continued)

TABLE 12 | Continued

| | Study 1 Individual Cross sectional Explained variable | Study 3 ^a Individual Cross sectional Explained variable | Study 3 Collective Cross sectional Explained variable | Study 4 Collective Longitudinal Explained variable | Conclusion |
|--|--|---|---|--|---|
| H6: Role autonomy will be associated to well-being LR organizational (FINO) Study 3 and adaptation to the work and organizational Ayestaran's scale Study 4 | | n.s. correlations | $r = 0.71$ WS and 0.69 MS | $r = 0.39$ | Supported for collective well-being |
| H6: LeR having to express emotions, especially negative ones, will be negatively associated with individual well-being. Expression of negative, neutral and positive emotions | $r = -0.23$, $r = -0.10$ $r = 0.05$ n.s. | – | – | – | Supported for expression of negative and neutral emotions for individual well-being in one study |
| H6: Emotional dissonance LeR will be negatively associated to well-being | $r = -0.17$ | – | – | – | Supported for individual wellbeing in one study |
| H6: CSO Transformational vs. transactional organizational culture ODQ in Study 1 Transformational culture will be positively and more strongly associated with well-being than transactional culture High integration and resources in the organization will be positively related to well-being OS FINO'scale in Study 3 | $r = 0.21$ $r = -0.08$ | – n.s. correlations | – $r = 0.73$ WS and 0.64 MS | – | Supported for individual well-being in one study and only for collective well-being collective level in another |
| H6: Positive organizational leadership will be associated to well-being LpO FINO's scale Study 3 | | n.s. correlations | Positive organizational leadership $r = 0.78$ WS and 0.66 MS | | Supported for collective not individual well-being |
| H6: Transformational leadership will be associated with well-being and more strongly than transactional leadership. LpO Nader scale Study 3 | – | | Transformational $r = 0.12$ MS Transactional $r = 0.09$ MS | – | Supported for collective well-being but effect size are not so different |

(Continued)

TABLE 12 | Continued

| | Study 1 Individual Cross sectional Explained variable | Study 3^a Individual Cross sectional Explained variable | Study 3 Collective Cross sectional Explained variable | Study 4 Collective Longitudinal Explained variable | Conclusion |
|---|--|--|--|---|--|
| H6a: Psychosocial factors will mediate between organizational culture and individual well-being. | Mediational analysis support that stress, control of work, and leadership mediates between transformational culture and well-being | – | – | – | Supported in one study and MS |
| H6b: The positive relationship between variables and group climate will be moderated by an organizational leadership favorable to participation. Gender (being male) moderates strength of association between variables and group climate | | | Moderation analysis confirms that the association between orientation to work and emotional climate was strong when level organizational leadership was high. Moderation analysis did not find a gender effect | | Supported collective level in one study Unsupported |
| H6b: The positive relationship between variables and group climate will be moderated by an inclusive organizational structure with resources. | | | Moderation analysis disconfirms that the association between orientation to work and emotional climate was strong when level of organizational structure and resources was high. | | Unsupported: results suggest compensation effect |

^aStudy 2 was not included because educators data was used in the first study and include them would mean using their data twice. ^bThis are the number of paired correlation that were aggregated. ^cThis are the total number of subjects in which weighted correlation was calculated.

limitations. On the one hand, it presents a reduced sample, so future studies should replicate it with a larger sample that allows for more complex analyzes that determine the associations between variables described here. On the other hand, the data collection has been carried out only through self-reports, so it would be interesting to deepen the study of socio-emotional climate through other measurement instruments, such as interviews or focus groups.

SUMMARY AND CONCLUSION

This investigation examined the factors of well-being related to belonging and social integration at *individual*, *micro* and *meso* social levels. This issue was addressed in organizations from 6 countries, specifically in the labor and military fields. The main results of four studies can be concluded as follows (see **Table 12**):

- (1) Nomological well-being networks were explored, using, at individual level, quality of life linked to health, hedonic affective and cognitive well-being, as well as psychological well-being, verifying that they are congruently associated with each other. So do trust, bonding, and satisfaction with participation at the team level, and the socio-emotional climate with cohesion at the organizational level. This allows us to conclude in concordance with H1 that the nomological network is a representation of the concepts or constructs of interest and the interrelations among them. Consistent with the meta-analysis of Parker et al. (2003), where the warm and cooperative psychological climate in work teams is associated with eudemonic well-being, the socio-emotional climate in this research was associated with psychological well-being acting as a personal context.
- (2) Consistent with H2 and previous studies (Soroa et al., 2015), emotional creativity is associated with well-being, although in an ambivalent way, since it is also associated with negative affectivity and greater reactivity to stress. High attention and cognitive processing of intense feelings, difficult to categorize, label and express novel and complex emotions, typical of people with high EC, has negative effects on coping and well-being (Averill, 2009). Also congruent with previous studies, those who value self-direction, stimulation, gratification, as well as justice and well-being for all, report better psychological well-being. Openness to change and universalism are cognitive representations of hedonist, self-actualization and expansion of self or growth needs. Motivation to pursue these values helps to satisfies hedonic, competence and relatedness need, fueling benevolent and prosocial perceptions, attitudes and behaviors increase well-being (Schwartz and Sortheix, 2018). However, personal values were not correlated with collective level well-being. These results suggest that the socio-emotional climate is less influenced by personal variables and more by micro and meso-social variables. It could also be suggested that it is through personal well-being that values indirectly influence emotional climate.
- (3) Regarding gender, consistent with previous studies and H3, the results show that men have the highest positive affective well-being in education and social intervention (Study 1). However, women report greater collective well-being, specifically, in the workplace in Latin America. This result would be consistent with the meta-analysis of Tifferet (2020), where it indicates that women have a more favorable perception of the environment. Women would give and receive more social support than men by establishing broader social networks online. However, this result did not occur in the military sphere. Carreira (2017) analyzes how, from the standpoint of culture and structure, hegemonic definitions of the military are combined with ideology and male hegemonic culture. In this way, the military has long been a source of normative conceptions of gender and a space for the construction of male identity. Halberstam (2008) invites us to think about masculinity and femininity beyond the bodies of men and women, especially to create awareness in some institutions that have built their organizational culture largely on the basis of masculine and masculine images that dominate organizational processes segregating women and the feminine. In Spain, although men report greater well-being than women, they also report greater behavioral symptoms of stress (Study 3). In this country, women would have less experience in teams of excellence and in the use of ICTs, as well as less satisfaction with the leadership style of those who facilitate them (Study 4).
- (4) Increased commitment to the organization, this means agreement with methods, in one study, and intention to remain, in one study but not in another, were associated with individual well-being. Knowledge and experience in teamwork were related to collective well-being in them with a weak effect size, confirming that teamwork enhance group climate (De Jong et al., 2016). Seniority was unrelated with individual well-being, but was negatively related with collective well-being as expected.
- (5) Reaffirming the importance of work psychosocial factors (Moncada et al., 2014), and congruently with H5, the greater control of work and leadership that reinforces participation and belongingness, the higher the individual well-being levels in study 1 (and also in study 2 teachers sample). Effect sizes were strong explaining around 9% of variance. These results highlight that a high level of control at work, the autonomy, complexity and challenge of the work role constitute a basis for active work, learning and greater performance, while reinforcing individual and collective well-being. Also reaffirms that a positive leadership and social support in the team work are important for well-being (Moncada et al., 2014). Furthermore, stress was negatively associated with both emotional climate in two studies (weak effect size) and well-being in one study (strong effect size). Qualitative and quantitative work overload erodes individual well-being an affect negatively emotional climate. In the same sense, in concordance with H5 the safer the participation and communication and the greater the orientation to

the task, the better the emotional climate. However, these variables were not associated with individual well-being, suggesting that they are very distal processes that do not affect individual experience, but only organizational climate (see Study 3 discussion).

- (6) The relevance of leadership that facilitates participation and integration stated by H6 was widely corroborated, with a medium effect size for collective well-being in study 3 and 4, thus reaffirming that functional, inspiring and motivating forms of leadership, such as transformational leadership styles, which are based on empowering and sharing with the members, reinforce socio-emotional climate (Arnold, 2017). This result is in line with meta-analyses that found that supervisors' social support is associated with well-being (Kossek et al., 2011; Eby et al., 2013; Mathieu et al., 2019). Moreover, positive leadership at team level (Study 4) and organizational level (Study 3) play a mediational role between functional group and organizational factors and collective well-being, adding evidence to the pivotal role that leadership has in the dynamics of the organizational climate (see discussion Study 3 and 4).
- (7) Supporting H6, a more complex labor role at the organizational level predicts collective well-being as did the micro-level job control related to H5, which emphasizes complexity, autonomy, and challenge as part of the occupational role. This control and autonomy of the work role would encompass influence, development possibilities and the meaning of work (Moncada et al., 2014). The demands of emotional labor are negatively associated to well-being, with a medium effect size, confirming that having to express neutral and negative emotions, suppressing and pretending emotions to fulfill the expectations of the work role, have a cost for the well-being (Hülsherger and Schewe, 2011). However as Study 3 showed, emotional dissonance is less frequent than the expression of negative emotions in teachers experience, suggesting that the importance of the former has been overstressed.
- (8) The perception of an inclusive and participatory organizational culture is directly associated with and predicts personal well-being, with a medium effect size. They also predict it indirectly through less stress, greater job control, and more support from peers and leadership that reinforces participation and belonging, controlling for individual characteristics such as emotional creativity and motivational values – in agreement with H6 and H6a. In addition, it confirms that the transformational culture is a framework that increases social belonging through the support of peers and supervisors, as well as buffer stress and facilitating the autonomy of its members. Moreover, is a good example of explanation by articulation of the level of analysis (Doise and Valentim, 2015).
- (9) The perception of positive organizational leadership in the organization and of an integrated and resourceful organizational culture was associated with a better socio-emotional climate. Organizational leadership facilitates

the creation of a climate of trust and positive affectivity in the workplace, because a good quality relationship will allow subordinates to have more autonomy and freedom of decision, as well as to feel guided and motivated to work. Support from the general supervisor also reinforces performance and well-being (Hammond et al., 2011). Effect sizes for these variables are strong than previous ones, probably because of common method variance, but also because collective level measures reflect perceptions of general attitudes and behaviors, and are more stable macro-psychological indicators (Páez et al., 2013).

- (10) Among other limitations, it can be noted that the samples were of convenience, and that three studies are correlational, so the results should be viewed with caution. Although the last study is longitudinal, it cannot be guaranteed that the associations between variables are causally related. Another limitation has to do with the gender variable. In this research, it was measured as a set of subjects belonging to the same sex, although some of the studies give a third option to the binary. It is necessary to collect the recommendations of the current studies (Rich-Edwards et al., 2018; Vergoossen et al., 2020) for future research.
- (11) As future lines of research, we point out that the articulation between meso and micro factors in longitudinal studies are important, as well as integrating behavioral and hetero-evaluated indicators of the constructs in the studies.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, to any qualified researcher.

ETHICS STATEMENT

Human studies were part of larger projects in each of the participating countries. These projects were reviewed and approved by the Ethics Committee of the Universidad de la República Oriental del Uruguay (UDELAR), by the participating Chilean Universities, the UFB in Brazil, the Burgos University (UBU) in Spain and the Evaluation Commission of the Argentine Ministry of Defence, which including the UNDEF. Patients/participants provided written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

SdC designed the study. SdC, EM-M, DM, and GE conducted the analyzes. SdC, GE, DM, AT, and DH contributed to the Studies 1 and 2. SdC, AT, EM, SG-M, VD, AA, ST, and SP contributed to Study 3. EM-M conducted the Study 4E and VD collaborated

in it. All the authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.604412/full#supplementary-material>

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School Satisfaction in Immigrant and Chilean Students: The Role of Prejudice and Cultural Self-Efficacy

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Latin-American immigration has transformed Chilean schools into new multicultural scenarios. Studies about intergroup dynamics among students from different cultural backgrounds and their psychological consequences are still limited in south-south migration contexts. Literature has suggested that intergroup relations influence students' satisfaction with school, and they could be improved by the development of competences to cope with cultural differences. This study aims to verify if cultural self-efficacy and its dimensions mediated the influence of prejudice on satisfaction with school, in a sample composed by $N = 690$ Chilean and Latin-American immigrant secondary students. Results showed that cultural self-efficacy reduced the effect of prejudice in satisfaction with school, in the cases of both immigrant and Chilean students. The dimensions of cultural self-efficacy in processing information from other cultures and mixing with different others make the difference. Findings' contributions for the understanding of adolescents' intergroup relations and psychosocial interventions at school are discussed.

Keywords: immigrant adolescents, prejudice, cultural self-efficacy, satisfaction with school, intergroup relations

INTRODUCTION

School is the main scenario for intergroup contact between adolescents from different ethnic backgrounds. Quotidian experiences of mixing with different others at school could have important consequences on intergroup attitudes, even affecting their relations with outgroup members on their adulthood (Berry et al., 2006; Abrams and Killen, 2014; Schachner et al., 2018b). Moreover, the quality of the contact between students from different cultural backgrounds has also influence in both their school adjustment and psychological well-being (Berry et al., 2006; Martínez-Taboada et al., 2017; Motti-Stefanidi et al., 2020).

Cultural diversity at schools is a new and challenging reality to the Chilean educational system. During the last years, Chile has shown a progressive increase of the immigrant population, which represents 7.7% of the total inhabitants and mostly came from other Latin-American countries (90.96%) (Instituto Nacional de Estadísticas, 2020). As a consequence, 2.2% of the Chilean student body is composed by immigrant children and adolescents, who are principally enrolled in public (58%) or private subsidized schools (33%) with high levels of economic and social vulnerability (Ministerio de Educación de Chile, 2018).

Studies about immigrant and Chilean students' intergroup attitudes and school well-being are still limited and have shown diverse results. On the one hand, some researches have suggested

the existence of negative intergroup dynamics (Salas et al., 2017; Castillo et al., 2018), while other studies have reported low levels of prejudice among both groups (Mera-Lemp and Martínez-Zelaya, in press). A recent Organization for Economic Cooperation and Development (OECD) report for Chile (Guthrie et al., 2019) also revealed that immigrant students tend to inform higher levels of bullying, lower levels of belonging to school, and fewer well-being than Chileans.

Subjective well-being can be understood as a global evaluation of one's life and its different circumstances and contexts (Diener et al., 2003). The study of children and adolescents' subjective well-being has multiple approaches (Ben-Arieh et al., 2014), with the most used measures being the evaluation of their satisfaction with life as a whole and by different domains. The studies about adolescent well-being have increased in the last decades, but there are fewer publications of studies about children and adolescents than about adults (Casas, 2011). This is important given the fact that well-being changes significantly with age (Casas, 2010), so learning more about adolescents' subjective well-being in particular can be interesting to better understand their development and life experiences.

In addition to age differences, literature also shows contrasts according to gender and group status, among others. For instance, a research in Spain showed that girls report higher levels of satisfaction with several domains of their lives (home, material possessions, relationships, neighborhood, and their school) (Casas et al., 2013). This study also found that immigrant students have lower levels of life satisfaction in almost all domains (but the area they live in) than native students. Besides few studies, research on adolescents' subjective well-being does not usually take into account characteristics of subgroups, such as immigrants, even though they use samples that include different subpopulations (Ben-Arieh et al., 2014). For this reason, it is necessary to develop more studies that look into differences of their subjective well-being to have a deeper comprehension of the phenomenon.

Social relationships are an important pillar for adolescents' development and subjective well-being. A meta-analysis about social support and children and adolescents' well-being (Chu et al., 2010) found a small positive association that gets stronger with the increase in age of participants, age being a significant moderator. Also, among different types of social support, the one with the higher association with adolescents' well-being was perceived social support [$r = 0.201$, CI (0.199, 0.0204)]. Other studies reported that positive peer and friend relationships are positively associated with most domains of adolescents' life satisfaction (Casas et al., 2004; Casas and González, 2017) and positive affects (Rodríguez-Fernández et al., 2016).

Adolescents' social relationships mostly happened with their family and schoolmates, which makes school context an important domain of adolescents' subjective well-being (Eccles and Roeser, 2011; Huebner et al., 2014). Studies of subjective well-being at school have shown that satisfaction with classmates is highly associated with adolescents' life satisfaction (Casas et al., 2013; Huebner et al., 2014; Casas and González, 2017) as well as school satisfaction and satisfaction with school experience (Whitley et al., 2012; Casas and González, 2017), classmates'

social support being an important variable for explaining school satisfaction (DeSantis King et al., 2006). Correspondingly, classroom climate is positively associated with school satisfaction (Verkuyten and Thijs, 2002; Benbenishty and Astor, 2005; Zullig et al., 2011), which should be considered in multicultural scenarios. Some studies have reported that girls are more satisfied with school than are boys (Karatzias et al., 2001; Mok and Flynn, 2002; Verkuyten and Thijs, 2002; Casas and González, 2017). Other studies have found that immigrant students also have higher levels of school satisfaction than native ones (Verkuyten and Thijs, 2002), but this could be negatively affected by difficulties at classroom, such as language miscomprehension (Vedder et al., 2005).

Another source of difficulties could be the relationships between immigrant and host society members' schoolmates, especially the tensions produced by intergroup attitudes, which affect their evaluations about their experiences at school (Berry et al., 2006; Fang et al., 2016; Martínez-Taboada et al., 2017; Thijs et al., 2019). Social relatedness is one of the main developmental needs during adolescence. Peers' orientation, the search of mates' acceptance, and the belonging to groups turn out to be critical to well-being. The successful achievement of these tasks could lead to positive emotions or, in the opposite, could generate negative emotional experiences (Erikson, 1968; Ryan and Deci, 2000; Verkuyten and Thijs, 2002; Davidson et al., 2010; Tian et al., 2016; Fuligni, 2019).

On the other hand, adolescence is a life stage in which the development of socio-cognitive skills improves the capabilities to comprehend the social environment. This entails a greater salience of the differences between social groups' members, increasing status systems' importance on daily interactions with peers. Both the development of these abilities and the intergroup context facilitate the production of outgroups' bias, influencing relational dynamics in multicultural settings at school (Rutland and Killen, 2015; Miklikowska, 2018; Albarello et al., 2020).

Prejudice has been defined as the negative attitude toward an outgroup or its members, which encompasses affective, cognitive, and behavioral components (Dovidio et al., 2010; Rojas et al., 2014). Research on students' prejudices has shown that the extent in which their evaluations about outgroups' members are negative decreases inter-ethnic acceptance and cross-ethnic friendship (van Zalk and Kerr, 2014; Titzmann et al., 2015). These could lead to discrimination and exclusion dynamics, producing negative affective environments at schools (Özdemir and Stattin, 2014; Benner et al., 2015; Benner and Wang, 2017; Brenick et al., 2019). The perception of schoolmates as being hostile or antagonistic, the involvement of negative interactions with peers, and the experience of negative emotions toward them tend to diminish students' satisfaction with school (Verkuyten and Thijs, 2002; Huebner et al., 2014).

Conversely, literature shows that trusting in peers, establishing positive friendships at school, and receiving prosocial acts from schoolmates improve students' satisfaction with their lives and also with their schooling processes (Jiang et al., 2013; Huebner et al., 2014; Oyarzun et al., 2017; Su et al., 2019; Varela et al., 2019). These could be especially important for immigrant students, for whom social relationships at school have also a great role in

the promotion of their positive integration to the host country (Verkuyten and Thijs, 2002; Berry et al., 2006; Asendorpf and Motti-Stefanidi, 2017; Schachner et al., 2018a).

Research about intergroup attitudes has also suggested that prejudice could be related to sociodemographic variables, such as sex and age. There is strong evidence (Dozo, 2015) supporting that women tend to present lower levels of prejudice than men regarding different outgroups, including studies conducted with adolescents (Mähönen et al., 2011; Güngör and Bornstein, 2013; Nshom and Croucher, 2018). On the other hand, evidence about age's influence on prejudice across adolescence is not conclusive. While some studies (e.g., Raabe and Beelmann, 2011) have found no developmental trends in adolescence, other researches (van Zalk and Kerr, 2014; Titzmann et al., 2015) have informed that prejudice tends to decrease in late adolescence. Conversely, other studies (Hooghe et al., 2013; Ngwayuh and Croucher, 2017; Nshom and Croucher, 2018) have reported an increase of prejudice through this period, proposing that at the end of adolescence, youngsters could be more prone to perceive outgroups' members as competitors for material resources, which might lead to higher levels of intergroup threat perception.

Another critical task for adolescents is the construction of a personal sense of mastery (Erikson, 1968; Bandura, 2006; Deci and Ryan, 2012). Self-efficacy has been defined as individuals' beliefs and confidence in their own capacity to perform a specific behavior to accomplish a particular result (Bandura, 1997). These beliefs play a significant role in socio-cognitive, emotional, and motivational processes, exerting an important influence on adolescents' positive development (Vecchio et al., 2007). Self-efficacy beliefs have been shown to have a great impact on adolescents' social relations, facilitating their competences to establish positive interactions in school settings and attenuating the outcomes of negative encounters with peers (Caprara et al., 2004; Vecchio et al., 2007; Titzmann et al., 2015; Turner and Cameron, 2016; Basili et al., 2020).

Likewise, the quality of adolescents' inter-ethnic relationships is also related to their capabilities to think and behave successfully in intercultural interactions (Briones et al., 2009; Rania et al., 2012). The construction of cultural competences involves the use of socio-cognitive skills to be aware through intercultural contacts, processing and comprehending cultural-based information. Besides the identification and understanding of cultural discrepancies and similarities, cultural competences require the development of positive emotions toward different others, accepting and respecting their cultural identities and abandoning ethnocentrism (Bhawuk et al., 2008). These feelings motivate people to interact with others from different cultures and improve their willingness to use cultural-based information to adjust their own behavior in intercultural contexts (Chen and Starosta, 2000; Spencer-Rodgers and McGovern, 2002; Earley and Ang, 2003; Hammer et al., 2003; Ting-Toomey, 2009; Rania et al., 2012; Rodenborg and Boisen, 2013; Chao et al., 2017).

Cultural self-efficacy is defined as individuals' beliefs about their capabilities to boost their own motivations, deploy cognitive resources, and reorient their actions in cultural diversity contexts (Briones et al., 2009; Rania et al., 2012). It stimulates intercultural interactions and enables the construction

of optimistic expectations and confidence toward intercultural contact. Thus, cultural self-efficacy facilitates individuals' satisfaction in inter-ethnic encounters (Herrero-Hahn et al., 2019; Lee and Ma, 2019).

Cultural self-efficacy has been scarcely studied in the context of adolescents' inter-ethnic relations (Schwarzenhal et al., 2019), and most of the researches in this field have focused on adults working in international teams, social services, or teaching settings (e.g., Reichard et al., 2014; Siwatu et al., 2017; Herrero-Hahn et al., 2019; Lee and Ma, 2019).

Studies with adult populations have reported that ethnocentrism and negative attitudes toward people from different ethnic backgrounds negatively affect cultural self-efficacy's development, because they inhibit interactions and behavioral adjustment in intercultural settings (Kardong-Edgren et al., 2005; Shaffer et al., 2006; Dollwet and Reichard, 2014; Reichard et al., 2014). In contrast, feeling capable of understanding and mixing in contexts of cultural diversity leads people to be open and disposed to involvement in intercultural relations and also to be resilient when facing difficulties in these interactions (Reichard et al., 2014). Besides, the development of these capabilities in adults has been linked with higher levels of well-being in academic and work scenarios (Yang and Chang, 2017; Kotze and Massyn, 2019).

In the case of adolescents in multicultural school settings, there is some evidence which suggests that negative emotions toward peers, such as anxiety, and the orientation to violence are related to a decrease of intercultural competences (Oyeleke et al., 2018; Bagci et al., 2020). A study conducted in Germany by Schwarzenhal et al. (2020) also reported that changes in students' cultural competences depend on school climate, in terms of the endorsement of positive attitudes toward multiculturalism and the promotion of contact and cooperation.

Also, Briones et al. (2009) in a sample of immigrant and native adolescents in Spain found that cultural self-efficacy enhanced cultural integration orientations and diminished marginalization. Likewise, in a study conducted with immigrant and Italian secondary school students, Rania et al. (2012) showed that cultural self-efficacy was positively related with perceived social support between peers. Recently, studies conducted with immigrant and Chilean adolescent samples (Mera-Lemp et al., 2020a,b) reported that cultural self-efficacy was explained by students' attitudes toward cultural interchange, as well as by the perception of cultural discrepancies between school and family cultures. Besides, in the aforementioned researches, cultural self-efficacy turned out to be a predictor of school satisfaction. A review of literature about life satisfaction in youth immigrants reported that one of the most consistent predictors of life satisfaction was self-efficacy, while perceived discrimination reduced it among several ethnic groups in Europe, America, and Australia (Proctor et al., 2009).

In summary, these antecedents suggest that prejudice against outgroup members could lead to negative attitudes and higher levels of social distance between students, diminishing school satisfaction in multicultural settings. Literature also proposes that, even when prejudice can exist, cultural self-efficacy could increase students' capabilities to establish positive relationship,

including school experiences. Based on these antecedents and the lack of conclusive evidence about these matters in the Chilean context, this study aims to (1) study possible differences between immigrant and Chilean students on cultural self-efficacy and school satisfaction; (2) establish the influence of sex, age, and length of residence in Chile (immigrant students) on the aforementioned variables; (3) verify the relationships between prejudice, cultural self-efficacy, and school satisfaction perceived by Latin-American immigrants and Chilean students; and (4) establish the possible incidence of cultural self-efficacy on the relationship between prejudice and school satisfaction. As a hypothesis, we expect that (1) Chileans students will present lower levels of school satisfaction than immigrants; (2) girls will present higher levels of school satisfaction and lower levels of prejudice than boys; (3) there will be a negative relationship between prejudice and school satisfaction; and (4) cultural self-efficacy will reduce the negative effect of prejudice on school satisfaction.

MATERIALS AND METHODS

Participants

In Chile, the mean of immigrant students' concentration at schools is 2.2% (Ministerio de Educación de Chile, 2018), and immigrant population is mainly settled in the Metropolitan Region of Santiago (65.2%) (Instituto Nacional de Estadísticas, 2020). Even though this national information was available, there was no particular data for the school level, which impeded the design of a representative sample. Aiming to guarantee intercultural group contact, six schools with high concentrations of immigrant students were selected (2.3–60.5%). The majority of the students were enrolled in schools financed by the State but administrated by private organizations (69.5%), while 30.5% came from public schools, a proportion that is similar to the national matriculation.

The sample was composed of 691 secondary students (44% immigrants and 56% Chilean), with ages between 13 and 19 years old ($M = 16.02$; $SD = 1.41$). In the case of immigrant students, 54% of them were women, while in the Chilean group, women represented 52%.

Immigrant students were 304, and all of them were born in foreign Latin-American countries, particularly in Peru (53.3%), Venezuela (24.3%), Colombia (10.9%), Bolivia (5.3%), Ecuador (4.3%), and Dominican Republic (2%). The length of residence in Chile varied from 1 to 180 months ($M = 43.76$; $SD = 41.58$).

Variables and Instruments

Sociodemographic Questionnaire

Students were asked to inform their sex and age. In the case of immigrant students, country of origin and length of residence in Chile were also reported.

School Satisfaction

The School Satisfaction Scale (Casas et al., 2013) was applied. This instrument is composed of six Likert-type items, with 11 answer options (0 = completely disagree, 10 = completely agree). This

scale asks about different domains of scholarly experience, such as satisfaction with school achievement, learnings, schoolmates, teachers, and school and satisfaction with their lives as students (immigrants: $\alpha = 0.83$, $\Omega = 0.80$; Chileans: $\alpha = 0.83$, $\Omega = 0.84$). The confirmatory factor analysis results were satisfactory in the immigrant group: $\chi^2(5) = 12.441$, $p < 0.05$; CFI = 0.989; TLI = 0.967; SRMR = 0.028; RMSEA = 0.070 [90% CI (0.021, 0.120)]. In the case of Chilean students, the confirmatory factor analysis results were also adequate: $\chi^2(5) = 14.153$, $p < 0.05$; CFI = 0.990; TLI = 0.971; SRMR = 0.032; RMSEA = 0.069 [90% CI (0.028, 0.113)].

Prejudice

The emotional prejudice scale (Navas and Rojas, 2010) was applied. It is composed of 11 Likert scale items (1 = totally disagree, 7 = totally agree), which assess participants' positive emotions, subtle negative emotions, and traditional negative emotions toward the correspondent group (e.g., sympathy, discomfort, anger). In this study, immigrant students were asked to indicate the extent in which they feel these emotions toward Chilean students ($\alpha = 0.77$, $\Omega = 0.80$), whereas Chilean students were asked to answer about their feelings toward their immigrant peers ($\alpha = 0.76$, $\Omega = 0.80$). In the case of immigrant students, the results of the confirmatory factor analysis were satisfactory: $\chi^2(35) = 81,628$, $p < 0.001$; CFI = 0.968; TLI = 0.950; SRMR = 0.041; RMSEA = 0.066 [90% CI (0.048, 0.085)]. The confirmatory analysis results for the Chilean group were also adequate: $\chi^2(34) = 64,516$, $p < 0.001$; CFI = 0.984; TLI = 0.975; SRMR = 0.040; RMSEA = 0.048 [90% CI (0.030, 0.066)].

Cultural Self-Efficacy

The Cultural Self-efficacy Scale for Adolescents (CSES-A) (Briones et al., 2009) was applied, and participants answered using a 7-point Likert scale (1 = totally incapable; 7 = totally capable). The original scale included 25 items to assess five dimensions of cultural self-efficacy: self-efficacy in processing information about other cultures, self-efficacy in mixing satisfactorily with other cultures, self-efficacy in understanding other ways of life, and self-efficacy to cope with homesickness and in learning and understanding a foreign language. Due to the fact that in this study the sample was composed of Chilean and immigrant students, three dimensions were used: self-efficacy in processing information about other cultures (e.g., "Use the information I have on that culture to understand people from that culture") (immigrants: $\alpha = 0.89$, $\Omega = 0.89$; Chileans: $\alpha = 0.88$, $\Omega = 0.88$), self-efficacy in mixing satisfactorily with other cultures (e.g., "Take part in social activities of the people of that culture") (immigrants: $\alpha = 0.85$, $\Omega = 0.86$; Chileans: $\alpha = 0.91$, $\Omega = 0.91$), and self-efficacy in understanding other ways of life (e.g., "Understand other religious beliefs") (immigrants: $\alpha = 0.89$, $\Omega = 0.90$; Chileans: $\alpha = 0.89$, $\Omega = 0.88$). In the case of immigrant students, the results of the confirmatory factor analysis were satisfactory, $\chi^2(181) = 420.192$, $p < 0.001$; CFI = 0.940; TLI = 0.930; SRMR = 0.024; RMSEA = 0.066 [90% CI (0.058, 0.074)], as well on the Chilean student group, $\chi^2(181) = 262.780$, $p < 0.001$; CFI = 0.973; TLI = 0.967; SRMR = 0.036; RMSEA = 0.053 [90% CI (0.044, 0.062)].

Procedure

Santiago is a city with a higher concentration of immigrant population in the country (65.2%) (Instituto Nacional de Estadísticas, 2020). Thus, the study was carried out in this city. The communes of the city were studied in order to find the ones with higher immigrant population. Five communes were contacted, in which immigrant population varied from 15.6 to 31.2%. Three of them accepted to participate, and all schools with high immigrant concentrations were invited. Six of them were selected according to their characteristics, such as matriculation size and ethnic composition. These characteristics were studied in order to verify if they had influence on the studied variables, but no significant differences were found.

Participants' selection was conducted using a convenience sampling, according to schools' availability to participate. Second-generation immigrant students and the ones with low levels of proficiency in Spanish were excluded. Parents' and students' consent were requested by means of personalized letters, aiming to safeguard voluntary participation. Participants completed the questionnaire protocol voluntarily in their educational centers and during regular class time. Questionnaire administration was done collectively and lasted 40 min. The procedures followed in the study were certified by the Research Ethics Committee of Universidad Alberto Hurtado, considering all the standards of the Helsinki Declaration.

Data Analysis

Data analyses were conducted using the statistical software SPSS 23.0. First, reliability analyses were performed, the results of which have been presented in the preceding section. Kolmogorov–Smirnov test was performed, with the Lilliefors correction, for each of the variables, and the non-normality of the data distribution in some of them was determined. For this reason, correlations were performed by the bootstrap resampling method, with 1,000 samples, and the BCa method to obtain 95% confidence intervals for the r (Field, 2013). The effect of the percentage of immigrant students by classroom on the studied variables was not significant. Therefore, this variable was not included in the subsequent analysis. In the case of immigrant students, we also performed comparisons between national groups. Venezuelan and Colombian participants were grouped in the same first category, because they were recent immigrants who have similar migratory backgrounds ($n = 107$). The second group was composed by Peruvians ($n = 162$), who belong to the largest and former immigrant group in Chile. The third group was mixed, and it included students from different minority nationalities, such as Ecuadorians, Dominicans, and Bolivians ($n = 35$). ANOVA test reported no significant differences among groups in the studied variables. Thus, immigrant participants were considered as a single group for the following analysis. Mediation analyses were carried out based on the Process macro (model 4) system of SPSS, which on the bases of the Sobel test establishes whether the indirect effect of the mediator is significantly different from zero. When the confidence interval does not include 0, the effect is significant, and mediation is confirmed (Hayes, 2018). Due to the fact that

Chilean and immigrant students presented different levels of school satisfaction and cultural self-efficacy, it was interesting to perform correlations for each group. Even though we used the same prejudice scale in both groups, the target of prejudice was different. We were interested in understanding how the relationships in these variables were expressed in each group. Thus, we carried out different mediational models for immigrant and Chilean participants.

RESULTS

First, differences among immigrant and Chilean students on the variables of interest were also studied. Even though it was not possible to compare immigrant and Chilean students' levels of prejudice since scales encompassed different targets, results showed a common pattern with scores under the midpoint on the scale of 7 points. Cultural self-efficacy's general perceptions tended to be high in both immigrants and Chilean students, and there were no significant differences between groups. The same occurred in the dimensions of mixing satisfactorily with other cultures and self-efficacy in understanding other ways of life. Scores in the dimension of self-efficacy in processing information from other cultures were also over the midpoint on the scale of 7 points in both groups. However, mean comparisons in self-efficacy showed significant differences, in which immigrant students reported higher levels on this dimension, with a small effect size. Scores in school satisfaction were also over the midpoint of the 11-point scale, where immigrant students informed significantly higher levels than Chileans, with a moderate effect size (see **Table 1**).

Separate Pearson's correlation analyses were performed, due to prejudice having different targets and because it was interesting to observe the particularities of each sample.

In the case of immigrant students, results showed that neither age nor the length of residence in Chile was related to any of the studied variables. Sex was positively associated with both school satisfaction and self-efficacy in mixing satisfactorily with others, suggesting that women were more satisfied with their experiences at school and that they felt more capable of mixing with people of different cultural backgrounds than are men. In this group of students, prejudice was negatively related to school satisfaction, general cultural self-efficacy, and specifically to the dimensions of processing information about other cultures, mixing satisfactorily with others, and understanding other ways of life. As was expected, school satisfaction was positively associated with general cultural self-efficacy, self-efficacy in processing information about other cultures, mixing satisfactorily with other cultures, and understanding other ways of life (see **Table 2**).

In the case of Chilean students, age was positively correlated with prejudice. Sex was negatively associated to prejudice, showing that women tend to perceive less negative emotions toward immigrant peers than did men. Besides, prejudice was negatively related to school satisfaction, as well as to general cultural self-efficacy. Results also showed that prejudice presented negative relations with processing information about

TABLE 1 | Descriptive statistics and mean comparisons between immigrant and Chilean students.

| | | M | SD | t | df | p | Cohen's d |
|---|------------|----------|-----------|----------|-----------|----------|------------------|
| Prejudice | Immigrants | 2.62 | 0.88 | – | – | – | – |
| | Chileans | 2.08 | 0.76 | | | | |
| Cultural self-efficacy | Immigrants | 5.70 | 0.99 | –0.578 | 689 | 0.563 | ns |
| | Chileans | 5.65 | 1.04 | | | | |
| SE processing information | Immigrants | 5.85 | 1.16 | –5.551 | 689 | 0.000 | –0.416 |
| | Chileans | 5.34 | 1.25 | | | | |
| SE mixing with other cultures | Immigrants | 5.81 | 1.02 | –0.267 | 689 | 0.790 | ns |
| | Chileans | 5.78 | 1.17 | | | | |
| SE understanding different ways of life | Immigrants | 5.71 | 1.24 | 0.355 | 689 | 0.723 | ns |
| | Chileans | 5.74 | 1.30 | | | | |
| School satisfaction | Immigrants | 7.44 | 1.65 | –3.550 | 689 | 0.000 | –0.269 |
| | Chileans | 6.97 | 1.78 | | | | |

Prejudice and self-efficacy variables ranged from 1 to 7 and school satisfaction from 0 to 10.

other cultures, mixing satisfactorily with other cultures, and understanding other ways of life. School satisfaction was positively associated with general cultural self-efficacy, and its relations with processing information about other cultures, self-efficacy in mixing satisfactorily with other cultures, and understanding other ways of life were also positive (see **Table 2**).

Based on these results, four mediation models were performed to test if cultural self-efficacy mediated the relation between prejudice and school satisfaction in each group of participants. The first model attempted to assess the aforementioned relations on the immigrant students' group. Age and length of residence in Chile were not included because they did not present significant correlations with any of the studied variables. When the effect of sex ($\beta = 0.57$, $t = 3.129$, $p = 0.002$) was controlled for, prejudice had a significant negative effect on school satisfaction ($\beta = -0.46$, $t = -4.932$, $p = 0.000$). Prejudice had also a negative influence on cultural self-efficacy ($\beta = -0.25$, $t = -3.89$, $p = 0.000$). Conversely, cultural self-efficacy had a positive impact on school satisfaction ($\beta = 0.61$, $t = 6.927$, $p = 0.000$). The indirect effect of prejudice on school satisfaction through cultural self-efficacy was significant [$\beta = -0.15$, $SE = 0.09$, 95% CI (-0.2361 , -0.0764)]. The direct effect of prejudice in school satisfaction was still significant when all the variables were in the model ($\beta = -0.30$, $t = -3.09$, $p = 0.002$). This indicates that cultural self-efficacy partially mediates the relation between prejudice and school satisfaction. The model explained 22% of school satisfaction's variability (see **Figure 1**).

Aiming to further comprehend the mediator role of cultural self-efficacy, a second model which included its three dimensions was performed. When the effects of sex ($\beta = 0.57$, $t = 3.129$, $p = 0.002$) were controlled for, prejudice had a negative effect on school satisfaction ($\beta = -0.46$, $t = -4.392$, $p = 0.000$). Likewise, prejudice had a negative impact in self-efficacy in processing information about other cultures ($\beta = -0.26$, $t = -3.49$, $p = 0.000$), in self-efficacy in mixing satisfactorily with other cultures ($\beta = -0.25$, $t = -3.84$, $p = 0.000$), and in self-efficacy in understanding other ways of life ($\beta = -0.30$, $t = -3.83$, $p = 0.000$). Besides, self-efficacy in mixing satisfactorily with other cultures ($\beta = 0.53$, $t = 2.85$, $p = 0.005$) had a positive effect on school satisfaction, while the dimensions of processing information

($\beta = 0.08$, $t = 0.55$, $p = 0.58$) and understanding other lifestyles ($\beta = 0.02$, $t = 0.25$, $p = 0.80$) were not significant mediators.

A significant indirect effect of prejudice on school satisfaction through self-efficacy in mixing satisfactorily with other cultures was found [$\beta = -0.13$, $SE = 0.09$, 95% CI (-4.6010 , -0.0466)]. The direct effect of prejudice was still significant when all the variables were in the model ($\beta = -0.29$, $t = -2.98$, $p = 0.003$). Thus, the effect of self-efficacy in mixing satisfactorily with other cultures partially mediated the association between prejudice and school satisfaction. This model explained 23% of immigrant students' satisfaction with school (see **Figure 2**).

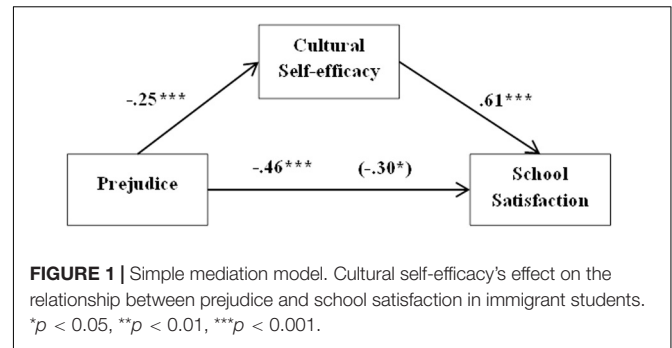
On the other hand, the same models were tested on the Chilean students' group. In the third model, when the effects of sex ($\beta = -0.35$, $t = -1.967$, $p = 0.954$) and age ($\beta = -0.03$, $t = -0.69$, $p = 0.498$) were controlled for, prejudice's negative impact on school satisfaction was significant ($\beta = -0.42$, $t = -0.35$, $p = 0.000$). Besides, it had a significant negative influence on cultural self-efficacy ($\beta = -0.51$, $t = -7.080$, $p = 0.000$). Cultural self-efficacy had a positive effect on school satisfaction ($\beta = 0.61$, $t = 7.057$, $p = 0.000$). The indirect effect of prejudice on school satisfaction through self-efficacy was also significant [$\beta = -0.31$, $SE = 0.07$, 95% CI (-0.4543 , -0.1938)], but its direct effect was not significant when all the variables were in the model ($\beta = -0.10$, $t = -0.12$, $p = 0.395$). These results indicate that cultural self-efficacy totally mediates the relationship between prejudice and school satisfaction. The model explained 15% of the variability of satisfaction with school on Chilean students (see **Figure 3**).

The fourth model showed that when the possible effects of sex ($\beta = -0.35$, $t = -1.96$, $p = 0.049$) and age ($\beta = -0.02$, $t = -0.388$, $p = 0.698$) were controlled for, prejudice exerted a significant negative influence on school satisfaction ($\beta = -0.42$, $t = -3.51$, $p = 0.000$). It also had a negative effect on self-efficacy in processing information about other cultures ($\beta = -0.54$, $t = -6.81$, $p = 0.000$), on self-efficacy in mixing satisfactorily with other cultures ($\beta = -0.42$, $t = -5.55$, $p = 0.000$), and on self-efficacy in understanding other ways of life ($\beta = -0.63$, $t = -7.67$, $p = 0.000$). Both cultural self-efficacy in processing information from other cultural groups ($\beta = 0.24$, $t = 2.79$, $p = 0.005$) and in mixing satisfactorily with other cultures ($\beta = 0.33$, $t = 3.34$,

TABLE 2 | Pearson's correlations between length of residency, sex, age, prejudice, cultural self-efficacy, and school satisfaction in immigrant and Chilean students between parentheses.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|--------|------------------|-----------------|-----------------------|---------------------|---------------------|---------------------|---------------------|---|
| 1 | - | | | | | | | | |
| 2 | 0.012 | - | | | | | | | |
| 3 | 0.62 | -0.020 (-0.047) | - | | | | | | |
| 4 | 0.001 | -0.009 (-0.112*) | -0.008 (0.128*) | - | | | | | |
| 5 | -0.071 | 0.184** (0.078) | -0.017 (-0.038) | -0.243*** (-0.170**) | - | | | | |
| 6 | -0.039 | 0.121 (0.041) | -0.022 (-0.081) | -0.218** (-0.378***) | 0.411*** (0.374***) | - | | | |
| 7 | -0.020 | 0.120 (0.021) | -0.043 (-0.095) | -0.196** (-0.337***) | 0.397*** (0.330***) | 0.866*** (0.807***) | - | | |
| 8 | -0.010 | 0.144* (-0.003) | -0.011 (-0.058) | -0.214*** (-0.276***) | 0.435*** (0.350***) | 0.863*** (0.902***) | 0.881*** (0.558***) | - | |
| 9 | -0.070 | 0.089 (0.102) | 0.028 (-0.060) | -0.217*** (-0.376***) | 0.284*** (0.262***) | 0.810*** (0.825***) | 0.529*** (0.533***) | 0.604*** (0.610***) | - |

1, length of residency in Chile; 2, sex; 3, age; 4, prejudice; 5, school satisfaction; 6, cultural self-efficacy; 7, SE processing information; 8, SE mixing with other cultures; 9, SE understanding different ways of life. Correlations performed by the bootstrap resampling method, with 1,000 samples, and the BCa method to obtain 95% confidence intervals for the *r*. **p* < 0.05, ***p* < 0.01, ****p* < 0.001.



p = 0.001) had a positive impact on school satisfaction, but the dimension of understanding other lifestyles was not a significant mediator ($\beta = 0.04, t = 4.39, p = 0.66$).

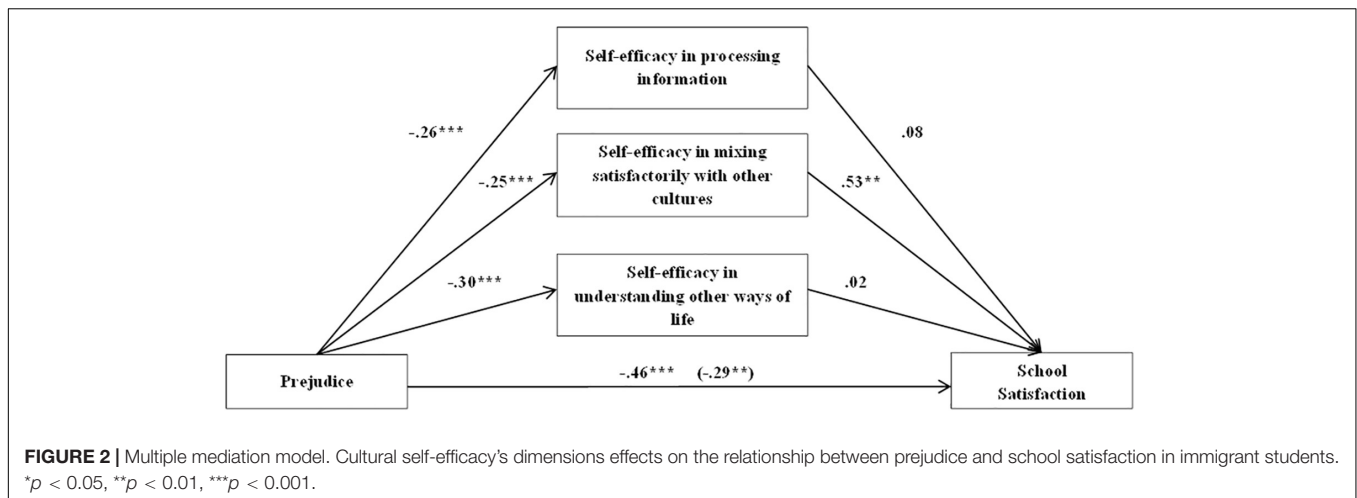
The indirect effects of prejudice on the dependent variable through both self-efficacy in processing information [$\beta = -0.13, SE = 0.06, 95\% CI (-0.2605, -0.0305)$] and self-efficacy in mixing satisfactorily with other cultures [$\beta = -0.14, SE = 0.05, 95\% CI (-0.2430, -0.0496)$] were significant. The direct effect of prejudice was not significant when all the variables were in the model ($\beta = -0.12, t = -0.98, p = 0.325$). This result shows that these two dimensions of cultural self-efficacy totally mediated the effects of prejudice in school satisfaction. The total amount of explained variability was 17% (see Figure 4).

DISCUSSION

Intergroup relations have been identified as important antecedents of students' school adjustment and well-being (Berry et al., 2006; Martínez-Taboada et al., 2017; Motti-Stefanidi et al., 2020; Sirlopú and Renger, 2020). Literature about intergroup contact between immigrant and Chilean students has reported contradictory results. Some researches have informed hostile and conflictive interactions (Salas et al., 2017; Castillo et al., 2018; Guthrie et al., 2019), while others have reported a tendency of low prejudice between students (Mera-Lemp and Martínez-Zelaya, in press). In our research, participants from both groups showed low levels of prejudice, suggesting that intergroup contact tends to be positive in our context. These different findings could be due to the use of different instruments in each study, which have included peer sociometric measures, implicit association test, and explicit prejudice scales.

Besides, students reported high levels of management in cultural diversity scenarios at school, feeling capable to process information from other cultures, mixing satisfactorily with other cultures, and understanding other ways of life. These results coincide with those informed by Rania et al. (2012) and also with previous findings from studies conducted with immigrants and natives in Chile (Mera-Lemp et al., 2020a,b).

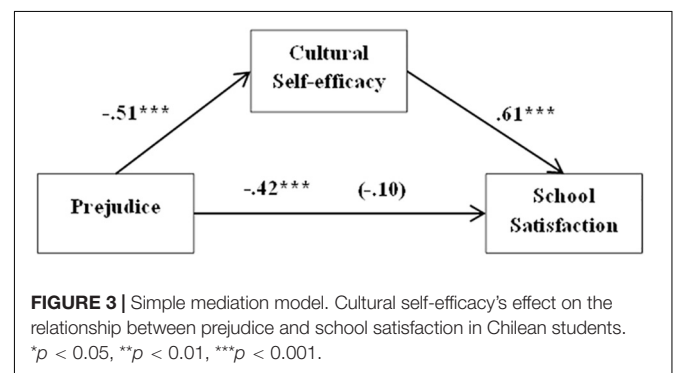
In this context, immigrant students tended to show higher self-efficacy than did Chilean in processing information from other cultures, which is also consistent with former reports (Rania et al., 2012). Literature on self-efficacy stresses the importance of past experiences in constructing self-confidence



in overcoming a task. Also, vicarious experiences through similar others' successful performances contribute to self-efficacy development (Bandura, 1996, 2006). Thus, this result suggests that in the case of immigrant adolescents, the daily exercise of managing information from a new cultural environment could activate their cognitive resources, enhancing their personal sense of capability. The observation of positive performances in their families and communities could also play a role on the increment of their perception of self-efficacy.

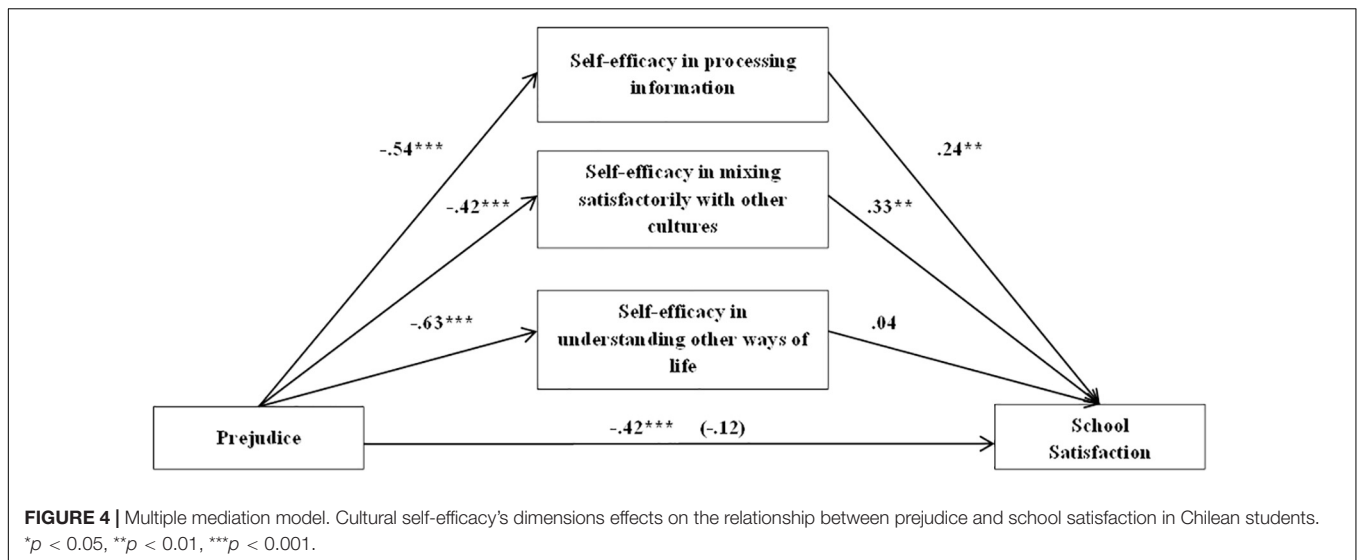
Participants from both groups also informed levels of school satisfaction over the midpoint of the scale. Different to previous research findings (Guthrie et al., 2019), immigrant adolescents in our study presented a significantly higher school satisfaction than their Chilean peers. This result is coherent with several studies (Verkuyten and Thijs, 2002; Sam et al., 2008; Dimitrova et al., 2016, 2017; Salmela-Aro et al., 2018) that have empirically supported the idea of the immigrant paradox, showing that young immigrants presented similar or better adaptation levels than their native peers. The strong educational aspirations of immigrant parents, the development of bicultural identities, and resilience have been proposed as variables that could be explaining this phenomenon (Dimitrova et al., 2016, 2017; Özdemir and Özdemir, 2020). Nevertheless, this might be deeply investigated in future researches. Overall, these results suggest that intergroup dynamics at schools tend to be positive. Furthermore, both immigrant and Chilean students show important psychological assets which could be collaborating with their adjustment to cultural diversity at school.

In the case of immigrant students, we found that age and length of residence in Chile were not related to any of the studied variables. An interpretation could be that social and cultural conditions might be more decisive than time in their adjustment to the new context (Raabe and Beelmann, 2011; Hernando et al., 2013; Titzmann et al., 2015). Results also showed that immigrant girls presented higher levels of self-efficacy in mixing satisfactorily with other cultures, which coincides with previous reports (Berry et al., 2006; Motti-Stefanidi et al., 2008; Güngör and Bornstein, 2013; Klein et al., 2020) that have claimed that girls are more likely to develop positive attitudes toward



intercultural exchanges than boys, presenting higher self-efficacy in social interactions with different others (Caprara et al., 2004; Bagci, 2018). Gender differences were also found regarding immigrant students' school satisfaction, agreeing with studies which have established that girls tend to develop a better adjustment to school contexts and tasks than did boys, including immigrant females (Verkuyten and Thijs, 2002; Berry et al., 2006; Liu et al., 2016).

Outcomes from the Chilean students' group showed that the increment of age was related to an increase in prejudice. Reports from former studies about this relation during adolescence are diverse. For example, a meta-analytical research (Raabe and Beelmann, 2011) concluded that prejudice varied systematically through childhood, whereas no developmental trend was found in adolescence. Other studies (van Zalk and Kerr, 2014; Titzmann et al., 2015) have reported a reduction of prejudice on late adolescence. To the contrary, our finding supports other research outcomes which found an increment of prejudice across this period of life (Hooghe et al., 2013; Ngwayuh and Croucher, 2017; Nshom and Croucher, 2018). The aforementioned studies have proposed that during the transition to adulthood, native adolescents tend to perceive increasing levels of intergroup threats, being more sensitive and concerned about ingroup interests. This could be especially plausible in the case of students from vulnerable communities, like the participants in our study,



who are aware about economic difficulties on their families and could perceive immigrants as real competitors. In contrast, results suggest that this phenomenon is not salient in the case of immigrant adolescents, probably because of the socio-cognitive and the emotional processes needed for their personal adjustment to the multicultural context (Berry et al., 2006).

Also, in the Chilean group, girls presented fewer levels of prejudice than boys. Literature has plenty of evidence about this relationship. A meta-analytical study conducted by Dozo (2015) including 355 studies found that men were more prejudiced than women toward different outgroups. Besides, researches with a focus on immigrant and native adolescents (Mähönen et al., 2011; Güngör and Bornstein, 2013; Nshom and Croucher, 2018) have reported the same tendency, proposing that compared to men, women are less prone toward social dominance and that their perceptions about outgroups tend to be more nuanced.

Correlation analyses between prejudice, cultural self-efficacy, and school satisfaction showed a common pattern across both groups of students. Prejudice was negatively related to school satisfaction, as was expected. This result emphasizes the importance of peer intergroup relationships in students' well-being, which are especially sensible in cultural diversity scenarios (Verkuyten and Thijs, 2002; Berry et al., 2006; Fang et al., 2016; Martínez-Taboada et al., 2017; Thijs et al., 2019). Prejudice also presented negative associations with cultural self-efficacy and its dimensions in each group of adolescents. This confirms our hypothesis, suggesting that negative emotions toward outgroups' members diminish the sense of competence in intercultural encounters, by reducing the sensitivity to manage information from different cultures and the confidence in successfully mixing with outgroup schoolmates (Rania et al., 2012; Oyeleke et al., 2018; Bagci et al., 2020). As was expected, positive relations between cultural self-efficacy and school satisfaction were found. Important aspects of school life are grades and other accomplishments (Casas et al., 2013) that are related to self-efficacy. In the context of these participants, the sense of successfully managing in a multicultural classroom can

give them this feeling of competence (Vecchio et al., 2007; Mera-Lemp et al., 2020a).

Simple mediation analyses suggest that the role of cultural self-efficacy in the relation between prejudice and school satisfaction works slightly different for each group of students. Cultural self-efficacy partially reduced the impact of prejudice on immigrants' school satisfaction, while its effect in the case of Chilean students was total. A plausible explanation for these outcomes could be found in studies which have evaluated results of intervention programs to improve intergroup relations between majority and minority groups' students. These studies have suggested that their impacts tend to be stronger on the first ones, because those who are members of low-status groups still have to cope with social and cultural barriers (Beilmann and Heinemann, 2014; Titzmann et al., 2015; Cameron and Turner, 2017).

Multiple mediation analyses results including cultural self-efficacy's dimensions offer a deeper comprehension about these phenomena. In the case of immigrant students, cultural self-efficacy in mixing satisfactorily with other cultures was the only significant mediator, stressing the importance of social relatedness to school experiences and especially to well-being (Casas et al., 2013). The sense of self-mastery in this task seems to be particularly salient in this group of adolescents, who often have to deal with different migration stressors, such as loneliness, discrimination, and separation from their former support networks, and for whom school is a critical scenario for their integration to the host country (Berry et al., 2006; Mera-Lemp et al., 2014). This outcome also suggests that for immigrant students, self-efficacy in processing information from other cultures and in understanding other ways of life could have a less decisive role in reducing the negative influence of prejudice toward schoolmates in school satisfaction, probably because they have to deal continuously with cultural differences through their daily lives.

On the other hand, results from the Chilean group revealed that cultural self-efficacy both in processing information from other cultures and in mixing with other cultures totally mediated

the effect of prejudice on school satisfaction. Literature on cultural intelligence (Bhawuk et al., 2008; Alexandra, 2018) has proposed that success in processing information through intercultural encounters depends on complex thinking processes, which require a change in their own cultural baselines. This could be especially challenging for adolescents of majority groups, who have been socialized in monocultural environments, with scarce previous opportunities of intercultural contact. So when contact occurs in positive conditions, it has more impact on majority members' intercultural skills than in minority ones (Kim and Van Dyne, 2012; Alexandra, 2018). Taking this as a whole, these findings show that feeling capable of interacting with different others improves native students' well-being, who also have to adjust to a new cultural scenario at school.

It is also interesting that for immigrant and native students, cultural self-efficacy in understanding different ways of life was not a significant mediator in the relationship between prejudice and school satisfaction. We think that this may be due to the aspects that this dimension assessed. Cross-cultural similarities between Latin-American countries in family configurations, religion, and artistic expressions (Medina Nuñez, 2019) could explain the low importance of self-competence sense in comprehending these aspects to school well-being.

This study presents limitations to be considered. The use of an intentional sample in the framework of a cross-sectional design does not allow appreciation of the development of the relationship between prejudice, cultural self-efficacy, and school satisfaction across time. This could be important on this population due to the changes that occur during adolescence. Second, in this research, we did not include immigrant students who could perceive higher levels of cultural differences and also have to deal with language barriers at school, like in the case of Haitian students. They were excluded because they represented a small percentage of the sample. The results of this study could vary by including this type of students due to stronger difficulties to cope with school relationships and tasks (Vedder et al., 2005). Besides, all foreign students in our sample were first-generation immigrants, who were dealing with cultural adjustment processes. Future researches might incorporate second-generation immigrant students in order to study if their outgroup attitudes and psychological assets to cope with cultural differences vary. Also, in this study, the dimension of self-efficacy to cope with homesickness was not included in order to match the surveys; thus, it will be interesting to include this dimension in studies with immigrant students. In addition, a future challenge could be to achieve representative samples and to perform nested models.

However, our results stress the importance of intergroup relations and cultural self-efficacy in school satisfaction. Furthermore, our findings suggest a favorable context, which could be less conflictive than was expected. This could be due to the nuances of south-south migration processes (Mera-Lemp et al., in press), different than traditional south-north migration studies. This is important because researches about intergroup relations between immigrant and native students in

Latin-American countries are still very scarce, and most of the evidence about adolescents' intercultural competences comes from different cultural contexts.

Finally, we think that multicultural education programs in our region should include the development of students' cultural self-efficacy. These are self-beliefs and skills that can be learned, which will improve adolescents' well-being in diversity contexts and help the construction of cultural integration and social cohesion. Multicultural education to promote the creation of a culture of peace is one of the main objectives of UNESCO for Latin America and the Caribbean. The development of interventions through which students could learn capabilities to understand cultural differences and mix with different others might facilitate respect and friendship between people with different national, ethnic, and religious identities (García-Ruiz, 2010). The attainment of these changes requires the incorporation of these matters on school curriculums. To achieve these goals, it would be important for teachers to be trained in these subjects through their professional formation. Educational policy about multicultural education should consider the impact of migration on the construction of new types of social relationships between children and adolescents.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Comité de ética Universidad Alberto Hurtado. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

MM-L, MB, and NB designed the study. MM-L collected the data. All authors contributed in the analysis and interpretation of data, drafted the manuscript, discussed the results, and commented on the manuscript.

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Affects as Mediators of the Negative Effects of Discrimination on Psychological Well-Being in the Migrant Population

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There is abundant empirical evidence on the negative effects of discrimination on psychological well-being. However, little research has focused on exploring the factors that can mitigate this effect. Within this framework, the present study examined the mediating role of positive and negative affects in the relationship between ethnic and racial discrimination and psychological well-being in the migrant population. About 919 Colombians, first-generation migrants, residing in Chile (Arica, Antofagasta, and Santiago) were evaluated, of which 50.5% were women, and the participants' average age was 35 years (range: 18–65 years). Krieger's discrimination questionnaires, Watson's Positive and Negative Affect Schedule (PANAS), and Ryff's Psychological Well-Being Scale were applied. The measurement models of each variable were estimated, and then the structural equation models were used. The results of the hypothesized multiple mediation model showed that the main mediator in the relationship between ethnic-racial discrimination and psychological well-being was positive affects over negative ones.

Keywords: migrant, well-being, positive affect, negative affect, discrimination, racism

INTRODUCTION

Global processes on migration had implied that by mid-2019, about 272 million people would be living outside their countries of birth (Organización de Naciones Unidas, 2019). In South America, by 2019, the number of immigrants had reached almost 10 million, of which nearly a million were in Chile (Organización Internacional para las migraciones, 2020).

Even when migrants move to other countries seeking better living conditions and well-being, they often face different demanding and negative situations, such as living in overcrowded conditions, being victims of sexual or labor exploitation, or other types of violence, which negatively affects their quality of life, mental health, and well-being (Bobowik et al., 2015; Urzúa et al., 2015, 2016, 2017a,b; Bas-Sarmiento et al., 2017; Foo et al., 2018; Gatt et al., 2020).

Especially regarding well-being in the migrant population, evidence suggests that it can be affected by various variables at both individual and contextual levels, such as sex, educational level, age, length of residence, administrative situation, work situation, social support, acculturation strategies, language, positive social interaction, environment, and mental health (Liu et al., 2017; Urzúa et al., 2019a, 2020a; Rodríguez et al., 2020).

Besides these factors, a greater or smaller level of well-being may be conditioned by the individual's level of adaptation in the host country, a process that is influenced by other factors such as ethnicity, language, religion, or an appearance different from that of the inhabitants of the host country (Martine et al., 2000). Low tolerance of these differences may produce phenomena such as discrimination and segregation by the host country (Tijoux et al., 2011).

Discrimination, a major negative social situation faced by migrants, is conceptualized as a different treatment toward a group with common characteristics or toward a person who belongs to such a group (Krieger, 2001). Discrimination can be exercised in several ways, with ethnic and racial discrimination being the most common among the migrant population. Racial discrimination refers to any differential treatment based on race or skin color. Ethnic discrimination involves situations of inequality and exclusion resulting from belonging to a specific ethnic group, a group that is formed by individuals who are perceived to have a common heritage with a common language, culture, and ancestry (Booth et al., 2011), and who are a minority in the host location.

Not only does discrimination have multiple negative effects on the population that suffers it, ranging from inequalities in access to socioeconomic goods and services and labor sources to access to health and education benefits, but also abundant evidence has revealed its negative effects on individuals' physical and mental health and well-being (Harrell et al., 2003; Paradies, 2006; Gee et al., 2009; Pascoe and Smart, 2009; Williams and Mohammed, 2009; Bastos et al., 2014; Lewis et al., 2015; Cuevas et al., 2016; Lahoz and Forns, 2016; Williams et al., 2019; Urzúa et al., 2019b, 2020a), especially stigmatized groups such as the migrant population (Finch et al., 2000; Bourguignon et al., 2006; Greene et al., 2006; Borrell et al., 2010; Zeiders et al., 2013; Schunck et al., 2015).

An inverse relationship between discrimination and well-being levels has been reported in studies of both the general population (Schmitt et al., 2014; Castaneda et al., 2015) and migrant population (Jasinskaja-Lahti et al., 2006a,b; Mesch et al., 2008; Sevillano et al., 2013; Giuliani et al., 2018; Stevens and Thijs, 2018; Kader et al., 2020). However, studies on the factors that may moderate or mediate this relationship are still scarce. Factors such as personality traits (Xu and Chopik, 2020), self-esteem (Urzúa et al., 2018), identity (Jasperse et al., 2011; Liu and Zhao, 2016; Ferrari et al., 2017), sense of control (Jang et al., 2008), ethnic affirmation (Atari and Han, 2018), employability (Mera-Lemp et al., 2019), and group membership (Choi et al., 2020) could mediate the relationship between perceived discrimination and psychological well-being, or moderate it, in the case of group effectiveness (Bagci and Canpolat, 2020) or group membership (Shinwoo et al., 2020).

Given its close relationship to both discrimination and well-being, one factor that could play a mediating role is affect or emotional experience (Greenglass and Fiksenbaum, 2009; Pierce et al., 2018). Emotional experience has been divided into two dimensions: one positive and the other negative (Watson and Tellegen, 1985). Precedents suggest that affects can have a mediating role in the relationship between well-being and other

factors, such as optimism (Vera-Villaruel et al., 2016). Although from a hedonic perspective, affects together with life satisfaction constitute the primary components of subjective well-being (Diener et al., 1999), there is evidence that the components of this structure behave independently and are moderately related (Busseri, 2018), which would also be expected for a measure of well-being, but from an eudaimonic perspective, as is psychological well-being (Ryff, 1989, 2014).

This research is framed in the context of south-south immigration, that is, South Americans migrating to South American countries, and specifically Colombians to Chile. Colombian migration mainly derives from the Pacific coast, i.e., people of African descent. This migration has resulted in situations of discrimination, either by the country of origin, linked to drug trafficking, drugs, and sex trade in the case of women, or by the color of the skin (Pavez, 2016; Tijoux, 2016; Gissi et al., 2019). Studies conducted in Chile show how discrimination has negatively affected both the mental health and the well-being of this population (Urzúa et al., 2018, 2019b; Mera-Lemp et al., 2020a), in addition to other factors that also affect well-being (Silva et al., 2016; Urzúa et al., 2019a, 2020b; Mera-Lemp et al., 2020b). A qualitative perspective about the effects of migration and racism on the Colombian population in Chile can be reviewed in Gii-Barbieri and Ghio-Suárez (2017) and Gii et al. (2019).

In this framework, this study examined the mediating role of positive and negative affects in the relationship between ethnic and racial discrimination and psychological well-being in Colombian migrants living in Chile. Based on the literature review, we hypothesized that the relationship between discrimination (racial and ethnic) and psychological well-being (self-acceptance, positive relationships, autonomy, environmental mastery, and personal growth) would be mediated by both positive and negative affects (**Figure 1**).

MATERIALS AND METHODS

Participants

We surveyed a total of 919 migrants of Colombian nationality, who were living in three cities with the highest number of registered migrants in Chile: 476 (51.8%) in Antofagasta, 219 (23.8%) in Arica, and 224 (24.4%) in Santiago, at the time of the survey. It should be noted that the Metropolitan and the Antofagasta are the two regions with the highest number of visas issued by 2018 (Departamento de Extranjería y Migración, 2020). Regarding gender, 455 (49.5%) identified themselves as men, and 464 (50.5%) were women. Participants' age ranged from 18 to 65 years ($ME = 35.27$; $SD = 9.91$). The characteristics of the participants can be observed in **Table 1**.

Instruments

Discrimination

We used Krieger et al. (2005) Discrimination Experience Scale to assess discrimination. This scale measures the participants' perception of the various situations they have experienced

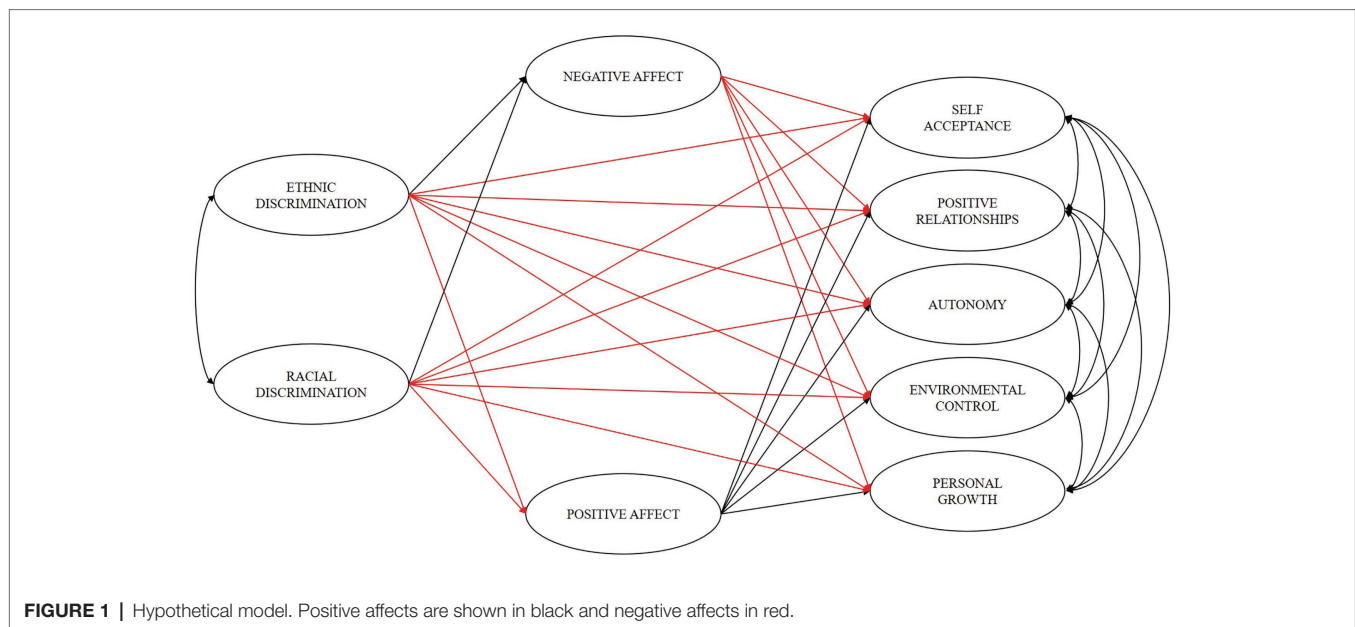


FIGURE 1 | Hypothetical model. Positive affects are shown in black and negative affects in red.

related to discrimination in different contexts. To measure racial and ethnic discrimination separately, we asked the participants about their experiences where a treatment was perceived as discriminatory, whether due to skin color or nationality. Each scale is composed of nine items that ask if the person has felt discriminated, for example, when requiring attention in a restaurant or service, with answers ranging from never (0 points) to four or more times (3 points). In this application, an alpha of 0.88 was obtained for the ethnic discrimination scale and 0.90 for the racial discrimination scale.

Affect

It was evaluated using the PANAS, a self-report scale comprising two dimensions designed to measure positive and negative affects (Watson et al., 1988). The scale contains 20 items describing a series of feelings and emotions, and the participants indicate the extent to which they usually or regularly feel these affects with response options ranging between 1 (never) and 5 (very much). The present study used the Chilean version of Vera-Villarroel et al. (2019) and obtained Cronbach's alphas of 0.87 for both positive and negative affects.

Psychological Well-Being

The Spanish adaptation of the Psychological Well-Being Scale of Ryff (1989) was used to measure psychological well-being (Díaz et al., 2006). This version includes 29 items under six dimensions: self-acceptance, positive relationships, autonomy, environmental mastery, purpose in life, and personal growth. Responses are rated on a six-point Likert scale ranging from 1 = totally disagree to 6 = totally agree. There is evidence of its reliability and validity based on the internal structure of the measurement instrument (Chitgían-Urzuá et al., 2013; Vera-Villarroel et al., 2013). In this study (considering the results of the fit of the measurement model prior to the realization

of the SEM), a reduced version of the scale was used. This short version contained 17 items under six dimensions proposed by Ryff. However, the "purpose" dimension was not used because it presented anomalous correlations ($r > 1.0$). In the present study, the scale presented Cronbach's alphas of 0.79 for self-acceptance, 0.70 for positive relationships, 0.77 for autonomy, 0.62 for environmental mastery, and 0.81 for personal growth.

Procedures

This study is part of a larger project studying the effects of discrimination on health and well-being, which has been reviewed and approved by the Scientific Ethics Committee of the Catholic University of the North. The initial participants were interviewed in person, mainly in public institutions such as the Catholic Migration Institute of Chile (INCAMI), Global Citizen-Jesuit Migration Services, Immigration Department, the Colombian Consulate, health centers, among others, after signing an informed consent. The data were coded and analyzed using SP-21 software.

Statistical Analysis

First, the measurement models of each scale were estimated using confirmatory factor analysis. Second, a structural equation model (SEM) was used to test whether ethnic discrimination (ED) and racial discrimination (RD) exerted an inverse effect on migrants' psychological well-being. Subsequently, the hypothesized multiple mediation model was evaluated, where the mediating effect of positive and negative affects was estimated on the relationship between ethnic and racial discrimination (as a criterion variable) and self-acceptance, positive relations, autonomy, environmental mastery, and personal growth (as response variables). The indirect effects of the mediation model were tested following the recommendations of Stride et al. (2017).

Structural equation models were performed using Mplus 8.2 software (Muthén and Muthén, 2010), using the weighted

TABLE 1 | Sociodemographic characteristics of participants.

| Variables | n (%) |
|--|------------|
| Sex | |
| Male | 455 (49.5) |
| Female | 464 (50.5) |
| City | |
| Arica | 219 (23.8) |
| Antofagasta | 476 (51.8) |
| Santiago | 224 (24.4) |
| Years of arrival in Chile^a | |
| >10 years | 40 (4.4) |
| 1–10 years | 854 (92.9) |
| Does not respond | 25 (2.7) |
| Education^a | |
| Incomplete primary education | 102 (11.1) |
| Primary education | 233 (25.4) |
| Secondary education | 309 (33.6) |
| Incomplete technical education | 82 (8.9) |
| Technical level | 116 (12.6) |
| Incomplete University education | 37 (4.0) |
| University education | 20 (2.2) |
| Postgraduate | 6 (0.7) |
| Does not respond | 14 (1.5) |
| Legal situation^a | |
| With residence Visa | 681 (74.1) |
| Without residence Visa | 117 (12.7) |
| Nationalized | 61 (6.6) |
| Does not respond | 60 (6.5) |
| Employment^a | |
| Employee | 656 (71.4) |
| Retired | 4 (0.4) |
| Unemployed | 122 (13.3) |
| Housewife | 59 (6.4) |
| Student | 33 (3.6) |
| Does not respond | 45 (4.9) |
| Monthly income^a | |
| <125 US\$ | 112 (12.2) |
| 126–375 US\$ | 331 (36.0) |
| 376–750 US\$ | 355 (38.6) |
| 751–1,250 US\$ | 83 (9.0) |
| 1,251–1,875 US\$ | 8 (0.9) |
| >1,876 US\$ | 7 (0.8) |
| Does not respond | 23 (2.5) |
| Self-reported phenotype | |
| White | 197 (21.4) |
| Indigenous | 38 (4.1) |
| Mestizo | 219 (23.8) |
| Afro-descendant | 216 (23.5) |
| Mulatto | 161 (17.5) |
| Others | 14 (1.5) |
| Does not respond | 74 (8.1) |

^aVariables with lost data.

least squares (WLSMV) robust estimation method, which is robust for non-normal ordinal variables (Beauducel and Herzberg, 2006). Goodness-of-fit of all models was estimated using Chi-square values (χ^2), the approximation mean square error (RMSEA), the comparative fit index (CFI), and the Tucker Lewis index (TLI). According to the recommended literature standards (e.g., Schreiber, 2017), the RMSEA \leq 0.08, CFI \geq 0.95, and TLI \geq 0.95 values are considered adequate and indicative

of a good fit. Age, sex, city of residence, and self-reported phenotype were controlled for in all analyses. No significant differences were found in the levels of perceived well-being given the voluntary or forced nature of migration, so the analyses did not consider this variable as a control.

RESULTS

Measurement Models

Table 1 shows the goodness-of-fit indices of the estimated measurement models. Both ED and RD presented indicators outside the recommended standards (i.e., RMSEA > 0.08). The items that could be causing the poor fit were examined, and it was detected that the items “On being hired or getting a job” and “On the job” could be sharing more variance than was directly explained by the common factor (Lloret-Segura et al., 2014) because both items indicated the work setting. For this reason, we evaluated both the measurement models by extracting the reagent “Upon being hired or obtaining a job,” leaving the reagent “At work” only. With this modification in both scales, the adjustment indicators were close to those recommended by the literature (ED: RMSEA = 0.08; CFI = 0.98; TLI = 0.97; RD: RMSEA = 0.09; CFI = 0.98; TLI = 0.97; Table 2).

Structural Equation Model

Based on the adjusted measurement models, a structural equation model was used to examine the effects of ED and RD on the components of psychological well-being (self-acceptance, positive relationships, autonomy, environmental mastery, and personal growth). In regard to the control variables, we could only observe significant effects of self-reported phenotype on Personal Growth ($b = 0.10$), and the city of residence on Self-acceptance ($b = 0.09$), Positive Relationships ($b = 0.19$), and autonomy ($b = -0.12$). Age and sex did not present significant effects on the dimensions of psychological well-being.

As shown in Figure 2, ED had a slight positive effect ($b > 0.10$; Cohen, 1988) on autonomy, a small negative effect on environmental mastery, and no significant effect on self-acceptance, positive relationships, and personal growth.

On the other hand, RD exerted a slight negative effect on positive relationships ($b = -0.251$; $p < 0.00$) and a moderate negative effect ($b > 0.30$; Cohen, 1988) on personal growth ($b = -0.321$; $p < 0.00$). RD did not have significant effects on self-acceptance, autonomy, and environmental mastery. The structural model presented goodness-of-fit close to the criteria accepted in the literature (RMSEA = 0.055; CFI = 0.939; TLI = 0.932).

Once the relationship between ethnic-racial discrimination and psychological well-being was examined (Table 3), the model of multiple mediations was evaluated. In this model, the positive and negative effects on migrants were included as parallel mediators of the inverse effect that ED and RD would have on self-acceptance, positive relations, autonomy, mastery of the environment, and personal growth. In regard to the control variables, we could only observe significant effects of sex on positive affects ($b = -0.09$), self-reported phenotype on Personal

TABLE 2 | Indicators of global fit of the measurement models and the multiple mediation model.

| Models | Parameters | χ^2 | DF | p | CFI | TLI | RMSEA | RMSEA IC 90% | |
|-----------|------------|-----------|-------|------|-------|-------|-------|--------------|----------|
| | | | | | | | | Low | Superior |
| ED | 36 | 325.459 | 27 | 0.00 | 0.957 | 0.943 | 0.111 | 0.101 | 0.122 |
| ED* | 32 | 137.687 | 20 | 0.00 | 0.981 | 0.973 | 0.081 | 0.069 | 0.094 |
| RD | 38 | 234.512 | 27 | 0.00 | 0.973 | 0.965 | 0.096 | 0.085 | 0.107 |
| RD* | 34 | 157.286 | 20 | 0.00 | 0.981 | 0.973 | 0.090 | 0.078 | 0.104 |
| PANAS | 96 | 615.577 | 151 | 0.00 | 0.965 | 0.961 | 0.059 | 0.054 | 0.064 |
| PA | 50 | 390.376 | 35 | 0.00 | 0.951 | 0.938 | 0.107 | 0.098 | 0.117 |
| NA | 45 | 238.282 | 27 | 0.00 | 0.972 | 0.962 | 0.094 | 0.083 | 0.105 |
| RYFF | 102 | 2,860.721 | 362 | 0.00 | 0.727 | 0.694 | 0.085 | 0.082 | 0.088 |
| RYFF* | 130 | 731.668 | 109 | 0.00 | 0.963 | 0.954 | 0.080 | 0.074 | 0.085 |
| SEM | 227 | 1,961.586 | 586 | 0.00 | 0.939 | 0.932 | 0.055 | 0.052 | 0.058 |
| Mediation | 334 | 3,027.991 | 1,312 | 0.00 | 0.941 | 0.936 | 0.041 | 0.039 | 0.043 |

ED, ethnic discrimination; RD, racial discrimination; SEM, structural equation model; PA, positive affect; NA, negative affect. *Clean models.

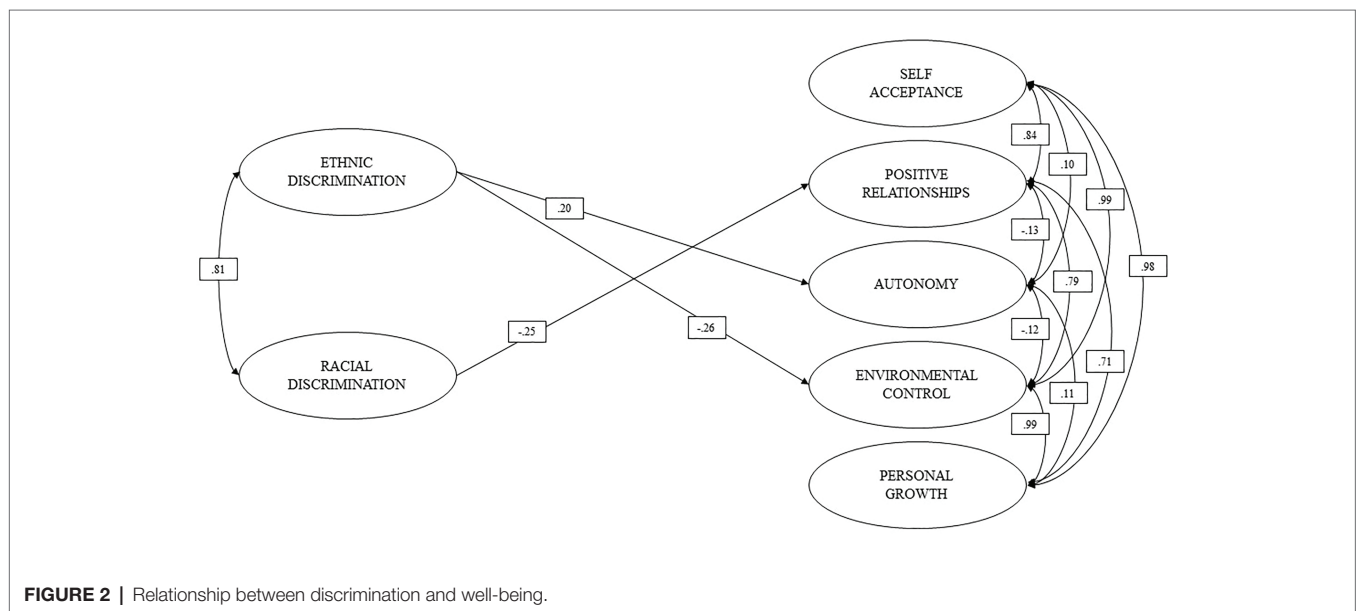


FIGURE 2 | Relationship between discrimination and well-being.

Growth ($b = 0.09$), and city of residence on positive affects ($b = 0.21$), Positive Relationships ($b = 0.13$) and autonomy ($b = -0.19$). Age did not present significant effects on positive/negative affects, or on dimensions of psychological well-being.

Figure 3 shows the significant direct effects of the mediation model. As can be seen, ethnic discrimination presented positive direct effects of small magnitude on negative affects and autonomy, and a negative effect on mastery of the environment. No significant effects were observed on the other variables. Regarding ethnic discrimination, only small and significant negative direct effects can be observed on personal growth, nor were there significant effects observed on the other variables. Furthermore, in **Figure 3**, it can be seen that negative affects exert small negative direct effects on self-acceptance, positive relationships, autonomy, mastery of the environment, and personal growth, while positive affects present positive direct effects of moderate magnitude on self-acceptance, positive relationships, autonomy, control of the environment, and personal growth.

As shown in **Table 4**, negative affect only exerted indirect mediation effects (Zhao et al., 2010) on the relationship between ED and self-acceptance and personal growth, and complementary effects (Zhao et al., 2010) on the relationship between ED and environmental mastery. Positive affect did not have significant mediation effects. In addition, total indirect effects can be observed on the relationship between RD and self-acceptance, positive relationships, environmental mastery, and personal growth.

The hypothesized mediation model was adequately adjusted to the data (RMSEA = 0.041; CFI = 0.941; TLI = 0.936); therefore, it was a good representation of the observed relationships.

DISCUSSION

This study hypothesized that the relationship between discrimination (racial and ethnic) and psychological well-being

TABLE 3 | Scores of the variables included in the model.

| Variables | n | ME | SD | PR | AU | EM | PG | ED | RD | PA | NA |
|-----------------------|-----|------|------|--------|--------|--------|--------|---------|---------|---------|---------|
| PWB | | | | | | | | | | | |
| SA | 896 | 5.33 | 1.21 | 0.63** | 0.09** | 0.69** | 0.77** | -0.17** | -0.14** | 0.36** | -0.18** |
| PR | 887 | 4.86 | 1.33 | | -0.70* | 0.52** | 0.53** | -0.19** | -0.19** | 0.26** | -0.12** |
| AU | 902 | 4.20 | 1.50 | | | -0.08* | 0.08* | 0.08* | 0.02 | 0.23** | -0.09* |
| EM | 899 | 5.13 | 1.29 | | | | 0.69** | -0.17** | -0.12** | 0.25** | -0.13** |
| PG | 908 | 5.46 | 1.36 | | | | | -0.13** | -0.13** | 0.32** | -0.19** |
| Discrimination | | | | | | | | | | | |
| ED | 856 | 0.53 | 0.65 | | | | | | 0.70** | -0.08* | 0.25** |
| RD | 810 | 0.40 | 0.61 | | | | | | | -0.13** | 0.23** |
| Affects | | | | | | | | | | | |
| PA | 903 | 3.42 | 0.86 | | | | | | | | -0.10** |
| NA | 908 | 1.93 | 0.74 | | | | | | | | |

PWB, psychological well-being; ED, ethnic discrimination; RD, racial discrimination; PA, positive affect; NA, negative affect; SA, self-acceptance; PR, positive relationships; AU, autonomy; EM, environmental mastery; PG, personal growth. ** $p < 0.01$; * $p < 0.05$.

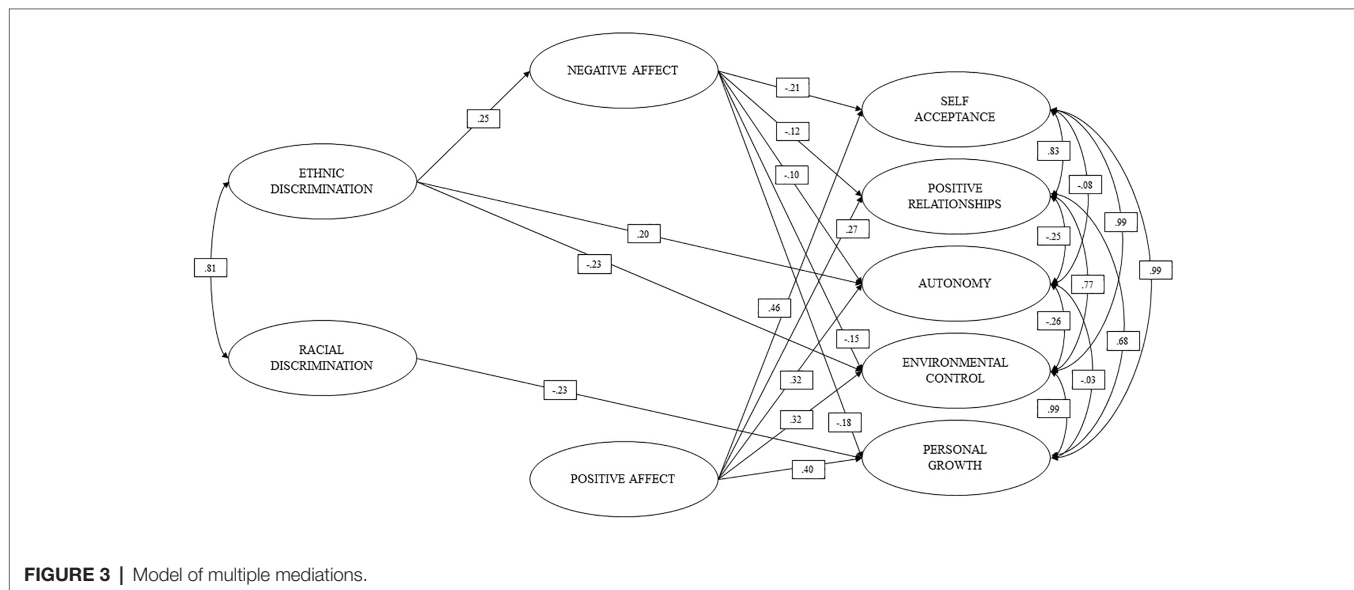


FIGURE 3 | Model of multiple mediations.

(self-acceptance, positive relationships, autonomy, environmental mastery, and personal growth) would be mediated by both positive and negative affects, which was partially proven.

First, after controlling for sex, age, city, and self-reported phenotype, the data provide evidence for the fact that discrimination had an effect on well-being. Particularly, ethnic discrimination affected environmental mastery, and racial discrimination affected positive relationships. Concurrently, a slight positive effect of ethnic discrimination on autonomy was found.

The inverse relationship of xenophobia with the environmental mastery is evident, since the migrant, perceiving unequal treatment because one belongs to a specific group (in this case, being Colombian) or according to what one believes or thinks one deserves, diminishes their sense of control over the world and the ability to influence the context around them. Similarly, feeling discriminated against because of the color of one's skin has a negative effect on the acquisition of stable social relationships

and trustworthy friends, especially in a highly racist context, such as Chile, where about one in three people consider themselves whiter than other people in Latin American countries (Instituto Nacional de Derechos Humanos, 2017).

Despite this, feeling discriminated against due to ethnic origin has a direct relationship with the domain of autonomy. This implies that, in some way, discrimination has generated a higher level of autonomy, which allows migrants to better resist social pressure and sustain their individuality in different social contexts, where both self-esteem and ethnic identity play an important role (Urzúa et al., 2018).

Second, regarding the incorporation of affects, whether positive or negative, in the relationship between discrimination and the domains of psychological well-being, there is evidence of a positive relationship between positive affects and well-being and an inverse relationship between negative affects and well-being, in a similar way to the relationship between affections and hedonic well-being. It should be noted that when the

TABLE 4 | Standardized indirect and total effects of the mediation model.

| Effects | Direct | Indirect NA | Indirect PA | Indirect total | Total |
|---------------------|---------|-------------|-------------|----------------|---------|
| ED → NA/ PA → SA | -0.051 | -0.051* | 0.024 | -0.027 | -0.079 |
| ED → NA/ PA → PR | 0.012 | -0.030 | 0.014 | -0.016 | -0.003 |
| ED → NA/ PA → AU | 0.203* | -0.026 | 0.017 | -0.009 | 0.194* |
| ED → NA/ PA → EM | -0.233* | -0.036* | 0.017 | -0.020 | -0.253* |
| ED → NA/ PA → PG | 0.134 | -0.044* | 0.021 | -0.024 | -0.111 |
| RD → NA/ PA → SA | -0.058 | -0.020 | -0.079 | -0.099* | -0.157 |
| RD → NA/ PA → PR | -0.192 | -0.012 | -0.048 | -0.059* | -0.251* |
| RD → NA/ PA → AU | -0.046 | -0.010 | -0.056 | -0.066 | -0.112 |
| RD → NA/ PA → EM | 0.082 | -0.014 | -0.056 | -0.070* | 0.012 |
| RD → NA/ PA → PG | -0.233* | -0.017 | -0.069 | -0.087* | -0.320* |

ED, ethnic discrimination; RD, racial discrimination; PA, positive affect; NA, negative affect; SA, self-acceptance; PR, positive relationships; AU, autonomy; EM, environmental mastery; PG, personal growth. **p* < 0.05.

affects are introduced into the model, the relationships between ED and autonomy, and environmental control are maintained; however, the relationship between RD and positive relationships disappears, and the relationship with personal growth appears. The latter seems to provide evidence on the effect that the presence of both affects may have in the relationship of racial discrimination on personal growth.

However, we also found that affects effectively exercised a mediating role. Negative affect only exerted indirect mediation effects on the relationship between ED and self-acceptance and personal growth, and complementary effects on the relationship between ED and environmental mastery.

Complementary mediation occurs when the mediated effect (*a* × *b*) and the direct effect (*c*) exist, and point in the same direction (Zhao et al., 2010). This means that ethnic discrimination has negative effects on the environmental mastery, and in parallel, negative affects also have negative effects on this domain. This means that migrants who perceive greater discrimination due to their country of origin are affected in their abilities to be able to deploy and modify the context and environment for their benefit.

We have also found that the presence of both affects had a mediating effect on the relationship between RD and self-acceptance, positive relationships, environmental mastery, and personal growth. This is relevant since, although specific indirect effects can be observed in the multiple mediation model, it is very difficult for these effects to work separately in real life. Therefore, it is necessary to understand the phenomenon in a more complete and holistic way considering the inclusion of both negative and positive affects simultaneously. The results indicate that positive/negative affects as a whole play a fundamental role in explaining the low levels of

psychological well-being caused by racial discrimination. These results open the need to deepen a possible line of study that allows us to continue enhancing our understanding of the effect of affects on the discrimination-well-being relationship, which could be to consider the variables of positive or negative affect not as independent variables but as a single variable elaborated based on the combination of both. Pierce et al. (2018) research could be considered as a precedent. They analyzed the mediating effect of affect on ethnic and racial minorities in African American students in the United States, showing that affect mediated well-being, but specifically, the combination of positive and negative affect, where high positive affect combined with low negative affect was associated with improved well-being. Similarly, it would be interesting to explore how this relationship might be affected by a possible moderating variable, such as sex, given that women's stronger positive emotions have been reported to balance their greater negative affects (Fujita et al., 1991).

Therefore, the discussion focuses on an aspect that deserves our attention. There would be a differentiated effect of the interaction between the types of affects and the types of discrimination, given that the positive affects only presented the capacity to mediate the effect of racial discrimination on some domains of well-being, while the negative affects mediated the effects of ethnic discrimination on well-being only. It was difficult to find literature or previous research that contribute to the discussion about the relationship between the origin of discrimination (by nationality or skin color) and the affects, whether positive or negative. However, undoubtedly, by behaving independently, these would play a different role according to the origin of the discrimination, which opens an interesting line to explore. Xu et al. (2015) have also reported that attentional bias influenced affect and, therefore, the well-being (attention bias to positive information favors positive affects, and the positive affect could reduce the negative cognitive bias induced by negative affect and, therefore, would contribute to better psychological well-being). Racial discrimination would be linked to an attentional bias centered on positive affects, while xenophobia would activate activation bias oriented toward negative affects, thus, opening an interesting line of research.

Taking the above into consideration, and to better understand the phenomenon, by including in the model both positive and negative affects experienced by migrants, it was found that ethnic discrimination (because it comes from a particular country) causes negative affects, and these affects, in turn, cause lower levels of psychological well-being in all its dimensions. In other words, negative affects have a strong influence on the effect that ethnic discrimination has on the psychological distress of migrants. On the other hand, in the case of positive affects, these were not influenced by discrimination or by coming from a particular country, or by having a particular skin color, so this does not influence the relationship to a great extent between ethnic/racial discrimination and dimensions of psychological well-being. However, this does not mean that positive affects have no effects on psychological well-being, quite the contrary. The

results show that the positive affects of migrants cause higher levels of psychological well-being for them.

Despite the limitations of this study, which are typical of a cross-sectional study in which the effect of affects over time cannot be evaluated and is performed in only one ethnic group, it is a contribution since much of the evidence found on well-being is based on measuring hedonic well-being (subjective well-being) and not eudemonic well-being (psychological well-being). It also opens new lines of discussion on the differential impact that discrimination due to different causes can have, while reinforcing the evidence of the independent effect of affects, whether negative or positive, on psychological well-being. This merits its inclusion as a variable in the development of intervention programs at the individual level, favoring the psychological well-being of the migrant population.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

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ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Comité de Ética Científica de la Universidad Católica del Norte. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

AU and AC made substantial contributions to the conception and design, and acquisition of data. AU and DH performed the analysis and interpretation of the data. All authors participated in drafting the article or revising it critically for important intellectual content, and all authors gave final approval of the version to be submitted.

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Collective Effervescence, Self-Transcendence, and Gender Differences in Social Well-Being During 8 March Demonstrations

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8 March (8M), now known as International Women's Day, is a day for feminist claims where demonstrations are organized in over 150 countries, with the participation of millions of women all around the world. These demonstrations can be viewed as collective rituals and thus focus attention on the processes that facilitate different psychosocial effects. This work aims to explore the mechanisms (i.e., behavioral and attentional synchrony, perceived emotional synchrony, and positive and transcendent emotions) involved in participation in the demonstrations of 8 March 2020, collective and ritualized feminist actions, and their correlates associated with personal well-being (i.e., affective well-being and beliefs of personal growth) and collective well-being (i.e., social integration variables: situated identity, solidarity and fusion), collective efficacy and collective growth, and behavioral intention to support the fight for women's rights. To this end, a cross-cultural study was conducted with the participation of 2,854 people (age 18–79; $M = 30.55$; $SD = 11.66$) from countries in Latin America

(Mexico, Chile, Argentina, Brazil, Peru, Colombia, and Ecuador) and Europe (Spain and Portugal), with a retrospective correlational cross-sectional design and a convenience sample. Participants were divided between demonstration participants ($n = 1,271$; 94.0% female) and non-demonstrators or followers who monitored participants through the media and social networks ($n = 1,583$; 75.87% female). Compared with non-demonstrators and with males, female and non-binary gender respondents had greater scores in mechanisms and criterion variables. Further random-effects model meta-analyses revealed that the perceived emotional synchrony was consistently associated with more proximal mechanisms, as well as with criterion variables. Finally, sequential moderation analyses showed that proposed mechanisms successfully mediated the effects of participation on every criterion variable. These results indicate that participation in 8M marches and demonstrations can be analyzed through the literature on collective rituals. As such, collective participation implies positive outcomes both individually and collectively, which are further reinforced through key psychological mechanisms, in line with a Durkheimian approach to collective rituals.

Keywords: collective effervescence, perceived emotional synchrony, 8M demonstrations, self-transcendence, well-being, participation in collective rituals, feminist demonstrations, gender differences

INTRODUCTION

In this work, we aim to study the relationship between participation in the 8 March (8M) demonstrations and personal and collective well-being and to explore the psychosocial mechanisms involved in this relationship. 8M, now known as International Women's Day, is a date to commemorate the long history of struggle and sacrifice to obtain women's rights. While there is debate between multiple versions claiming historic origins, the most popular one is associated with working-class women's demonstrations, the Suffragist Movement (Castaño-Sanabria, 2016), and/or the tragic fire at a textile factory in New York in 1911, where more than 100 women employees perished (Ortega, 2019). However, the most plausible interpretation of 8M's historic origins falls under the socialist movement claiming labor rights (Percy, 2014; Awcock, 2020).

Despite many years of fighting for women's rights, acknowledgment of equality among all human beings at the Human Rights Convention of 1945, the International Bill of Human Rights for Women of 1979, and multiple conventions (e.g., Four World Conference on Women in Beijing, 1995, see United Nations [UN], 1996) and legislations seeking to tackle inequality between men and women over the past 75 years, persistent gender-based discrimination can be easily identified almost everywhere in the world. Numerous data and research studies confirm that, still in the twenty-first century, being a woman is a social burden with consequences in all areas (e.g., World Economic Forum [WEF], 2020).

For all these reasons, 8M is, par excellence, the day for feminist claims, organizing marches and demonstrations in over 150 countries, with the participation of millions of women (along with some men and other people of non-binary identities). It draws noteworthy social and media visibility all around the world (e.g., Franco, 2018), as it states its nonconformity

with the patriarchal structure that discriminates against women. Feminism today, a social movement with a long, extensive, diverse and globalized, transnational and intersectional history, is difficult to define based on one sole focus, since different ideological factions and very different socio-structural realities co-exist within the social movement (e.g., García Jiménez et al., 2016; Pellicer and Asin, 2018; Curiel, 2019). In line with other research, this study is based on the premise that feminism must be understood as a social movement based on the belief that women and men are equal and must have the same rights, and whose ultimate objective is to put an end to the subordination of women (Basow, 1992; Pellicer and Asin, 2018).

Additionally, demonstrations are a public and collective display of a collective's opposition to or dissatisfaction with policies and practices of institutions and governments; as such, it is a customary and relevant tactic in all social movements (Tarrow, 2011). Previous research on activism and collective action have has that collective participation is an essential source of well-being (Klar and Kasser, 2009; Boffi et al., 2016; Hopkins et al., 2016), providing feelings of connection, feeling of community, and increased perception of social support. This, in turn, has been proven to have a substantial impact on psychological well-being (e.g., Berkman et al., 2000; Townley et al., 2011), especially for disadvantaged groups (e.g., Finch and Vega, 2003; Noh and Kaspar, 2003).

In this work, we study the relationship between participation in the 8M demonstrations, affective well-being, the connection with values and beliefs, social cohesion and integration, individual and collective empowerment, and the intention of prosocial behavior focused on the struggle for women's rights. First, we propose that 8M demonstrations, with a long tradition of annual periodicity (fixed and pre-established date), stereotyped synchronic behavior or gestures (e.g., the raised hands building a triangle, dances), consolidated common symbols (purple color,

iconography, and identification symbols), and shared values, can be partially conceived of as collective rituals (Collins, 2004; Watson-Jones and Legare, 2016), considering that they are a “mechanism of mutually focused emotion and attention producing a momentarily shared reality, which thereby generates solidarity and symbols of group membership” (Collins, 2004, p. 7). Moreover, collective rituals are symbolic, repetitive, and stereotyped behaviors that occur within a specific space-and-time frame (Páez et al., 2015). They foment shared meaning aimed at building a sense of community, social solidarity, and conformity with group values (Collins, 2004; Durkheim, 1912/2008). They provide a sense of community and connection, and high social and emotional interaction in addition to opportunities for citizen participation and shared meaning (e.g., Berkman et al., 2000; Hobson et al., 2018). However, we must not fail to mention that demonstrations have a certain degree of spontaneity; their rules are not rigid, and they have instrumental objectives, such as demanding or supporting legislative changes, which are the objectives of social movements (Basabe et al., 2004; Tarrow, 2011).

Consequently, we propose that the 8M demonstrations in favor of women’s rights as collective rituals be characterized by increased social interaction, a shared meaning intended to create a feeling of community (de Rivera and Mahoney, 2018), and social solidarity based on a shared objective. While it has been demonstrated that participation in collective rituals or collective ritualized actions improves personal well-being (e.g., Tewari et al., 2012; Páez et al., 2015) and collective well-being (e.g., Zumeta et al., 2016), surprisingly, we find no previous work that has focused on studying the 8M demonstrations from this perspective.

With this research, we shall examine different psychosocial mechanisms involved in this relationship, integrating different theoretical perspectives: rituals and collective effervescence (e.g., Durkheim, 1912/2008; Collins, 2004; Páez et al., 2015), positive psychology (e.g., Fredrickson, 2009; Zickfeld et al., 2019), including relevant aspects of collective-action theory (e.g., van Zomeren et al., 2008), and the social-identity approach (Tajfel and Turner, 1979; Drury and Reicher, 2009; Novelli et al., 2013). An initial mechanism during the process of emotional connection must necessarily be cognitive-behavioral; the behavioral and attentional synchrony, meaning synchronized behavior (e.g., frequency, rhythm, and movement), as well as shared and focused attention, can promote shared emotions, and act as forerunners to collective effervescence (Włodarczyk et al., 2020, in this monograph). Another mechanism that is essentially affective is emotional effervescence or perceived emotional synchrony (PES), a feeling of convergence and alignment in emotional responses that occurs among participants at a collective meeting (Durkheim, 1912/2008; Páez et al., 2015; Xygalatas et al., 2016). A third mechanism is the intense concurrent positive emotional experience (e.g., Fredrickson, 2009), and the fourth are positive self-transcendent emotions, meaning emotions that project our being outward and promote connection with others (e.g., Haidt, 2003; Stellar et al., 2017) in the context of social interaction.

Finally, based on the theory of collective action and social change (van Zomeren et al., 2008), we posit that participation in

the collective action intended to reduce injustice/inequality and to change the status quo (Dixon et al., 2017) can have positive effects on well-being and empowerment, both personally (beliefs of individual growth) and as a collective, increasing group efficacy (Ohmer, 2010; Carbone and McMillin, 2019; Zabala et al., 2020, in this monograph) and positive collective growth (McNamara et al., 2013; Włodarczyk et al., 2016; Bilali et al., 2017).

Participation in 8 March Demonstration, Antecedents of Perceived Emotional Synchrony, and Collective Effervescence

Collins (2004) states that co-presence and shared attention as the result of participating in collective rituals create a shared reality and reinforce inter-subjectivity, creating effervescence through shared ideas and emotions. This is based on Émile Durkheim’s concept of collective effervescence, which includes attentional convergence (i.e., shared focus of attention) and behavioral and expressive synchrony (coordination of movements and gestures), and, especially, emotional synchrony (coordination and convergence of all emotional facets). After synchronizing and coordinating their attention and behavior, participants also synchronize their emotions, feeling something intense and similar that grows more intense due to mutual feedback (Durkheim, 1912/2008). PES is therefore an emotional experience had by participants during collective meetings. It represents the experience and feeling of bonding with others (Páez et al., 2015; Rimé et al., unpublished). In this regard, PES is successor to the notion raised by Durkheim (1912/2008) in the classic concept of collective effervescence, the intense shared emotional experience. PES implies a feeling of convergence and alignment of emotional responses that take place between participants in a collective meeting (Xygalatas et al., 2016; Rimé et al., unpublished). This is the effect of perception of similarity, convergence, and intensification of emotional evaluations, corporal and affective reactions, a subjective feeling, and action tendencies (see Rimé et al., unpublished). PES shows the emotional feeling of bonding that participants in 8M may experience in feeling bonded with the others in terms of affect, thought, and, more often, physical action and movement.

In this regard, we postulate that participation in the 8M demonstration causes collective effervescence, which provides communion or fusion of all feelings in a shared affective experience, and sharing emotions intensifies said affective experience. PES is the result not only of the experience of shared emotions felt but also of the entire experience of collective synchronization of all different facets of the affective experience.

Perceived Emotional Synchrony and Positive Emotions: Self-Transcendence and Self-Reference

PES is the joy of demonstrating and increased emotions of high excitement with clearly positive components (joy and euphoria) among those participating in a successful collective meeting, whether a demonstration, a ritual, or any other kind of meeting (Moscovici, 1988; Hopkins et al., 2016). However, the affective content of the PES experience (meaning the intense emotion

that is shared) may vary depending on the specificity of the collective situation occurring (Páez et al., 2015). For example, with 8M demonstrations, moral indignation, hope, and the joy of participating may prevail, while in other contexts, the dominant emotional content may imply, for example, pride in a religious or secular ritual of glorification (e.g., Draper, 2014; Sullivan, 2014; Hopkins et al., 2016); and in a more negative context, fear and rage might prevail, as occurs in certain political rituals, or even pain, sadness, and guilt, as occurs in certain religious rituals (Sullivan, 2014).

Moreover, we can expect that collective effervescence will be related to the emotional experience of self-transcendence. It has been proven that a subset of positive emotions (sometimes called “emotions of self-transcendence,” “moral emotions,” or “other positive emotions of worship”) are able to mobilize people to connect with others in their environment or society. These emotions are elevation or moral inspiration, compassion, gratitude, feeling moved by love, and wondrous awe when witnessing a grandiose social object (Haidt, 2003; Algoe and Haidt, 2009; van Cappellen and Rimé, 2014). These are emotions sparked by assessments focused on others, based on shifting attention toward the needs and concerns of others (for example, suffering, virtue, moral inspiration and awe, and love and being close to others), so they decrease the prominence of the individual self and promote bonding with other people and social groups (Haidt, 2003; van Cappellen and Rimé, 2014; Stellar et al., 2017). They are related to the interests or well-being of either society as a whole or, at least, the people who are neither the judge nor agent (Haidt, 2003). As a result, they constitute powerful determining factors in prosocial behavior or behavior to help others (Goetz et al., 2010; Cusi et al., 2018; Pizarro et al., 2018). As such, they are in clear contrast with positive emotions that are the result of self-referential assessments (focused on the self) as occurs when the self has experienced a positive emotion (joy) or great success (pride).

Participation in Demonstrations as Social Belonging and Well-Being

Previous studies have shown that PES is associated with social identification, social integration, fusion identity, enhanced personal and collective empowerment, positive affect, and positive shared beliefs among participants (Collins, 2004; Páez et al., 2015; Włodarczyk et al., 2020). These results were similar for positive valence events (folk celebrations) and mixed- or negative-valence events (Páez et al., 2015; Zumeta et al., 2016; Włodarczyk et al., 2020). The present study focuses on the social and individual effects of collective feminist demonstrations. Therefore, we argue that participation in these collective gatherings will enhance identification with feminist organizations, foster collective efficacy and growth in the aftermath of the demonstrations, and finally, will increase prosocial behaviors. Additionally, we will pay attention to the role played by emotional bonding in the way that such effects occur.

First, it has been shown that participation in collective emotional gatherings increases identification with other co-present participants and also reinforces a broader sense of social

identity (i.e., ethnic identification; Gasparre et al., 2010; Khan et al., 2015) and enhances prosocial behaviors (Rossano, 2012). Furthermore, it has been suggested that rituals and collective gatherings may “fuel” identity fusion with other members of the group (Swann et al., 2012). Identity fusion, or blurring of the self-others boundary between the personal and collective self, encourages people to channel their personal agency into group behavior, motivating pro-group behavior, both aggressive and altruistic, and is related to well-being (Gómez et al., 2011; Swann et al., 2012; Zabala et al., 2020, in this monograph). Second, participation in collective emotional gatherings enhances different facets of social belonging, such as social integration (Weiss and Richard, 1997) and perception of social support (Páez et al., 2007), and increases social cohesion by reinforcing positive inter-group stereotypes (Kanyangara et al., 2007), which reinforces a positive emotional climate (de Rivera and Páez, 2007; Pelletier, 2018; Bouchat et al., 2020; Rimé et al., unpublished) and predicts solidarity (Hawdon and Ryan, 2011). Third, participation elicits positive individual emotions (Neville and Reicher, 2011) and collective emotions (Páez et al., 2007, 2013) and predicts increases in well-being (Tewari et al., 2012). Fourth, it empowers participants and consequently increases their personal and collective sense of efficacy, self-esteem, and post-stress growth (Drury and Reicher, 2005; Páez et al., 2007; Rimé et al., unpublished; Zabala et al., 2020, in this monograph; Zumeta et al., 2016). Finally, collective gatherings reinforce agreement with “sacred” symbols and values (Collins, 2004; Páez et al., 2007; Fischer et al., 2014; Gabriel et al., 2020).

These effects would be explained by the PES and the emotions experienced at the demonstration. In this sense, 8M demonstrations in comparison with non-demonstrations will report not only higher well-being but also higher perceived attentional and behavioral synchrony, PES, more positive and transcendent emotions, and more agreement with the values promoted by the movement. Following Páez et al. (2015) and Włodarczyk et al. (2020, in this monograph), we propose and will contrast a sequential model. First, participation in demonstrations affords attentional and behavioral synchrony (and mass and social media facilitate perception of said demonstration). Second, attentional and behavioral synchrony, along with bottom-up processes such as expressive and verbal affect-loaded behavior, and top-down process such as shared appraisals of issues, goals, and values, elicit collective effervescence or shared, convergent, and coordinated emotional responses (i.e., PES). Even if shared, convergent and coordinated emotional states could be negative or ambivalent; emotional synchrony in general intensifies emotions and fuels the “joy of being together” or intense positive emotions as the initial consequences of PES. Moreover, because collective gatherings and rituals connect people with large categories and social goals, emotional synchrony during demonstrations and ceremonies elicits positive self-transcendent emotions as a second consequence. Finally, because collective gatherings are loaded-value, emotional synchrony and intensification of positive and self-transcendent emotions are conducive to “contact with the sacred” or salience and adhesion to cultural values (see Włodarczyk et al., 2020, in this monograph for the discussion of

antecedents, content of emotional synchrony, and proximal and distal effects). Additionally, we expect that these effects will be more pronounced among women, who are the target or central category of the theme of the social movement in question.

In sum, if 8M demonstrations are ritualized forms of collective participation, and if they evoke a feeling of PES and intense emotions due to this, we could expect that demonstrators, compared with individuals who are non-participants but followers, will experience more PES and more positive and self-transcendent emotions and will manifest greater social cohesion (social identity, identity of fusion, and solidarity) and more agreement with the values promoted by the ritualized collective action.

This hypothesis is consistent with a previous and continuous line of research about participation and the role of PES (collective effervescence measure) as a predictor or mediator of the positive causal effects of participation in rituals and collective gatherings (derived from the theoretical tradition of Durkheim, 1912/2008; Collins, 2004). It must be noted that previous longitudinal studies (pretest-during-posttest) have shown that PES predicts the positive effects of participation (e.g., von Scheve et al., 2017; Bouchat et al., 2020; Pizarro et al., 2020; Włodarczyk et al., 2020; Zabala et al., 2020).

Objectives and Hypotheses

The objective of this work is to explore the psychosocial mechanisms (behavioral and attentional synchrony, PES, and positive and self-transcendent emotions) involved in participation in demonstrations on 8 March 2020, collective and ritualized feminist actions, and their psychosocial correlates. These correlates are affective well-being, connection with values and beliefs, social well-being based on cohesion and social integration (situated social identity, identity fusion with demonstrators and feminists, in-group solidarity and identity fusion with women), empowerment (collective efficacy and beliefs in individual and collective growth), and the intention

of prosocial behavior aimed toward the fight for the rights of women in different countries.

To this end, we studied participation in 8M demonstrations. First, we verified the differences between the demonstrators and the non-demonstrators (audience or mass-media followers), as well as differences based on gender, using mean comparison. Moreover, we calculated average effect sizes with random effects for the countries total. Finally, by using a sequential measurement model, we examined the mediator effect (indirect effects) of each one of the psychosocial mechanisms, including PES in relation to each criterion variable. The criterion variables were as follows: the experience of transcendence, the situated social identity, identity fusion (demonstrators, feminists, and women), solidarity, collective efficacy, individual and collective positive growth, and, lastly, the intention to help fight for women's rights. Indirect effects of age and political-position variables were controlled out of all variables in the model. The sequential mediation model set forth above (Goetz et al., 2010; Cusi et al., 2018; Pizarro et al., 2018) is shown in **Figure 1**.

Accordingly, the following hypotheses were raised: (H1) During the 8M, behavioral and attentional synchrony will occur, along with emotional synchrony (PES-collective effervescence); moreover, positive emotions will be activated with high intensity, including emotions of transcendence, both in demonstrators and in non-demonstrators and followers alike. (H2) The psychosocial mechanisms will be linked to the effects: the experience of self-transcendence, situated social identity, and identity fusion with collectives representing the ritual (marchers, feminists, and women), solidarity with women, collective efficacy, individual and collective growth, and the intention of behavior linked to the movement for women's rights (Páez et al., 2015; Zumeta et al., 2016; Rimé et al., unpublished; Włodarczyk et al., 2020). (H3) The demonstrators and women (in comparison with non-demonstrators and men) will display higher scores both in the psychosocial mechanisms involved and in criterion variables, due to the effects of emotional activation from participating and

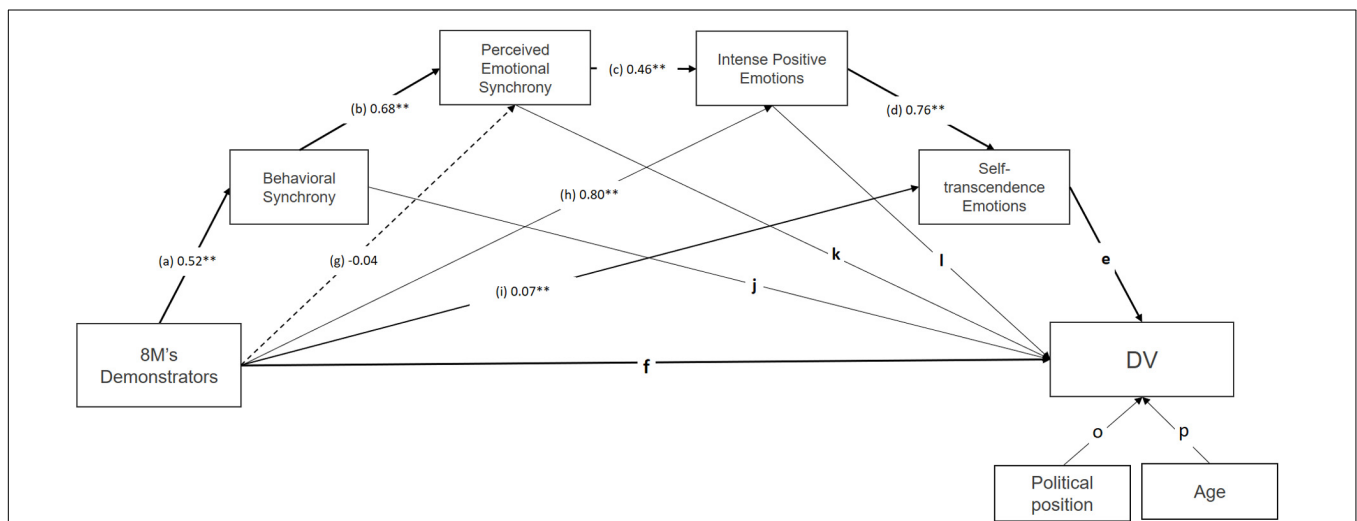


FIGURE 1 | Model of multiple serial mediation with female sample. Note. Standardized direct effects were reported. ***p* < 0.01.

from women being the central identity of the demonstration and social movement. (H4) Participation in 8M demonstrations will increase in accordance with values, personal well-being (positive individual growth), and collective or social well-being, including aspects of cohesion and social integration (social identity, identity fusion, and solidarity with women), and of collective empowerment (collective efficacy, positive collective growth) and the intention of helping behavior (Basabe et al., 2004; Albanesi et al., 2007). This will be mediated by PES antecedents (attentional and behavioral synchrony), PES, the intense positive emotions, and emotions of self-transcendence (see **Figure 1**).

MATERIALS AND METHODS

Participants

A cross-sectional, correlational study design was used. A cross-cultural study is provided, including samples from Latin America (Mexico, Chile, Argentina, Brazil, Peru, Colombia, and Ecuador) and Europe (Spain and Portugal). In all nine countries, the 8M demonstrations showed similar characteristics. Symbolic elements were shared, as well as the use of choreography and dance, and a common language in favor of women’s rights. A brief ethnographic description is presented in **Supplementary Table 7**. The age range of participants is from 18 to 79 years, with 44.50% having attended the marches or demonstrations, as opposed to non-demonstrators¹, audience, or followers on 8M. In both groups, the female percentage who responded to the survey was a majority, even more so and especially among the group of demonstrators (see **Table 1**).

Table 2 displays descriptive analysis, including mean and standard deviation for age and frequency distribution, by gender and participation in the 8M demonstrations for each country. As shown in the table provided, the proportion of female

TABLE 2 | Descriptive analysis for each country sample.

| Country | N | AgeM | (SD) | % Female | % Demonstrations | Continent |
|-----------|-------|------|------|----------|------------------|---------------|
| Argentina | 207 | 22.0 | 5.3 | 87.0 | 24.2 | Latin America |
| Brazil | 72 | 35.5 | 14.8 | 88.9 | 23.6 | Latin America |
| Chile | 475 | 29.7 | 11.3 | 86.5 | 74.9 | Latin America |
| Colombia | 190 | 23.6 | 9.8 | 75.3 | 12.1 | Latin America |
| Ecuador | 103 | 34.6 | 10.2 | 78.6 | 56.3 | Latin America |
| Spain | 457 | 37.0 | 14.2 | 84.0 | 51.4 | Europe |
| Mexico | 1,032 | 30.1 | 9.4 | 86.0 | 39.7 | Latin America |
| Peru | 245 | 29.8 | 11.9 | 75.5 | 32.2 | Latin America |
| Portugal | 67 | 33.4 | 13.9 | 77.6 | 62.7 | Europe |

N = 2,843 (11 subjects eliminated for not reporting their country).

respondents in all countries was substantially higher than that of male and non-binary individuals. Specifically, the proportion of females ranged from 75.5% in the case of Peru to 88.9% in Brazil. Regarding the level of participation in the 8M demonstrations, it fluctuates from 12.1% in the Colombian sample to 74.9% in the Chilean sample. The proportion of respondents that participated in the 8M demonstrations was higher than 50% in four of the nine countries assessed [i.e., Chile (74.9%), Portugal (62.7%), Ecuador (56.3%), and Spain (51.4%)]. For more information, see **supplementary Table 1**.

Procedure

Contact was established with social psychology research groups in Latin America and in Europe for a cross-cultural sample. With the Qualtrics Survey Platform®, online surveys were prepared both in Spanish and in Portuguese, accessed via a link. After the demonstrations on 8M, the links were shared with those who participated directly in the 8M 2020 demonstrations (demonstrators) and people who had followed the demonstrations through mass media and social networks (non-demonstrators, audience, and followers). The data were collected between 8 March and 30 March² 2020 in nine different countries, and the approximate time spent on the survey was 30 min. The sample collected was convenience sample.

The procedure for data collection in all countries was similar; convenience sampling was used in all locations, and QR codes from the Qualtrics application were shared through a snowball scheme (see **Supplementary Table 8**). The sample differences between countries are mostly related to the number of collaborating research groups in each country. In Argentina, Chile, and Spain, the samples are larger because two or more groups were involved in the sample collection.

All study participants read and accepted informed consent. The data recorded were alphanumerically code to ensure anonymity following the Organic Law on the Protection of Personal Data (BOE-A-2018-16673) and compliance with the regulation of the Ethics Committee for Research Involving Human Beings (CEISH) by the University of the Basque Country.

Measurements

The scales used in this research are based on a proposal made by Włodarczyk et al. (2020, on this issue) for an

TABLE 1 | Demographic characteristics of sample.

| Characteristics | Full sample | Demonstrators | Non-demonstrators |
|------------------------------|---------------|---------------|-------------------|
| Age: M (SD) | 30.55 (11.66) | 32.04 (11.88) | 29.35 (11.34) |
| Gender | | | |
| Female | 83.8% | 94.0% | 75.9% |
| Male | 14.8% | 4.1% | 23.4% |
| Non-binary | 1.3% | 1.9% | 0.9% |
| Education | | | |
| High | 86.4% | 89.0% | 84.4% |
| Low | 13.6% | 11.0% | 15.6% |
| Political positioning | | | |
| Left | 65.8% | 85.6% | 47.3% |
| Center | 23.3% | 13.9% | 32.0% |
| Right | 1.4% | 0.5% | 2.3% |
| No positioning | 9.5% | 0% | 18.5% |
| N | 2,854 | 1,271 | 1,583 |

N = 2,854. Valid percentage (%) is reported. Education: dichotomized based on four levels (high = university, low = primary, secondary, tertiary). Political positioning: continuous categorized scale 1–7 (left = 1 and 2, middle = 3, 4, and 5, and right = 6 and 7).

integrative measurement of collective effervescence experiences. The **Supplementary Material** includes confirmatory factor analysis (CFA) for each instrument showing appropriate adjustment rates for the one-dimensional structure at all scales (**Table 2**) and a reliability analysis (Cronbach's α) for each instrument by country (**Table 3**).

Mechanisms

Antecedents to Collective Effervescence: Shared Attention and Behavioral Synchrony

Based on Collins (2004), Rennung and Göritz (2016), and Gabriel et al. (2017), two *ad hoc* items were developed to measure the shared attention and behavioral synchrony, antecedents of collective effervescence (e.g., *the participants focused their attention on the same symbols, objects, and events*). A Likert scale was used, with a response range of 1 (*Totally disagree*) to 7 (*Totally agree*). The reliability coefficient was adequate (Cronbach's $\alpha = 0.729$).

Perceived Emotional Synchrony

A reduced version of six items was used (see Włodarczyk et al., 2020) of the PES scale (Páez et al., 2015) to assess the degree of infection or sharing emotion experienced, and perception of emotional synchrony with the other co-participants (e.g., *We felt more intense emotions because we all went through the same experience*). Response ranges go from 1 (*Totally disagree*) to 7 (*Totally agree*). Cronbach's coefficient was high ($\alpha = 0.883$).

Proximal and Distal Effects

Positive Emotions

Two types of positive emotions were assessed. *Intense positive emotions*: Research was conducted on the prototypical positive emotions from the N (2013) scale with three items referring to feeling *realized*, *happy*, and *alive* during the 8M demonstration. The response range went from 1 (*Nothing*) to 7 (*Totally*). Cronbach's reliability coefficient was high ($\alpha = 0.932$). *Transcendent emotions*: Participants were asked about the transcendent emotions they felt in relation to the 8M demonstration, using the adapted version of the DES scale (based on Fredrickson, 2009; Zickfeld et al., 2019) with five Likert-style items (e.g., *In Awe*, *Amazed*, *Overwhelmed by something grand*, *Morally inspired*, and *Uplifted*). The response range went from 1 (*Nothing*) to 7 (*Totally*). Cronbach's reliability coefficient was very high ($\alpha = 0.955$).

Connection/Agreement With Values and Beliefs

Transcendent Experience

Four Likert-style items were used to research (e.g., *I felt like there was something transcendent, associated with values and ideals, above the action*) the degree of transcendence experienced by the subjects in relation to the 8M demonstration (Gabriel et al., 2020). Response ranges went from 1 (*Totally disagree*) to 7 (*Totally agree*). The reliability coefficient was very satisfactory ($\alpha = 0.922$).

Social Cohesion and Social Integration

Situated Social Identity

Participants were asked about their degree of identification with the demonstrators (Novelli et al., 2013) by means of three items

(e.g., *I identified with the demonstrators*). Response ranges went from 1 (*Totally disagree*) to 7 (*Totally agree*). The reliability coefficient score was very high ($\alpha = 0.946$).

Pictorial Identity Fusion

To assess identity fusion, the pictorial scale of identity fusion was used (Gómez et al., 2011). Based on the measurement "Inclusion of other in the self (IOS) Scale" (Aron et al., 1992), this consisted of a pictorial item that shows the perception of closeness or fusion with a reference group. Three items were included (*Which picture best describes your relationship with ...*), one for each reference group, two situated within the context (participants in the specific demonstration and feminists), and another one as a general category, with women (e.g., *all the women in the world?*). The five response options range from A to E, where A symbolizes a lesser perception of closeness or fusion (i.e., circles without overlapping) and E is a greater closeness or fusion (i.e., completely overlapping circles).

In-Group Solidarity

Three items with statements were used to assess solidarity and commitment to women [e.g., *I feel (morally) committed to women*], taken from Leach et al. (2008)'s Social Identity scale, with a response range of 1 (*Totally disagree*) to 7 (*Totally agree*). The reliability coefficient was satisfactory ($\alpha = 0.908$). This version of the scale has been applied in different research works, demonstrating reliability and structural validity with a common dimension (Bobowik et al., 2013).

Empowerment

Collective Efficacy

Four items extracted from van Zomeren et al. (2010) were used in relation to perception of the efficacy of the reference group, in this case, the women (e.g., *I think that together with women and men, we can change the current situation*). The response range goes from 1 (*Totally disagree*) to 7 (*Totally agree*), and the reliability coefficient (Cronbach's α) was high ($\alpha = 0.919$).

Positive Growth

In order to assess positive growth, we used six items of positive growth scale from Páez (2011): three items for positive individual growth (e.g., *I have changed my priorities about what is important in life*), with a high reliability coefficient ($\alpha = 0.933$), and three items for positive collective growth (e.g., *We have increased participation and political and ethical commitments for others*). The response range goes from 0 (*No change*) to 5 (*Very great*), with a reliability coefficient that is also high ($\alpha = 0.917$).

Pro In-Group Behaviors

Pro-women Behavior

Intention of behavior to help women (ad hoc). . Seven Likert-style items were created to assess the participants' behavior intention in future participation in actions, organizations, and initiatives for women's rights (e.g., *Committing 2 h per week to collaborate with an association that organizes marches*). The response range goes from 1 (*Nothing*) to 5 (*A lot*). The reliability coefficient was high (Cronbach's $\alpha = 0.890$).

TABLE 3 | Descriptive analysis and correlations among target variables.

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|-----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|-------|-------|
| 1 Participation | 1 | | | | | | | | | | | | | | | | | |
| 2 Behavioral synchrony | 0.236** | 1 | | | | | | | | | | | | | | | | |
| 3 Perceived emotional synchrony | 0.140** | 0.690** | 1 | | | | | | | | | | | | | | | |
| 4 Intense positive emotions | 0.467** | 0.532** | 0.608** | 1 | | | | | | | | | | | | | | |
| 5 Self-transcendent emotions | 0.416** | 0.548** | 0.656** | 0.901** | 1 | | | | | | | | | | | | | |
| 6 Self-transcendent experience | 0.359** | 0.575** | 0.692** | 0.787** | 0.837** | 1 | | | | | | | | | | | | |
| 7 Situated social identity | 0.438** | 0.526** | 0.622** | 0.821** | 0.847** | 0.823** | 1 | | | | | | | | | | | |
| 8 Identity fusion demonstration's | 0.441** | 0.407** | 0.467** | 0.671** | 0.677** | 0.645** | 0.716** | 1 | | | | | | | | | | |
| 9 Identity fusion feminist's | 0.427** | 0.359** | 0.423** | 0.643** | 0.635** | 0.587** | 0.677** | 0.716** | 1 | | | | | | | | | |
| 10 Solidarity with women | 0.297** | 0.405** | 0.452** | 0.578** | 0.619** | 0.589** | 0.639** | 0.541** | 0.566** | 1 | | | | | | | | |
| 11 Identity fusion women | 0.125** | 0.187** | 0.232** | 0.291** | 0.312** | 0.288** | 0.329** | 0.402** | 0.457** | 0.436** | 1 | | | | | | | |
| 12 Collective efficacy | 0.241** | 0.365** | 0.421** | 0.535** | 0.587** | 0.555** | 0.540** | 0.459** | 0.461** | 0.571** | 0.272** | 1 | | | | | | |
| 13 Positive individual growth | 0.265** | 0.365** | 0.446** | 0.596** | 0.644** | 0.644** | 0.638** | 0.510** | 0.448** | 0.474** | 0.268** | 0.473** | 1 | | | | | |
| 14 Positive collective growth | 0.329** | 0.414** | 0.512** | 0.661** | 0.699** | 0.688** | 0.676** | 0.556** | 0.524** | 0.537** | 0.259** | 0.580** | 0.699** | 1 | | | | |
| 15 Pro-women behavior | 0.439** | 0.395** | 0.454** | 0.683** | 0.696** | 0.673** | 0.718** | 0.608** | 0.631** | 0.565** | 0.268** | 0.516** | 0.591** | 0.608** | 1 | | | |
| 16 Political orientation | 0.234** | 0.055** | 0.013 | 0.009 | -0.019 | 0.011 | -0.008 | 0.027 | 0.014 | 0.003 | -0.006 | -0.036 | -0.035 | -0.011 | -0.037 | 1 | | |
| 17 Gender | -0.208** | -0.107** | -0.143** | -0.206** | -0.204** | -0.182** | -0.212** | -0.216** | -0.214** | -0.135** | -0.206** | -0.091** | -0.157** | -0.176** | -0.205** | 0.007 | 1 | |
| 18 Age | 0.115** | -0.065** | -0.101** | -0.015 | -0.030 | -0.071** | 0.017 | -0.005 | -0.036 | 0.021 | -0.009 | -0.050** | -0.098** | -0.064** | -0.047* | 0.018 | 0.005 | 1 |
| M | - | 5.18 | 5.58 | 5.00 | 5.32 | 5.18 | 5.01 | 3.46 | 3.53 | 6.10 | 4.03 | 5.45 | 4.03 | 4.64 | 3.46 | 2.20 | - | 30.55 |
| SD | - | 1.47 | 1.49 | 1.90 | 1.81 | 1.75 | 1.96 | 1.32 | 1.34 | 1.28 | 1.00 | 1.38 | 1.65 | 1.42 | 1.22 | 1.70 | - | 11.66 |
| Range | 0-1 | 1-7 | 1-7 | 1-7 | 1-7 | 1-7 | 1-7 | 1-5 | 1-5 | 1-7 | 1-5 | 1-7 | 0-5 | 0-5 | 1-5 | 0-7 | 1-2 | 18- |
| Items | 1 | 2 | 6 | 3 | 5 | 4 | 3 | 1 | 1 | 3 | 1 | 4 | 3 | 3 | 5 | 1 | 1 | 79 |
| N | 2,854 | 2,854 | 2,854 | 2,854 | 2,854 | 2,854 | 2,854 | 2,832 | 2,832 | 2,752 | 2,832 | 2,854 | 2,752 | 2,752 | 2,752 | 2,669 | 2,854 | 2,849 |

Participants (0 = non-demonstrator/followers/audience, 1 = demonstrator), gender (1 = female, 2 = male, 3 = non-binary), and political position (0 = no position, 1 = extreme left to 7 = extreme right).

* $p \leq 0.05$; ** $p \leq 0.001$.

Sociodemographic Information

Participants provided information regarding their participation in 8M (0 = *non-demonstrator/followers/audience*, 1 = *demonstrator*) and their sociodemographic features: age, gender (1 = *female*, 2 = *male*, and 3 = *non-binary*), educational level (1 = *none or incomplete primary education*, 2 = *primary studies*, 3 = *lower and upper secondary education*, 4 = *first stage of tertiary education*, and 5 = *second stage of tertiary education*), and political position (1 = *extreme left* to 7 = *extreme right*, including the possibility of responding 0 = *no response or no position*).

Design and Analyses

For this retrospective correlational cross-sectional and transnational research, we obtained descriptive statistics, reliability (Cronbach's α) and correlations, and mean comparisons (GML) with SPSS® 26.0. To test indirect effects only on female participants, we used mediation analysis (Model 6), using the macro PROCESS 3.3 (Hayes, 2013). We used a bootstrapping estimation method based on 10,000 repetitions (Preacher and Hayes, 2004). The level of significance used was $p < 0.05$. We performed the confirmatory factorial analysis with JASP® 0.11 to verify the adequate adjustment to the one-dimensional theoretical structure of each scale.

In the analysis by countries, we applied meta-analytical techniques, following Cumming's (2012) guides. We used Pearson's r , calculated by countries, as the measurement of the size of the effect. We conducted a random-effects meta-analyses model. We explored the average effect size (magnitude) of the relationship between PES and each criterion variable, and heterogeneity indexes. To evaluate the effect sizes, the following criteria were adopted: $r < 0.18$ was small, $0.18 < r < 0.32$ was medium, and $r > 0.32$ was large. This approach was undertaken due to the problematic use of Cohen's (1977) rule of thumb (for further discussion, see Gignac and Szodorai, 2016; Funder and Ozer, 2019; Correll et al., 2020). Confidence intervals (CIs) of 95% and average effect size r are indicators of the validity of the magnitude of the effect or of the validity of the relation between the variables. Heterogeneity/homogeneity in effect sizes by country was calculated with the Q statistic. The following tests were also added: the Rosenthal test, fail-safe N , which reports the number of studies that must be added for the size of the average effect to be statistically insignificant, and Egger's regression tests to detect possible publication or selection biases (see Rubio-Aparicio et al., 2018), all with Comprehensive Meta-Analysis 3.0 software (CMA; Borenstein et al., 2005).

RESULTS

Descriptive and Correlational Analysis

Table 3 displays descriptive statistics (i.e., means and standard deviations) of each of the variables studied and the Pearson product-moment correlations between them. Missing values did not exceed 5% in any variable [except in political orientation (6.5%)]. All key variables show mean values above the midpoint of the scale (e.g., 3.50); the relatively high scores displayed by respondents on the measure of solidarity toward women

should be underlined ($M = 6.10$, $SD = 1.28$). Furthermore, all variables of interest were positively and significantly associated with each other. The size of correlation coefficients indicates the presence of moderate-to-strong positive associations between the variables analyzed. The rank of correlations fluctuates from the lowest correlation obtained for identity fusion with women and behavioral synchrony ($r = 0.187$, $p < 0.001$) to the highest one found between intense positive emotions and self-transcendence emotions ($r = 0.901$, $p < 0.001$), confirming H1 and H2. For correlations $r > 0.70$, we tested the collinearity index (see **Supplementary Table 2**). All the values obtained are adequate [tolerance > 0.1 , variance inflation factor (VIF) < 10 ; Rovai et al., 2013].

Differences Related to Participation and Gender in Criterion Variable

Mean Comparisons Between Demonstrators and Non-demonstrators

As seen in Table 4, all key variables displayed significant differences based on whether or not respondents participated in 8M demonstrations. Compared with those who did not participate in 8M protests, demonstrators were found to display greater scores in each of the explanatory variables (behavioral and emotional synchrony, positive, and self-transcendent emotions) and the outcomes or indicators of personal and social well-being (contact with values, social cohesion and integration, personal and collective growth, and expectations of participation in the women's social movement). Sociodemographic variables such as gender, age, and political positioning scale have been controlled for. It is worth noting that the largest differences were observed in the experience of intense emotions ($\eta^2 = 0.219$), pro-women behavior ($\eta^2 = 0.195$), situated social identity ($\eta^2 = 0.181$), and identity fusion with demonstrators ($\eta^2 = 0.195$). The differences between female protesters and non-protesters (followers) are equally significant in all variables when the sample of female participants is analyzed. The female demonstrators display the highest score in all the variables studied (see **Supplementary Table 4**). The small sample of male and non-binary demonstrators does not allow an effective means comparison.

Gender Differences

The gender differences for each key variable score for the total sample are listed in Table 4. In general, when compared with male, both female and non-binary gender respondents were found to score significantly higher on most of the variables of interest (i.e., intense positive emotions, self-transcendent emotions, self-transcendent experience, situated social identity, identity fusion with demonstrators, identity fusion with feminists, solidarity toward women, collective efficacy, positive individual growth, positive collective growth, and pro-woman behavior). Sociodemographic variables such as age and political positioning have been controlled for. The largest differences were found for identity fusion with feminists ($\eta^2 = 0.072$), pro-woman behavior ($\eta^2 = 0.072$), situated social identity ($\eta^2 = 0.063$), and experience of intense positive emotions ($\eta^2 = 0.062$). When compared with male and

TABLE 4 | Differences related to participation and gender in criterion variables.

| Variables | Participation-related differences | | | | | Gender differences | | | | | |
|----------------------------------|-----------------------------------|-------------------|---------|---------|----------|--------------------------|--------------------------|--------------------------|---------|--------|----------|
| | Demonstrators | Non-demonstrators | F | p | η^2 | Female | Male | Non-binary | F | p | η^2 |
| | M (DT) | M (DT) | | | | M (DT) | M (DT) | M (DT) | | | |
| 1. Behavioral synchrony | 5.5 (1.24) | 4.87 (1.56) | 122.989 | < 0.001 | 0.044 | 5.23 (1.44) ^b | 4.76 (1.59) ^a | 5.24 (1.37) | 17.050 | <0.001 | 0.013 |
| 2. Perceived emotional synchrony | 5.82 (1.15) | 5.39 (1.66) | 40.663 | < 0.001 | 0.015 | 5.66 (1.41) ^b | 5.06 (1.75) ^a | 5.44 (1.64) | 28.357 | <0.001 | 0.021 |
| 3. Intense positive emotions | 6.03 (1.09) | 4.20 (2.01) | 693.241 | < 0.001 | 0.207 | 5.15 (1.83) ^b | 3.85 (2.02) ^a | 5.53 (1.46) ^b | 85.616 | <0.001 | 0.061 |
| 4. Self-transcendent emotions | 6.18 (0.98) | 4.64 (2.02) | 529.356 | < 0.001 | 0.166 | 5.45 (1.72) ^b | 4.27 (2.08) ^a | 5.66 (1.57) ^b | 77.126 | <0.001 | 0.055 |
| 5. Self-transcendent experience | 5.89 (1.17) | 4.62 (1.90) | 360.784 | < 0.001 | 0.120 | 5.30 (1.67) ^b | 4.25 (1.93) ^a | 5.59 (1.45) ^b | 64.828 | <0.001 | 0.047 |
| 6. Situated social identity | 5.99 (1.13) | 4.24 (2.12) | 584.689 | < 0.001 | 0.181 | 5.17 (1.89) ^b | 3.80 (2.07) ^a | 5.39 (1.69) ^b | 89.645 | <0.001 | 0.063 |
| 7. Identity fusion demonstrators | 4.12 (0.97) | 2.94 (1.33) | 554.985 | < 0.001 | 0.173 | 3.57 (1.29) ^b | 2.68 (1.26) ^a | 3.39 (1.34) ^b | 81.544 | <0.001 | 0.058 |
| 8. Identity fusion feminist | 4.19 (0.94) | 3.03 (1.37) | 558.975 | <0.001 | 0.174 | 3.66 (1.30) ^b | 2.65 (1.27) ^a | 4.03 (1.31) ^b | 106.437 | <0.001 | 0.074 |
| 9. Solidarity with women | 6.55 (0.73) | 5.78 (1.47) | 230.200 | <0.001 | 0.080 | 6.18 (1.23) ^b | 5.63 (1.43) ^a | 6.21 (1.31) ^b | 33.810 | <0.001 | 0.025 |
| 10. Identity fusion women | 4.18 (0.88) | 3.92 (1.05) | 28.412 | <0.001 | 0.011 | 4.13 (0.96) ^b | 3.50 (0.97) ^a | 3.91 (1.18) ^b | 72.084 | <0.001 | 0.052 |
| 11. Collective efficacy | 6.30 (0.89) | 5.65 (1.52) | 169.220 | <0.001 | 0.060 | 5.98 (1.27) ^b | 5.57 (1.60) ^a | 6.13 (1.33) ^b | 16.251 | <0.001 | 0.012 |
| 12. Positive individual growth | 4.53 (1.40) | 3.65 (1.72) | 218.086 | <0.001 | 0.076 | 4.14 (1.60) ^b | 3.31 (1.75) ^a | 4.18 (1.75) ^b | 44.520 | <0.001 | 0.032 |
| 13. Positive collective growth | 5.18 (0.98) | 4.24 (1.55) | 281.587 | <0.001 | 0.096 | 4.75 (1.33) ^b | 3.93 (1.66) ^a | 4.84 (1.38) ^b | 60.583 | <0.001 | 0.044 |
| 14. Pro-women behavior | 4.08 (0.83) | 3.00 (1.25) | 642.991 | <0.001 | 0.195 | 3.58 (1.16) ^b | 2.68 (1.24) ^a | 4.00 (1.10) ^b | 103.079 | <0.001 | 0.072 |

Different superscripts represent significant differences (at least $p < 0.05$) conducted as post-hoc dynamic message signs (DMS) tests. n (demonstrators) = 1,091; n [non-demonstrators = 1,568; n (female) = 2,212; n (male) = 414; n (non-Binary) = 33]. In participation-related differences, gender, age, and political positioning scale have been controlled for. In gender differences, age and political positioning scale have been controlled for.

non-binary gender respondents, female demonstrators were also found to display greater levels of identity fusion with women ($\eta^2 = 0.042$). This was also the case for intense positive emotions ($\eta^2 = 0.032$), self-transcendent emotions ($\eta^2 = 0.029$), and PES ($\eta^2 = 0.025$); overall, the effect size of gender differences was small. Differences between female and male participants were significant ($p < 0.001$) regarding such variables, except collective efficacy and positive individual growth. Please see **Supplementary Material** for more details (Table 5). These results confirm H3, showing that both demonstrators and women (in comparison with non-demonstrators and men) displayed higher scores in all variables.

Pooled Effect Sizes of Perceived Emotional Synchrony by Countries

The analysis of correlations by country displayed, in general, positive relations between PES and the criterion variables. Psychosocial mechanisms are positively and significantly associated with PES, with correlations between $r = 0.45$ and $r = 0.77$ in all countries included in this research. Descriptive statistics and correlations by country may be viewed in **Supplementary Table 2**.

We next calculated the pooled effects of r of PES with all key variables. The data obtained revealed that PES displayed

moderate-to-high positive and significant relationships with all variables (see **Table 5**).

PES showed the strongest associations with self-transcendent experience ($r = 0.65$) and emotions ($r = 0.65$), behavioral synchrony ($r = 0.65$), and intense positive emotions ($r = 0.61$). Furthermore, less intense but strong relationships were found for PES with situated social identity ($r = 0.59$), positive collective growth ($r = 0.47$), identity fusion with demonstrators ($r = 0.43$), social identity dimension of solidarity toward women ($r = 0.43$), pro-woman behavior ($r = 0.41$), positive individual growth ($r = 0.41$), collective efficacy ($r = 0.41$), and identification or identity fusion with feminists ($r = .40$). The lowest of the effects was found in relation to identity fusion with women ($r = 0.27$). All pooled effect sizes were statistically significant³.

The analysis of heterogeneity reveals the existence of two sizes of homogeneous effect in the nine countries of analysis. The first and with less variability is in the relation between PES and group efficiency [$r = 0.41$; $Q(8) = 4.23$, $p = 0.181$; $I^2 = 0.00$], and the other is regarding the relationship between identity fusion and/or proximity to women [$r = 0.25$; $Q(8) = 4.23$, $p = 0.836$; $I^2 = 29.67$]. It is important to note that the analysis yielded non-significant Egger's regressions in all cases (see **Table 5**), which excludes the existence of asymmetrical relations between effect sizes and standard errors. This observation, along with solid Rosenthal's fail-safe N tests values (ranging from 338 in PES-identity fusion

with women to 8,907 in PES-behavioral synchrony) suggests consistent effects of the associations as well as the absence of potential selection biases with the samples used.

Model of Multiple Serial Mediation

We applied a model of multiple serial mediation (Model 6; Hayes' PROCESS Macro for SPSS; Hayes, 2013). However, as expected, there were more participants in the female category than in the male or other categories. To control this circumstance, multiple serial mediation was carried out using only women. The total effect of participation in 8M demonstrators (vs. non-demonstrators) on each dependent variable and total indirect effects are provided in Table 6. The demonstrators (vs. non-demonstrators) in the 8M protests were significantly related to higher scores on all dependent variables. These effects ranged from $b = 0.19$ on identity fusion with women to $b = 0.93$ on pro-woman behavior. Furthermore, participation (vs. non-participation) in 8M demonstrations

was also significantly associated with all proposed mediating variables [with the exception of PES ($b = -0.04$)]. In particular, as seen in Figure 1, demonstrators (vs. non-demonstrators) at the protests were related to higher behavioral synchrony ($b = 0.52$), intense positive emotions ($b = 0.80$), and self-transcendent emotions ($b = 0.07$). Regarding the connection between the mediating and dependent variables, our results revealed that not all paths emerged as significant (see Table 6). Our results showed that behavioral synchrony was only significantly related to increased solidarity toward women ($b = 0.06$) and self-transcendent experience ($b = 0.04$). PES was associated with a greater self-transcendent experience ($b = 0.22$), situated social identity ($b = 0.14$) and identity fusion with demonstrators ($b = 0.06$), and feminists ($b = 0.05$). Similar results were found in the case of intense emotions. The experience of intense emotions was related to higher scores on the same variables (with coefficients ranging from 0.12 in self-transcendence experience to 0.31 in identification

TABLE 5 | Pooled effect size between PES and criterion variables.

| Variables | Effect size 95% CI | | | Heterogeneity | | | Fail-safe N | Egger's regression | | |
|----------------------------------|--------------------|-------|-------|---------------|---------|----------------|-------------|--------------------|------|-------|
| | r | Low | Up | Q(8) | p | I ² | n | Intercept | t(7) | p |
| 1. Behavioral synchrony | 0.64 | 0.586 | 0.695 | 40.57 | < 0.001 | 80.28 | 3,266 | -1.79 | 0.99 | 0.355 |
| 2. Intense positive emotions | 0.61 | 0.567 | 0.657 | 23.84 | 0.002 | 66.44 | 2,800 | 0.41 | 0.28 | 0.788 |
| 3. Self-transcendent emotions | 0.65 | 0.599 | 0.697 | 33.58 | < 0.001 | 76.18 | 3,305 | -0.20 | 0.11 | 0.923 |
| 4. Self-transcendent experience | 0.65 | 0.602 | 0.697 | 31.83 | < 0.001 | 74.87 | 3,403 | -2.25 | 1.51 | 0.175 |
| 5. Situated social identity | 0.59 | 0.517 | 0.652 | 51.35 | < 0.001 | 84.42 | 2,632 | -2.81 | 1.48 | 0.183 |
| 6. Identity fusion demonstrators | 0.43 | 0.365 | 0.492 | 28.05 | < 0.001 | 71.48 | 1,184 | -1.62 | 1.09 | 0.310 |
| 7. Identity fusion feminist | 0.40 | 0.312 | 0.476 | 45.46 | < 0.001 | 82.40 | 1,010 | -1.79 | 0.93 | 0.383 |
| 8. Solidarity with women | 0.43 | 0.361 | 0.489 | 28.31 | < 0.001 | 71.74 | 1,179 | -2.11 | 1.50 | 0.176 |
| 9. Identity fusion women | 0.24 | 0.201 | 0.286 | 10.22 | 0.250 | 21.72 | 328 | -0.09 | 0.09 | 0.927 |
| 10. Collective efficacy | 0.40 | 0.368 | 0.430 | 3.42 | 0.905 | 0.00 | 932 | -0.79 | 1.66 | 0.140 |
| 11. Positive individual growth | 0.41 | 0.335 | 0.478 | 34.94 | < 0.001 | 77.10 | 1,087 | -2.52 | 1.66 | 0.141 |
| 12. Positive collective growth | 0.47 | 0.407 | 0.523 | 25.23 | 0.001 | 68.30 | 1,431 | -2.03 | 1.55 | 0.166 |
| 13. Pro-women behavior | 0.41 | 0.333 | 0.483 | 38.82 | < 0.001 | 79.39 | 1,099 | -2.42 | 1.47 | 0.185 |

$N = 2,843$, $k = 9$, number of studies included in the analysis. Fail-safe N indicates Rosenthal's fail-safe N analysis. PES, perceived emotional synchrony.

TABLE 6 | Sequential mediation; total indirect effect and total effect.

| DV | e | f | j | k | l | o | p | Total indirect effect | Total effect |
|------------------------------|--------|--------|--------|--------|--------|---------|---------|--------------------------------|---------------------------------|
| Self-transcendent experience | 0.53** | 0.05* | 0.04** | 0.22** | 0.12** | 0.02 | -0.03* | 0.70 (0.03) 95% CI [0.63,0.76] | 0.76 (0.06) 95% CI [1.13, 1.40] |
| Situated social identity | 0.48** | 0.17** | 0.01 | 0.14** | 0.24** | -0.02* | 0.03** | 0.73 (0.03) 95% CI [0.67,0.80] | 0.91 (0.07) 95% CI [1.59, 1.89] |
| IF demonstrators | 0.32** | 0.35** | 0.002 | 0.06* | 0.25** | -0.006 | -0.009 | 0.57 (0.02) 95% CI [0.51,0.63] | 0.92 (0.05) 95% CI [1.10, 1.30] |
| Identity fusion feminist | 0.24** | 0.34** | -0.02 | 0.05* | 0.31** | -0.02 | -0.04* | 0.54 (0.02) 95% CI [0.48,0.60] | 0.88 (0.05) 95% CI [1.04, 1.25] |
| Solidarity with women | 0.51** | 0.06 | 0.06* | 0.03 | 0.05 | -0.006 | 0.03* | 0.56 (0.03) 95% CI [0.50,0.63] | 0.63 (0.05) 95% CI [0.67, 0.88] |
| Identity fusion women | 0.24** | -0.11* | 0.01 | 0.05 | 0.06 | 0.02 | 0.0003 | 0.30 (0.03) 95% CI [0.24,0.36] | 0.19 (0.04) 95% CI [0.10, 0.27] |
| Collective efficacy | 0.52** | 0.01 | 0.03 | 0.03 | 0.03 | -0.009 | -0.01 | 0.53 (0.03) 95% CI [0.47,0.60] | 0.55 (0.05) 95% CI [0.60, 0.82] |
| Individual growth | 0.40** | 0.34** | -0.01 | 0.03 | 0.21** | -0.07** | -0.04* | 0.58 (0.02) 95% CI [0.52,0.64] | 0.93 (0.04) 95% CI [0.99, 1.17] |
| Collective growth | 0.53** | -0.01 | -0.02 | 0.05* | 0.08* | -0.01 | -0.08** | 0.57 (0.03) 95% CI [0.50,0.63] | 0.55 (0.06) 95% CI [0.76, 1.02] |
| Pro-women behavior | 0.48** | 0.11* | -0.03* | 0.11** | 0.12** | -0.01 | -0.05** | 0.58 (0.03) 95% CI [0.52,0.65] | 0.69 (0.05) 95% CI [0.82, 1.04] |

95% CI. Standardized effects (partially standardized total indirect effect). $f =$ total direct effect. $N = 2,217$.

* $p \leq 0.05$; ** $p \leq 0.001$.

DV, dependent variable.

with feminists), as well as with increased pro-woman behavior ($b = 0.48$). Unlike the precedent mediators, self-transcendent emotion levels were significantly associated with all dependent variables (standardized coefficients ranged from 0.24 in identity fusion with feminists to 0.53 in self-transcendent experience and collective efficacy).

All total indirect effects emerged as significant because the 0 value was not included in any of the CIs generated. Therefore, our results confirmed that behavioral synchrony, PES, intense positive emotions, and self-transcendent emotions successively mediate the associations of participation (vs. non-participation) in 8M demonstrations with all dependent variables. Indirect effects ranged from $b = 0.30$ (in the case of identity fusion with women) to $b = 0.73$ (in situated social identity). Overall, participation in 8M protests was indirectly related to the self-transcendence experience, situated social identity, identity fusion with demonstrators, feminists and women, solidarity toward women, collective efficacy, and pro-woman behavior via its linkages with behavioral synchrony, PES, intense positive emotions, and self-transcendent emotions. After the effects of the mediator variables were controlled for, the direct effects of participation (vs. non-participation) on solidarity toward women and collective efficacy were not significant, thus indicating the existence of complete mediations. Partial mediations were found for the rest of dependent variables (i.e., self-transcendent experience, situated social identity, identity fusion with demonstrators, feminists, and women, and pro-woman behavior). Hypothesis 4 has only been partially confirmed.

CONCLUSION

Globally, this study is consistent with Durkheim's theoretical proposal (Durkheim, 1912/2008), later developed by Collins (2004), analyzing the 8M demonstrations from the perspective of collective rituals. Participation in these ritualized collective actions is related to a series of positive effects on well-being, both individually and collectively. At the same time, such the participation in these ritualized collective actions is linked to a series of psychosocial mechanisms (behavioral and attentional synchrony, PES, and intense self-referential and self-transcendent emotions), which have been empirically studied in previous research with other collective rituals and meetings (e.g., Páez et al., 2015; Gabriel et al., 2017, 2020; Włodarczyk et al., 2020).

The results obtained reveal that participation in collective rituals and gatherings, with emotional sharing and convergence, reinforces most of the attributes of subjective and psychological well-being (Vázquez and Hervás, 2009; Diener et al., 2011; Ryff, 2014). Compared with non-demonstrators (followers), demonstrators report higher levels of well-being, such as subjective well-being or personal affective well-being (positive and self-transcendent emotions), a greater meaning in life or sharing transcendental values (agreement and contact with values), a sense of contextual and social identity that is coherent and strong (social identification and fusion identity), mastery or high collective self-efficacy or positive relations with others,

and social integration by means of participating in a women's movement. Some sociodemographic variables such as gender, age, and political positioning were controlled for in an effort to avoid the effect of previous differences between the comparison groups. In the comparison by gender, there were higher female scores, especially regarding antecedents and PES (albeit the effect size is small). This partially confirms that participation in 8M demonstrations had a greater effect on women (female). It is likely that the experience is intensified when one recognizes herself as part of the target collective of the event.

All the explanatory variables, particularly attentional and behavioral synchrony, PES, and positive emotions (self-referential and self-transcendent), are related to personal and social well-being, social integration, and empowerment. In addition, the PES was significantly but heterogeneously associated with the vast majority of the criterion variables and predicted them, except identity fusion with women and collective efficacy, which revealed homogeneous effect sizes in all countries. A recent meta-analysis on collective effervescence (Rimé et al., unpublished) supports the fact that there is a stable and solid association of PES and results related to personal and social well-being, agreement with values, social integration, empowerment, and prosocial behavior. In line with Włodarczyk et al.'s (2020, in this monograph) work, behavioral and attentional synchrony, PES antecedents, appeared to be related with a large effect size. In the same fashion, in line with previous related research, the results revealed that PES is highly associated with the intense positive emotional experience experienced during collective participation in all samples, the joy created when sharing with others (Páez et al., 2015; Włodarczyk et al., 2020; Zabala et al., 2020), and with self-transcendent emotions (Cusi et al., 2018; Fiske et al., 2019; Pizarro et al., 2018). All psychosocial mechanisms studied showed large effect sizes (>0.60). Moreover, PES has a positive, large-magnitude relation with the experience of transcendence, generated upon contact with collective symbols and values (van Cappellen and Rimé, 2014; Gabriel et al., 2020). Large effect sizes were found, although more moderate in general, with variables related to cohesion and social integration, such as social identity or identity fusion, in concordance with previous research (e.g., Khan et al., 2015; Bäck et al., 2018). In general, these were greater in magnitude when in relation to the variables of situated or contextual social identity, meaning identification with other participants. On the other hand, in a broader sense of social identity (Gasparre et al., 2010), meaning solidarity toward women, there was a large effect size, but there was no identity fusion with women, which revealed a medium-sized effect, although an effect that was homogeneous in cross-cultural terms. With the variables related to empowerment, PES displayed positive and significant relations with effect sizes above 0.40, showing that participation promotes the perception of collective efficacy in a homogeneous fashion at a transnational level, as well as beliefs of both individual and collective growth (Páez et al., 2015; Włodarczyk et al., 2020) in a heterogeneous fashion. This is also associated with a large, heterogeneous magnitude with the intention to help women.

In this regard, the analysis of sequential mediation conducted on the sample of women supports a model wherein participation

facilitates attentional and behavioral synchrony, sparks collective effervescence or PES, boosts positive and transcendent emotions, facilitates agreement and contact with values and the sacred, and drives all the results. Specifically, these results indicate that participation in demonstrations reinforces positive, self-transcendent emotions above emotional synchrony. Participation in demonstrations through PES and intense positive emotions feeds into contact with values, situated and in-group social identity, and identity fusion. Lastly, participation through feelings of self-transcendence reinforces all the results. The results underscore the importance of experiences and emotions of self-transcendence because of the PES, which encourages the positive effects of collective meetings. Recent research provides empirical evidence in this same direction (Cusi et al., 2018; Pizarro et al., 2018). However, some results are striking, for example, the suppression effect found in identity fusion with women, which may be due to the characteristics intrinsic to the ritualized 8M demonstration, where one of the march's main pillars are women's claims and the active fight for civil rights.

We acknowledge the main limitations of this study. First, we worked with a convenience sample, which is a limitation regarding inferences about the general population. Moreover, data collection in natural contexts makes more difficult to obtain large samples, diverse samples (age and gender), balanced numbers between countries (Brazil, Portugal, and Ecuador have smaller sample sizes), and types of participants in each country (Colombia and Brazil have lower percentages of demonstrators). Given the nature of 8M, the female population is over-represented, while male demonstrators are very few. Second, due to the correlational nature of the study and the characteristics mentioned above, some of the results may reflect previous differences between demonstrators and non-demonstrators, not necessarily linked to participation in the demonstrations, even with the statistical control that we undertook (age, gender, and political positioning). We suggest that future research should include pre-post measures or control groups to minimize this limitation. Third, the sample also appears to be biased in favor of those willing to participate in 8M 2020 (demonstrations and non-demonstrations) and the study, as well as toward a representative profile, given that attention was focused on assessing the impact of participation. It would be useful to include other study groups (e.g., control group) to assess these effects, beyond the subjective perception of participation, and to include the impact of 8M on the community in general. This aspect, in addition to a longitudinal design, would allow control for possible prior differences between the compared groups (e.g., demonstrations vs. non-demonstrations); in this correlational study, the effects of sociodemographic variables and political orientation have been controlled for. Lastly, collective effervescence and its relationship with the mid- and long-term effects of participation would be one of the objectives to include in future research. According to previous literature, these effects are limited over time. Durkheim (1912/2008) and Páez et al. (2015) indicated that a necessary condition for a collective ritual's effects to persist over time is regularity (frequency).

Despite the limitations of this study, we believe that significant contributions derive from the current research study. First, we are not aware of previous studies that analyze quantitative relationships between psycho-emotional effects of participating in international social mobilizations, as the ritualized demonstrations of 8M. There is a scar of peer-reviewed quantitative studies on the 8M participation and its psycho-emotional correlates, or its relation to variables such as individual and collective well-being, social cohesion, or individual and collective growth, among others. Second, this work shows the relevance of psycho-emotional mechanisms in both participants and followers. This aspect has been largely neglected in the scientific literature (Hobson et al., 2018), given that being an audience through mass media and social networks (followers) is a new form of participation. Indeed, it is a step forward in the long and active line of research on the participation in rituals and collective meetings and collective effervescence study, especially, being the first time that it is included in a natural context an integrative measurement proposal made by Włodarczyk et al. (2020). From a social perspective, we believe that it is relevant to emphasize the positive aspects (well-being and collective well-being, social integration, collective empowerment, and behavioral intention to support others) associated with participation in ritualized demonstrations.

In sum, this research provides valuable insight to understand the psychological and emotional mechanisms (and their relationships) generated during collective participation in ritualized collective actions such as 8M demonstrations. These findings could also shed light on the relevant role of the experience of collective effervescence that improves personal and social well-being, social cohesion and integration, and empowerment of all participants, with more intensity in the reference group (in this case, women). Finally, the shared cognitive and emotional experience in ritualized collective actions serves to renew commitment to the community, to improve well-being, and to strengthen both the individuals and the groups involved. These shared emotional experiences may prove to be useful tools to promote social change and the transformation of societies, with the ultimate goal of working toward equality and prosocial models through collective political participation.

DATA AVAILABILITY STATEMENT

Further inquiries can be directed to the corresponding authors. The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

All study participants read and accepted informed consent. The data recorded was alphanumerically code to ensure anonymity following the Organic Law on the Protection of Personal Data (BOE-A-2018-16673), and compliance with the regulation of the Ethics Committee for Research Involving Human Beings (CEISH) by the University of the Basque Country.

AUTHOR CONTRIBUTIONS

LZ, PC-A, LM, JP, AW, NB, SC, SP, GN-C, IA-A, and BT-G planned and contributed to this cross-cultural study, performed the questionnaires, drafted the manuscript, performed the calculations, discussed the results, and commented and revised on the manuscript. All authors coordinated the sample collection in their residence areas/countries, and contributed to the discussion of the results.

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SUPPLEMENTARY MATERIAL

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Perceived Social Support and Its Effects on Changes in the Affective and Eudaimonic Well-Being of Chilean University Students

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The beginning of university life can be a stressful event for students. The close social relationships that they can experience can have positive effects on their well-being. The objective of this paper is to estimate the effect of perceived social support on the changes of the hedonic and eudaimonic well-being of Chilean university students during the transition from the first to the second academic year. Overall, 205 students participated (63.90% men and 36.09% women) with an average age of 19.14 years ($SD = 1.73$), evaluated during their first academic year (2017) and the succeeding one (2018). For the evaluation of perceived social support, the Spanish version of the Perceived Social Support Questionnaire “MSPSS” was used, and PERMA-profiler was used to measure hedonic and eudaimonic well-being. Changes through the time of hedonic well-being and social support and the correlations between the variables were analyzed. Changes in the perception of social support were analyzed according to four categories of hedonic well-being. The prediction of social support for eudaimonic well-being was evaluated. Results indicated that the perception of students’ social support did not change over time. Statistically significant differences were found in hedonic well-being scores in the two measurements, being significantly higher in the first measurement than in the second one. More than 50% of the participants presented a positive balance of affections. The perception of social support is associated with the two types of well-being. Students who had a high balance of affections had a greater perception of general social support than the groups of positive evolution of affections and a low balance of affections. In the case of the friends and family support dimensions, the perception in the high-balance group of affections concerning the low-scale group is greater. Improving the perception of social support increases the eudaimonic well-being of university students. The perception of support that students had during the beginning of their university life benefits their general well-being, which contributes to their mental health.

Keywords: perceived social support, eudaimonic well-being, university students, longitudinal study, affective well-being

INTRODUCTION

There is currently an interest in the study of mental health issues in Higher Education. Research in different contexts describes the importance of mental health in university students (Wörfel et al., 2016; Leung, 2017), with well-being being an important aspect in students' academic success (Langford et al., 2014).

The concept of well-being can be evaluated from the hedonic and eudaimonic approach. Hedonic well-being is defined as the presence of positive moods, the absence of negative moods (affective components), and life satisfaction (cognitive component) related to life assessment (Diener et al., 1999). Affective balance, part of this type of well-being, is defined as the ability to balance the emotions associated with life experiences. It is an affective element resulting from the estimation of the differences between the presence of positive and negative emotions experienced by each person over time (Diener, 2000; Diener et al., 2010, 2015).

Affective well-being can be defined as frequent experiences of pleasant moods, such as joy, and infrequent experiences of negative affect or unpleasant moods, such as anger and fear (Diener et al., 2010). This type of well-being is measured by the frequency and intensity of positive and negative emotions. Leaving aside the idea of a single construct of bipolar affect (pleasant affect versus unpleasant affect), the affective component considers evaluations of both, positive and negative affective states. That is, the presence of a positive affect is not the same as the absence of a negative affect (Diener et al., 2017; Weismayer, 2020). An important aspect to consider is that positive life events are closely related to pleasant emotions, whereas negative life events are accompanied by unpleasant emotions (Diener, 2000). Due to this, affective well-being has been associated with better health and longevity (Diener and Chan, 2011). Regarding temporality, the presence of various moods in cognitive evaluation is the result of the experiences presented in people's lives (Diener et al., 1999). Several studies indicate a greater presence of positive than negative affectivity in university students and the general population (Contreras et al., 2010; Diener et al., 2010; Zubieta et al., 2012; Barrantes-Brais and Ureña-Bonilla, 2015). Correlations among positive affectivity and academic performance, hope, curiosity, enthusiasm, and perseverance were found in the literature review regarding Higher Educational Contexts (Oriol, 2016; Zhang and Chen, 2018).

Eudaimonic well-being is defined as the cognitive assessment of the development of skills and virtues necessary for optimal psychological development (Keyes et al., 2002; Ryff, 2014). It is related to the search for optimal personal development or human flourishing (Waterman, 2008), with the meaning of life, personal growth, autonomy, positive relationships with others, self-esteem, and cognitive flexibility (Ryff and Singer, 1996; Ryff, 2014; Malkoç and Mutlu, 2019).

One of the most widely accepted theoretical approaches was the one presented by Carol Ryff, who defines psychological well-being from six dimensions: self-acceptance: positive self-evaluations, positive relationships: satisfactory and authentic interpersonal relationships, autonomy: sense of self-determination

and independence, mastery of the environment: ability to effectively manage one's life and the surrounding world, personal growth: sense of continuous personal development and life purpose, which is considered as the sense of self-direction, and persistence in fulfilling vitally important goals (Ryff, 1989). In longitudinal terms, the well-being profiles that are persistently high or low are considered as predictors of chronic diseases and functional deterioration concerning health subjective terms (Ryff et al., 2015). Additionally, there is consensus in considering the relevance of close, deep, personal sense social relationships in well-being and other mental health indexes (Feeney and Collins, 2015; Poots and Cassidy, 2020).

People with close social relationships tend to report higher levels of well-being and flourishing (Diener and Seligman, 2002; Myers, 2015; Diener et al., 2018). Perceived social support affects the way people perceive themselves and the world around them. A meta-analysis indicates that not having a network of meaningful relationships in life is more predictive of mortality than other lifestyle behaviors, such as smoking or physical activity (Holt-Lunstad and Smith, 2012).

Social support is the perception of being cared for by others and having a reliable network to turn to when needed, in everyday situations or specific moments of crisis (Taylor, 2011). It can be perceived from three sources: family, friends, and significant others (Zimet et al., 1988). Social support is also referred to as the frequency of support actions that are provided by others (Santini et al., 2015); which is why, it can be understood as the subjective feeling of being supported (Santini et al., 2015). Additionally, the type of support can be (1) emotional, (2) instrumental, (3) evaluative, and (4) informative (Sarason et al., 1990).

Overall, perceived social support is a significant predictor of life satisfaction and negative affect (Siedlecki et al., 2014; Kostak et al., 2019; Shensa et al., 2020). Specifically, emotional support has important benefits in mental health, so many studies focus on the relationship between depression and perceived social support (Kleiman and Riskind 2013; Santini et al., 2015; Kostak et al., 2019; Shensa et al., 2020). Perceived social support and social bonds are positively related to mental and physical health (Cohen and Janicki-Deverts, 2009; Umberson and Karas Montez, 2010). Research points to a positive association between perceived social support and psychological well-being, which allows it to be seen as a valuable protective mechanism that can improve psychological well-being by maintaining positive emotional feelings and mitigating stress (Chu et al., 2010; Thoits, 2011; Liu et al., 2014). The different facets of hedonic well-being (life satisfaction, positive and negative affects) can be predicted by different aspects of perceived social support (Siedlecki et al., 2014). Also, perceived social support is seen as mediating the relationship between stress and well-being (Poots and Cassidy, 2020).

Research on predictors of academic success points to perceived social support as one of the facilitating factors of adaptation to university life and protective of challenging situations imposed by the university (Friedlander et al., 2007; Bahar, 2010; Rahat and İlhan, 2016). Since the theory of self-determination, the need to belong to a group is relevant

for healthy psychological development and human flourishing (Ryan and Deci, 2000; Tomás and Gutiérrez, 2019); however, little has been studied about the effects of perceived social support over time.

Due to affective well-being implying the presence of positive and negative affects, with no exclusion of both previous components (Diener et al., 2017; Weismayer, 2020), it is important to investigate how the perception of social support that was acquired during the first year of the university experience can affect the students' well-being. Although research has linked perceived social support to well-being measures, some researchers have found negative or no consequences of perceived social support on well-being (Lepore et al., 2008; Lakey et al., 2010). Differences in outcomes can be derived from the ways in which perceived social support and well-being are conceptualized and operationalized (Siedlecki et al., 2014), and research on these issues has also focused on cross-sectional measures. For this reason, it is necessary to evaluate how the student's perception of social support affects his/her well-being, considering the process that he/she undergoes during university entry and the empirical evidence that first-year students have the lowest levels of well-being (Brandy et al., 2015; van Der Zanden et al., 2018). Thus, this paper aims at estimating the effect of perceived social support on changes in affective and eudaimonic well-being in university students.

To respond to this objective, the following hypotheses are raised. First, the perception of social support and affective well-being in participating university students varies over time (H1). Second, there is a positive relationship between the perception of social support with affective and eudaimonic well-being (H2). Third, perceptions of social support predict changes over time in affective well-being and eudaimonic well-being in university students (H3).

MATERIALS AND METHODS

The research design used corresponds to a comparative-prospective study, and at a temporal level, it is a longitudinal panel research (Ato et al., 2013).

Participants

Overall, 131 (63.90%) were men, and 74 (36.09%) were women. The average age was $M = 19.14$ years, $SD = 1,730$. Follow-up was achieved in only 26.3%, and there were cases of some careers where it was not possible to perform follow-up applications due to problems of access to student groups due to academic activity stoppages, impacting on the percentage of students analyzed in Q2.

The distribution of participants who were followed up by degree courses is as follows: 56.09% ($n = 115$) belonged to Engineering and Basic Sciences, 18.04% ($n = 37$) to Architecture, 14.14% ($n = 29$) to Social Sciences and Humanities, and 11.70% ($n = 24$) to Pedagogy or Education. The selection was through a non-probability sample for convenience, considering the first-year students of the participating careers.

Instruments

Perceived Social Support

The Perceived Social Support Questionnaire "MSPSS" (Zimet et al., 1988), specifically the Spanish version by Ortíz and Baeza (2011), was used for the evaluation of perceived social support. The purpose of this questionnaire is to assess people's perception of social support from relevant sources. It is designed as a self-report and is composed of 12 items distributed in three dimensions: family (four items), e.g., "My family gives me the help and emotional support I need"; friends (four items), e.g., "I can talk about my problems with my friends"; and other significant ones (four items), e.g., "When I have difficulties I have someone to support me." This version uses a Likert response scale and ranges from 1 = strongly disagree to 7 = strongly agree. The higher the score, the higher the perception of social support. In this study, confirmatory factor analysis corroborated the distribution of three related factors [$X^2(51) = 123,269$, $p < 0.05$; root mean square error of approximation (RMSEA) = 0.084; Confirmatory Fit Index (CFI) = 0.935; Tucker-Lewis Index (TLI) = 0.916]. The reliability was from $\omega = 0.89$ for the family dimension, from $\omega = 0.91$ for the friend's dimension, and from $\omega = 0.89$ for the other significant dimensions in the first measurement.

Emotional and Eudaimonic Well-Being

The PERMA-Profiler (Butler and Kern, 2016) was used for the well-being evaluation. This instrument consists of 23 items with a Likert response format where 1 = lowest score and 7 = highest score. It is made up of five main dimensions (positive emotions, commitment, positive relationships, purpose, and achievement) and three contrast dimensions (negative emotions, health perception, and one item for loneliness). For this study, the dimensions were reorganized to evaluate the elements of affective well-being (positive and negative affect) and eudaism separately. The coincidence of the dimensions proposed by the PERMA-Profiler, to the concepts to the theory of psychological well-being, such as the meaning of life, autonomy, and positive relations with others, allows the identification and measurement of this variable (Ryff and Singer, 1996; Ryff, 2014).

The eudaimonic well-being was measured with 12 items that correspond to: the dimension of positive relationships with others (three items), evaluates to what extent the person receives and gives support to others, their satisfaction, and the feeling of being appreciated, e.g., how often do you feel loved; the meaning or purpose of life (three items), involves the feelings of leading a life with intention, meaning, and value, e.g., in general, how often do you feel you are following a meaningful direction in your life; the competence or achievement dimension (three items), assesses how often the person advances in their goals, takes responsibility, and feels able to complete their daily responsibilities, e.g., how often are you able to handle your responsibilities?; and the commitment dimension (three items), assesses the presence of vigor, absorption, and dedication, e.g., how often do you feel absorbed in what you are doing. The average of the dimensions forms an indicator of psychological well-being with a range of responses

from 1 to 7 points. Other studies report adequate psychometric properties in university students and Latin American samples (Butler and Kern, 2016; Pastrana and Salazar-Piñeros, 2016; Lima-Castro et al., 2017). To confirm these dimensions, a confirmatory factorial analysis was performed; an adequate model fit was obtained [$\chi^2(48) = 91,748$, $p < 0.05$; RMSEA = 0.067; CFI = 0.947; TLI = 0.927]. The reliability of the scale ranged from $\omega = 0.89$ in the first measurement.

Emotional well-being was measured with six items from the same questionnaire, of which three measure positive emotions of satisfaction, joy, and optimism, e.g., in general, how often do you feel happy, and the remaining three measure negative emotions, such as anxiety, sadness, and anger, e.g., in general, how often do you feel angry? Each emotion has a range of responses between 1 and 7 points. The subtraction between positive and negative emotions is used as an indicator of the scale of affect. A confirmatory factor analysis was performed to confirm these dimensions, obtaining an adequate model fit [$\chi^2(8) = 16,677$, $p < 0.05$; RMSEA = 0.073; CFI = 0.973; TLI = 0.949]. The reliability for positive emotions was $\omega = 0.84$ and negative $\omega = 0.67$ in the first measurement.

Procedure

The present research was endorsed by the Ethics Committee of the participating university, and the ethical criteria for research with human beings were corroborated. During the applications, participants were informed of the characteristics of the study, the right to voluntary participation, and the handling of data privacy. For the collection of data, contact was made with the authorities of the faculties (Deans, Department Directors, and Heads of Studies), who indicated the courses where the applications would be made. Participants were selected through a non-probabilistic sampling for convenience. The questionnaires were massively applied in the classrooms during March 2017 (Q1). The follow-up was carried out during April and June 2018 (Q2) in the same careers that were applied in Q1. The difference was that the classrooms where the applications were made corresponded to the courses of second-year students, since 1 year had passed.

For the follow-up (Q2), the data identifying the participants who answered the instruments in the classrooms during Q2 were compared with the database obtained in Q1. Three identification criteria were used (first and last names, ID card, and career). Based on these criteria, follow-up cases were digitally identified, and also, a manual check of the data set was performed.

Analysis Plan

The MPLUS software was used to carry out the confirmatory factor analyses of the scales. The SPSS Windows version 21 software was used for data analysis descriptive (means, standard deviations, frequencies, percentages) to describe the characteristics of the sample and the main variables of the study. SPSS was also used to analyze changes over time in emotional well-being and the perception of social support (H1), with Student's *t*-test of related samples. Pearson correlations

were made to estimate the relationships of perception of social support, affective well-being, and eudaimony (H2). To respond to H3, participants were initially classified into four categories of affective well-being according to the balance of affects scores obtained in the two measurements, with possible combinations being made for high and low balance of affects cases. Subsequently, factor-type variance analyses (ANOVAs) were performed to evaluate the prediction of perceived social support in the types of affective and eudaimonic well-being (H3).

RESULTS

The general objective of this study was to estimate the effect of perceived social support on changes in the emotional and eudaimonic well-being of university students. **Table 1** describes the scores obtained for the dimensions of perceived social support and types of well-being.

When performing the means comparison analysis to confirm whether the perception of social support and the subjective well-being vary over time (H1), it was found that the social support dimensions did not present statistically significant changes over time. Concerning the affective well-being, statistically significant differences were found in the scores of T1 and T2 being significantly higher in the scores presented at the beginning of the academic year ($M = 4.06$, $SD = 5.54$) than in the second year ($M = 2.60$, $SD = 5.84$).

To confirm the hypothesis (H2), which describes positive relations of the perception of social support with the types of well-being, Pearson's correlation estimates are described in **Table 2**. The results indicate a higher level of association of T1 perceived social support with the eudaimonic and affective well-being in T1 than with the scores obtained in T2.

When analyzing the correlations, at a cross-sectional level, the results confirm positive and significant correlations between the dimensions of perceived social support with affective well-being and eudaimonic well-being (T1). The magnitude of the correlations of the perception of social support was higher with the eudaimonic well-being in the T1 and T2 measurements. A greater relationship was found between the dimensions of the perception of social support (T1) and the eudaimonic well-being (T2) than with the affective well-being (T2); meanwhile, there is no statistically significant correlation in the dimension of the perception of social support of friends (T1) with the affective well-being (T2). At a general level, there is more congruence between the dimensions of perceived social support and eudaimonia well-being in all its measurements.

Changes in the Perception of General Social Support According to the Evolution of Emotional and Eudaimonia Well-Being

To assess the prediction of social support in the change of students' well-being (H3), four categories of well-being change were established (see **Table 3**). In this case, the group of students with "low well-being stable" refers to the group of students who presented low scores (less than 3pts) in

TABLE 1 | Scores on social support, affective, and eudaimonic well-being.

| Dimensions | T1 | | T2 | | t (gl) | Sig. |
|-------------------------|------|------|------|------|-------------|-------|
| | Mean | SD | Mean | SD | | |
| Social support: friends | 5.63 | 1.19 | 5.52 | 1.21 | 1.451 (198) | 0.148 |
| Social support: family | 5.63 | 1.30 | 5.49 | 1.33 | 1.843 (201) | 0.067 |
| Social support: others | 5.69 | 1.18 | 5.67 | 1.10 | 0.506 (199) | 0.613 |
| Affective well-being | 4.06 | 5.54 | 2.60 | 5.84 | 4.191 (195) | 0.001 |
| Eudaimonic well-being | 5.00 | 0.89 | 4.91 | 0.92 | 1.245 (195) | 0.215 |

TABLE 2 | Pearson's correlation of the dimensions of perception of social support with affective and eudaimonic well-being in university students.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1. S.S. friends T1 | – | | | | | | | | |
| 2. S.S. family T1 | 0.42 *** | – | | | | | | | |
| 3. S.S. others T1 | 0.73 *** | 0.53 *** | – | | | | | | |
| 4. S.S. friends T2 | 0.62 *** | 0.37 *** | 0.46 *** | – | | | | | |
| 5. S.S. family T2 | 0.24 *** | 0.62 *** | 0.29 *** | 0.46 *** | – | | | | |
| 6. S.S. others T2 | 0.53 *** | 0.43 *** | 0.61 *** | 0.75 *** | 0.52 *** | – | | | |
| 7. W.B. affective T1 | 0.37 *** | 0.38 *** | 0.37 *** | 0.25 *** | 0.20 ** | 0.23 ** | – | | |
| 8. W.B. affective T2 | 0.13 | 0.25 *** | 0.20 ** | 0.26 *** | 0.31 *** | 0.26 *** | 0.63 *** | – | |
| 9. W.B. eudaimonic T1 | 0.48 *** | 0.47 *** | 0.53 *** | 0.37 *** | 0.29 *** | 0.39 *** | 0.63 *** | 0.40 *** | – |
| 10. W.B. eudaimonic T2 | 0.23 *** | 0.29 *** | 0.32 *** | 0.44 *** | 0.32 *** | 0.45 *** | 0.42 *** | 0.64 *** | 0.58 *** |

S.S., perception of social support; W.B., well-being.

*The correlation is significant at level 0.05 (bilateral). **The correlation is significant at level 0.01 (bilateral). ***The correlation is significant at level 0.001 (bilateral).

TABLE 3 | Change in the balance of well-being during the beginning of the university career.

| Change in scores | Frequency | Percentage |
|----------------------------------|-----------|------------|
| Affective well-being | | |
| Low stable well-being | 33 | 16.0 |
| Negative evolution of well-being | 34 | 16.5 |
| Positive evolution of well-being | 15 | 7.3 |
| High stable well-being | 114 | 55.3 |
| Total | 196* | 95.1 |
| Eudaimonic well-being | | |
| Low stable well-being | 11 | 5.3 |
| Negative evolution of well-being | 5 | 2.4 |
| Positive evolution of well-being | 6 | 2.9 |
| High stable well-being | 74 | 35.9 |
| Total | 96** | 46.6 |

*9 students with incomplete answers.

**110 students with incomplete answers.

the two measures. The group “negative change in well-being” in the first measurement presented high scores (higher than 3pts) and in the second one low scores. The category called “positive evolution of well-being” includes the group of students who presented low scores in the first measurement and in the second one high scores; finally, the category “stable high well-being” includes the students who presented high scores

during the two measurements. In the case of affective well-being, the results presented in **Table 3** indicate that more than 50% of the participants present a positive affective balance. In the case of eudaimonic well-being, 38% present high scores in the second measurement.

ANOVA Factorials were carried out to respond to this hypothesis. When analyzing the differences in the perception of social support by categories of the evolution of affective well-being, statistically significant differences are presented in the scores of the perception of social support in the analyzed affectivity groups $F(3,187) = 4.264, p < 0.01, \eta^2 = 0.064$ (see **Figure 1**). Additionally, statistically significant inter-subject effects are presented $F(3,187) = 10.187, p < 0.001, \eta^2 = 0.140$.

Multiple comparisons obtained from Bonferroni's *post-hoc* tests indicate that students in the high affective well-being category maintain similar scores of high perception of general social support during the two measurements ($M = 17.72, SD = 2.88$ and $M = 17.42, SD = 2.89$, respectively). Similarly, it is observed that the averages in the categories of students of positive evolution of affective well-being ($M = 14.98, SD = 3.47$ and $M = 15.80, SD = 3.47$) and low stable affective well-being ($M = 14.69; SD = 3.14$ and $M = 15.06; SD = 3.00$) had at the beginning of the first year a perception of social support different from the one they presented in the second academic year).

In the case of the perception of social support by categories of the evolution of eudaimonic well-being, statistically significant differences are presented $F(3,187) = 4.264, p < 0.01, \eta^2 = 0.064$

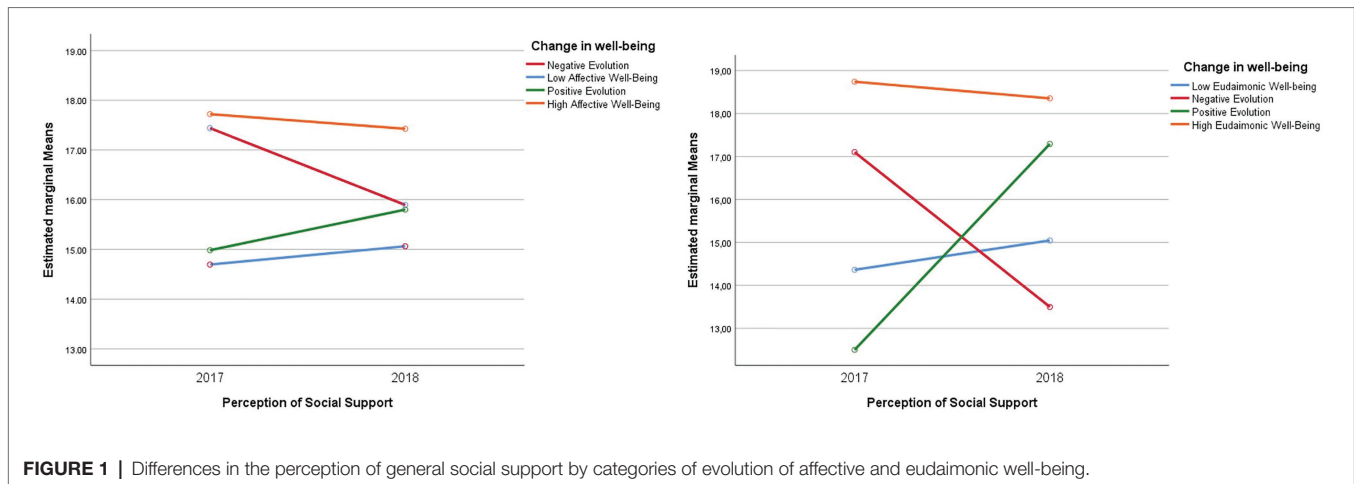


FIGURE 1 | Differences in the perception of general social support by categories of evolution of affective and eudaimonic well-being.

(see **Figure 1**). Additionally, there are statistically significant inter-subject effects $F(1,89) = 20.590$, $p < 0.001$, $\eta p^2 = 0.410$.

Multiple comparisons obtained from Bonferroni's *post-hoc* tests indicate that students in the high well-being category of eudaimonics have higher scores for general social support during the two measurements ($M = 18.73$, $SD = 1.94$ and $M = 18.5$, $SD = 2.08$, respectively). Unlike the rest of the categories that presented changes in the two measurements, for example, positive evolution of well-being ($M = 12.500$, $SD = 3.77$ and $M = 17.29$, $SD = 1.998$), a group of students who presented an increase in the perception of social support as their well-being also increased. In the case of the group of students in the category "negative evolution of well-being" ($M = 14,100$, $SD = 1.48$ and $M = 13,500$, $SD = 1.944$), their perception of support decreased. In the case of the category of stable low well-being, students in this category did not show substantial changes over time ($M = 14,363$, $SD = 3.16$ and $M = 15,045$, $SD = 2,431$). Differences between the groups were found, as students from the high stable well-being group presented a higher perception of social support than the rest of the students belonging to the other categories ($p < 0.01$); the description of the changes found is reflected in **Figure 1**.

Changes in the Perception of Social Support From Friends According to the Evolution of Emotional and Eudaimonic Well-Being

The results found to analyze the differences in the perception of social support from friends according to the categories of affective well-being indicate statistically significant differences in the scores of perceived social support in the analyzed affectivity groups $F(3,188) = 3.459$ ($p < 0.01$), $\eta p^2 = 0.052$ (see **Figure 2**). Statistically significant inter-subject effects are presented $F(3,188) = 6.436$, $p < 0.001$, $\eta p^2 = 0.093$. According to the results of Bonferroni's *post-hoc* test, statistically significant differences ($p < 0.01$) were found only between the groups of students in the high affective stable well-being category ($M = 5.84$, $SD = 1.03$ and $M = 5.72$,

$SD = 1.14$), with the low affective stable well-being group ($M = 4.92$, $SD = 1.39$ and $M = 5.04$, $SD = 1.35$), respectively. In this case, the last group of students shows an increase in their scores over time (see **Figure 2**).

In the case of the perception of social support from friends by categories of evolution of eudaimonic well-being, statistically significant differences are presented $F(1,90) = 11.006$, $p < 0.01$, $\eta p^2 = 0.268$ (see **Figure 2**). Additionally, there are statistically significant inter-subject effects $F(1,90) = 214.267$, $p < 0.001$, $\eta p^2 = 0.322$.

Multiple comparisons obtained from Bonferroni's *post-hoc* tests indicate that students in the high well-being category of eudaimonics have higher scores for general social support during the two measurements ($M = 6.159$, $SD = 0.874$ and $M = 6.138$, $SD = 0.708$, respectively). Unlike the rest of the categories that presented changes in the two measurements, e.g., positive evolution of well-being ($M = 12,500$, $SD = 3.77$ and $M = 17.29$, $SD = 1.998$), as in the case of the stable low well-being category, students did not present substantial changes over time ($M = 5,000$, $SD = 1.17$ and $M = 4.954$, $SD = 1.223$). In the case of the group of students in the "negative well-being development" category ($M = 5,700$, $SD = 480$ and $M = 4,150$, $SD = 1,024$), their perception of support decreased. Differences between the groups were found, as students from the high well-being group with stable debt presented a higher perception of social support than the rest of the students belonging to the other categories ($p < 0.01$); the description of the changes found is reflected in **Figure 2**.

Changes in the Perception of Social Support From the Family According to the Evolution of Emotional Well-Being

In the case of differences in the perception of social support from family members according to the categories of affective well-being, statistically significant differences were identified in the scores of perceived social support of this dimension in the affectivity groups analyzed $F(3,190) = 3,242$, $p < 0.05$, $\eta p^2 = 0.049$ (see **Figure 3**). Additionally, statistically significant inter-subject effects are presented $F(3,190) = 9.788$, $p < 0.001$,

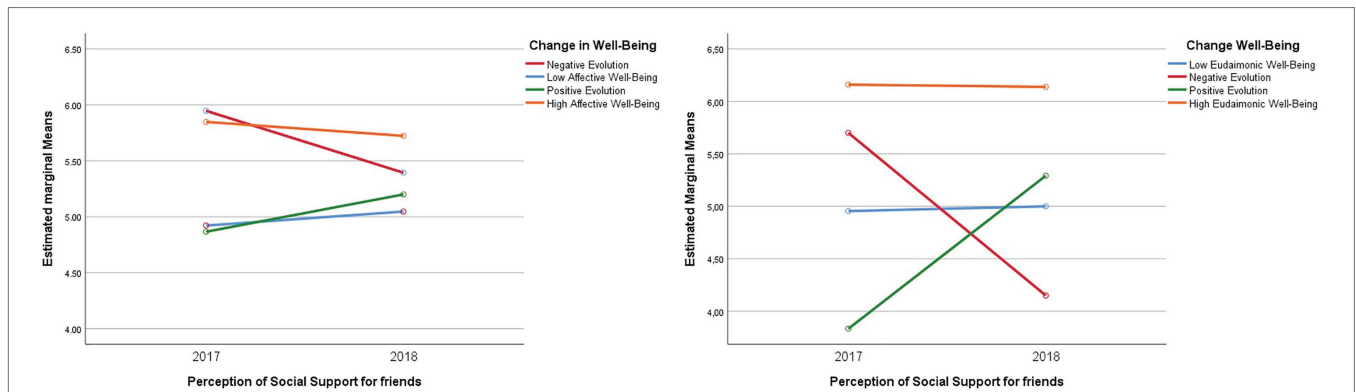


FIGURE 2 | Differences in the perception of social support from friends by categories of evolution of affective and eudaimonic well-being.

$\eta^2 = 0.134$. Statistically significant differences ($p < 0.01$) were only found between the groups of students in the category of high stable affective well-being ($M = 5.95$, $SD = 1.18$ and $M = 5.83$, $SD = 1.11$) and those of low stable affective well-being ($M = 4.80$, $SD = 1.18$ and $M = 4.83$, $SD = 5.95$), respectively. In this case, this last group of students shows an increase in their scores over time (see **Figure 3**).

In the case of the perception of social support from the family by categories of evolution of eudaimonic well-being, statistically significant differences are presented $F(1,91) = 11,372$, $p < 0.01$, $\eta^2 = 0.273$ (see **Figure 3**). Additionally, there are statistically significant inter-subject effects $F(1,91) = 7.557$, $p < 0.001$, $\eta^2 = 0.199$.

Multiple comparisons obtained from Bonferroni's *post-hoc* tests indicate that students from the high stable eudaimonic well-being category present higher scores of general social support during the two measurements ($M = 6.270$, $SD = 0.783$ and $M = 6.1024$, $SD = 0.966$, respectively). In the low stable well-being category, students did not present substantial changes over time ($M = 4.977$, $SD = 1.221$ and $M = 5.136$, $SD = 1.062$). The rest of the categories that presented changes in the two measurements, e.g., positive evolution of well-being ($M = 4,708$, $SD = 1,111$ and $M = 6,125$, $SD = 0.786$) and in the group of students in the category "negative evolution of well-being" ($M = 6,100$, $SD = 0.894$ and $M = 4,600$, $SD = 1,126$), whose perception of support decreased. Differences between the groups were found, as students from the high well-being group with stable debt presented a higher perception of social support than the rest of the students belonging to the other categories ($p < 0.01$); the description of the changes found is reflected in **Figure 3**.

With regard to the identification of changes in the perception of social support from other significant people according to the evolution of affective and eudaimonic well-being, no statistically significant differences were found in the groups evaluated.

DISCUSSION

The aim of this work was to estimate the effect of perceived social support on changes in the emotional and eudaimonic

well-being of university students. The results found allowed to confirm that the perception of social support positively predicts the types of well-being of Chilean university students. Next, the findings obtained in relation to the established hypotheses are analyzed, and the limitations presented are commented on and future lines of research that could be projected from the results of this study.

Changes Over Time in the Perception of Social Support and Subjective Well-Being

In this study, only temporary changes were identified in the emotional well-being scores, partially confirming the H1 hypothesis (the perception of social support and emotional well-being in the participating university students varied over time). This result confirms findings of Joshanloo (2018a,b), who refers to which elements of emotional well-being can change due to situations presented in the context, generating changes in people's moods. This result is congruent with what is established in the theory about affective well-being, where the result of the evaluation that a person makes by means of cognitive and affective processes is associated to his life experiences (Diener et al., 1999).

Positive emotions are considered to be part of the affective component of well-being, which can vary over the course of a day (Pavot and Diener, 2011). When students present these types of emotions, they are better able to handle the new academic demands present at the university during the first years (Ouweneel et al., 2011; Oriol-Granado et al., 2017). The results found in the present study indicate higher affective balance scores at the beginning of the university career (during the beginning of the first academic year), allowing people to expand their repertoire of thoughts and behavior, building their lasting social and personal resources (Fredrickson, 2013). The presence of high affective balance scores at the beginning of the career could be related to the search for immediate well-being, rather than a long-term search (Joshanloo, 2018b).

The decline in measurement scores in Q2 is similar to that reported in other studies. Herke et al. (2019) found a decline in affective well-being in students. Importantly, changes in students' affect balance may depend on their perception of

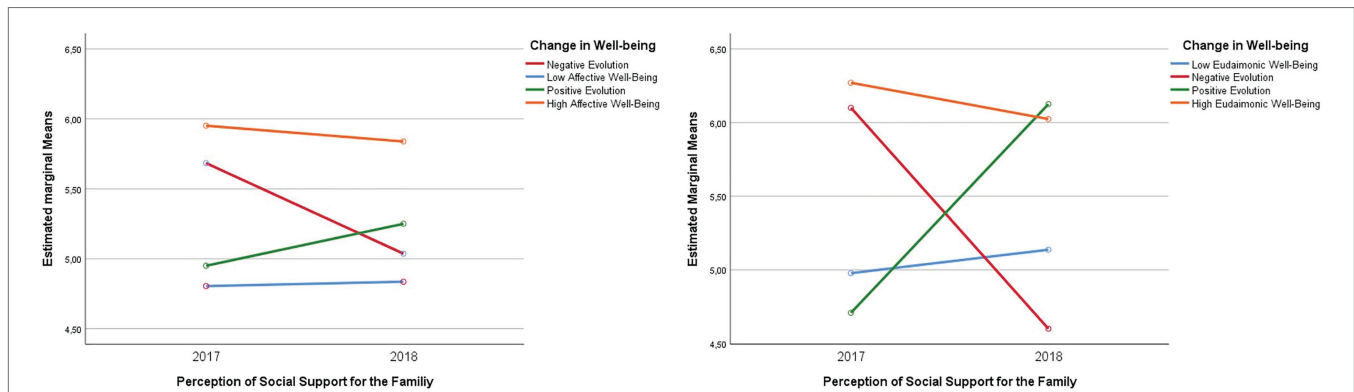


FIGURE 3 | Differences in the perception of social support from the family by categories of evolution of affective and eudaimonic well-being.

the context (Lent et al., 2005). The decrease in students' affective well-being can be explained by the adaptation processes they undergo at the beginning of their university careers. Nightingale et al. (2013) report that when students present low levels of positive emotions, they manifest difficulties in the process of adaptation to university. In that sense, during the first years of the university experience, students tend to adjust their beliefs, knowledge, and perceptions with respect to the real academic context, and it is possible that students experience stressful experiences that can impact on their affectivity (Nicolson, 1990; Coffey et al., 2016; Kyndt et al., 2017).

Relationship Between the Perception of Social Support and Emotional and Eudaimonic Well-Being

As for the existence of a positive relationship between the perception of social support with the affective and eudaimonic well-being (H2), the results allowed to confirm the hypothesis. Positive relations are presented between the dimensions of the perception of social support with the types of well-being. In general, the perception of social support is considered as a protective factor for the well-being of university students (Rosa-Rodríguez et al., 2015). Perceived social support allows to re-evaluate stressful situations contributing to adaptation processes in different contexts (Pillado and Almagiá, 2019).

When assessing relationships specifically, the results show that during Q1 and Q2, the perception of social support from friends, family, and significant others is more related to eudaimonic well-being than to affective well-being. Therefore, family support is more linked to elements associated with personal growth and the optimal development of students. This result coincides with what is reported in the literature, and studies show a close relationship between perceived social support and eudaimonic well-being (Almagiá, 2012; Pillado and Almagiá, 2019). Family support and peer support influence the psychological well-being of university students, which, in turn, has a strong positive correlation with improved academic performance (Torales et al., 2018).

The presence of positive relationships between perceived social support and emotional well-being is also consistent

with other research establishing that: when students perceive greater social support from family and friends, they report greater satisfaction with life (Marrero and Carballeira, 2010; Kong et al., 2012; Kong and You, 2013; King et al., 2020). There is a consensus that close, deep and meaningful social relationships have a positive effect on subjective well-being and other mental health indices (Dávila Figueras et al., 2011; Feeney and Collins, 2015; Poots and Cassidy, 2020). Additionally, the distinction found in the levels of relationship of perceived social support with types of well-being coincides with another study that establishes that the prediction of the perception of social support can vary depending on the well-being indicator taken into account. Although this variable has an important weight on life satisfaction and psychological adjustment, it explains to a lesser extent the presence of positive or negative affectivity and has little impact on satisfaction (Marrero and Carballeira, 2010).

Predicting the Perception of Social Support in Affective and Eudaimonic Well-Being

The results found confirm the H3 hypothesis that the perception of social support predicted changes over time in affective well-being and changes in eudaimonic well-being in university students. It has been proposed that the perception of social support is vital for well-being (Diener and Oishi, 2005). In other studies, perceived support was a predictor of both increased life satisfaction and decreased negative affect (Siedlecki et al., 2014). Similarly, emotional well-being was affected by the amount of social support, and low levels of social support received were more associated with depressive symptoms (Ye et al., 2019).

As reported in the literature, student groups with high stable and positive emotional well-being had a higher perception of overall social support than groups with lower levels of emotional well-being. This coincides with the results presented by Siedlecki et al. These authors establish that people who have satisfactory relationships report feeling happy more often and report being more satisfied with their

lives than those who do not have satisfactory relationships. This is possible because people in satisfying relationships can get support when they need it, whereas those in unsatisfying relationships cannot easily get it when they need it (Siedlecki et al., 2014). It is clear that perceived social support affects the way people perceive themselves and the world around them; having a network of meaningful relationships in life has positive effects on people's physical and mental health (Holt-Lunstad and Smith, 2012).

A statistically significant effect was found on emotional well-being and changes in the perception of social support from friends and family. There were differences between the groups with high emotional well-being and the group with low emotional well-being. Our results are similar to those found in other studies that establish that perceived social support from friends is positively related to well-being. Such findings reinforce the idea of the adaptive value of peer support in the Higher Education setting (Figueira et al., 2017).

In the case of the perception of social support coming from the family, the findings are similar to those described in other studies that explain that the family represents integral support in different aspects of the life of university students, who even after entering university and feeling adult, continue to consider the family as a valuable source to support them in their needs (Monroy and Ramírez, 2016). Students live a process where the development of a progressive autonomy is encouraged (Barrera-Herrera and Vinet, 2017); however, when they are overtaken by different demands typical of their stage, they may turn to their parents for support (Barrera-Herrera et al., 2019). Studies report that the support received from the family benefits the self-perceived academic performance of university students (López-Angulo et al., 2020). In this sense, the perceived social support exercised by family and friends is an essential element for the success of students (Renk and Smith, 2007; Torales et al., 2018).

Concerning perceptions of social support as predictors of eudaimonic well-being in university students, the results of this research allowed us to conclude that well-being increases from a greater perception of the social support that students have. The relationship between the perception of social support and eudaimonic well-being is explained by the importance for students of developing social networks to help them cope with the demands of the university stage (Rosa-Rodríguez et al., 2015). It is possible to consider perceived social support as a valuable protection mechanism, which can improve eudaimonic well-being (Chu et al., 2010; Thoits, 2011; Liu et al., 2014), benefiting personal growth, autonomy, and cognitive flexibility, which improves the response to the demands of university life (Waterman, 2008; Ryff, 2014, 2016; Malkoç and Mutlu, 2019).

A limitation of this research is the non-inclusion of sociodemographic, mental health (e.g., stress, depression, coping strategies), and contextual variables (e.g., semester assessment period), which could have influenced students' well-being scores. The analysis could also be enriched by incorporating other educational indicators, such as objective academic performance or levels of adaptation to university (Bailey and Phillips, 2016; Biasi et al., 2018). Despite these limitations, the main strength

of this study is the use of a longitudinal research design for the evaluation of these variables.

The results obtained have practical implications since social support among peers works as a positive element for the development of students' emotional well-being. It is suggested to reinforce in academic institutions the development of social interventions and programs (e.g., initiation ceremonies and mentoring projects with the active participation of older students, activities involving the family), in order to raise the well-being of young university students (Figueira et al., 2017). Future student development programs should focus on improving or enhancing the adaptive capacities of regulating emotions and promoting reciprocal social exchanges (Ye et al., 2019).

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Ethics Committee of the participating university. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

RC-R contributed to the literature, abstract, and full-text review, as well as the data extraction, the data analysis, and the writing of the manuscript. YL-A contributed to the design of the study, abstract, and full-text review, as well as the design of the statistical analysis and the writing of the manuscript. MP-V contributed to the design of the study, the interpretation of the results, and the writing of the manuscript. AD-M contributed to the interpretation of the results and the writing of the manuscript. All authors contributed to the article and approved the submitted version.

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Moderating Effect of the Situation of Return or Relocation on the Well-Being and Psychosocial Trauma of Young Victims of the Armed Conflict in Colombia

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Colombia is the second country with the highest number of internally displaced persons. In the last 10 years, more than 400,000 young people carry, in their life experiences, the title of victims. The psychological and social circumstances that determine the lives of displaced young people in the world are not unknown. Fear, the poor resources for social adaptation available to them, and the possible reproduction of the cycle of violence, represent psychosocial risk factors in the young and displaced population. In this context, the Victims Law in Colombia stipulated various measures of repairment, including Relocation (the person or household victim of forced displacement decides to settle in some place, other than the one they were forced to leave) and Return (the person or the household victim of forced displacement decides to return to the place from which they were displaced, in order to settle indefinitely) provided the conditions of voluntariness, security, and dignity are present. A hypothesis that well-being will be better in the returnees was set, since they would strengthen the social support networks between neighbors and other victims in their old spaces of life. To test the hypothesis, the scales of Psychological Well-being, Social Well-being, the Satisfaction with Life Scale, and the Psychosocial Trauma Scale were applied to young returnees ($n = 129$) and relocated ($n = 259$) in Colombia. The Exploratory and Confirmatory Factor Analysis was performed to extract the general measure of well-being and psychosocial trauma followed by the comparison between the groups. Significance, power, and effect size indicators were obtained, and finally, the partial correlation between the groups was made in relation to psychosocial trauma and well-being. Results showed that returnees have greater well-being and clearer indicators ($d = 0.365$, $1-\beta = 0.996$), with respect to that of relocated. In addition, the well-being of returnees has fewer trauma factors, who in turn are quasi-moderated by the situation of return or relocation.

Keywords: well-being, psychosocial trauma, youth, victims, repair, moderating effect, armed conflict

Abbreviations: ACNUR, United Nations High Commissioner for Refugees; UARIV, Unit for Comprehensive Attention and Reparation for Victims; KMO, Kaiser-Meyer-Olkin Measure; GFI, goodness of fit index; RMSEA, root mean square error approximation; ECVI, expected cross validation index; AGFI, adjusted goodness of fit index; PNFI, parsimony normed fit index; PGFI, parsimony goodness of fit index; K-S_L, Lilliefors; DW, Durbin-Watson coefficient index; K-S, Kolmogorov-Smirnov test.

INTRODUCTION

For 4 years in a row, Colombia has ranked second on the list of countries with the highest number of displaced people in the world (Alto Comisionado de las Naciones Unidas para los Refugiados [ACNUR], 2019). To date, there are more than 8 million forcibly displaced persons, including 3 million youth, of which 17,728 have returned and/or relocated between 2010 and 2018 (Unidad de Atención y Reparación Integral a las Víctimas [UARIV], 2020). History marks them: the more than 60 years of violence caused by a sociopolitical conflict that has not ceased. Collective violence is a phenomenon of great instrumental and emotional impact (Arendt, 2005; Blanco et al., 2016). The depth of the sequelae generated by this phenomenon has strong repercussions at an individual level, in terms of the destruction of a life project, and at a collective level, in the destruction or reformulation of social and support networks (Thompson and Walsh, 2010).

The Law in Colombia has established the restitution of rights to restore, to the greatest degree possible, the state of life in which people were prior to their forced displacement, (*Ley de 387, 1997, chapter II; Ley de 1448, 2011, chapter II; Unidad de Atención y Reparación Integral a las Víctimas [UARIV], 2020*). They have two options under the principles of security, voluntariness, and dignity: One is to return, if their decision is aimed at reintegrating to the place where they were forced to leave through the use of violence; and another is to relocate, if they choose to rebuild their life in a place other than the place of origin (*Ley de 387, 1997, Chapter II*). Which of the two conditions could be more favorable for the displaced, in light of its impact on well-being and the psychosocial trauma they have experienced?

The concept of return began to be studied at the end of the Second World War (Black and Gent, 2006). South Sudan, Bosnia and Herzegovina, Uganda, and Afghanistan appear as the countries with the highest returns, within and toward them, with loss of confidence and doubts about their own capacities, destruction of homes, despair, a pessimistic view of the world, among others, influencing the decision to return or to relocate (Bozzoli et al., 2012; Haroz et al., 2013; Huser et al., 2019; Sullivan, 2019; Renner et al., 2020), and affect their well-being (Siriwardhana and Stewart, 2013). Various international studies have focused on this population in order to better understand the consequences of return and relocation on the well-being of these victims (Diener and Diener, 1995; Black and Gent, 2006; Siriwardhana and Stewart, 2013; Burns et al., 2018).

Despite the fact that, in Colombia, research has been developed in relation to forced displacement, the scientific study of return and relocation is recent, and perhaps this leads to limited scientific and empirical evidence from the country (Ibáñez and Querubín, 2004; Hernández, 2010; Garzón, 2011; Siriwardhana and Stewart, 2013), especially the experience of trauma and well-being in the younger population. Some qualitative studies or bibliographic reviews highlight that situations of violence, previously unfounded terrors, and threats of being displaced again, become elements that hinder return processes (Lima and Reed, 2000; Chávez and Falla, 2005; Correa De Andreis, 2009; Garzón, 2011). Returning to the place of

origin does not only imply a return, but a reconstruction and re-significance of the territory, a desire to re-have the experiences they lived there, linking affective components, including identity, in the territory where they would have already configured their life project (Posada et al., 2013; Velásquez and Céspedes, 2019).

The communities formed in new spaces are not natural or spontaneous, but created by administrative acts of the State, to comply with the law, rather than in the sense of comprehensive reparation to the victims (Arango and Arroyave, 2017). The traumatic experience can transform the structure of values and beliefs in different areas (personal, family, social) (Medina-Montañez et al., 2007; Blanco et al., 2016), and it differs according to groups and social classes (Madariaga, 2002).

The concept of psychosocial trauma has historically been approached from different perspectives, disciplines, and contexts (Freud, 1948; Chía-Chávez et al., 2011; American Psychiatric Association [APA], 2013; Bohigas et al., 2015). In the 20th century, the psychosocial period of trauma began, under the gaze of historical trauma (Bohigas et al., 2015). In the 90s, Ignacio Martín-Baró placed it in the Latin American context as “Psychosocial Trauma,” and defined it as “the crystallization–or materialization–in individuals of aberrant and dehumanizing social relationship such as those that prevail in situations of civil war” (Martín Baró et al., 1990, p. 236). Martín-Baró also identifies resources and positive elements in this experience of violence, which result from the need to continue life, since “the injury or affectation will depend on the peculiar experience of each individual, an experience conditioned by their social extraction, by their degree of participation in the conflict, as well as other characteristics of his personality and experience” (Martín Baró, 1990, p. 10). As main characteristics or factors that make up this concept of psychosocial trauma, the following are proposed: (1) the pre-traumatic situation referred to the causes of the generated trauma; (2) the personal, family, and community destruction as a consequence of the traumatic event; (3) disintegration of the inner world, the disintegration of beliefs about oneself, about others, and society; (4) intergroup emotions as emotional reactions referring to oneself, their community, and to the “others” (victimizers); (5) expression of emotional ambivalence such as the coexistence of positive and negative emotions toward the trauma; (6) recognition of personal capacities to overcome trauma; and finally (7) personal and collective efficacy (Blanco et al., 2014; Quintero, 2020 in press).

The experience of violence in Colombia carries the cross of trauma in a totally dehumanized and cold context. Enough research has studied the painful effect of collective violence on the displaced, demonstrating the destruction of territories of life, communal identities (Correa De Andreis, 2009; Cardozo Rusinque et al., 2017); post-traumatic stress disorders (PTSD), mood disorders (Aristizábal et al., 2012), detrimental quality of life, social media breakdown, modification of family roles, and family disintegration (Bell et al., 2012; Charry-Lozano, 2016; Sánchez et al., 2019).

Different authors affirm that the condition of returning or relocating can be, in itself, a traumatic event, especially after a prolonged displacement. The social and cultural ties established with the new place of settlement can be broken, feelings of

helplessness and distrust appear, and the new generations that were born after displacement may have difficulties in adapting to an unknown place (Siriwardhana and Stewart, 2013; Arévalo, 2016; Sánchez et al., 2019). Either of these two ways requires the reconstruction of their well-being, so understanding trauma during this reintegration is complex (De Smet et al., 2019; Huser et al., 2019).

Positive Psychology at the end of the 90s has been in charge of precisely this: recognizing the positive and well-being aspects that are a fundamental part of human life, despite the painful experiences that life offers (Seligman and Csikzentmihalyi, 2001). As it is known, the first conceptualizations about well-being had their origin in the philosophical reflections of two traditions: the Eudaimonic Tradition, associated with individual and social human development (Ryff, 1989; Keyes, 1998); and the Hedonic Tradition, related to the effects and cognitions of an individual with respect to their own life (Diener, 1984; Keyes et al., 2002).

Indeed, well-being is closely linked to psychological and social experience (Seligman and Csikzentmihalyi, 2001; Keyes, 2005). The complete state of health model proposed by Keyes (2005), measured with the variables of psychological and social well-being and life satisfaction, has been widely used in research with victims of displacement in Colombia (Palacio et al., 1999; Palacio and Sabatier, 2002; Manrique et al., 2008; Abello-Llanos et al., 2009; Campo-Arias and Herazo, 2014; Amaris et al., 2019). However, a large number of researchers have concluded that it is possible to measure the well-being construct from a general score that underlies the scores of these variables as a whole (Keyes, 2005; Díaz et al., 2007; Kokko et al., 2013; Hides et al., 2016; Peña Contreras et al., 2017).

Along these lines, and given the existence of multiple instruments that measure well-being (Diener et al., 1985; Ryff, 1989; Ryff and Keyes, 1995; Keyes, 2005; Sisask et al., 2008; McDowell, 2010; Schneider et al., 2010; Kokko et al., 2013, p. 110; Hides et al., 2016; Peña Contreras et al., 2017) it became necessary to have a methodology that would allow a unified measure of well-being from different sources of record. Therefore, in this study, a factorial analysis that allowed finding a common structure between them was carried out. Based on these results, it was determined that the construct of “general well-being” describes the positive functioning of the well-being of a person in their psychological, social, and subjective domains (Keyes, 2005; Castellar, 2020, in press).

Not knowing and not addressing the experience of pain and suffering of young returnees and relocated, prevents the recognition of the impact and effectiveness of their condition of reparation (whether as returned or as relocated) for the reconstruction of their life project and well-being (Rebolledo and Rondón, 2010). This is why the relationship between psychosocial trauma and well-being is possibly moderated by the situation of return or relocation of the young victims. Starting from the difference between moderation and mediation in psychological studies (Baron and Kenny, 1986; Wen et al., 2005; Hayes, 2018) the experience of return or relocation can determine the effect of interaction in the relationship between psychosocial trauma and wellness. Identifying the moderating effect of this variable will allow researchers/professionals to plan their interventions

to maximize the levels of well-being of the population (Internal Displacement Monitoring Centre [IDMC], 2020). To test its effect, a hypothesis is proposed: well-being and trauma are different according to the type of situation (return or relocation) of the young person.

MATERIALS AND METHODS

Design

A retrospective ex-post-facto design was used, with the dependent variable (general well-being) being initially studied, and then independent variables (psychosocial trauma factors) being tested (Montero and León, 2007).

Sample

The universe was made up of young victims of forced displacement, returned or relocated in the departments of Atlántico, Sucre, and Cesar (northern Colombia). The following was used as inclusion criteria: (1) that the participants were registered in the Single Registry of Victims (RUV). (2) That they were linked to return or relocation programs. (3) That they expressed willingness to participate. As an exclusion criterion, the category “Youth” in Colombia describes those persons whose ages range between 14 and 26 years of age, as established in Ley de 387 (1997). However, although they are young, all minors were excluded.

According to the RUV, in 2018 there were 8,808 young people returned or relocated in those three departments (Unidad de Atención y Reparación Integral a las Víctimas [UARIV], 2018). A sample of 369 subjects was selected, according to the representativeness criterion of 5% maximum admissible error and 95% confidence. Through non-probabilistic and incidental sampling, 388 participants of legal age were selected, given the self-selection bias that this entails in voluntary participation research (Kerlinger and Lee, 2002). According to gender, which is the only sociodemographic information registered in the RUV (36.67% men and 60.33% women), there were no statistically significant differences (with 95% confidence) between the characteristics of the population and the sample based on it (36.43% men, 63.57 women; $Z = 1.27$). The distribution of the subjects was as follows: 35% of the participants were in Atlántico, 25% in Cesar, and 41% in Sucre. 67% were in a relocation situation, and 33% in return. The ages were between 17 and 30 years of age ($M = 23.5$ and $D = 4.183$) of which, 78% were between 18 to 25 years, 19% were between 26 and 30 years.

Technics and Instruments

Psychosocial Trauma Scale–ETAPS

A scale designed and validated with Colombian population by Villagrán (2016), composed of 62 items, which are originally grouped into four factors, namely: (1) the pre-traumatic situation, (2) destruction of sociality (3) personal and collective efficacy and (4) intergroup emotions. Following the recommendation of Villagrán (2016), in the context of the victim population in Colombia, Quintero (2020), (in press) determined the following structure with the same number of items presented as statements:

(1) pre-traumatic situation, composed of 21 items (for example, “saying what I thought was about to cost me my life”), (2) personal, family, and community destruction, with nine items (for example, “living together with my family has become more difficult every day”) (3) disintegration of the inner world, with seven items (for example, “I have no one to count on”), (4) Intergroup emotions, made up of seven items (for example, “there can be no forgiveness for executioners”), (5) expression of emotional ambivalence, with six items (for example, “despite of what happened, I do not lose hope for the future”), (6) recognition of personal abilities, with four items (for example, “I have more confidence in myself”) and (7) personal and collective efficacy, composed of eight items (for example, “in my community/neighborhood, the participation of people in community activities has increased”). The response format ranges from 1 = “strongly disagree” to 7 = “strongly agree.” According to the analysis carried out on this sample, it can be pointed out that it is a factorially valid [$\chi^2 = 6565.07$, p -value = 0.000, root mean square error approximation (RMSEA) = 0.083, and adjusted goodness of fit index (AGFI) = 0.90], and reliable structure ($\Omega = 0.97$). The scores were calculated by the refined regression method (DiStefano et al., 2009), for which the standardized scores ($M = 0$ and $D = 1$) are presented.

Ryff Scale of Psychological Well-Being

Scale designed by Ryff (1989), adapted and validated into Spanish by Díaz et al. (2006) composed of 29 items, with six dimensions originally distributed as follows: (1) Self-acceptance, (2) Positive relationships with other people, (3) Autonomy, (4) Environmental Mastery, (5) Purpose in life, and (6) Personal growth. For the context of the population victim of the armed conflict in Colombia, Quintero (2020), (in press) determined the following structure composed of the same number of items presented as affirmations: (1) Self-acceptance, with eight items (for example, For me, the life has been a continuous process of study, change, and growth), (2) ineffective relationships, with seven items (for example, I often feel lonely because I have few close friends with whom to share my concerns), (3) Personal planning, composed of seven items (for example, I enjoy making plans for the future and working to make them come true), (4) Relationships solid / strong interpersonal, with three items (for example, I feel that my friends bring me many things), (5) Self-assertion difficulty with two items (for example, I tend to worry about what other people think of me) and (6) Personal growth was composed of two items (for example, “I think that over the years I have not improved much as a person”). The answer options range from 1 = “strongly disagree” to 6 = “strongly agree.” According to the analyses carried out based on this sample, it can be pointed out: this structure is factorially valid ($\chi^2 = 1209.94$, p -value = 0.00000, RMSEA = 0.073, and AGFI = 0.94) and reliable ($\Omega = 0.96$). The scores were calculated by the refined regression method (DiStefano et al., 2009), so the standardized scores ($M = 0$ and $D = 1$) are presented.

The Satisfaction With Life Scale

Proposed by Diener et al. (1985), SWLS, was adapted and validated into Spanish by Atienza et al. (2000), in a

unidimensional way, consisting of five items. For the context of the population victim of the armed conflict in Colombia, Quintero (2020), (in press) determined the following structure composed of the same number of items presented as affirmations: (1) satisfaction with current life, with three items (for example, “the type of life I lead is similar to the type of life I always dreamed of leading”) and (2) satisfaction with the past life, with two items (for example, “so far I have obtained the important things I want in life”). The response format goes from 1 = “strongly agree” to 5 = “strongly disagree.” According to the analyses based on this sample, it can be pointed out that: this structure is factorially valid ($\chi^2 = 3.55$, p -value = 0.47, RMSEA = 0.000, and AGFI = 0.99) and reliable ($\Omega = 0.95$). The scores were calculated by the refined regression method (DiStefano et al., 2009), therefore the standardized scores ($M = 0$ and $D = 1$) are presented.

Social Well-Being Scale

Constructed by Keyes (1998), and adapted to Spanish by Blanco and Díaz (2005) with 25 items in five dimensions distributed as follows: (1) social integration, (2) social acceptance, (3) social contribution, (4) social actualization, and (5) social coherence. For the context of the population victim of the armed conflict in Colombia, Quintero (2020), (in press) determined the following structure made up of the same number of items presented as statements: (1) social contribution, with eight items (for example, “I feel that I am an important part of my community”); (2) distrust of people, with three items (for example, “I think people are not to be trusted”); (3) anomie, with five items (for example, “many cultures are so strange that I cannot understand them”); and (4) distrust in the society development, with nine items (for example, “for me, social progress is something that does not exist”). The response format goes from 1 = “strongly agree” to 7 = “strongly disagree.” According to the analysis carried out based on this sample, it can be noted: this structure is factorially valid ($\chi^2 = 719.43$, p -value = 0.00000, RMSEA = 0.065, and AGFI = 0.90) and reliable ($\Omega = 0.94$). The scores were calculated by the refined regression method (DiStefano et al., 2009), so the standardized scores ($M = 0$ and $D = 1$) are presented.

Sociodemographic Variables Booklet

It was prepared with the aim of finding out the sociodemographic characteristics of participants: age, sex, educational level, employment status, marital status, situation of comprehensive shelter (return or relocation).

Procedure

After approval by the Ethics Committee of Universidad Del Norte, the participants were contacted through the professional team of the “Unidad para la atención y reparación a las víctimas” (Unit for Comprehensive Care and Reparation to Victims) of each department (Province), who voluntarily accepted and filled out the informed consent. The application of the booklet was carried out on paper, in the homes of the participants, without a time limit, and was assisted and guided by psychology professionals who were hired and trained on the variables of the study, the proper completion of the booklet, and the

possible concerns or situations that could arise during the application. At its completion, a snack was given to compensate for their collaboration. Likewise, at the end of the collection of information, with the intention of corresponding ethically with the collaboration of the participants and, in recognition of the problems faced by the study population, workshops were held under the theme of achieving well-being. The application lasted approximately 6 months, after which the organization and information processing continued.

Data Analysis Plan

It began by confirming the existence of an underlying factorial structure, both in the model that considered the 12 well-being factors, if all the factors underlying each of the three tests used were considered; as in the model composed of only 8 of these factors, following the recommendations of Castellar (2020).

Subsequently, to determine which of the 2 one-dimensional structures should be used, the confirmatory factor analysis was applied, under the strategy of rival models (Hair et al., 2014), in order to determine, if all the scores of factorial factors of the 3 considered tests should be used, or if factors 2 and 3 of Social Well-being (Social Contribution and Distrust in the development of society), and factors 1 and 6 of Psychological Well-being (Self-acceptance and Difficulty for flexibility and obstinacy) should be dispensed of, following the recommendations of Castellar (2020).

Then, for internal consistency, the value of the Omega coefficient [Ω] was considered, which is the most suitable internal consistency coefficient for tests that were factorially validated (Heise and Bohrnstedt, 1970; McDonald, 1981; Muñoz, 1998; Ercan et al., 2007; Dunn et al., 2014) and higher than 0.70 points, according to the scale described by Prieto and Muñoz (2000) and updated by Hernández et al. (2016a,b). Next, the factorial score of all the participants was calculated, in the factor underlying the three well-being tests, to then analyze their compliance with the assumption of normality through the Kolmogorov-Smirnov Test [KS] for a sample, with correction of Lilliefors significance [K-SL].

To determine if there is any statistically significant difference between the common factor of general well-being and the factorial scores of psychosocial trauma, the Student's *t*-test was used, whose interpretation was made according to the fulfillment of the homoscedasticity assumption, evaluated through the *p*-value of the Levene statistic. Likewise, to determine the size and magnitude of the effect ($1-\beta$), Cohen's *d*-coefficient was used. Statistical power will be considered adequate, exceeding the 80% criterion.

The univariate correlation between the Psychosocial Trauma Factors was analyzed with respect to the common factor of general well-being, following the classification described by Prieto and Muñoz (2000), and Hernández et al. (2016a,b), to interpret the predictive relationship between psychological tests. Significance was evaluated with the 95% confidence criterion ($\alpha = 0.05$). For the calculation of the relationship between the psychosocial trauma factors and the underlying general well-being, multiple regression was used by the method of steps forward, in order to determine which were the psychosocial trauma factors that were really related to well-being and

maintaining compliance with the assumption of absence of multicollinearity, for this, those factors of psychosocial trauma whose tolerance measure was higher than the minimum expected criterion were excluded from the linear model of multiple regression (Minimum tolerance = 0.98). Likewise, compliance with the assumption of absence of multicollinearity was verified from the value of the coefficient of the Durbin-Watson [DW] indicator, which must be between the limits of 1.5 and 2.5 points. Subsequently, the direction of the effect of each of these psychosocial trauma factors incorporated into the multiple linear model were analyzed, based on the analysis of the signs of the regression coefficients [β].

In order to know the moderating effect of the returned and relocated variable, a multivariate statistical analysis model was used, which allowed for the estimation of the effect and the relationships between multiple variables. That is, considering that the quality of moderation implies "establishing differential levels of relationship" (Robles, 1997) between the variables, the value of the multiple correlation coefficient between the trauma factors identified in the multiple regression was compared, with respect to the common factor general well-being, but differentiated according to the situation of returnee or relocated; then, the methodology established by Baron and Kenny (1986), and, to determine the type of moderation, the guidelines established by Sharma et al. (1986) were followed and afterward, the magnitude of the differences in the change of the correlations with Cohen's *q*-statistic, which will suppose a small difference, when its value is less than 0.20, a large difference, when it exceeds 0.5 points, and a median difference, when it is between both extremes. To estimate the *Z*-value of the differences between correlations, the Fisher Transform indicator was used; which allowed for the establishment of the existence of a statistically significant difference, when the absolute value of the difference exceeds the criterion of 1.96 points, or its *p*-value is less than 0.05 points.

Finally, the existence of the quality of moderation of the situation of returned or relocated was determined from the moderation analysis proposed by Hayes (2018), from the use of the Software Process (Hayes, 2018) that is incorporated into the SPSS. Statistically significant differences (Student's *t*-test) were analyzed between the relocated victims compared to the returnees, in each of the trauma factors that maintain a statistically significant relationship with general well-being. In this way, the trauma factors that have relevant differences with respect to general well-being were determined, either independently of the type of situation (returnee or relocated), or in particular to one of the groups (returnees vs. relocated).

RESULTS

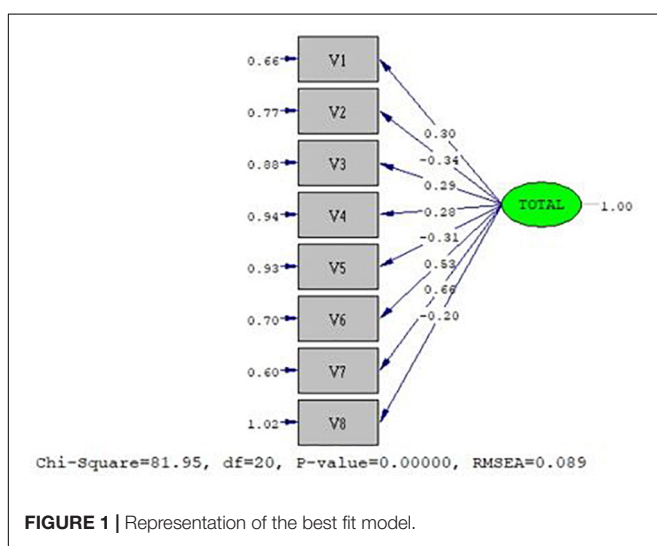
Construction of the General Well-Being Score and Its Distribution

The multivariate normality assumption was fulfilled, both in model 1, of 12 well-being factors ($RMK_1 = 1,189$), and in model 2, of eight factors ($RMK_2 = 1,167$), suggested by Castellar (2020), (in press) and the existence of an underlying factorial structure will

be determined in the case of model 2 ($d_2 = 0.504$, $KMO_2 = 0.596$ and Bartlett p -value $_2 < 0.001$), but not so in Model 1 ($d_1 = 0.498$, $KMO_1 = 0.385$ and Bartlett p -value $_1 < 0.001$).

According to the value of χ^2 , Model 2 could be considered as more appropriate than Model 1 ($\chi^2_{Model\ 2} = 81.95 < \chi^2_{Model\ 1} = 155.08$). However, it was not possible to distinguish which of the two models would best fit the data, based on the p -value of χ^2 , since in both cases, the value was $p < 0.001$. Although the goodness of fit index (GFI) of Model 2 ($GFI_2 = 0.95$) was higher than that of Model 1 ($GFI_1 = 0.94$), its difference was minimal. In the case of RMSEA, it could be determined that there was a better fit in the case of Model 2 ($RMSEA_2 = 0.089$) compared to Model 1 ($RMSEA_1 = 0.070$). As with the p -value of χ^2 , it was not possible to determine which model best fit the data based on the RMSEA p -value ($RMSEA\ p$ -value $_1 = 0.00640$ and $RMSEA\ p$ -value $_2 = 0.0007$). Based on the NCP and the ECV, it could be pointed out again that Model 2 has a better fit to the data ($NCP_2 = 61.950$ and $ECVI_2 = 0.29$), compared to Model 1 ($NCP_1 = 101.080$ and $ECVI_1 = 0.52$). It was not possible to determine the model with the best fit based on the AGFI, since the value was the same in both ($AGFI_1 = 0.91$ and $AGFI_2 = 0.91$). Finally, it was also concluded that Model 2 had a better fit to the data than Model 1, based on parsimony normed fit index (PNFI) ($PNFI_1 = 0.15$; $PNFI_2 = 0.5$), but not with the parsimony goodness of fit index (PGFI) ($PGFI_1 = 0.65$; $PGFI_2 = 0.53$). Model 2, in addition to being structurally valid, has adequate internal consistency ($\Omega = 0.776$). All of the above allowed determining that Model 2 was the one that best fit the data collected in the three well-being instruments, and whose representation is presented in **Figure 1**.

Model 2 is made up of: from Factor 1 of Social Well-being, distrust in people [V1] and anomie [V2]. From Satisfaction with Life, there is satisfaction with current life [V3] and with past life [V4]; and Psychological Well-being, there is Factor 2 of ineffective relationships [V5], Factor 3 of planning life [V6], Factor 4 of solid/strong interpersonal relationships [V7], and Factor 5 on self-affirmation difficulty [V8].



The shape of the distribution of this underlying measure of common general well-being (see **Figure 2**), assumes that its range covers the scores of -3.42 as a minimum value and a maximum of 2.25 , with an average of $p < 0,001$ and a deviation of 1.00 , which assumes that it is a standardized distribution that is also normal ($K-S_L = 0.05$).

Comparing Returnees and Relocated With General Well-Being

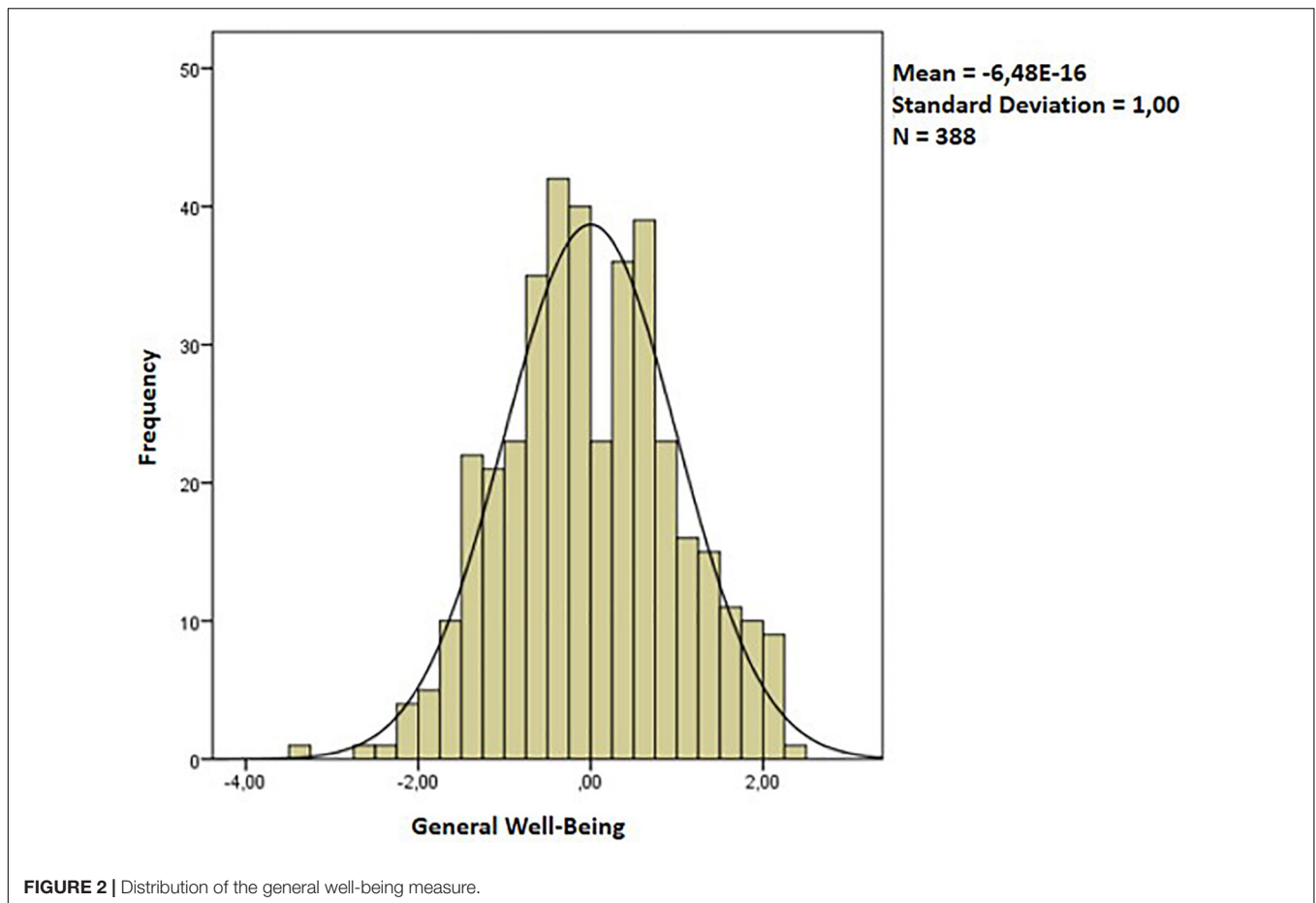
Differences ($t = -4.35$) are statistically significant (p -value < 0.001), moderate ($d_{Cohen} = 0.465$) and strong ($1-\beta = 0.996$) in favor of returnees ($X_{Returnees} = 0.31$; $S_{returnees} = 1.01$), in comparison with the relocated ($X_{Relocated} = -0.15$; $S_{relocated} = 0.96$), after having estimated these differences, considering compliance with the homoscedasticity assumption (F -Levene = 0.63 ; p -value = 0.43).

Comparing Returned and Relocated With Psychosocial Trauma Factors

In **Table 1**, statistically significant differences are observed between the situation of returnees vs. relocated between: (1) pre-traumatic situation (p -value < 0.001 , $d_{Cohen} = 0.39$, $1-\beta = 0.98$), (2) disintegration of the inner world (p -value < 0.001 , $d_{Cohen} = 0.41$, $1-\beta = 0.98$), (3) intergroup emotions (p -value < 0.001 , $d_{Cohen} = 0.73$, $1-\beta = 1.00$), (4) expression of emotional ambivalence (p -value < 0.001 , $d_{Cohen} = 0.35$, $1-\beta = 0.95$), and (5) personal and collective efficacy (p -value < 0.001 , $d_{Cohen} = 0.44$, $1-\beta = 0.99$); which would suppose that to the extent that a participant belonged to the group of returned victims, a higher score would be expected for: pre-traumatic Situation ($X_{Returnees} = 0.23$; $S_{returnees} = 0.94$), intergroup emotions ($X_{Returnees} = 0.45$; $S_{returnees} = 0.91$), and personal and collective efficacy ($X_{Returnees} = 0.31$; $S_{returnees} = 0.93$), while it is expected to have a lower score of: disintegration of the inner world ($X_{Returnees} = -0.25$; $S_{returnees} = 0.78$) and expression of emotional ambivalence ($X_{Returnees} = -0.22$; $S_{returnees} = 0.99$); on the other hand, if it belonged to the group of relocated victims, an opposite pattern would be expected in all these variables. Finally, no differences are observed between the measure of comprehensive reparation of the participants and the factors of personal, family, and community destruction (p -value = 0.18 ; $d_{Cohen} = 0.14$; $1-\beta = 0.37$), and recognition of personal capacities (p -value = 0.95 ; $d_{Cohen} = 0.01$; $1-\beta = 0.06$).

Correlation Between General Well-Being and Psychosocial Trauma Factors

It can be seen in **Table 2**, that the correlation between well-being and trauma factors are significant with an adequate score in 3 of them: personal, family and community destruction ($r = -0.354$; p -value < 0.001), disintegration of the inner world ($r = -0.393$; p -value < 0.001) with a negative score, and personal and collective efficacy ($r = 0.357$; p -value = 0.000) with a positive score. A sufficient relationship was also observed, but a little weaker, in the recognition of personal capacities ($r = 0.203$; p -value < 0.001). It is also observed that the direction observed in these relationships is coherent, since



the higher the score in the personal, family, and community destruction and in the disintegration of the inner world, the lower the common general well-being score and the higher the score in the recognition of personal capacities and personal and collective efficacy, the greater common general well-being there will be. Likewise, it is observed that pre-traumatic situation ($r = 0.008$; p -value = 0.882) and intergroup emotions ($r = -0.086$; p -value = 0.092), maintain weak relationships, which are not statistically significant with general well-being, while the expression of emotional ambivalence ($r = -0.119$; p -value = 0.019), maintains a weak relationship, although statistically significant, with this same measure.

Multiple Regression Between General Well-Being and Psychosocial Trauma Factors

The multiple relationship between the component factors of trauma and the general measure of well-being suppose an excellent and statistically significant relationship ($R = 0.689$; p -value < 0.001). This relationship supposes the fulfillment of the assumption of independence between the predictor variables ($DW = 1.866$). The following factors were excluded from this multiple linear model: (1) pre-traumatic situation and (2) intergroup emotions.

As seen in **Table 3**, the interpretation of the direction of the effects of each trauma factor is maintained, with respect to its prediction on the common factor of general well-being that was observed in **Table 2** (bivariate); in this sense, the factors of personal, family, and community destruction; disintegration of the inner world; and expression of emotional ambivalence maintain an inverse relationship with the common factor of general well-being, while the factors recognition of personal abilities, and personal and collective efficacy maintain a direct relationship. In this table, it is also observed that the tolerance of these factors exceeds the minimum criterion of 0.98 points.

Quasi-Moderating Effect of the Situation of Return or Relocation With Psychosocial Trauma and General Well-Being

With regard to the quality of moderation of the return or relocation situation, an excellent statistically significant correlation was observed, both in the group of relocated participants ($R = 0.615$; p -value < 0.001) and in the returnees ($R = 0.782$; p -value < 0.001).

According to the moderation analysis (Hayes, 2018), it was possible to determine that there is no pure moderation effect

TABLE 1 | Comparing returned and relocated with psychosocial trauma factors.

| Trauma* Situation* Model* | Group statistics | | | | | Levene test | | | | | t-test | | | | |
|---|------------------|-----|-----|---------|------|---------------------|------|------|--|-------|--------|------------------|---------------|-------------|--|
| | N* | Rel | ReT | Average | SD | Mean standard error | F | Sig. | | t | df | Sig. (bilateral) | d effect size | Power (1-β) | |
| Pre-traumatic situation | N | Rel | ReT | -0.15 | 1.01 | 0.06 | 0.36 | 0.55 | | -3.62 | 386.00 | 0.00 | 0.39 | 0.98 | |
| Personal, family, and community destruction | Y* | Rel | ReT | 0.23 | 0.94 | 0.08 | 7.01 | 0.01 | | -1.36 | 300.91 | 0.18 | 0.14 | 0.37 | |
| | Y | Rel | ReT | 0.08 | 0.85 | 0.08 | 6.81 | 0.01 | | 3.99 | 338.37 | 0.00 | 0.41 | 0.98 | |
| Desintegration of inner world | Y | Rel | ReT | 0.13 | 1.08 | 0.07 | 0.00 | 0.98 | | -6.78 | 386.00 | 0.00 | 0.73 | 1.00 | |
| | N | Rel | ReT | -0.25 | 0.78 | 0.07 | 0.62 | 0.43 | | 3.30 | 386.00 | 0.00 | 0.35 | 0.95 | |
| Expression of emotional ambivalence | Y | Rel | ReT | 0.12 | 0.93 | 0.06 | 7.50 | 0.01 | | -0.06 | 320.01 | 0.95 | 0.01 | 0.06 | |
| | Y | Rel | ReT | -0.22 | 0.99 | 0.09 | 4.00 | 0.05 | | -4.13 | 271.08 | 0.00 | 0.44 | 0.99 | |
| Recognition of personal capacities | Y | Rel | ReT | 0.03 | 1.06 | 0.07 | | | | | | | | | |
| | Y | Rel | ReT | 0.04 | 0.82 | 0.07 | | | | | | | | | |
| Personal and collective efficacy | Y | Rel | ReT | -0.12 | 1.00 | 0.06 | | | | | | | | | |
| | Y | Rel | ReT | 0.31 | 0.93 | 0.08 | | | | | | | | | |

*Not a part of regression model (N); Part of regression model (Y). Relocated (Rel); Returnees (ReT).

between the psychosocial trauma factors ($\beta = 0.66$; $t = 16.26$; p -value = 0.000), and the returnee or relocated situation ($\beta = -8.58$; $t = -2.11$; p -value = 0.035) with respect to general well-being, since their interaction was not significant ($\beta = 0.146$; $t = 1.793$; p -value = 0.074). However, when analyzing the difference between both correlation coefficients, it could be observed that it was intermediate ($q_{Cohen} = 0.334$), statistically powerful ($1-\beta = 0.922$), and significant ($Z = 3.014$; p -value = 0.002), so it could be determined that the situation of returnee or relocated is a quasi-moderating variable (Sharma et al., 1986), since: (1) the situation of returnee or relocated of the participants, with respect to trauma factors was sufficient ($R = 0.202$) and statistically significant (p -value = 0.000) and (2) the situation of return or relocation of the participants, has a sufficient ($R = 0.216$) and statistically significant (p -value = 0.000) relationship with general well-being. Therefore, the situation of returnee or relocated could be classified as a quasi-moderating variable (Sharma et al., 1986) of the relationship between the statistical combination of psychosocial trauma factors and the common factor of general well-being.

The above, together with the information in Table 3 (If $\beta_{Tabla3} > 0 \rightarrow$ Reinforce; If $\beta_{Tabla3} < 0 \rightarrow$ Extinguish) and $X_{Relocated} = -0.15$; $S_{relocated} = 0.96$; $t = -4.35$; p -value = 0.000; $d_{Cohen} = 0.46$, allows for the determination of the trauma factors that should be intervened to improve the scores of the common factor of the general well-being of the victims of the Colombian armed conflict, regardless of whether the participant is relocated or returned (p -value > 0.05 and $d_{Cohen} < 0.20$), or, specifically about the relocated group, who have the lowest average score.

According to the above, it is necessary to reduce the effects of personal, family, and community destruction ($\beta_{Tabla3} = -0.38$; p -value = 0.18; and $d_{Cohen} = 0.14$) while it is necessary to reinforce the effects of recognition of personal capabilities ($\beta_{Tabla3} = 0.23$; p -value = 0.95; and $d_{Cohen} = 0.01$), in all participants, to improve their general well-being. On the other hand, for the relocated, it is necessary to strengthen personal and collective efficacy ($\beta_{Tabla3} = 0.34$; $X_{Relocated} = 0.31$; $S_{relocated} = 0.93$; $t = -4.13$; p -value = 0.00; and $d_{Cohen} = 0.44$), and reduce the disintegration of the inner world ($\beta_{Tabla3} = -0.41$; $X_{Relocated} = -0.25$; $S_{relocated} = 0.78$; $t = 3.99$; p -value = 0.00; and $d_{Cohen} = 0.41$) and expression of emotional ambivalence ($\beta_{Tabla3} = -0.13$; $X_{Relocated} = -0.22$; $S_{relocated} = 0.99$; $t = 3.30$; p -value = 0.00; and $d_{Cohen} = 0.35$), to improve their general well-being.

DISCUSSION

Well-being and psychosocial trauma in returnees and relocated are significantly different, so the hypothesis was not tested because there was no moderation, but rather quasi-moderation. General well-being (Summerfield, 2001; Lazarus, 2003; Keyes, 2005; Díaz et al., 2007; Castellar, 2020, in press) is higher in returnees, which is consistent with previous studies (Bozzoli et al., 2012; Ramírez, 2015; Arévalo, 2016; Mejía, 2019) who affirm that the construction of memory, social, and cultural identity at the scene of the events is essential for their well-being. This same process can be more difficult for the relocated, which makes

TABLE 2 | Correlation between general well-being and psychosocial trauma factors.

| | Pre-traumatic situation | Personal, family, and community destruction | Desintegration of inner world | Intergroup emotions | Expression of emotional ambivalence | Recognition of personal capacities | Personal and collective efficacy |
|---------------------|-------------------------|---|-------------------------------|---------------------|-------------------------------------|------------------------------------|----------------------------------|
| Pearson correlation | 0.008 | -0.354 | -0.393 | -0.086 | -0.119 | 0.203 | 0.357 |
| Sig. (bilateral) | 0.882 | 0.000 | 0.000 | 0.092 | 0.019 | 0.000 | 0.000 |

TABLE 3 | Multiple regression between general well-being and psychosocial trauma factors.

| | Non-standardized coefficients | | | Collinearity statistics | | | | |
|---|-------------------------------|----------------|---------|-------------------------|-----------|-------|--------------------------|--------------------------------|
| | Beta | Standard error | t | Sig. | Tolerance | VIF | Δ Returnee vs. Relocated | Group with higher well-being** |
| (Constant) | -0.01 | 0.037 | -0.371 | 0.711 | | | | |
| Desintegration of inner world | -0.41 | 0.037 | -11.109 | 0.000 | 0.995 | 1.005 | -0.25* | Returnees |
| Expression of emotional ambivalence | -0.13 | 0.038 | -3.294 | 0.001 | 0.999 | 1.001 | -0.22* | Returnees |
| Personal and collective efficacy | 0.34 | 0.037 | 9.062 | 0.000 | 0.995 | 1.005 | 0.31* | Relocated |
| Personal, family, and community destruction | -0.38 | 0.038 | -9.954 | 0.000 | 0.996 | 1.004 | 0.08 | Both |
| Recognition of personal capacities | 0.23 | 0.038 | 6.130 | 0.000 | 0.989 | 1.011 | 0.04 | Both |

*Significative difference. **Check the mean between the situation between returnees and relocated with general well-being.

them always feel displaced because they are in a place that is not their home (Palacio et al., 2003), maintaining a nostalgia for the past and a longing for what they were in their land. What about their life projects? How do they integrate into their new lives? Integration with their community is likely to overshadow the possible difficulties for returnees.

Following this argument, although a moderating effect was not observed, a quasi-moderating effect was observed due to the situation of returning or relocating, in the relationship between the factors of psychosocial trauma and well-being, which is corroborated by the statistically significant differences and mean size found when comparing the correlation coefficients of both groups. This means that the psychosocial trauma factors (disintegration of the inner world, personal, family, and community destruction, personal and collective efficacy, recognition of personal capacities, and expression of emotional ambivalence), however, they had a different relationship strength depending on the group they belong to: returnees or relocated.

In general terms, it was observed that to the extent that a person has a lower score in: disintegration of the inner world; personal, family, and community destruction; and expression of emotional ambivalence at the same time that they have higher scores of personal and collective efficacy, and recognition of personal abilities will have a higher overall wellness score. Notwithstanding the above, it will be stronger in the group of returnees in the following variables: disintegration of the inner world, and expression of emotional ambivalence. Although in the group of relocated it will be in the variable of: personal and collective efficiency. With this we contribute two new visions to the phenomenon of return and relocation in young people: (1) The facts and personal, family, and community experiences of both groups of young people have not been destroyed as

previously thought, and (2) It is possible to recognize the personal capacities of young people in the environment they live in (be it returned or relocated). This is likely because young people have not been direct witnesses to the violence, leading them to perceive the situation of return or relocation as an opportunity to strengthen their personal, family, and community life. This result agrees with the exclusion of the pre-traumatic situation factor from the regression model for both groups.

Regarding the relationship between disintegration of the inner world and expression of emotional ambivalence in the general well-being of returnees, Ibáñez and Querubín (2004) showed that young people could consider a better experience of well-being in relocation, since they could have more opportunities of personal and social development. In contrast, the present study reveals that an adequate structure of attitudes and emotions associated with the experience of return shows in young people a significant indicator to maintain a high well-being, so that less destruction of the inner world will affect a greater well-being, contrary to what may happen to the relocated. Regarding the expression of emotional ambivalence, it is already confirmed by the General Report of the National Center for Historical Memory (Centro Nacional de Memoria Histórica, 2013) and in the study by Brewin et al. (1996), in which violent events are clear examples of traumatic experiences that they tend to destroy the belief, control, and meaning system, however, we propose that although they have marked their life, returning to their place of origin facilitates the recovery of their cognitive belief system, since it allows them to return to the way of life prior to displacement and with it increase their well-being.

Contrary to what is proposed by Hernández (2010), who compiles unemployment, precarious living conditions, and stigmatization for being victims in the stories of the relocated, this study reveals that despite the painful experience of displacement

and the countless changes brought about by relocation, relocating has been able to change their personal and social life, recognizing that they are useful and effective. This is shown in their active participation in community activities, feeling a part of it.

In conclusion, psychosocial trauma cannot be defined outside of the historical and social context that surrounds it (Martín Baró et al., 1990), return and relocation have a particular power to shape the life history of human beings who choose it, perhaps as the institutional way to repair, but also for the motivation pursued every day to bring in a better well-being. Given that the study participants are young, the development of personal and collective capacities as a function of the constant search for their own well-being and that of their family is surprising, in the case of returnees, for example. This is a unique finding in this study, because the scientific generality addressed so far has shown the opposite (Haroz et al., 2013; Huser et al., 2019; Sullivan, 2019). In the relocated youth, despite the fact that they build a personal and social life, this is not enough to achieve high well-being, it seems that the effort to be made is greater than in the returnees.

As limitations of the study, it is necessary to mention that for this type of situation, it is difficult to carry out experimental studies given the difficulty in the ethical manipulation of the variables, and because of access to the participants. We realize that there are also limitations in the information available in the databases of the organizations that work with this population. Furthermore, it is necessary, for future studies, to take into account the following variables: (1) Travel time, return and relocation time. (2) Population indicators such as educational level, type of reparation (if relocated or returned). (3) Intensity of the victimizing acts (being threatened, beaten or injured, being a direct witness to murders, etc.). (4) Dearth of scientific studies on the effects of return and relocation in Colombia.

From the point of view of ensuring better precision in the prediction of well-being, it is recommended to continue with the study of other variables that make it possible to better predict the well-being of the relocated, such as the time spent at the relocation site or their sense of community. Social identity and memory would contribute greatly to know the process of rebuilding its social fabric. On the other hand, resilience and post-traumatic growth would be convenient to verify positive experiences that may be associated with overcoming trauma. In addition to psychosocial trauma, the variable of transgenerational transmission of trauma must be considered, since the intensity of memories of the experience of violence in the population participating in this study may influence this variable. It is also recommended to consider the variable length of stay for returnees, since it may be relevant to their well-being. This undoubtedly motivates the authors to carry out future research.

With a view toward a psychosocial intervention, a guide is proposed to the people in charge of its application to make decisions about the advantage of being able to propose strategies for return or permanence according to the general profile of the victims. The intervention would be more costly in the relocated than in the returnees, not only because their well-being is lower,

but the variables that are related to it are less precise in this group. A variable that could be reinforced in young returnees with low levels of well-being would be personal and collective efficacy, through actions that lead to social skills training, for example. On the contrary, the intervention in the relocated youth would focus on minimizing the disintegration of the inner world and the expression of emotional ambivalence in order to maintain their personal and collective efficacy. For both groups, it is necessary to join forces in proposing activities that allow maintaining the experiences associated with the recognition of their personal capacities and reducing those associated with personal, family, and community destruction. Even though there was a statistically significant difference between returnees and relocated in the pre-traumatic situation factors and intergroup emotions, having not entered the regression models, no intervention planning based on these factors is justified, given that even when there are differences between groups, it does not generate any contribution to general well-being. The updating of public policies arises as a reflection on these results. An effort to redirect the focus of return and relocation programs as comprehensive reparation measures could have a better sustainable effect on the well-being of the participants.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Comité de Ética en investigación de la División Ciencias de la Salud de la Universidad del Norte. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

AM, SQ-G, CM-O, and JP-S contributed to the conception and design of the study. SQ-G organized the database. AM performed the statistical analysis. SQ-G and DC-J wrote the first draft of the manuscript. All authors contributed to the article and approved of the presented version.

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Sense of Ethnic Belonging: Relation With Well-Being and Psychological Distress in Inhabitants of the Mapuche Conflict Area, Chile

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Research has shown that experiences of discrimination cause harm to the health and well-being of people. In terms of the identity of members of a group, a positive evaluation of that group might involve devaluing the out-group as a way of raising the endo-group, causing discrimination toward the out-group. In the Chilean context, the Mapuche people have historically suffered discrimination and violations of their rights. The aim of this study was to assess the relationship between Collective Identity, perceived experiences of discrimination, psychological well-being and distress in the inhabitants of the Mapuche conflict zone according to their sense of belonging to their ethnic group (Mapuche, Mestizo, Caucasian). This descriptive, correlative, and cross-sectional study involved 200 participants, including 94 men (47%), and 106 women (53%), between the ages of 18 and 83 years old ($M = 39.02$; $SD = 13.45$), who had lived for at least 1 year in communities in the Araucanía Region. The sample was stratified according their sense of ethnic identity, including 30% Mapuche, 33.5% Caucasian, and 36.5% Mestizo. The results show that participants with a sense of Mapuche ethnicity experienced more instances of discrimination, had a greater sense of collective identity, and that they also supported the Mapuche social movement and its methods. Based on evidence that well-being is directly related to collective identity, the study undertook a regression analysis of emotional distress and the psychological well-being of participants. The interaction between experiences of discrimination and collective identity has a significant influence. Collective identity and experiences of discrimination in themselves as well as the interaction between them, predict psychological well-being. The results suggest that the importance of the Mapuche group's identity phenomena are related to a broad socio-historical context that leads them to identify themselves as a collective in conditions of inequality. This relationship between well-being and collective identity could be explained by their sense of cultural belonging, which can be a factor in protecting mental health.

Keywords: identity, ethnic belonging, discrimination, well-being, mental health, Mapuche

INTRODUCTION

Chile has three majority ethnic groups. Among them, the Mapuche live mainly in rural areas but have started to integrate into city communities. There are also Caucasians, whose physical features contrast sharply with the Mapuche, for example, due to their lighter complexion. The third main majority group is Mestizos, who have both Mapuche and European heritage (Corporación Latinbarómetro, 2011).

According to the last census (Instituto Nacional de Estadísticas, 2017), 12.8% of the Chilean population is considered to belong to indigenous people. Of that percentage, 79.8% consider themselves Mapuche. Despite this large number, studies show that when Chilean Caucasian or Mestizo populations have direct contact with Mapuche people they experience significant, though not necessarily explicit, levels of prejudice, and discrimination (Merino et al., 2009; Ramírez et al., 2016), as perceived by the Mapuche population (Instituto Nacional de la Juventud, 2012). Due to this discrimination, the Mapuche population experience psychological damage, feelings of anger, shame, and powerlessness, along with actions that involve self-protection, self-control, or confrontation (Merino et al., 2009, 2020). Furthermore, data show that the suicide rate in the Mapuche population is higher than the non-Mapuche population, with increased instances between 2004 and 2006 (Centro Latinoamericano y Caribeño de Demografía, 2011), and 2006 and 2010 (Guajardo, 2017).

Discrimination against the Mapuche people is part of a historical process that dates back more than a century, involving a violation of rights that continues today. Throughout this process, the Mapuche people have been dispossessed of a large amount of their land and are repressed by the Chilean state. The so-called “Mapuche conflict” corresponds with the ethnic and territorial struggle that involves a complex confrontation between these people, the state, the forestry industry, and agricultural landowners (Meza, 2015).

Various reports document the situation of rights violations among the Mapuche (Stavenhagen, 2003; Instituto Nacional de Derechos Humanos Chile, 2013). There has been structural violence, they have been excluded from education and labor, and lack access to basic services, all of which means there is poor nutritional health and lower incomes among the Mapuche (Rojas and Lobos, 2016). This exclusion is accentuated by perceived discrimination (Tricot, 2008; López, 2016).

The Chilean government has recognized the inequality in welfare and development experienced by indigenous peoples (Ministerio de Desarrollo Social Chile, 2020), considering them a minority priority group in social policies. In 1993 the National Corporation for Indigenous Development (CONADI) was created, whose mission is to promote, coordinate, and execute the actions of the State in promoting the integral development of indigenous individuals and communities, especially in economic, social, and cultural spheres, and to encourage their participation in national life (Corporación Nacional de Desarrollo Indígena, 2020). However, these actions have not diminished the intensity of the conflict

which has resurfaced in recent years as a result of police repression, including the assassination of a Mapuche community member by the police, which triggered a wave of protests in 2018 in different regions of the country (Calfio et al., 2019). In 2020, a “Chilean” population group confronted and forced a group of Mapuche civil rights protesters to vacate public buildings that were occupied as part of a protest (Rojas Pedemonte and Bresciani, 2020).

It has been found that the discrimination experienced by some groups causes harm to health and well-being. Some meta-analyses have found that perception of discrimination impacts physical and mental health, producing high levels of stress, unhealthy behaviors, and psychopathological symptoms (Pascoe and Smart, 2009; Bardol et al., 2020). This adverse effect is accentuated when discrimination is directed toward the stable attributes of a group, for example, their ethnic or national origin, gender, religion, or place of residence (Soberanes, 2010; García et al., 2017; Hynie, 2018).

People who feel discriminated against because of their ethnicity may exhibit negative emotional states, such as stress, aggression, and depressive symptoms (García et al., 2017). Experiences of discrimination are manifested in behaviours such as mistreatment, suspicions about their morals or skills, and their presence may even be ignored (Segato, 2011). This behavior affects basic aspects of the everyday life of the person/group who is discriminated against, impacting their interpersonal relations, employability, and access to housing and daily life (López et al., 2008; Ruiz, 2015).

Discrimination is characterized by behaviors of action or omission that deny equal treatment of members of the out-group, which are explained through processes related to social identities, like categorization processes, stereotypes, and prejudice (Tajfel and Forgas, 1981; Dovidio and Gaertner, 1986). This is because group identity can moderate the relationship between perceived discrimination and health. The factors linked to group identity processes and inter-group power relations have been proposed as key mechanisms in the reinforcement and maintenance of discrimination (Dovidio et al., 2010).

Belonging to a group involves the positive or negative assessment of shared characteristics, which form a person's social identity (Tajfel and Forgas, 1981). Social identity is defined as that part of the self-concept derived from the knowledge of belonging to a social group together with the emotional and evaluative meaning associated with that belonging (Tajfel and Turner, 1986). In collective contexts, identity becomes very relevant, as the individual evaluates himself and other people in terms of their group membership (Javaloy, 1993).

The positive aspects of group identity have been associated with subjective well-being (Smith and Silva, 2011; Ye and Ng, 2019). Ethnic identity can provide a coping strategy in the face of discrimination and a protective factor for mental health (Mossakowski, 2003). Groups that maintain reciprocal support systems provide a peer-support network for members in times of crisis such as social or natural disasters. Conversely, when people only deploy individual coping mechanisms, the support

received will be less or non-existent (Cicognani et al., 2008; Gallagher et al., 2019).

Studies in contexts other than Latin America have found links between high levels of ethnic identity and low symptoms of depression, thoughts of suicide, and history of suicide attempts (Cheng et al., 2010). In the national context, one study found that there is a positive relationship between Mapuche ethnic identity, well-being, and resilience (Pilquimán et al., 2020). The results of these studies reinforce the idea that positive ethnic identity is a protective factor in the emergence of depressive symptoms and suicidal ideation (Tereucán et al., 2017). It has also been suggested that a person's link to ethnicity could also provide greater resources that enable them to address the negative effects of acculturative stress and discrimination (Cheng et al., 2010).

One aspect of social identity is collective identity (Simon and Klandermans, 2001), which has the following components (Melucci, 2004): (a) there are cognitive definitions of the group's particularities, meanings, and fields of action (for example shared language, rituals, and cultural practices); (b) it forms a network of relationships between its actors, through common negotiation and decision-making processes, through shared communication channels; and, (c) that there is an emotional investment among members of the endo-group that facilitates belonging to the group, i.e., the emotional expenditure.

On the other hand, a politicized collective identity implies awareness and commitment among group members to participate in power struggles (Simon and Klandermans, 2001; Klandermans, 2013). These struggles aim at the gradual transformation of the group's relationship with its social environment. According to a meta-analysis by Van Zomeren et al. (2008) a politicized collective identity is the most important predictor of collective action and has larger effect dimensions. The variables of injustice, identity, and effectiveness predict collective action in a similar way, but with a moderate effect size.

Perceptions of injustice and collective distress encourage participation in social movements or collective opposition actions against a dominant group (Fominaya, 2010; Klandermans, 2013). This includes support for violent political action (Páez et al., 2013; Wohl et al., 2014), providing participants with a sense of belonging and group identity (Javaloy, 1993).

Given the relationship between experiences of discrimination, collective identity, distress, and emotional well-being, as well as the protective role that collective identity appears to have in mental health, this paper aimed to evaluate these variables in inhabitants of the Mapuche conflict zone according to their sense of belonging to their ethnic group (Mapuche, Mestizo, Caucasian) and the relationship between them. The study hypothesized that: (H1) experiences of discrimination have a positive relationship with distress and a negative relationship with well-being; (H2) that experiences of discrimination, collective identity, distress, and well-being predict participation in social movements; and, (H3) that collective identity has a buffering effect on the relationship between experiences of discrimination with distress and psychological well-being.

METHODOLOGY

Design

The present study used a descriptive and correlational research design, the data were collected in a single time frame, corresponding to a cross-sectional study.

Participants

The study involved 200 participants, including 94 men (47%) and 106 women (53%), aged between 18 and 83 years old ($M = 39.02$; $SD = 13.45$), who had resided for at least 1 year in communes belonging to the Araucanía region. Of these, 156 (78%) belonged to urban areas and 44 (22%) to rural areas. Stratified sampling was established so that the three predominant ethnic/racial groups in the area were represented equitably; thus the participating group was composed of 60 Mapuche (30%), 67 Caucasians (33.5%), and 73 Mestizo (36.5%).

The power of the study was calculated considering the sample size, using the program G-power, considering a medium effect size, an alpha error of 0.05 and four predictors for the last regression, obtaining a power of 0.99.

Instruments

Collective Identity

Collective identity was measured by the Collective Identity Scale (based on Van Zomeren et al., 2013; García et al., 2017), which consists of six items that measure group identification, e.g., when a person "feels that they have a lot in common with other people who belong to their ethnic or racial group [Mapuche, Caucasian (white), Mestizo or other]" and has a politicized sense of collective identity, e.g., a person who "identifies with other people who participate in movements supporting their ethnic or racial group [Mapuche, Caucasian (white) or Mestizo]." They responded on a Likert scale from one ("none") to seven ("a lot"). High scores indicated high identification with the group and with the group's demands. In the present study, the scale showed an internal consistency of $\alpha = 0.95$.

Discrimination

The short scale of discrimination experiences was used (Landrine and Klonoff, 1997; Smith-Castro, 2010), which consists of six items reporting the frequency with which they have experienced different situations such as disrespect, jokes, unfair treatment by bosses or colleagues, lack of employment opportunities, and physical aggression linked to the ethnic group. An example is: "How often have you heard people making jokes (pranks) about people who belong to your ethnic or racial group [Mapuche, Caucasian (white), Mestizo or other]?" In this study, the scale showed an internal consistency of $\alpha = 0.78$.

Psychological Well-Being

The Mental Health Continuum-Short Form (MHC-SF) scale, developed by Keyes (2005), was used to measure psychological well-being (Spanish version by Aragonés et al., 2011). This instrument consists of 14 items that measure different aspects of well-being (e.g., "during the last month, how often have you felt

satisfied with life?”), which allows us to give a general measure of well-being. This scale is answered by a six-point Likert-type scale, from one (“never”) to six (“every day”). In this study, internal consistency was obtained from $\alpha = 0.84$.

Distress

The Chilean version of Goldberg’s 12-item General Health Questionnaire [GHQ-12] Goldberg (1978) by Herrera and Rivera (2011) was used. This scale is designed to detect mental health problems (e.g., “Have you been feeling unhappy and depressed?”). It is answered on a 4-point Likert scale, ranging from zero to three. The present study showed satisfactory internal consistency ($\alpha = 0.80$).

Socio-Demographic and Psycho-Social Questionnaire

A socio-demographic questionnaire was developed to collect information on age, sex, place of residence, marital status, and sense of belonging to an ethnic group (Mapuche, Mestizo, or Caucasian). Psycho-social questions were also included to find out the degree of support or rejection of the Mapuche social movement, the protest methods used, the state’s response to this movement, and the extent to which they have been affected by the Mapuche movement.

Procedure

A pilot test was developed and applied to a total of six adults with primary education to evaluate the understanding of the items and the time of application. The pilot test was conducted in a range of 10–30 min and some participants expressed problems in understanding some instructions or items. As a result, the instructions on the Discrimination and Distress Experience Scale were modified to make them clearer, and the expression “you” (Spanish “tú,” informal) was changed to “you” (Spanish “usted,” formal) on the Collective Identity Scale. We also made contact with residents of the Araucanía Region, who completed questionnaires regardless of their degree of support for or rejection of the Mapuche social movement, as a way of balancing each ethnic group in terms of size. Therefore, the sampling was intentional by quotas. With this in mind, the surveys were applied individually. Before they participated, we explained the objectives of the study to each participant and informed them about confidentiality, making it clear that this was an anonymous and voluntary process. They were also required to sign an informed consent letter. Of the total number of people consulted, 22 refused to participate on the grounds of lack of time or mistrust. Finally, this study was approved by the Ethics Commission of Saint Thomas University, with resolution number 16–18, in the year 2018.

Data Processing and Analysis

First, we conducted a descriptive analysis of criterion variables together with ANOVA tests to compare them between the ethnic groups. For *post hoc* contrasts, Tukey’s HSD contrast was used. Subsequently, we calculated Pearson correlations to evaluate the relationship of the interest variables and finally, we conducted several regression models and hierarchically presented

them to evaluate possible differences among models. All the analyses were conducted with the SPSS v.21 (IBM Corp, 2011) statistical software and the PROCESS macro, following the criteria proposed by Hayes (2013). The power of the study was calculated considering the sample size, using the program G-power, considering medium effect size, an alpha error of 0.05, and four predictors for the last regression, obtaining a power of 0.99.

RESULTS

Table 1 shows that people from the Mapuche group experienced more instances of discrimination and that they had a strong collective identity, with higher support for the Mapuche social movement, including the methods used by this movement. Responses also indicated that they more often disagreed strongly with the state’s actions to confront the social movement compared to the Caucasian and Mestizo groups. The latter two do not differ in any of the variables. There were no differences between the groups in terms of emotional well-being and distress.

Correlations were carried out to examine H1 and H2. **Table 2** shows the correlation between the variables. Concerning the first hypothesis, that experiences of discrimination have a positive relationship with distress and a negative relationship with well-being, results show that emotional distress was positively and well-being negatively related with discrimination, as expected, but that correlations were not significant. The second hypothesis posits that experiences of discrimination, collective identity, distress, and well-being predict participation in social movements, and correlation results confirm this. Discrimination is associated with a collective identity, and both variables are positively correlated, with support for the Mapuche movement and support for the methods used by the Mapuche movement. They are negatively related to support for the actions of the state in confronting the Mapuche movement.

To test the third hypothesis of moderation or that collective identity has a buffering effect on the relationship between experiences of discrimination with distress and well-being, a multiple linear regression analysis was carried out for the prediction of emotional distress. The first step considered experiences of discrimination and collective identity as predictors. The second step included the interaction between experiences of discrimination and collective identity. The analysis shows that moderation is significant. Moreover, including the interaction indicated that both interaction and collective identity have a significant influence, supporting H3 (see **Table 3**).

Indicating the results connected to the third hypothesis of moderation on distress, **Figure 1** shows how low collective identity was associated with higher emotional distress regardless of experiences of discrimination. However, when collective identity was high and experiences of discrimination were also high, distress was reduced.

Table 4 presents a multiple regression that examines the third hypothesis, which is related to well-being. Multiple regression

TABLE 1 | Descriptive statistics of the study variables in the total group and each ethnic and racial group.

| Variable | Min | Max | Total n = 200 | | Mapuche [MA] n = 60 | | Caucasian [CA] n = 67 | | Mestizo [ME] n = 73 | | F value | Comparisons |
|---|-----|-----|---------------|-------|---------------------|-------|-----------------------|-------|---------------------|------|-----------|----------------|
| | | | M | SD | M | SD | M | SD | M | SD | | |
| Discrimination | 6 | 26 | 8.92 | 3.55 | 11.98 | 3.90 | 7.64 | 2.66 | 7.56 | 2.18 | 44.247*** | MA > CA and ME |
| Collective identity | 6 | 36 | 20.48 | 10.34 | 25.39 | 10.07 | 18.95 | 10.67 | 17.85 | 8.95 | 10.303*** | MA > CA and ME |
| Support to the Mapuche social movement | 1 | 10 | 4.61 | 3.09 | 6.90 | 2.57 | 3.10 | 2.46 | 4.03 | 2.91 | 35.426*** | MA > CA and ME |
| Support for the methods used by the Mapuche social movement | 1 | 10 | 2.93 | 2.76 | 4.74 | 2.99 | 1.99 | 2.19 | 2.24 | 2.27 | 23.963*** | MA > CA and ME |
| Support for the actions of the state | 1 | 10 | 4.55 | 3.30 | 3.02 | 2.48 | 4.66 | 3.17 | 5.79 | 3.53 | 13.167*** | CA and ME > MA |
| Emotional distress | 0 | 11 | 2.26 | 2.33 | 2.19 | 2.35 | 2.53 | 2.42 | 2.07 | 2.24 | 0.671 | MA = CA = ME |
| Psychological well-being | 33 | 84 | 61.91 | 10.44 | 60.77 | 11.41 | 63.44 | 10.39 | 61.51 | 9.63 | 1.049 | MA = CA = ME |

Comparison of groups through ANOVA. ***p < 0.001.

was carried out to predict psychological well-being, using the same predictors in step 1 and step 2, undertaken in the previous regression. In this case, both models are significant, but by including the interaction, the model improves its predictive capacity. In this case, both collective identity and experiences of discrimination and the interaction between the two predict psychological well-being.

Results relating to psychological well-being can be seen in **Figure 2**, which shows that when the collective identity was low, the level of well-being was also low. Similarly, when experiences of discrimination are high, the level of well-being was also low. However, if collective identity is high and experiences of discrimination are low, then well-being is high. In this case, the H3 of the buffering role of collective identity was not supported.

Finally, H2 was examined through a multivariate analysis using a multiple regression predicted variable of support for the Mapuche social movement. The predictors were experiences of discrimination, collective identity in the first step, with emotional distress and psychological well-being shown to be predictors in the second step. The model was significant, $F(4,182) = 10,491$; $p < 0.001$, with an $R^2 = 0.19$ ($R^2_{adj} = 0.17$). **Table 5** shows that the significant predictors of support for the Mapuche movement are two collective variables: experiences of discrimination and collective identity; whereas the variables assessing individual responses, emotional distress, and psychological well-being, have no influence.

DISCUSSION

This study focused on a sense of ethnic belonging among the inhabitants of the Araucanía region, an area where the “Mapuche conflict” has been most intense throughout history. It was considered relevant that the sample was composed of participants who identified with the three majority ethnic groups since the “Mapuche conflict” has also been proposed as a social process of “inter-ethnic conflict” (Cepal-Alianza Territorial Mapuche, 2012). This is evident in violent confrontations between “Chilean” and Mapuche civilians in 2020, which were interpreted by public opinion as racist actions (Rojas Pedemonte and Bresciani, 2020).

The results of an ANOVA test, which considered a sense of belonging to an ethnic group (Mapuche, Mestizo, Caucasian) as a factor, show that those who identify as belonging to the Mapuche group, report more experiences of discrimination and less support for the actions taken by the state in the face of Mapuche mobilizations. This information is consistent with previous studies which show that the Mapuche people continue to experience discrimination and exclusion in Chilean society (Merino et al., 2009, 2020; Ramírez et al., 2016).

One explanation for why people belonging to the Mapuche group feel more discriminated against than the other groups is related to the actions of the Chilean state. Currently, the Chilean state is concerned with promoting the development and participation of indigenous peoples (Corporación Nacional de Desarrollo Indígena, 2020), public policies consider the Declaration on the Rights of Indigenous Peoples

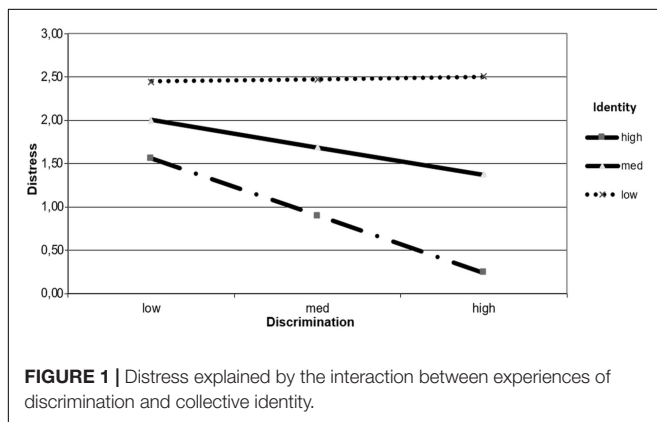
TABLE 2 | Pearson's *r* correlations between study variables.

| Variable | 2 | 3 | 4 | 5 | 6 | 7 |
|--|---------|---------|---------|----------|-------|--------|
| 1. Discrimination | 0.33*** | 0.30*** | 0.36*** | -0.31*** | 0.13 | -0.12 |
| 2. Collective identity | - | 0.36*** | 0.36*** | -0.20** | 0.08 | 0.17* |
| 3. Support of the Mapuche social movement | | - | 0.65*** | -0.46*** | 0.00 | -0.04 |
| 4. Support for the methods used by the Mapuche social movement | | | - | -0.46*** | -0.03 | -0.11 |
| 5. Support for the actions of the state | | | | - | -0.11 | 0.06 |
| 6. Emotional distress | | | | | - | -0.17* |
| 7. Psychological well-being | | | | | | - |

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

TABLE 3 | Multiple linear regression on "well-being" with final model including interaction.

| | | Non-standardized coefficients | | Standardized coefficients | t value | p value |
|---------------|---|-------------------------------|------|---------------------------|---------|---------|
| | | B | SE | β | | |
| Step 1 | $R^2 = 0.02$; $p = 0.161$ | | | | | |
| | (Constant) | 62.36 | 2.21 | | 28.274 | <0.001 |
| | Discrimination | -0.58 | 0.22 | -0.20 | -2.644 | 0.009 |
| | Identity | 0.24 | 0.08 | 0.23 | 3.093 | 0.002 |
| Step 2 | $R^2 = 0.04$; $\Delta R^2 = 0.023$; $p = 0.038$ | | | | | |
| | (Constant) | 53.43 | 4.22 | | 12.668 | <0.001 |
| | Discrimination | 0.49 | 0.49 | 0.17 | 1.014 | 0.312 |
| | Collective identity | 0.66 | 0.19 | 0.65 | 3.514 | 0.001 |
| | Discrimination X Identity | -0.05 | 0.02 | -0.67 | -2.470 | 0.014 |



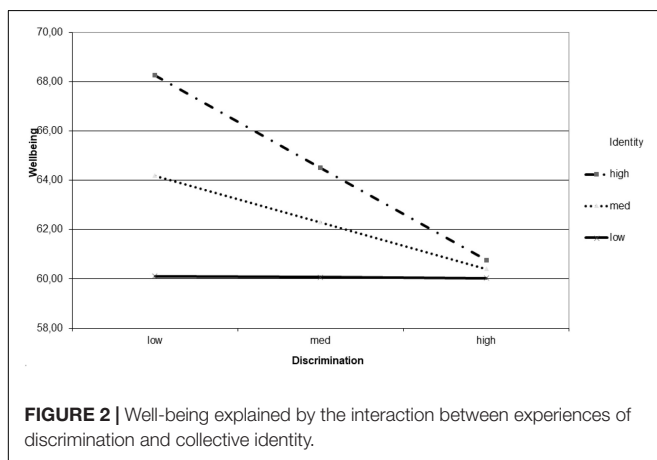
(United Nations Development Programme, 2007), and there are social policies that consider indigenous peoples as a priority, among other inclusive actions. However, these actions have coexisted with state practices such as police repression (Aylwin, 2002), violation of rights, criminal accusations, the use of anti-terrorism laws to try Mapuche people accused of violent actions (Rojas and Gálvez, 2018), and the criminalization of protests in the media (Cepal-Alianza Territorial Mapuche, 2012; Droguett and Ojeda, 2015). The criminalization of protest is a phenomenon that has been studied in different contexts such as protests against the Argentinian government (Svampa and Pandolfi, 2004), the struggle for natural resources

in Colombia (Olarde, 2014), migrants in Europe (Kubal, 2014), and political conflicts in Catalonia (Bernat and Whyte, 2020), among others. This phenomenon is linked to the actions of authoritarian governments, which exercise power through coercion, limiting political plurality, and restricting the political participation of the population (Linz, 1978). Among its effects is the assignment of a social stigma that labels the ex-group as "subversive" or a "public enemy" (Virsedá et al., 2018).

The appearance and maintenance of a negative image of the Mapuche group can be understood through the cognitive construction of the image of the enemy (Martín-Baró, 1993). In this way, ideas, beliefs, and values that justify violence toward the group labeled as an "enemy" are promoted. When this comes from the state, processes of institutionalized lying and dehumanization seemingly justify repressive action and blame the ex-group for social problems (Martín-Baró, 1988). Examples of this can be found in the written press, with statements from authorities labeling the Mapuche social movement as "terrorist" (Álvarez, 2011). Studies in the Colombian context, on the struggles between the state and armed groups, show that the adversary or enemy has been delegitimized and dehumanized through discourses disseminated by the media (Barreto et al., 2009; Gómez et al., 2020). Other studies have found that these actions lead to a lack of support among the general population and may even be held responsible for the damage suffered (Arnosó and Pérez-Sales, 2013). In the Chilean context, the criminalization of the Mapuche people has also been reinforced

TABLE 4 | Multiple linear regression on “distress” with final model including interaction.

| | | Non-standardized coefficients | | Standardized coefficients | t value | p value |
|---------------|--|-------------------------------|------|---------------------------|---------|---------|
| | | B | SE | β | | |
| Step 1 | R² = 0.02; p = 0.161 | | | | | |
| | (Constant) | 2.23 | 0.17 | | 13.306 | <0.001 |
| | Discrimination | 0.08 | 0.05 | 0.13 | 1.614 | 0.108 |
| | Collective identity | 0.01 | 0.02 | 0.03 | 0.444 | 0.658 |
| Step 2 | R² = 0.04; Δ R² = 0.02; p = 0.038 | | | | | |
| | (Constant) | 2.35 | 0.17 | | 13.416 | <0.001 |
| | Discrimination | 0.10 | 0.05 | 0.15 | 1.962 | 0.051 |
| | Collective identity | 0.01 | 0.02 | 0.03 | 0.369 | 0.713 |
| | Discrimination X Identity | -0.01 | 0.00 | -0.15 | -2.089 | 0.038 |



by the traditional press, which has contributed to or promoted an image of the Mapuche as opponents or enemies of the Chilean government (Rojas and Gálvez, 2018). However, the negative influence of discrimination on distress and well-being was not significant, disconfirming H1 and suggesting that the negative effects of discrimination are weak.

The results of support H2 in relation to experiences of discrimination, collective identity, distress, well-being, and predict participation in social movements. The Anova's results show that those with a sense of Mapuche ethnicity have a stronger collective identity and are more likely to support for the Mapuche social movement and methods. This evidence is consistent with Smith-Castro (2005), who argue that the perception of discrimination may activate greater group identification which translates into shared beliefs and support for group practices. Collective identity gives a sense of “us,” so when the group is oppressed or ignored, there is an increased commitment and motivation to organize (Javaloy, 2003) and identity processes are a motivation for action to change the situation (Klandermans and Van Stekelenburg, 2020).

Correlation and regression analyses are in line with the previous results and support H2 on psychological well-being, which is positively related to collective identity, although this relationship is weak but with an effect size similar

to a meta analysis on ethnic identity and well-being that found an $r = 0.17$.

The relationship between well-being and collective identity would explain group membership as a protective factor where members find social support, cohesion, and a sense of communion together with the possibility of deploying collective coping mechanisms and social participation in the face of a disadvantageous social context (Smith and Silva, 2011; Jetten et al., 2017; Atari and Han, 2018; Bowe et al., 2020).

As for experiences of discrimination, these are positively related to collective identity, and both variables are associated with support for the movement and methods used by the Mapuche movement, as expected. Multiple regression analysis shows that support for the Mapuche movement was specifically predicted by experiences of discrimination and collective identity, confirming H2.

Martín-Baró (1996) proposes that feeling part of a group enhances an individual's capacity to transform power relations in society, giving rise to a process called “awareness” or the acquisition of knowledge about one's own identity and the social reality in which one lives. Through active social participation, people seek to deactivate the mechanisms of oppression and dehumanization set in motion by the dominant group (Euzébio Filho, 2010). This explanation would also serve to understand the results of regression analysis, where support for the Mapuche movement presented a positive relationship with two significant collective variables: experiences of discrimination and collective identity.

The moderations reaffirm these same findings and support H3 on the buffering role of collective identity. They show that regardless of experiences of discrimination, low collective identity is associated with greater emotional distress. However, when experiences of discrimination are high, the presence of a stronger collective identity reduces emotional distress, as H3 posits. On the other hand, if experiences of discrimination are low and collective identity is high, then well-being increases. This reaffirms the idea that collective identity acts as a protective factor for mental health (Mossakowski, 2003; Tereucán et al., 2017), mitigating the negative effect of experiences of discrimination on well-being and discomfort. These results are also in line with Haboush-Deloye et al. (2015), who show that strong ethnic

TABLE 5 | Multiple linear regression on “support for the Mapuche movement.”

| | | Non-standardized coefficients | | Standardized coefficients | t value | p value |
|---------------|--|-------------------------------|------|---------------------------|---------|---------|
| | | B | SE | β | | |
| Step 1 | $R^2 = 0.18$; $p < 0.001$ | | | | | |
| | (Constant) | 4.59 | 0.20 | | 22.725 | <0.001 |
| | Discrimination | 0.21 | 0.06 | 0.24 | 3.331 | <0.001 |
| | Collective identity | 0.08 | 0.02 | 0.28 | 4.013 | <0.001 |
| Step 2 | $R^2 = 0.19$; $\Delta R^2 = 0.01$; $p = 0.500$ | | | | | |
| | (Constant) | 5.98 | 1.33 | | 4.515 | <0.001 |
| | Discrimination | 0.20 | 0.06 | 0.23 | 3.115 | 0.002 |
| | Collective identity | 0.09 | 0.02 | 0.30 | 4.143 | <0.001 |
| | Psychological well-being | -0.02 | 0.02 | -0.07 | -0.977 | 0.330 |
| | Emotional distress | -0.07 | 0.09 | -0.05 | -0.805 | 0.422 |

identity is associated with lower indicators of suicide and suicidal ideation. Bardol et al. (2020) conclude in a meta-analysis that the sense of affiliation, belonging and social support, that are characteristic of ethnic group membership, are key to mitigating the negative effects of discrimination. Identification with the Mapuche ethnic group provides its members with better resources to cope with the negative effects of acculturative stress and discrimination, as observed in another study by Cheng et al. (2010).

This study presented some important limitations that need to be considered when interpreting these results. First, the sample was not representative, because it was intentionally set up in a stratified way. On the other hand, this study is cross-sectional, which prevents the establishment of cause and effect relationships, analyzing the phenomenon of discrimination in a longitudinal way would be especially interesting since this situation has a long socio-historical background. Thirdly, the ethnic group known as Mestizo includes a heterogeneous group of people, some of them with Mapuche and others Caucasian physical characteristics, which could lead to a difficult interpretation of the results of this group.

In future studies it would be interesting to address variables such as acculturation which refers to the psychological process of adjustment that occurs when different cultures meet (Hjellset and Ihlebæk, 2019). This process implies that people and cultures undergo modifications and accommodation among themselves, and reactions such as rejecting a culture, or implementing adaptation strategies, may occur at an individual or socio-cultural level (Berry, 2005). This variable has been studied especially in the context of migration, where mental health has been linked to the number of perceived social problems, the presence or absence of social support, the type of acculturation strategy implemented, and levels of stress (Yáñez and Cárdenas, 2010). Specifically in Chile, Urzúa et al. (2016) have shown that high levels of stress due to acculturation affect the increase of symptoms associated with mental health problems (Yáñez and Cárdenas, 2010). Tereucán et al. (2017) point out the usefulness of this variable in ethnic contexts, since acculturative stress can arise when people are

socially marginalized and are victims of negative attitudes toward their culture of origin, which could also influence suicidal behavior.

This research is consistent with the World Health Organization [WHO] (2008) approach to understanding health through its social determinants such as experiences of poverty and perceived inequality (United Nations Development Programme, 2013). Low levels of participation, cohesion and social integration of people in their environments are key to understanding the persistence of negative indicators in mental health. The findings of this research reinforce the fact that a sense of belonging and attachment to a group can be significant to mental health. The relevance of the identity phenomena of the Mapuche group is related to the broad socio-historical context that leads them to identify as a group in unequal conditions compared to the Caucasian and Mestizo group, as they have suffered constant experiences of violation and discrimination. From this perspective, the need to understand health and well-being from a socio-historical perspective is corroborated (Keyes, 2005; Blanco and Díaz, 2006). Furthermore, it is evident that the processes of redress in vulnerable groups can and should incorporate elements that highlight their identity, seek to eliminate the processes of criminalization that contribute to their discrimination, and guarantee their rights (Virveda et al., 2018). In the case of the Mapuche this is particularly important, as their worldview incorporates the “good life” or in their language “Kume Monguen” as the search for a state of balance between people, their community and their environment. For the Mapuche, people would achieve balance by being in harmony and interpersonal communication in their “lof” (community), their social, productive, cultural, political, environmental, territorial, religious, and cosmic environment (Guajardo, 2017).

This study provides evidence that supports the design of strategies for ensuring mental health through the promotion of collective identity and sense of belonging for the Mapuche people, through activities that encompass their beliefs, traditions, and way of life. The promotion of collective identity constitutes a powerful protective factor for the mental health of individuals

and a strategy through which they can confront the systemic inequality, discrimination, and exclusion they experience.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Ethics Committee of the Universidad Santo Tomás. The patients/participants provided their written informed consent to participate in this study.

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FG proposed the research idea, directed the study, wrote the article, and performed the data analysis and the final review. LV wrote the article, directed the discussion, and participated in the final review. MA, NI, and KS coordinated and performed the data collection in Araucanía region, and contributed to the planning of the study and to the discussion of the results. SG contributed to data analysis and wrote the article and final review.

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Collective Self-Esteem and School Segregation in Chilean Secondary Students

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Chile has established hybrid policies for the administrative distribution of its educational establishments, leading to significant gaps in educational results and school conditions between public, mixed, and private schools. As a result, there are high levels of segregation, and social and economic vulnerability that put public schools at a disadvantage, affecting their image and causing a constant decrease in enrollment. An abbreviated version of Luhtanen and Crocker's (1992) collective self-esteem scale was adapted and validated for the Chilean educational context because of its usefulness in studying processes of social segregation and cultural coherence, seeking to identify student perception about the appreciation of school actions in the context of belonging and identification with schools, in order to compare between groups according to types of establishment and assess the effects of school conditions on the perception of students. A representative sample of Chilean secondary students between 9th and 12th grades participated ($n = 3635$, 52.8% women, average age 15.9 years, $SD = 1.1$). Descriptive analyses, comparison of means between groups, confirmatory factorial analyses, and multi-group analyses were conducted to test the adjustment and invariance of the unifactorial structure of a reduced version of four items. The results indicated that the scale satisfactorily complies with the proposed adjustment indexes, presents total invariance by gender and partial invariance by administrative dependence, and allows establishing statistically significant differences in the collective self-esteem, indicating a higher score for students in the private system, and a lower score for those in the public system. These results show the negative effects of high school segregation on students' collective self-esteem, affecting the appreciation of personal, collective, and institutional activities and the sense of belonging. Although previous research has explored some of the effects of school segregation, the present study focuses on collective self-esteem, which is closely related to identity and belonging, and allows for further innovative research on school segregation. The scale is useful as an instrument for researching social conditions of student well-being, in regards to educational management.

Keywords: collective self-esteem, segregation, psychometry, secondary education, belonging, social identity

INTRODUCTION

The construct “collective self-esteem” describes the value that individuals make of themselves and of the activities that they carry out, based on the attitude and value manifested in the interactions with the group to which they belong and where these activities have been agreed upon. Based on this argument, Riia Luhtanen and Crocker (1992) designed a scale to measure this construct.

The use of this scale and its indicators has been extensive in social science research. In the educational context, studies have been developed on the identification of personal and social factors, helping to better understand the relationship that collective self-esteem has with the perception of worth, commitment, pride, satisfaction, confidence, and wellbeing, in terms of belonging to certain social groups.

A review of these studies shows that some of them place collective self-esteem as a protective factor in relation to the promotion of mental health in children, adolescents, and young people. An example of this has been research on students of migrant descent, with multi and intercultural identities considered an at-risk population regarding mental health, in which collective self-esteem shows direct effects on psychological, subjective, and socio-emotional well-being (Crocker et al., 1994; Kim and Omizo, 2005; Du et al., 2017; Cornejo et al., 2020). Other studies have been conducted on racial minority students whose educational opportunities are affected by intergenerational background (Thomas, 2017); others have focused on the interaction between family and school educational practices to show how collective self-esteem, as a cultural factor, promotes school engagement (Borrero and Yeh, 2020). Studies have also been published that show the effect of collective self-esteem on the self-construals responsible for psychological well-being in students at the higher education level (Yu et al., 2016). Other studies have been conducted to better understand social identity models based on intra-group practices, such as sport activities, physical education, and its propagation as a community activity in social networks, which strengthen group identity and cohesion, especially in highly competitive communities (Kim and Kim, 2019; Røset et al., 2020).

The development of collective self-esteem involves factors linked to an allocentric perspective of interaction between the psychological dimension and the cultural dimension of collectivism, with a key role in the development of group processes linked to the public and private dimension of activities, by establishing an interdependence between the normative beliefs that govern the social group and those available to the individual (Wu et al., 2011). This interdependence helps to partially explain phenomena of social interaction and coexistence within communities (Lim and Chang, 2009) or the levels of social cohesion and commitment within large groups (Khong et al., 2017; Schiefer and van der Noll, 2017), from a more sociological perspective. The present study is part of a broader research project of measurement of socio-emotional variables with a perspective that considers psychological and pedagogical development that can influence student trajectories, trying to account for the interaction between the world of the individual

and the collective to which they belong. In this context, collective self-esteem was considered for the research as a variable to study the adherence, identification, and valuation of the actions carried out by the students according to their learning process, considering the cultural congruence of the student with respect to beliefs and attitudes promoted by belonging to educational establishments that are administratively and socioeconomically differentiated, recognizing that this linkage, in some cases, could explain phenomena of social segregation, prejudice, and social adjustment or adaptation (Bettencourt et al., 1999; Giang and Wittig, 2006; Rahim-Lateef, 2019; Jia et al., 2020), aspects that have become a topic of interest in Chile (Villalobos et al., 2020).

Previous research construct has established a relationship of collective self-esteem and the individual's immediate environment at the individual and group levels, associated with factors of cultural or social identity, according to membership in certain communities. However, based on a review of the literature, there seem to be no studies that address collective self-esteem from an alternative approach that considers factors distant to the individual, such as management practices in the administration of the educational system based on public policy guidelines in education, which likewise have a direct effect on individuals and which, in the case of this study, determine differences in collective self-esteem based on the administrative segregation brought about by the different types of administration (public, private with state subsidy, and private) of educational establishments.

From this perspective, the goal of the study is to adapt and validate an abbreviated form of the scale of collective self-esteem in Chilean students to make it suitable for a specific use in the educational context, i.e., collective self-esteem in relation to belonging to a specific educational establishment. The study aims to collect the student perspective of integral individual-school assessment, looking for evidence that allows to identify relevant dimensions of commitment and interaction for the educational communities themselves, in order to support the design of action strategies for the improvement of educational quality, understood in an integral sense of psychological and social well-being, which transcends all participants in the educational communities and considers the institutional conditions under which they develop.

Chile is a country of significant social contrasts, magnified by the diversity of geopolitical conditions present in its long territory. On top of this geographical and cultural diversity, there are markedly segmented levels of social vulnerability reflected in the population and in schools, which show part of the complexity of the situation of extended poverty within the framework of a neoliberal social system, giving rise to accentuated processes of segregation and social exclusion (Álvarez-Ayuso and Cadena-Vargas, 2006). For this reason, Chile has one of the educational systems that are most subjected to processes of school segregation by socioeconomic level in Latin America. This type of segregation associated with socioeconomic level leads to large gaps in the social evaluation of the quality of education, according to the membership in institutions that vary according to the municipal agency (public), private-subsidized by the state (mixed) or private (Murillo and Duk, 2016; Santos and Elacqua, 2016; González, 2017). A fourth category, very few in number

but whose characteristics deserve consideration, corresponds to establishments of public origin and financing that have been handed over to private institutions (foundations, in general) for administration (delegated). These categories correspond to the second variable considered for the present study, along with psychosocial vulnerability.

In today's society, where there is a global interest in building and expanding communities and networks to ensure support and strengthen ties, individually perceived and socially concerted values regarding belonging and identification with certain groups and collectives become important (Rosenmann et al., 2016). In this process of identification, the interaction between trust and well-being perceived by individuals in relation to those perceived by other individuals who are part of the same collective stands out, as they identify themselves with the characteristics that define their groups of belonging within the same ecological context, which allows them to share elements that serve as a reference for integral development, both individual and collective (Olivos and Clayton, 2017).

This interaction between personal appreciation and the appreciation that others make of belonging to a group is what is called Collective Self-Esteem. In the collective self-esteem, the evaluation that people make of themselves, referring to their successes and failures in actions developed within a collective space, stand out, as well as the social comparisons with the evaluation that others make, considering their own internal parameters and the social judgment of the value of reference of these groups (Ramos-Oliveira, 2016). In this way, collective self-esteem comprises two major axes; on the one hand, the personal evaluation associated with processes of development and construction of identity that promote group membership, and the public evaluation of this membership, based on the collective aspect of self-esteem (Martiny and Rubin, 2016).

The self-esteem construct has been recognized for several decades since the theory of social identity (Luhtanen and Crocker, 1992). The social identity theory promotes the idea that the need for self-esteem motivates the members of a group to perform actions and maintain a perspective that holds up and protects the positivity of the group (Martiny and Rubin, 2016). For Luhtanen and Crocker (1992), this implies the construction of a collective self that seeks to strengthen internal interactions and identification within groups to maintain group cohesion and guarantee the long-term survival of the groups.

The collective self-esteem construct has been applied mainly to the field of social psychology, and has contributed to the study of prejudice, discrimination, and social segregation between communities, based on cultural and idiosyncratic factors (Kong, 2015). However, the construct involves the relationship between individual psychological aspects and social interaction that condenses, in a relevant way, the construction of the sense of social identity, considering aspects of cultural congruence (Dueñas and Gloria, 2017). This aspect of cultural congruence between individual and group allows the collective self-esteem construct to account for the levels of attachment, identification, and sense of belonging to culturally and socially situated groups;

this is the case of educational contexts, considering the need to know the student's perception and assessment with respect to their school contexts, demarcated by the configuration of communities that are territorially or culturally anchored to schools.

The school communities are configured as groups, characterized by the establishment of their own imprints, identities, and values defined institutionally in their pedagogical models, which they make public and spread to the external social environment to show their main attributes as ideal places for the formation of children and adolescents, hoping to obtain the approval, preference, and satisfaction of parents and guardians who decide to enroll the children in their care there (González et al., 2018). And, although the assessment of the schools made by the adults is important, it is even more important to consider the perspective of the students, which synthesizes the vision received from parents, other significant adults, peers, and other sources in the immediate environment, nuanced through the filter of their own experiences of acting and belonging in the schools, which account for the daily experience that provides key elements for their school careers. The collective self-esteem construct can offer an adjusted image of the students in relation to what they experience as part of the school collective, together with the appreciations that the students make of what others think of them and their school role.

MATERIALS AND METHODS

Participants

A total of 3,635 high school students from years 9 to 12 of schooling (I to IV in the Chilean school system) from educational institutions selected through two-stage and stratified probability sampling, in the sixteen geopolitical regions of Chile, considering the four types of administrative units in the country: municipal (public), private subsidized by the state (mixed), private without state subsidy, and delegated administration. The schools were the first level units (selected through a simple randomization algorithm), and the final units were the classes selected within each school (which were selected through a Kish table). The Chilean Ministry of Education's Enrollment Table 2017, a document that lists all the schools in the country, was used as the sampling frame. The average age of the participants was 15.9 years ($SD = 1.1$). Of the total sample, 1,989 were women, corresponding to 52.8% in the sample, and 95% were born in Chile (the remaining 5% were distributed among South American nationalities, although there were also participants from North American, European, and Asian countries).

Instruments

The present study was part of a bigger project regarding inclusive education and life trajectories of students in the Chilean school system, for which multiple variables and scales were used, including subjective well-being, self-regulation, and school climate, among many others. In the present study, the variables considered were: (a) Type of administrative dependence of the school establishments, and (b) Collective Self-esteem.

Collective Self-Esteem Scale (Luhtanen and Crocker, 1992)

This scale relates to the concept of collective identity from social identity theory (see **Table 1**). It starts from the idea that one of the social facets of individuals when they have membership within a collective is to perceive themselves as members of the group, sharing the same social category with all members (Luhtanen and Crocker, 1992). Following the ideas of Breckler and Greenwald (1986), Luhtanen and Crocker revisited three motivational facets of the self: public, private, and collective, to account for the personal evaluation that each person makes, based on how they see themselves in reference to the specific context of certain groups and their activities. Regardless of how each person perceives themselves in an isolated way, considering their attributes and capacities, belonging to the group introduces a factor that intervenes in the self-evaluation, contextualizing it based on the evaluation that is made of the group to which they belong and how they perceive that others evaluate the group.

The construction of the original scale in 1990 considered four dimensions: membership esteem, which is the personal assessment of group membership (“I am a worthy member of the social groups to which I belong”); private collective self-esteem, which is the personal assessment of the value

of the group itself (“I often regret belonging to some of my social groups,” an inverted item); public collective self-esteem, which is the value that other people make of the groups to which they belong (“In general, my social groups are considered good by others”); importance to identity, which is the importance given to group membership as an input for one’s self-concept (“The social groups to which I belong are not important in giving meaning to the type of person I am,” another inverted item).

The statistical factorial adaptation made by the test’s authors was based on a pilot application to 887 university students of different ethnic and cultural origins, which resulted in the final instrument consisting of 16 items selected as those with the best factorial load (between 0.54 and 0.83), with an explained variance of 60.7% and Cronbach’s alpha coefficients for each subscale and for the total scale above 0.83. The correlations between items reported for that pilot were 0.55 and higher (Luhtanen and Crocker, 1992).

This instrument was rephrased by the research team, to refer to the school, and the response scale was modified (see **Table 2**); thus, this version adapted to the school context is answered as a Likert scale with values from 1 (Strongly Disagree) to 5 (Strongly Agree).

A pilot administration was carried out on a small sample of secondary school students in the city of Iquique (Northern Chile), selected by availability ($n = 414$, school years 9 to 12, 54% women), to determine their comprehensibility and to carry out exploratory analyses that would allow the definition of items for an abbreviated version (see **Table 3**). Inter-item correlations in this sample were generally low, varying between $r = 0.001$ and $r = 0.54$. A EFA was executed to determine the emerging factor structure, and the result showed 5 factors with eigenvalues greater than 1, which does not correspond to the expected structures (one factor considering all items, or four related factors). The first of the factors covered half of the 40% variance explained by the set of items and presented several items with high loads, belonging to three of the four dimensions of the construct, only leaving one out of consideration. A new EFA was then executed, this time fixing the number of factors in four. The four factors explained 38% of variance, but the factorial loads did not allow assimilating the extracted factors with the dimensions of the construct, although in each one of them there was a marker—an item with high loading—that corresponded to each one of the dimensions, suggesting possible selectable items for an abbreviated version;

TABLE 1 | Items and dimensions of the complete CSES adapted for the school context.

| # | Item | Dimension |
|-----|--|---------------------|
| 1 | I am a worthy representative of this school. | Membership |
| 5* | I feel I don't have much to offer to this school. | |
| 9 | I am a cooperative participant in this school. | |
| 13* | I often feel I am a useless member of this school. | |
| 2* | I often regret that I belong to this school. | Private self-esteem |
| 6 | In general, I am glad to be a member of this school. | |
| 10* | Overall, I often feel that belonging to this school is not worthwhile. | |
| 14 | I feel good about being part of this school. | |
| 3 | In general, belonging to this school is considered good by others. | Public self-esteem |
| 7* | Most people consider people from my school, on the average, to be more ineffective than others from other schools. | |
| 11 | In general, others respect the people from this school. | |
| 15* | In general, others think that people from this school are unworthy. | |
| 4* | Overall, the people from this school have very little to do with how I feel about myself. | Identity |
| 8 | The people from this school are a good reflection of who I am. | |
| 12* | To my understanding, this school does not reflect the kind of person I am. | |
| 16 | In general, belonging to this school is an important part of my self-image. | |

* Items reversed for scoring.

TABLE 2 | Items of the reduced CSES scale.

| # | Item | Content |
|----|------|---|
| 1 | | I am a worthy representative of this school. |
| 11 | | In general, others respect the people from this school. |
| 14 | | I feel good about being part of this school. |
| 16 | | In general, belonging to this school is an important part of my self-image. |

TABLE 3 | Sample size, averages, and standard deviations of the items of the scale, by administrative dependence.

| Item | Public <i>n</i> = 1330 | | Mixed <i>n</i> = 1682 | | Private <i>n</i> = 243 | | Delegate <i>n</i> = 380 | |
|--------------------------|------------------------|-----------|-----------------------|-----------|------------------------|-----------|-------------------------|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| 1 | 3.00 | 1.12 | 3.05 | 1.11 | 3.20 | 1.18 | 3.02 | 1.08 |
| 11 | 3.22 | 0.99 | 3.35 | 1.00 | 3.47 | 0.99 | 3.21 | 1.00 |
| 14 | 3.27 | 1.00 | 3.33 | 1.02 | 3.43 | 1.00 | 3.31 | 1.01 |
| 16 | 3.05 | 1.04 | 3.07 | 1.02 | 2.97 | 1.08 | 3.02 | 1.02 |
| Complete four-item scale | 3.13 | 0.77 | 3.19 | 0.79 | 3.26 | 0.79 | 3.13 | 0.81 |

but these items coincided only partially with those indicated in the previous analysis. A final EFA was executed forcing the extraction of a single factor, which explained 20% of the variance, but again one of the dimensions did not register any item with a load higher than 0.4. Finally, Cronbach's alpha coefficient and item-total correlation was obtained for the set of items, resulting in an acceptable consistency (0.77) and low to moderate item-test correlations (between $r = 0.1$ and $r = 0.58$); but again, only three of the construct dimensions were represented among the items that showed correlations higher than $r = 0.35$ with the total score. Thus, a selection of items covering all four dimensions was not achieved, so it was decided to administer the set of items to the large sample, and to make the selection of items for the short version directly from that new sample.

Procedure

The scale was applied through self-report questionnaires during the 2017 school year, within the usual school schedule, as part of an instrument that included other scales in a larger study. The schools were contacted by phone with the purpose of inviting them to be part of the study. When the schools agreed to participate, they proceeded to deliver information about the study and schedule visits. In the event that they did not agree to participate, the next school on the list was contacted.

Statistical Analysis

In order to evidence the psychometric properties and descriptive characteristics of the scale, descriptive analyses of correlations, tests of multivariate normality, confirmatory factor analysis (CFA), and factor invariance analysis incorporating absolute measures of fit, incremental measures of fit, and measures of comparative fit (Brown, 2015), as well as tests of differences in means between groups (one-factor ANOVA), and factorial ANOVA, were performed. This last analysis was carried out to test the capacity of the abbreviated instrument to capture differences between groups according to factors of institutional administrative dependence and the school vulnerability index (IVE), which in Chile are strongly associated with stratification by socio-economic level (NSE) and reported level of school vulnerability—calculated through the National System of Allocation with Equity (SINAE) and executed by JUNAEB (National Board of School Aid and Scholarships)—to identify the level of socio-economic vulnerability of groups of elementary and middle school students in public and mixed schools.

The statistical analyses were carried out using the support of the programs SPSS AMOS 22 (IBM Corp., 2013) and RStudio-IDE (Horton and Kleinman, 2015).

The factorial analysis (AFC) and invariance analysis were obtained using the weighted least squares estimator (WLS) to correct the underestimation of the factorial loads of items with asymmetric response frequencies, by establishing that the multivariate normality in the data is not met (Asún et al., 2016). Internal consistency coefficients were evaluated using McDonald's Alpha and Omega indexes. Tests for gender and dependence invariance were performed evaluating configural invariance (same factor structure between groups, Model 1), metric invariance (same factor loads, Model 2), scalar invariance (same intercepts, Model 3), and same residuals within the multi-group confirmatory factor analysis (Model 4), sought to assess the magnitude of change in model fit rates at each level, following the guidance of Cheung and Rensvold (2002) regarding the application of the likelihood ratio test (differences in χ^2 between nested models), and Δ -CFI < 0.01.

RESULTS

As a first step, the Kolmogorov-Smirnov test was performed for a sample, which indicated that the data did not follow a normal distribution ($p < 0.05$), and several descriptive analyses were performed for the entire 16-item instrument. Once the CFA was carried out following the original suggested 16-item structure distributed in four factors (membership esteem, private collective self-esteem, public collective self-esteem, and importance to identity), the result showed a poor fit in the selected sample of the school population: $N = 3635$, $\chi^2 = 6745.627$, $df = 98$, $p = 0.00$; IFC = 0.54, TLI = 0.44; RMSEA = 0.16; SRMR = 0.17 with dissimilar factor loads, from very low (0.03) to high (0.84).

From this poor adjustment of the model, a revision of literature about the construct was carried out (Branscombe and Wann, 1994; Ayestarán et al., 1996; Giang and Wittig, 2006), and in conjunction with the experts' criterion, it was decided to try an abbreviated unifactorial model of four items, selecting the items of greater theoretical relevance reflected in the design arguments of the original scale by Luhtanen and Crocker (1992). The items were selected considering the highest probability of reflecting each of the dimensions contemplated by the construct, which are related to membership, perception of public, private and identity assessment of collective self-esteem. Likewise, that the items met

conditions of higher factorial load in the complete model and moderate to low correlations was also considered.

Based on these orientations, items 1, 11, 14, and 16 were selected, which met all the theoretical and statistical conditions, regarding satisfactory factorial loads with the best behavior within the initial structure of each of the four factors of the base model (factorial loads 0.64, 0.77, 0.64, and 0.73, respectively).

The correlation between items was significant at low to moderate levels (coefficients between 0.34 and 0.50), with the highest value correlations between items 11 and 14 ($r = 0.50$) and items 14 and 16 ($r = 0.50$).

With this unifactorial structure composed of four items, the confirmatory analysis was carried out, for which this model shows a good fit: $N = 3774$, $\chi^2 = 5.394$, $df = 2$, $p = 0.06$; IFC = 0.99, TLI = 0.98; RMSEA = 0.02; SRMR = 0.009, with significant factorial loads of 0.56, 0.82, 0.62, and 0.63, respectively, and McDonald's reliability indexes $\omega = 0.75$; Cronbach's $\alpha = 0.75$.

Multigroup Invariance Analysis

Two models of invariance between groups were tested. The first was based on the gender variable (female, male and other) and the second on the administrative dependency variable (public, mixed, private and delegates). The relationship between the invariant models was analyzed by comparing the relative adjustment of each successively restricted model, following the assumptions mentioned by Cheung and Rensvold (2002) to identify the differences based on the indicators of χ^2 and IFC, with which the invariance assumption is accepted when p of $\chi^2 > 0.05$ and $\Delta CFI \leq 0.01$ (Tables 4, 5).

Multi-Group Invariance Analysis, Based on Gender

The result indicates that the scale of collective self-esteem presents total invariance at all levels, giving an account of equality of factor structure, burdens, intercepts, and residues between groups of men and women.

Analysis of Multi-Group Invariance, Based on the Administrative Dependence of the Establishment

The result of the multi-group analysis based on the administrative dependence factor of the educational establishments, indicates that the collective self-esteem scale presents partial invariance, showing equality of factor structure and factor loads among the established groups (public, mixed, private, and delegated), but does not present equality in intercepts and residues.

Convergent Validation

The instrument included another series of scales to evaluate, among other variables, the satisfaction with life in students (Alfaro Inzunza et al., 2014), personal well-being (Bilbao Ramírez et al., 2016), and social well-being in school (Blanco and Díaz, 2005) taking up again the Keyes' social well-being scale (Keyes, 1998). These scales were selected to carry out analyses of the associations with the average result of the collective self-esteem scale, given its compatibility and relevance in terms of the content measured, which refers, among other aspects, to feeling satisfied with the school and with the self-confidence it provides when participating in its activities, in addition to investigating the students' perception of being an important part of the school community, the evaluation they receive from the people linked to the school, the closeness to these people linked to the school, the school as a source of well-being, the personal contribution that the students makes to the school, and the importance of this contribution, the school as a place of continuous improvement for the students, the school as a source of opportunities, the school as an institution that advances and improves, and the value of the school itself in relation to other schools, considering dimensions of social integration, social acceptance, social contribution, social actualization, and social coherence. As can be seen in the results of the correlations in Table 6, all the correlations are statistically significant, and are established in an expected positive direction.

TABLE 4 | Multigroup invariance model adjustment indices by gender for the CSES scale.

| Multigroup by gender | df | Absolute | | | Comparative | | | | |
|-------------------------|----|----------|-------|-------|-------------|----------------|---------------------------|---------|--------------|
| | | χ^2 | RMSEA | SRMR | CFI | 90% CI | $\Delta\chi^2(\Delta df)$ | p value | ΔCFI |
| Model 1 CSES configural | 4 | 4.544 | 0.01 | 0.008 | 0.99 | [0.000. 0.045] | | 0.33 | |
| Model 2 CSES metric | 7 | 12.267 | 0.02 | 0.01 | 0.99 | [0.00. 0.047] | 7.723(3) | 0.09 | 0.00 |
| Model 3 CSES scalar | 10 | 15.796 | 0.02 | 0.02 | 0.99 | [0.00. 0.041] | 3.529 (3) | 0.11 | 0.00 |
| Model 4 CSES residual | 14 | 22.222 | 0.02 | 0.02 | 0.98 | [0.00. 0.038] | 6.426(4) | 0.07 | -0.01 |

TABLE 5 | Multigroup invariance model adjustment indices by administrative dependence for the CSES scale.

| Multigroup by administrative dependence | df | Absolute | | | Comparative | | | | |
|---|----|----------|-------|-------|-------------|----------------|---------------------------|---------|--------------|
| | | χ^2 | RMSEA | SRMR | CFI | 90% CI | $\Delta\chi^2(\Delta df)$ | p value | ΔCFI |
| Model 1 CSES configural | 8 | 8.005 | 0.001 | 0.009 | 1.00 | [0.000. 0.039] | | 0.43 | |
| Model 2 CSES metric | 17 | 14.517 | 0.00 | 0.01 | 1.00 | [0.00. 0.026] | 6.512(9) | 0.63 | 0.00 |
| Model 3 CSES scalar | 26 | 43.660 | 0.02 | 0.02 | 0.98 | [0.012. 0.041] | 29.143(9) | 0.16 | -0.02 |
| Model 4 CSES residual | 38 | 60.305 | 0.02 | 0.02 | 0.98 | [0.12. 0.037] | 16.645(12) | 0.12 | 0.00 |

TABLE 6 | Correlations of the global score of the Collective Self-Esteem Scale and the Satisfaction with Life Scale for students, Personal Well-being, and Social Well-being.

| | 1 | 2 | 3 | 4 |
|---------------------------|--------|--------|--------|------|
| 1. CSES Mean | 1.00 | | | |
| 2. Satisfaction with life | 0.26** | 1.00 | | |
| 3. Personal well-being | 0.29** | 0.84** | 1.00 | |
| 4. Social well-being | 0.27** | 0.24** | 0.26** | 1.00 |

** $p < 0.01$.

Results of Comparison of Means Between Groups According to Administrative Dependency Factors and Vulnerability Index

The first factor established was the administrative dependence of the educational establishment, and the second factor was the vulnerability index within the composition of the student population in each establishment.

The administrative unit was established at four levels (public, mixed, private, and delegated). The vulnerability index was established at three levels corresponding to low, medium, and high.

First, Levene's test was established and the homogeneity of the variances was tested ($p > 0.05$). Differences between means were established with a *post hoc* Scheffé's test using one-factor ANOVA, which resulted in significant differences in the administrative dependency factor [$F(3,3631) = 3.04, p < 0.05$], and differences in means (I-J) $p < 0.05$ were identified between municipal and non-subsidized private establishments. For the vulnerability index factor, the differences are also significant [$F(2,3632) = 4.09, p < 0.05$] identifying mean differences (I-J) $p < 0.05$ between the medium and high levels of vulnerability.

To control a possible interaction between both factors, a factorial ANOVA ($2 \times 4 \times 3$) was conducted with the two factors as independent variables associated with dependency and vulnerability index. The interaction between factors was not statistically significant, while the main effects of each factor (administrative dependency and vulnerability index) on the measurement of collective self-esteem were statistically significant: $F(2,3634) = 3.173, p < 0.05$; $F(3,3634) = 2.641, p < 0.05$ correspondingly.

Figure 1 shows that public school students with higher vulnerability indexes have lower average scores in collective self-esteem, and individuals whose vulnerability indexes are low, have the highest average scores in collective self-esteem. Although the interaction of factors is not significant, the distribution of average scores in collective self-esteem in mixed schools is noteworthy, indicating that within this level of schools, those with a medium vulnerability index obtain better average scores in collective self-esteem.

DISCUSSION

The main purpose of this work has been to adapt and validate an abbreviated version of the collective self-esteem scale to make it a brief, easy to use, and graded instrument, suitable for a massive use in educational context to measure students' perception of their own assessment and confidence and of their activities carried out according to their belonging to the school as a reference group. The analyses carried out allow us to establish the achievement of this psychometric objective.

The revision of the adjustment of the complete scale allowed identifying the items with better demonstrative capacity of the collective self-esteem construct, facilitating the selection of representative items of the four dimensions that originally

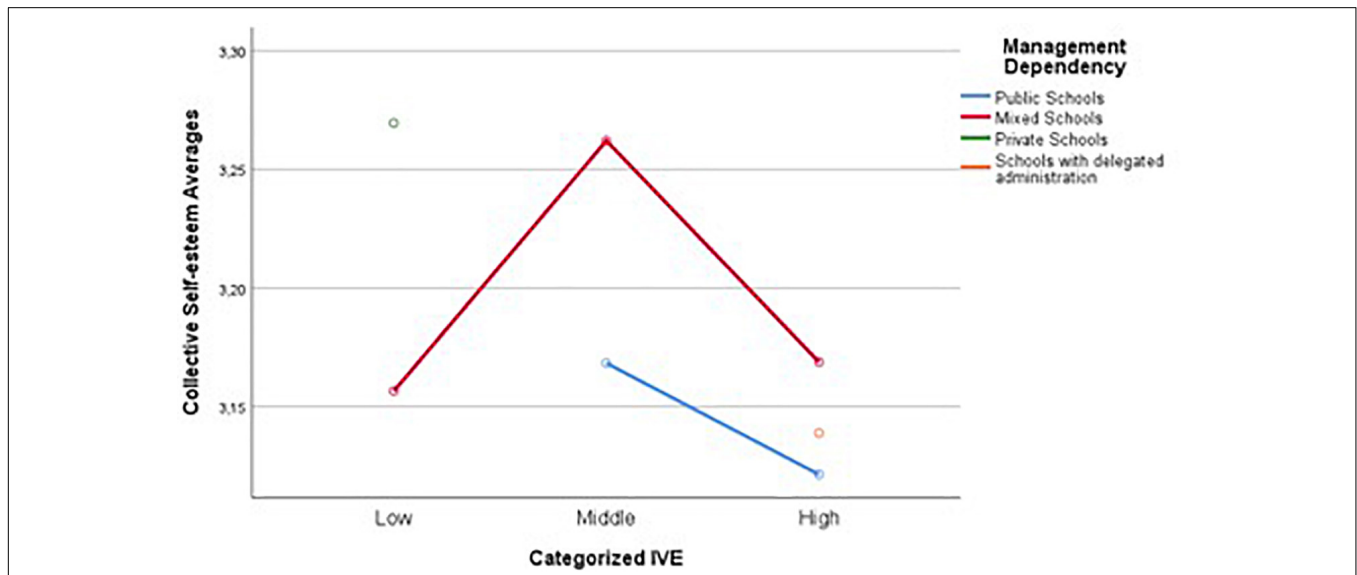


FIGURE 1 | Main effects of the vulnerability index and the type of administrative dependency of the schools on the levels of collective self-esteem.

integrate the scale, this time within a unifactorial structure. This unifactorial solution showed a good adjustment, allowing to configure a brief, understandable instrument, easy to apply, and answer by the students, which reflects in its content the main characteristics proposed for the collective self-esteem construct, attending to the ideas that underlie the construct regarding the personal appreciation associated to development processes and identity construction promoted by group membership, and on the other hand, the public appreciation of this membership, based on the collective nature of self-esteem (Martiny and Rubin, 2016).

Multigroup factor invariance analyses conducted on the basis of gender and administrative dependence of the establishments indicate that the scale meets measurement criteria without variation among these established groups. In the case of gender analysis, the invariance is complete, constraining the equality of factor structure, burdens, intercepts, and residues between the groups. In the case of multi-group analysis based on the administrative dependency factor of the establishment, the invariance between the groups determines the equality of the factor structure and the burdens between the different groups. The intercepts and residuals vary depending, most likely, on aspects that introduce specific variance attributable to cultural factors (Cheung and Rensvold, 2009), without altering the equality of measurement from the understanding of the items and their structure with respect to the collective self-esteem construct. In any case, the results of both multi-group analyses allow us to support the scale's capacity to indicate reliable and stable measurements, with equal comprehension, through its application among different sample groups, based on these factors.

Convergent validity was examined and confirmed with three selected scales. The overall score of the collective self-esteem scale was positively correlated with the satisfaction, personal well-being, and social well-being scales, indicating that the content of the collective self-esteem scale points in a direction consistent and coherent with other instruments designed to establish psychological and social measurements in the school context.

The descriptive results made it possible to account for the variations in scores obtained, differentiated by type of establishment according to its administrative dependency, which was established according to four groups within the sample: public establishments with a municipal dependency, mixed, private establishments, and those delegated to private corporations. The results indicated lower average scores in the collective self-esteem of students belonging to public and delegated schools, reflecting, according to what the literature shows about school segregation processes in Chile, that there are large gaps in results between schools, according to a factor of socio-economic segregation and availability of institutional educational resources (Bellei, 2013). According to this, there is less confidence and appreciation in the activities carried out when belonging to this type of schools (public and delegated) in relation to mixed and private ones. The literature supports the idea that there is a strong influence of the processes of segregation in educational institutions according to their administrative dependence, with respect to the loss of confidence in the quality

of public educational institutions and/or those that take in a large number of students in conditions of socio-economic vulnerability, in the context of the crisis in the quality of the public education system in the country (Bellei et al., 2010; Verger et al., 2016).

Around what has been called the “crisis of public education in Chile” there is a shared collective belief that these public educational establishments, which are mostly attended by the most vulnerable student population in the country, do not meet the standards of educational quality, as they are subject to the effects of the transfer of their administration to municipal entities without competence for educational administration (Bloque Social, 2006), a product of a reform of municipalization of the public education system carried out in 1986, during the period of the military dictatorship in Chile, while at the same time the boom in educational offer in private establishments was promoted. This introduced an asymmetric impulse in the educational system, generating an educational market offer that resulted in high levels of social and economic segregation, by promoting better educational conditions for those families with available resources and the ability to pay for private institutions, and leaving public education as the default option for those unable to pay the high costs associated with education in Chile (Assaél et al., 2015). The performative effects of this practice of managing the supply of education led to the precariousness of the public education system, since it did not have adequate educational management and administration processes, which began to be observed in a systematic decrease in enrollment at this level, and a decline in the results of evaluation of educational quality indicators (Madrid-Castro, 2020). As part of a negative cycle, these educational management problems were linked to problems of school coexistence, associated with high rates of socioeconomic vulnerability of the student population within the public system (Ligueño-Espinoza et al., 2018). As a result, the social perception of the public education system deteriorated to the point that it is considered an achievement to make a social escalation by having the opportunity to leave the public education system to enter the private or mixed system, having through a strong bias of representation about the quality of education and the membership in this type of establishment (Canales et al., 2016). This same category of precariousness also includes delegated administration schools, which are also a figure inherited from the military dictatorship, in which some technical-professional schools were transferred for administration to “non-profit” foundations, but with a clear business and trade union objective (Zurita-Garrido, 2018). Under this sociological and socio-historical perspective of the impoverishment of the educational identity of the public system and the exaltation of the private system in Chile, the results of the distribution of averages obtained by the scale of collective self-esteem at each level of dependency make a lot of sense, the highest averages being those obtained by students belonging to the private and mixed systems, which validates the hypotheses of the studies of school management and development that are established with a focus on the segmentation and segregation that is generated among the different modalities of administrative dependence of educational establishments, and that echo in the processes of identification

and development of the sense of belonging in students, as indicated by the results of the collective self-esteem scale.

The interaction between dependency factors and the vulnerability index did not show a statistically significant effect, which can be attributed, on the one hand, to the fact that both factors are usually strongly associated, and, on the other hand, to the lack of dispersion and variability in the vulnerability indexes at two of the four levels in the administrative dependency factor. That is, at the level corresponding to the private system, the vulnerability index reported for the entire level was homogeneously low, while at the level corresponding to the delegated administration system, the vulnerability index was homogeneously high.

In this way, the analysis of the main effects within this model of group comparisons allows us to establish, as seen in **Figure 1**, that at the level of public establishments, students obtain a higher average result in collective self-esteem in the presence of a medium level of vulnerability (in the sample of public establishments there is no report of low levels of vulnerability), and as the student vulnerability index increases there is a decrease in the average obtained in collective self-esteem.

In the case of mixed schools, the results indicate that in the presence of low vulnerability indexes, the results obtained in the collective self-esteem of students are lower compared to the case of medium and high vulnerability indexes. The highest scores of collective self-esteem are found in students belonging to schools with a medium vulnerability index. In this type of mixed schools, in the cases corresponding to a high vulnerability index, the student population presents more homogeneous characteristics in socioeconomic terms.

When there is a low or high vulnerability index, the school populations tend to be homogeneous; in the case of the low vulnerability index, this could mean the condensation of students with no major socioeconomic needs, who by sharing some socioeconomic privileges, from the beginning and throughout their school careers, would not have the need to reinforce their collective identity, since from the outset they have the recognition of their individual strengths and confidence in the development of their activities within their educational establishments, which usually have an excellent reputation and educational results. In the case of the high vulnerability index, the homogeneity of the student population also plays against the attention given to membership and belonging to the educational establishment within the processes of collective self-esteem, considering that in this population there are greater problems of coexistence and satisfaction of basic needs, which ends up directing resources to individual needs, interfering with the possibility of generating processes of cultural adaptation and school identity in these establishments (Ligueño-Espinoza et al., 2018). The cases corresponding to the medium vulnerability index of the particular schools subsidized in the results share the school membership among students with different types of needs and socioeconomic conditions, which would tend to decrease school segregation, and which, according to studies on the benefits of more inclusive and less segregated schools, favors interactions that generate common social identification

points to develop processes of school balance and adaptation (Ortiz, 2015, 2018).

Based on the results found, which show the influence that the presence of mixed populations has on their vulnerability indexes (indicated by the medium vulnerability indexes) in the increase of collective self-esteem levels, mainly in public and mixed schools, the authors consider school integration by socioeconomic levels as a positive and protective factor for the development of a collective sense of self-esteem, appealing to the promotion of a real perspective of diversity and inclusion in educational establishments. However, it would also be necessary to study in greater depth the processes of building value and institutional seals that are embodied in institutional educational projects (PEI) and that respond to the construction of processes of collective identification, which could directly influence the appreciation of groups and active membership in them, considering that in Chile the public, mixed, private and delegated administration systems coexist; in addition to regulations that establish that each establishment, regardless of its administrative dependence, must embody in its institutional educational project the values and cultural seals that distinguish them. In theory, this means having a wide variety of educational projects to which parents and guardians can turn in order to choose the educational institution that best suits their needs and with which the children and adolescents can be represented. In practice, this is not the case because, in the first instance, the selection of the institution for the children is not based on the educational seal that the institution presents, but rather on conditions of geographic location, school climate, costs, and method of selection (Villalobos and Salazar, 2014). Second, although all schools have IEPs, the institutional identity in many of them is neutral (mainly public), based on homogeneous values, commitments, and standards, which do not manage to establish a point of differentiation, which in some cases is evident because public schools are usually recognized by letters and numbers, losing the identity of a particular name (Alvarado Agurto, 2015). Since this aspect was not included in this study, it is established as a research variable in future projects on the topic.

Based on the results described and discussed, this study provides a useful, psychometrically sound instrument to identify the assessment processes that support collective self-esteem in the context of the subjective evaluation of school group membership in secondary students. Furthermore, it constitutes a valuable instrument with the capacity to identify variations in collective self-esteem, based on the social and contextual conditions of the highly segregated environments that characterize certain educational communities, especially in a country like Chile. Thus, an important contribution of this study, is that it provides evidence of psychometric properties of the collective self-esteem scale, considering the students' membership in a specific educational establishment, with particular administrative characteristics, which is a contribution to the study of well-being and group influence phenomena, of interest to both the social sciences and education.

The main contributions that the study of collective self-esteem has made to the social and educational field have been to identify biases within groups, linked to the interaction between personal self-esteem, collective self-esteem (as a function of large groups) and even relational self-esteem (established on the basis of networks built with those close to them), and that account for the estimates that individuals make when they value and qualify their activities and the personal value they place on themselves when carrying them out, depending on the social group with which they identify themselves socially and culturally, and the one in which they carry out these activities (which do not always coincide). Thus, the study of collective self-esteem has allowed the identification of diverse problems and interactions at the level of interpersonal relationships, depending on the social and cultural identity of the people within the groups to which they are emotionally, culturally, and valuably anchored by a process of subjective and historical construction. In this case, the study has made visible a problematic reality of identification and sense of social belonging within educational communities. The decision to belong to a particular educational institution, preferably by the family and the student, is free and voluntary in the case of socio-economically privileged communities, but in the case of communities with lower socio-economic levels this decision is not. It ends up being a selection by default, arbitrarily defined according to socio-educational categorizations and management that does not respond to a natural disposition of individuals to interact among themselves freely and voluntarily, according to their personal characteristics, their beliefs or their culturally determined and diverse practices, but rather due to their socio-economic limitations, imposed through school segmentation, in territories that are socio-economically fragmented by interests that respond to the exercise of capitalism applied to education.

In this way, the use of the collective self-esteem construct within this study allows us to explain the mechanisms through which the student gives meaning to their activity within the framework of belonging to a determined group, based on the difference in the type of establishment in which they study. This difference is determined by the public policies of educational administration and the possibilities of school choice based on the socioeconomic level of individuals and communities, over which individuals have little or no influence in the case of the most vulnerable sectors (which generally correspond to the level of public education), but are important determinants of their sense of belonging and well-being, as processes based on social identification, facilitators of social incorporation and adaptation (Long et al., 1994; Jetten et al., 2002; Jensen, 2020). The contribution of this study to the understanding of how variables of perception and development of the individual's social identity are sustained in conditions of management of their educational context is important, considering the enormous social and cultural influence, as well as values, that membership in a particular school educational community involves. This allows for a better perception of the connections between the disposition of public policies applied in education and the subjective results of students, given the possible implications this may have in the development of school trajectories (Eccles et al., 2006; Kim and Kim, 2019).

An interesting perspective to develop future studies from these results points to the incorporation of other variables of a contextual nature, which help to complement the information that describes the scale of collective self-esteem. As indicated in the introduction and the methodology, this study was considered an initial step in the analysis of the contextual variable collective self-esteem, incorporated along with other variables within a broader study, and whose main objective was to validate the scale in the Chilean school population and to report the main results measured in a diverse sample at the national level, hoping to be able to describe its effects based on the differentiation established from the administrative dependency, a critical issue in Chile and which represents a strength and contribution of the study considering that a representative sample of the target population was covered. Although the literature indicates that there are a number of other related variables based on broad constructs, or meta-constructs (Torres et al., 2018; Huguley et al., 2019), related for example to the allocentric perspective (Glaveanu, 2019) and welfare (Valcke et al., 2020) that account for the normative interaction between the subjective and the collective dimension with a social ontological character (Welch and Yates, 2018), they were not incorporated in this specific study, nor in the broader study of which it is a part, given that this was not the general objective established for the design of the project in general, as it considered the measurement of socio-emotional variables with a psychological and pedagogical development perspective, that influence student trajectories. The introduction of this type of variables would have widened the spectrum and objectives of study, exceeding therefore the initial vision closer to the educational field. However, the results obtained and reported in this manuscript open a perspective that deserves further exploration, so the introduction of these variables as part of a broader explanatory social model is a challenge to be addressed in the near future.

In that sense, the validation process of this scale in Chilean school population allows, precisely, to have a measurement tool that highlights the psychological and social effects that entails neoliberal practices of control and population segmentation linked to exclusion and prejudice associated to wealth/poverty conditions in the territories.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusion of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Comité de Bioética, Pontificia Universidad Católica de Valparaíso. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

OC contributed to the conception and design, analysis, interpretation of data, drafted the work, revised it critically for important intellectual content, approved the final version of the manuscript to be published, and agreed to be accountable for all aspects of the work. FL-S contributed to the conception, analysis, and interpretation of data, drafted some parts of the work, revised it critically for important intellectual content, and approved the final version of the manuscript to be published. AR performed the measurements, sample design, aided in interpreting the results and worked on the manuscript, revised it critically, and approved the final version of the manuscript to be published. BS contributed to the acquisition of data, contributed to the analysis

and interpretation of the results, drafted parts of the work, revised it critically, and approved the final version of the manuscript to be published. All authors contributed to the article and approved the submitted version.

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Social and Individual Subjective Wellbeing and Capabilities in Chile

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The notion of social belongingness has been applied to different scales, from individual to social processes, and from subjective to objective dimensions. This article seeks to contribute to this multidimensional perspective on belongingness by drawing from the capabilities and subjective wellbeing perspectives. The specific aim is to analyze the relationships between capabilities—including those related to social belongingness—and individual and social subjective wellbeing. The hypotheses are: (H1–H2) There is a relationship between capabilities (measured as evaluation and functioning) and (H1) individual and (H2) social subjective wellbeing; (H3) The set of capabilities associated to individual subjective wellbeing differs from the set correlated to social subjective wellbeing; (H4) The intensity and significance of the correlation between subjective wellbeing and capabilities depends on whether the latter is measured as evaluation or functioning; and (H5) The relationships between capabilities and subjective wellbeing are complex and non-linear. Using a nationally representative survey in Chile, multiple linear (H1–H5) and dose response matching (H1–H5) regressions between capabilities and subjective wellbeing outcomes are estimated, confirming all hypotheses. Subjective evaluations and effective functionings of some capabilities (“basic needs,” “social ties,” “feeling recognized and respected,” “having and deploying a life project”) are consistently correlated with both subjective wellbeing outcomes. Others capabilities are correlated with both subjective wellbeing outcomes only when measured as functionings (contact with nature), do not display a systematic pattern of correlation (“health,” “pleasure,” “participation,” and “human security”) or are not associated with subjective wellbeing (“self-knowledge” and “understanding the world”). When observed, correlations are sizable, non-linear, and consistent across estimation methods. Moreover, capabilities related to social belongingness such as “social ties” and “feeling recognized and respected” are important by themselves but also are positively correlated to both social and individual subjective wellbeing. These findings underscore the need of a multidimensional perspective on the relationships between

capabilities and subjective wellbeing, considering both subjective and objective, as well as individual and social aspects that are relevant to belongingness. These findings also have practical and policy implications, and may inform public deliberation processes and policy decisions to develop capabilities, promote subjective wellbeing, and ultimately promote positive belongingness.

Keywords: social belongingness, quality of life, subjective wellbeing, capabilities, social wellbeing

INTRODUCTION

The notion of social belongingness has been applied to different scales, from individual to social processes, and from subjective to objective dimensions. This article contributes to this multidimensional perspective on belongingness by drawing from the capability approach (human development) and subjective wellbeing perspectives.

Subjective wellbeing is traditionally defined as a subjective evaluation of our own life, an hedonic balance of feelings, emotions, and appraisals that can be adequately assessed by self-reported questionnaires (Diener et al., 2018; Das et al., 2020; Karunamuni et al., 2020). This concept of individual subjective wellbeing is often equated to happiness and life satisfaction (Veenhoven, 2018; Bergsma et al., 2020).

Subjective perceptions and evaluations of wellbeing can explicitly refer to our experience and evaluation of society and not only our inner world. Social wellbeing is a multidimensional and complex concept that admits several possible definitions. Keyes (1998) suggests it is composed of five dimensions: social integration; social contribution; social coherence; social actualization; and social acceptance—that require different scales for its measurement. A close concept is social capital (Coleman, 1990), which has been related to health outcomes (Choi et al., 2014; Ehsana et al., 2019). So is social cohesion, which is constituted of several dimensions such as: social integration, identification or sense of belongingness; orientation toward the common good; shared values; degree of inequality between individuals and groups within society; society's ability to secure the long-term wellbeing of its members (Oyanedel and Páez, 2020, in this special issue). Social wellbeing and social cohesion are similar except that the former has a meaning at the individual level aside the collective group. It is a measure of how each individual experience society rather than a characteristic of a social collective. Non-liberal political philosophy approaches such as communitarian, republican and social communication perspectives might provide solid philosophical foundations for these concepts and why we should care about them (Habermas, 1998).

The capability approach provides a framework for a more complete assessment of quality of life that arises from Sen (2009) critique to subjective wellbeing and Aristotle's concept of a good life (Nussbaum, 2000). The capability approach proposes to assess quality of life according to three concepts: capabilities, defined as the freedoms of doing and being that people have reason to value; functionings, which are actually achieved states of being

and doing; and agency, the capacity of the individual to pursue his/her own objectives¹.

Drawing on a multidimensional perspective integrating these concepts, the objective of this study is to analyze the relationships between capabilities with social and individual subjective wellbeing outcomes using a representative sample of Chilean adults.

The hypotheses are: (H1) There is a relationship between capabilities (measured as evaluation and functioning) and individual subjective wellbeing; (H2) There is a relationship between capabilities (measured as evaluation and functioning) and social wellbeing; (H3) The set of capabilities associated to individual subjective wellbeing differs from the set correlated to social subjective wellbeing; (H4) The intensity and significance of the association between subjective wellbeing and capabilities depends on whether the latter is measured as evaluation or functioning; (H5) The relationships between capabilities and subjective wellbeing are complex and non-linear.

The paper is organized as follows. Section 2 discusses the measurement of subjective wellbeing and capabilities. Section 3 revises the literature on the relationship of subjective wellbeing and capabilities. Section 4 briefly presents the data and methodology. Section 5 turns to the results using two statistical methods: linear regression and dose-response matching. Section 6 discuss limitations, implications and challenges ahead. Section 7 concludes.

MEASUREMENT OF SUBJECTIVE WELLBEING AND CAPABILITIES

Measurement of individual subjective wellbeing or happiness has made significant progress in recent years. Several indicators are actually used in different surveys at a national and international level (such as the World Values Survey and the Gallup Poll) and the World Happiness Report updates every year about its evolution in about 156 countries and 186 cities. Of the plethora of indicators proposed in the literature that involve hedonic, psychological and evaluative approaches (OECD, 2013), it is the latter that is more coherent with the capability approach (Anand et al., 2009) and is the one preferred in the present study.

¹Examples of its influence are Stiglitz et al. (2009) on the measurement of economic performance and social progress, Alkire and Foster (2011) on multidimensional poverty, Sehnbruch et al. (2020) on quality of employment, UNDP's human development reports that have applied this perspective to the analysis of most social problems or the Gross National Happiness Index that is used instead of GDP growth for project evaluation in Bhutan.

In contrast, there is no consensus on how social wellbeing (or its opposite, social discontent) should be measured. Keyes (1998) provides a sound multidimensional scale that has been validated, but is rather long to apply. Many studies use other measures, or concentrate on particular dimensions, such as social belongingness or trust, as reviewed by Oyanedel and Paez in this special issue. Social subjective wellbeing refers to how individuals experience and evaluate their society. It is composed of their own experience with others as well as their experience on how others experience society. It is not possible to address it directly through one direct question as it is composed of several latent dimensions. For the present study a composite index of trust in institutions and evaluation of social opportunities is used.

On the other hand, the measurement of capabilities is at its early stages of development. There are several attempts to measure capability indicators based on questions in existing surveys (for instance Anand et al., 2005; Ramos and Silber, 2005; Veenhoven, 2010; Muffels and Heady, 2013; Graham and Nikolova, 2015), following Anand and van Hees (2006) suggestion that survey questions about the “scope to achieve things” and “limitation of opportunities” can capture capabilities. There are also a few specially designed questionnaires (Anand and van Hees, 2006; Anand et al., 2009, 2011; Simon et al., 2013).

Anand et al. (2009) seminal contribution operationalized Nussbaum (2002) list of capabilities with 65 questions in a survey applied to 778 individuals representing the population of England, Scotland and Wales. This list of capabilities was compared to the set contained in the British Household Panel Survey, which was evaluated as incomplete in relation to the list proposed by Nussbaum, henceforth the need to take special surveys designed for this purpose.

The capability approach has also been adapted to assess the health situation of older people. Makai et al. (2013) developed the ICECAP-O with ICE referring to Investigating Choice Experiments and CAP-O referring to a CAPabilities measure for Older people and Al-Janabi et al. (2012, 2013) developed ICECAP-A for Adults. For the measure for adults, the five dimensions are stability, attachment, achievement, autonomy and enjoyment. The five dimensions used in ICECAP-A reflect an interpretation of the capabilities framework that is inspired by the healthcare background of the research. Van Ootegem and Verhofstadt (2015) propose the question “How do you consider your possibilities/opportunities in life in general?” which refers to opportunities and therefore is more forward looking as compared to the more backward looking life satisfaction, as an aggregate measure of capabilities.

RELATIONSHIP BETWEEN SUBJECTIVE WELLBEING AND CAPABILITIES

When it is recognized that wellbeing is multidimensional, the issues of how to measure an individual’s wellbeing, compare different individuals or assess a given situation becomes more complicated, as it requires weighting heterogeneous dimensions. Sen (2009) suggests this weighting should be part of the deliberation process whereby each society defines what

capabilities should be valued. Although it is clear that both Sen and Nussbaum downplay the role of subjective wellbeing in their proposals for assessment of both wellbeing and social justice—at the most as one functioning among many—a few studies have attempted to link capabilities and subjective wellbeing (see Comim, 2005, and the references summarized in this section). An obvious link is to use the relationship between different capabilities and subjective wellbeing as a first approximation to weighting capabilities as suggested by Binder (2014). Capabilities might be explanatory variables of individual subjective wellbeing and the resulting estimated coefficients might be a proxy for the weight that should be given to each capability. Similarly, Binder (2014) suggests public policy should concentrate on those capabilities that are relevant to subjective wellbeing² Nevertheless, as suggested by Frey and Stutzer (2010), these technical exercises might be interesting to consider in democratic deliberation but should never replace this process, as elected representatives, not experts, should take and be responsible for political decisions. This is the perspective followed by this article, as its objective is to determine what capabilities are more correlated to subjective wellbeing, considering not only individual subjective wellbeing as suggested by Comim (2005) and Binder (2014), but also social subjective wellbeing.

In fact, previous empirical research has established a correlation between certain capabilities and individual subjective wellbeing (Anand et al., 2005, 2009; Anand and van Hees, 2006; Van Ootegem and Spillemaeckers, 2010; Veenhoven, 2010; Muffels and Heady, 2013; Graham and Nikolova, 2015; Yeung and Breheny, 2016). Starting with those studies using their own measure of capabilities, Anand et al. (2009) found that only 17 of their 65 (dimensions of) capabilities were correlated at a 95% confidence level with life satisfaction (LS), which is their preferred indicator of subjective wellbeing on the grounds of its coherence with Sen-Nussbaum capability approach. The list is further reduced when other controls are included and only three are significant for all age groups: love-care-support; life project; and usefulness/inclusion³. “Adequacy of accommodation”⁴ matters only for those below 45 years old while “capacity to express feelings”⁵ is important for the older group.

Yeung and Breheny (2016) used Structural Equation Modeling to estimate the impact on Subjective wellbeing measured as life satisfaction, happiness and quality of life of: (i) commodities

²Binder (2014) also argued that this would offer a more detailed picture even when subscribing to a welfare approach; the discrepancy in functioning achievement between persons who report the same level of happiness can be understood as a measure of adaptive preferences; policy makers might focus on promoting individual agency and creating an institutional environment that allows individuals to successfully pursue their own conceptions of wellbeing, thereby not reducing them to mere “metric stations” whose happiness rating has to be mechanically increased; and by removing focus on actual measurements of subjective wellbeing it reduces the risk of manipulation (by policy-makers and by citizens) inherent in subjective wellbeing measures.

³At present, how easy or difficult do you find it to enjoy the love care and support of your immediate family? 28. I have a clear plan of how I would like my life to be. 30. Outside of work, have you recently felt that you were playing a useful part in things?

⁴Is your current accommodation adequate or inadequate for your current needs?

⁵Do you find it easy or difficult to express feelings of love, grief, longing, gratitude and anger compared to most people of your age?

(measured as total number of chronic illnesses reported, and physical and mental health scores); (ii) personal and environmental factors (economic living standard and everyday discrimination) and (iii) capabilities measured by the LSCAPE (Living Standards Capability for Elders) that assess the extent to which older people are capable of achieving valued functionings across six domains: health care, social integration, contribution, enjoyment, security and restriction. Functionings were assessed in terms of activity participation as this measures extent of participant achieved. Wellbeing comprised three single items of life satisfaction, happiness and quality of life.

A different exercise is performed by Van Ootegem and Verhofstadt (2015), who explored the relationship of an aggregate capabilities indicator with the realizations for nine life domains (related to those mentioned in Stiglitz et al., 2009)⁶, standard socioeconomic controls and personality traits using a sample of 2,990 respondents representative of the Flemish population of Belgium. A similar exercise was performed for life satisfaction. All life domains are significant for the aggregate indicator of capabilities while only education is not for life satisfaction.

There are other studies that use existing data sets that contain information related to the capability approach instead of a specially designed survey to measure capabilities. The selection of capability proxies based on existing data is subject to epistemological errors and constrained by data availability that might leave important capabilities unmeasured (Graham and Nikolova, 2015). Muffels and Heady (2013) examined the impact of capabilities on life satisfaction (as well as relative income and employment security) using random and fixed effects GLS models in 25 years of German and 18 years of British panel data. Capabilities are interpreted in terms of the amount of four types of capital: economic (wealth, human capital endowments and skills); social (level of trust in other people and the social networks people are involved in, indicated by the frequency of contact with others and the support people get from others in their network, but also the membership of organizations and associations or clubs such as trade unions, social and sport clubs); cultural (individual values and life goals, such as work, family and social values like helping others and volunteering, and life goals such as forming a family, raising children or making a career and to risk attitudes such as risk taking or risk aversion); and psychological (people's personality traits). This choice is probably attributable to data limitations of existing data sets. While interpreting some of these assets as capabilities instead of standard socio-economic and personality controls might be open to controversy, Muffels and Heady (2013) found that "capabilities" pertaining to human capital, trust, altruism and risk taking, and choices to family, work-leisure, lifestyle and social behavior strongly affect long-term changes in subjective and objective wellbeing

though in a different way largely dependent on the type of wellbeing measure used.

Graham and Nikolova (2015) uncovered a positive relationship between capabilities and different measures of individual subjective wellbeing (best possible life, experienced happiness yesterday, experienced stress yesterday, experienced anger yesterday) using the Gallup World Poll. Two types of measures of capabilities are distinguished. On the one hand, perceptions of capabilities and means, which include: no health problems; belief in hard work for getting ahead; and satisfied with freedom in life. On the other hand, objective capabilities and means include: some college/college diploma; household income; and employment categories. As in the former study, some of the variables might not be adequate measures of capabilities while other capabilities are clearly not included.

It is interesting to note that Graham and Nikolova (2015) explored the effect of different levels of capabilities by using quantile regression. This method allowed distinguishing that while education is positive for subjective wellbeing in general, it is negatively correlated with subjective wellbeing at the top of the happiness distribution. The authors hypothesized this could be due either to the fact that learning makes the "happy peasants" realize their absolute or relative deprivation and lack of choice and opportunities or that the most educated have unrealistic expectations and ambitions and even their autonomy and capabilities cannot make them happy. It is likely, therefore, that the same capabilities and means have different meaning and importance for people at different points of the subjective wellbeing distribution.

Suppa (2015) approximated capability deprivation through the combination of "inadequate income" together with non-consumption data of "pivotal goods" using German panel data. This proxy for capability deprivation reduces life satisfaction significantly and individuals fail to adapt within the subsequent 4–6 years.

Finally, Steckermeier (2020), using multiple linear regressions, estimates a positive effect of six basic functionings (safety, friendship, health, financial security, leisure, and respect) on people's life satisfaction in 33 countries covered by the 2016 European Quality of Life Survey. The positive "effects" of some capabilities is reduced when people experience a great deal of autonomy over their lives or when societal conditions provide people with more opportunity and choice.

On a more theoretical level, Veenhoven (2010) and Pugno (2015) suggest that both capabilities create happiness and happiness enhance capabilities. Pugno (2015) suggests a two-way causation: from functionings and underlying conditions to wellbeing and an increase in personal conversion factors; and from wellbeing, when personal conversion factors increase, to better and new functionings. This finds some empirical support in Anand et al. (2011)⁷ and Binder and Coad (2011)⁸.

⁶I have already reached a lot of my goals, given my age; I consider myself in good health; I consider myself as well educated; My (household) income is sufficient to live well; I have a good social life (friends, associations, . . .); I live and spent my time in pleasant environments (house, work, environment); I act according to my personal vision on life when making decisions; I am satisfied with my actual situation (work/study/retirement); I am satisfied with my relationship.

⁷"People's skills, such as 'being able to imagine the situation of others,' 'being able to have a concept of a good life based on one's own judgment. (say, life-autonomy),' and 'self-worth,' significantly predict well-being, measured as life satisfaction."

⁸"Life satisfaction, is positively associated with some functionings in the following years, such as 'being healthy' and 'having satisfying social relations.' Also 'having satisfying social relations' appears to be positively associated with wellbeing in

Contrary to a burgeoning literature on the relationship between capabilities (or more precisely realized capabilities or functionings) and individual subjective wellbeing mostly measured as life satisfaction, there is little study of the relationship of capabilities and social wellbeing. The most related to the issue is Lanzi (2011), who analyzed the relationship between the capability approach and social cohesion, from a revision of socio-psychological literature on cohesiveness in groups and communities. It is suggested that this lack of research on the effects of capabilities on social cohesion (and vice versa) is due to the fact that Sen's perspective on wellbeing is ethically and methodologically individualistic (Gasper, 2002). Therefore, Lanzi (2011) proposed to use Ibrahim (2006) concept of social capabilities that individuals might attain by virtue of their engagement in collective action or their membership of a social network. Instead of considering the effect of capabilities on cohesiveness, he examined the relationship in the other direction, suggesting that social cohesion has positive effects on the development of social capabilities and human wellbeing. However, he also suggested cases and conditions in which stronger social cohesion might delay the achievements of certain excluded and dominated groups.

DATA AND METHODS

Sample

This study uses a special designed survey of capabilities and subjective wellbeing. The sample consists of 2,535 cases and is representative of the urban and rural Chilean population aged 18 years old and above (12,584,252 people). Data was gathered on a face-to-face mode, at the respondent's home, between July and September 2011 in the framework of UNDP national Human Development Report. Maximum sampling error was 1.9% with a 95% confidence level and estimated effect of design of 1.12.

Details of the three-stage stratified by conglomerate sample design; interview questions and further statistics can be found in the appendix to González et al. (2012).

Measurements and Instruments

Starting from the basis of the capability lists that have been proposed and used by Alkire (2002) and Nussbaum (2002), Sen's (2009) suggestion on deliberation was followed, although restricted to small groups from different socioeconomic sectors. This led to minor changes in the list that were operationalized with questions that referred to subjective evaluation of capability and functionings. The list included health; basic needs (housing and income); self-knowledge; understanding the world (education); experience pleasure and emotions; being in contact with nature; participation and influence; social ties (friends, partner, family); feeling recognized and respected in dignity and rights; having and deploying a life project; human security (freedom of fear). The operationalizing questions are presented in **Table 1**.

the following years, so that social relations and wellbeing may have two-way causation."

Individual subjective wellbeing was measured by the question: "Overall, how satisfied are you with your life as a whole at this moment?" The answer is a scale from 1 to 10, where 1 means "completely unsatisfied" and 10 means "completely satisfied." On the other hand, social subjective wellbeing was approximated through a composite index of trust in institutions (Catholic church, Evangelic church, Media, Courts, Government, Political parties, Congress, Corporate sector, Municipality, social and citizen organizations) and evaluation of opportunities offered by the country to its people (good health, human security, satisfy basic needs, participation in decision making, been educated and well informed, freedom to decide what people want to do with their life). All questions were considered in its positive sense to allow for aggregation. **Table 2** shows the descriptive statistics of the resulting indexes.

Analytical Techniques

Two estimation methods are presented. First, multiple linear regression models were used to estimate the relationship between the two subjective wellbeing outcomes and all 11 capabilities simultaneously. Two models were estimated for each outcome (life satisfaction and social subjective wellbeing): the first model focused on effective functioning and the second on subjective capability evaluation. All four models were weighted and adjusted for: gender, age, marital status, labor-force status, recent life events (positive and negative), depressive symptoms, and personality type. Income and education were included as additional controls in the models focusing on evaluation.

Standard controls for sex, age, income, schooling, civil status, employment, status, personality traits, depressive symptoms, and recent negative and positive events were also included. Income and schooling were not considered together with functionings, as they are an indicator of the functionings "basic needs" and "understanding the world" (see **Table 1**).

All independent continuous variables were centered to the mean to interpret the constant in regression estimates as the adjusted average of the respective subjective wellbeing being explained. Given a high number of missing cases, multiple imputations through chained equations were performed.

As regards the hypotheses formulated in the introduction, multiple linear regression allows validating H1, H2, and H3, identifying the capabilities correlated both with individual and social subjective wellbeing as those statistically significant in the regressions, and H4, through the size and significance of the coefficients.

Aside multiple linear regression, other statistical analyses were performed, such as Generalized Least Squares and Maximum Likelihood, but yielded no significant change in parameter estimates. All these results are strictly correlational and should be interpreted with caution. For this reason, quasi-experimental methods were also applied. The relationship between capabilities and subjective wellbeing was contrasted using a generalized propensity-score matching model (Hirano and Imbens, 2004). The objective of this analysis was to study more precisely the effect of capabilities (in their dimensions of functioning and subjective evaluation) on life satisfaction and social subjective wellbeing. In particular, dose-response matching allows more

TABLE 1 | Capability indicators.

| | Subjective evaluation | Effective functioning |
|--|--|---|
| Health | Overall, in balance, your health is: very good (11%), good (42%), average (38%), bad (7%), very bad (2%) | In the last 12 months, did you experience any physical health problem that has limited your daily activities more than ten consecutive days (Yes 23%/no) |
| Income | Thinking on the total income of your family, would you say that...?: It is not sufficient, you experience great difficulties (7%); it is not sufficient, you experience difficulties (27%); it is just adequate (51%); it is more than enough, you can save (15%) | In which bracket is the monthly income of your family? Less than US\$300 (14%); 300–450 (19%); 450–600 (13%); 600–750 (8%); 750–920 (8%); 920–1,150 (6%); 1,150–1,460 (6%); 1,460–1,970 (3%); 1,970–3,000 (4%); 3,000–6,000 (4%); more than 6,000 (2%); don't know (12%) |
| Housing | Questions related to the perception of the material quality of the house, its basic services, its appearance, and its space | Availability of drinking water, sewerage and hot water |
| Inner life and self-knowledge | I am a person with a rich inner life. Strongly agree (26%); agree (58%); disagree (12%); strongly disagree (2%) (no answer 2%). I am a person that knows him/her self very well. Strongly agree (27%); agree (59%); disagree (11%); strongly disagree (1%) (no answer 2%). | With what frequency would you say that you think about things that happen to you and take time to think about yourself? Very frequently (31%); with some frequency (40%); with small frequency (23%); with very small frequency (6%). |
| Understanding the world we live in | Different events, both in Chile and abroad, can affect your life. How well informed do you feel about those facts... Very informed (21%); Informed enough (44%); Little informed (31%); Uninformed (4%). | What is the highest level of education you completed? (if studying, what is your current grade) Incomplete basic (1–8) (16%); graduate basic (13%); incomplete secondary (14%); complete secondary (27%); incomplete vocational higher education (5%); complete vocational higher education (6%); incomplete university (8%); complete university (9%); postgraduate studies (1%) |
| Experience pleasure and emotions | (The respondent has been previously asked about the accomplishment of different activities) Thinking about the activities that you enjoy the most, would you say that... You carry them out as much as you like (9%); almost as much as you like (33%); less than what you would like (38%); much less than what you would like (19%). | Frequency of recreational activities: read a book; listening to music; taking a nap; dancing; practicing a hobby; going out to the cinema or theater; concerts; stadium Practicing sports |
| Enjoying and feeling part of nature | Would you say that you go to parks and green areas: As much as you like (11%); almost as much as you like (22%); less than what you would like (37%); much less than what you would like (29%). Would you say that you do activities in contact with nature: As much as you like (12%); almost as much as you like (25%); less than what you would like (37%); much less than what you would like (25%). | In the last month, with what frequency did you go to parks and green areas? Every day (4%); Many days a week (8%); Once a week (11%); 2–3 times a month (14%); once a month (19%); never (42%). In the last year, with what frequency did you do activities in contact with nature? More than 6 times (19%); 4–5 times (8%); 2–3 times (21%); once (21%); never (30%). |
| Participation and influence in society | How much do you agree with the following sentence: "People like me can do a lot to solve the problems that affect their neighborhood or community": Strongly agree (11%); agree (47%); disagree (31%); strongly disagree (9%). How much do you agree with the following sentence: "People like me can do a lot to change the course of the country": Strongly agree (14%); agree (47%); disagree (29%); strongly disagree (8%). | Do you participate actively in an organization such as sports club, religious group, neighborhood organization, trade union, cultural group or other? (Yes 32%/No 68%) In the last 3 years, did you have an active participation in: Public manifestations (9%); Taking a letter, claim or request to some authority, company or media (10%); Create or support an internet campaign (10%). During the last 3 years, did you have an active participation in a solidarity campaign or volunteer work (17%). |
| Social ties | How much do you agree with the following sentence: "I feel I am a loved and valued person": Strongly agree (40%); agree (52%); disagree (6%); strongly disagree (1%). How much do you agree with the following sentence: "I frequently feel lonely": Strongly agree (8%); agree (25%); disagree (48%); strongly disagree (19%). | Frequency of carrying out of the following activities: sharing with friends; going out with (girl/boy friend-wife/husband); sharing with own children With how much frequency do you do the following activities with your family? Talk about family matters: Usually (52%); with some frequency (25%); only in a few occasions (18%); never (6%). With how much frequency do you do the following activities with your family? Going out together: Usually (41%); with some frequency (22%); only in a few occasions (25%); never (11%). |

(Continued)

TABLE 1 | Continued

| | Subjective evaluation | Effective functioning |
|--|--|--|
| | How much do you agree with the following sentence: "People around me care a lot about me": Strongly agree (38%); agree (50%); disagree (8%); strongly disagree (2%). | During the last month, how often have you been invited by friends to go out or to their home: More than once a week (19%); 2–3 times a month (32%); once (18%); never (31%). With respect to friendship, would you say that...: You have lots of friends (21%); you have few friends (54%); you do not have friends, only acquaintances (24%). |
| Feeling recognized and respected in dignity and rights | How much do you agree with the following sentence: "I feel that in this society the dignity and rights of persons like me are fully respected": Strongly agree (5%); agree (36%); disagree (43%); strongly disagree (15%). | In general terms, how often would you say that you experience situations of maltreatment: with very small frequency (42%); with small frequency (40%); with some frequency (14%); very frequently (3%). In general terms, how often would you say that you experience situations of discrimination: with very small frequency (44%); with small frequency (38%); with some frequency (14%); very frequently (4%). |
| Having and deploying a life project | In relation to your personal project and goals, would you say that: you are doing: nothing to achieve them (4%); less than what is necessary to achieve them (17%); almost all what is necessary to achieve them (44%); everything necessary to achieve them (35%). | How defined would you say your life project is? Very defined (33%); some definition (36%); little defined (18%); not defined (14%). |
| Feeling secure and free from threats | Think about needing to get medical attention in case of a catastrophic or chronic illness such as cancer or heart attack. How confident are you on: receiving a timely attention; being able to pay for the costs not covered by your health insurance; the quality of the service received. Total confidence (11; 7; 10); enough confidence (31; 22; 32); some confidence (41; 38; 32); no confidence at all (16; 31; 18). If today you wanted to find an acceptable remunerated job, how easy would it be for you? Very easy (4%); easy (21%); difficult (41%); very difficult (32%). Thinking about your current job, how much confidence do you have in not losing it in the next 12 months? No confidence at all (8%); little confidence (19%); enough confidence (36%); total confidence (36%). If you lose or leave your actual job, how difficult would it be for you to find an acceptable new job? Very difficult (17%); difficult (41%); easy (32%); very easy (7%). | Do you have health insurance? Yes (92%) In your current job, do you have a written contract? Yes (63%) |

Own elaboration based on González et al. (2012).

robust conclusions and extract information for the distribution of capabilities, extending our conclusions beyond average correlations highlighted by multiple linear regression.

Matching methods were originally proposed to estimate the effects of social programs on the participating population, taking into account that the potential impact of a certain program may be different for participants and non-participants. Matching consists of finding, for each of the program participants, one (or more) "clones," or people who are equivalent to a certain participant in all the observable characteristics except for the fact that they have not been "treated" by the program. Assuming all the relevant differences between people (before the program) are captured in these observable variables—what happens when the result is independent of the treatment allocation given the pretreatment variables (conditional independence assumption)—then the matching method can produce an unbiased estimator of the average impact of the treatment.

There are several statistical methods to match treated and untreated individuals. Propensity score matching, one of the most widely used, employs a predicted probability of group membership (treated vs. untreated group) based on observed predictors. This predicted probability, denominated the propensity score, is usually obtained from logistic regression for each person included in the analysis and similarity in its value is what is used to generate the matches that will be subsequently compared (Rosenbaum and Rubin, 1983).

Much of the work on propensity score analyses have focused on cases where the treatment is binary that is, there are only two groups: treatment and control. But in many observational studies, the treatment may be categorical or continuous. In such a case, one may be interested in estimating the dose–response function where the treatment might take many values.

In the case of the analyzes carried out in this research, individuals receive different intensities of treatment, since the

TABLE 2 | Descriptive statistics.

| | Mean | Standard dev. | Min. | Max. |
|--|------|---------------|------|------|
| Wellbeing indexes | | | | |
| Life satisfaction | 7.27 | 2.14 | 1 | 10 |
| Social subjective wellbeing | 4.83 | 1.69 | 0 | 10 |
| Capabilities as functionings | | | | |
| Health | 0.77 | 0.42 | 0 | 1 |
| Participation | 0.39 | 0.25 | 0 | 1 |
| Security | 0.71 | 0.22 | 0 | 1 |
| Understanding | 0.49 | 0.21 | 0 | 0.96 |
| Nature | 0.34 | 0.29 | 0 | 1 |
| Self-knowledge | 0.65 | 0.29 | 0 | 1 |
| Needs | 0.61 | 0.20 | 0 | 1 |
| Pleasure | 0.76 | 0.21 | 0 | 1 |
| Respect | 0.84 | 0.21 | 0 | 1 |
| Ties | 0.60 | 0.21 | 0 | 1 |
| Project | 0.63 | 0.34 | 0 | 1 |
| Capabilities as subjective evaluation | | | | |
| Health | 0.63 | 0.21 | 0 | 1 |
| Participation | 0.55 | 0.22 | 0 | 1 |
| Security | 0.38 | 0.16 | 0 | 0.92 |
| Understanding | 0.60 | 0.27 | 0 | 1 |
| Nature | 0.40 | 0.28 | 0 | 1 |
| Self-knowledge | 0.71 | 0.18 | 0 | 1 |
| Needs | 0.63 | 0.20 | 0 | 1 |
| Pleasure | 0.44 | 0.30 | 0 | 1 |
| Respect | 0.44 | 0.26 | 0 | 1 |
| Ties | 0.70 | 0.19 | 0 | 1 |
| Project | 0.66 | 0.27 | 0 | 1 |

Own elaboration based on González et al. (2012).

capabilities of each are measured on a continuous scale that goes from 0 to 1, where 0 indicates complete absence of capability and 1 indicates its maximum endowment. This makes the analysis more complex, since a generalized propensity score must be estimated that allows calculating the propensities of each individual to be located at the different levels of treatment, in this case, the different levels of endowment of capabilities.

Hirano and Imbens (2004) developed an extension to the propensity score method in a setting with a continuous treatment. They defined a generalization of the propensity score for the binary case developed by Rosenbaum and Rubin (1983) and denominated it the generalized propensity score (GPS). The GPS has many of the attractive properties of the binary-treatment propensity score. Hirano and Imbens (2004) method was assessed by Bia and Mattei (2008), who provided a set of Stata programs that estimate the GPS. Below, the dose response STATA package provided by these authors is used to estimate the effect of continuous variation of each capability on the outcome of interest—first life satisfaction, then social wellbeing—except when the normality of continuous treatment was not achieved, in which case its glm dose extension developed by Guardabascio and Ventura (2014) is used.

In estimating the propensity scores, the capability whose effect on subjective wellbeing is being evaluated operates as

a dependent variable. The GPS were estimated including the following controls: age, marital status, positive and negative events that occurred during the year.

After estimating the generalized propensity scores, regression equations of the following type were calculated:

Equation to estimate life satisfaction:

$$ls = \theta + \alpha p + \beta p^2 + \gamma c + \delta c^2 + \epsilon c^3 + \pi cp + \epsilon$$

Equation to estimate social subjective wellbeing:

$$ssw = \theta + \alpha p + \beta p^2 + \gamma c + \delta c^2 + \epsilon c^3 + \pi cp + \epsilon$$

Where ls = life satisfaction; ssw = social subjective wellbeing; p = propensity score, c = capability; ϵ = residual term; θ = constant; α , β , γ , δ , ϵ and π = regression coefficients of the respective variables.

Then the expected levels of life satisfaction $E(ls/c)$ and social subjective wellbeing $E(ssw/c)$ are estimated for the different levels of endowment of capabilities or functionings.

Propensity-score matching is helpful to confirm the correlation of certain capabilities with both concepts of subjective wellbeing (H1–H4) and is essential to address H5 and characterize the complex and non-linear relationships between capabilities and subjective wellbeing.

RESULTS

Table 3 presents the adjusted association between capabilities (measured first as functioning then as evaluation) and the two subjective wellbeing outcomes (first individual or life satisfaction, then the composite index of social wellbeing). The coefficients were standardized to compare the magnitude of the effects between capabilities with different measurement scales.

Needs, ties, respect, and project have fairly consistent beneficial associations with both subjective wellbeing outcomes. Nature, measured as functioning, is associated with both subjective wellbeing outcomes. Other capabilities have no significant associations with subjective wellbeing outcomes (self-knowledge and understanding), or significant associations were isolated and did not display a clear pattern (health, pleasure, participation, and security). Interestingly, the strong correlation of individual subjective wellbeing with the control depressive symptoms (that might also be considered a proxy for a functioning of mental health) does not extend to social subjective wellbeing.

Figure 1 focuses on the nine capabilities that had the most consistent and systematic associations with subjective wellbeing outcomes, and presents the standardized regression coefficients highlighted in yellow cells from **Table 3**. Two clear patterns emerge from this visual representation of the results. First, respect has the strongest and most consistent association with subjective wellbeing, as indicated by the four long bars. Second, capabilities seem to have a slightly stronger association with social subjective wellbeing than with individual subjective wellbeing.

TABLE 3 | OLS regression results for the association between capabilities and subjective wellbeing.

| | Individual | | Social | |
|-------------------------|-------------|------------|-------------|------------|
| | Functioning | Evaluation | Functioning | Evaluation |
| Health | 0.02 | 0.08** | -0.01 | 0.03 |
| Needs | 0.09*** | 0.17*** | -0.06 | 0.08** |
| Self-knowledge | 0.00 | 0.01 | 0.03 | 0.03 |
| Understanding | -0.02 | -0.03 | 0.06 | -0.01 |
| Pleasure | 0.02 | 0.03 | 0.08*** | 0.01 |
| Nature | 0.05* | 0.02 | 0.07** | 0.03 |
| Participation | -0.01 | 0.04 | 0.04 | 0.05* |
| Ties | 0.11*** | 0.10*** | 0.03 | 0.06** |
| Respect | 0.08** | 0.07** | 0.21*** | 0.33*** |
| Project | 0.08*** | 0.05* | 0.09*** | 0.03 |
| Security | 0.01 | 0.02 | 0.04 | 0.20*** |
| Male | -0.04 | -0.06** | 0.03 | 0.02 |
| Age | 0.04 | 0.03 | 0.07* | 0.09 |
| Divorced | -0.07** | -0.07** | -0.05 | -0.06* |
| Single | -0.01 | -0.02 | 0.01 | 0.00 |
| Student | 0.02 | 0.01 | -0.01 | -0.01 |
| Homemaker | 0.05* | 0.06* | 0.06* | 0.06* |
| Retiree | 0.01 | 0.02 | -0.01 | 0.00 |
| Unemployed | -0.05* | -0.05* | 0.01 | 0.03 |
| Negative life events | -0.02 | 0.00 | 0.00 | 0.00 |
| Positive life events | 0.05* | 0.03 | 0.03 | 0.00 |
| Depressive symptoms | -0.24*** | -0.19*** | 0.03 | 0.05* |
| Responsible personality | 0.00 | -0.01 | 0.00 | 0.00 |
| Extroverted personality | 0.02 | 0.01 | -0.04 | -0.05* |
| Emotional personality | 0.06** | 0.04 | 0.02 | 0.01 |
| Education | - | 0.01 | - | 0.01 |
| Income | - | 0.03 | - | -0.09*** |
| Constant | 6.88*** | 7.25*** | 4.90*** | 4.85*** |
| R ² | 0.21 | 0.26 | 0.11 | 0.25 |
| Adjusted R ² | 0.21 | 0.25 | 0.10 | 0.24 |
| N | 2,479 | 2,479 | 2,397 | 2,397 |

For each subjective wellbeing outcome specified in the top row (individual and social), the table presents two models using alternative measurement approaches to capabilities (functioning and evaluation). Weighted standardized regression coefficients presented. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

A total of 10 equations were calculated using the methodology of dose response matching to further investigate the most statistically significant relations identified in **Table 3** (those with $p < 0.001$). **Figure 2** depicts these most significant relations of capabilities and social subjective wellbeing while **Figure 3** shows the most significant relations of capabilities and life satisfaction.

In the first place, this analysis confirms the great impact that some capabilities have on both individual and social subjective wellbeing. For example, going from a subjective evaluation of no human security to an intermediate level of the capability almost doubles social subjective wellbeing (see **Figure 2**, panel 5). Similarly, as shown in panel 3, **Figure 3**, going from a low subjective evaluation of satisfaction of basic needs to a medium to high perception doubles life satisfaction. This association is

replicated quite differently when the analysis involves the actual functioning of the basic needs. In the latter case (**Figure 3**, panel 2), the increase in life satisfaction is evidenced only when intermediate levels of the capability are achieved.

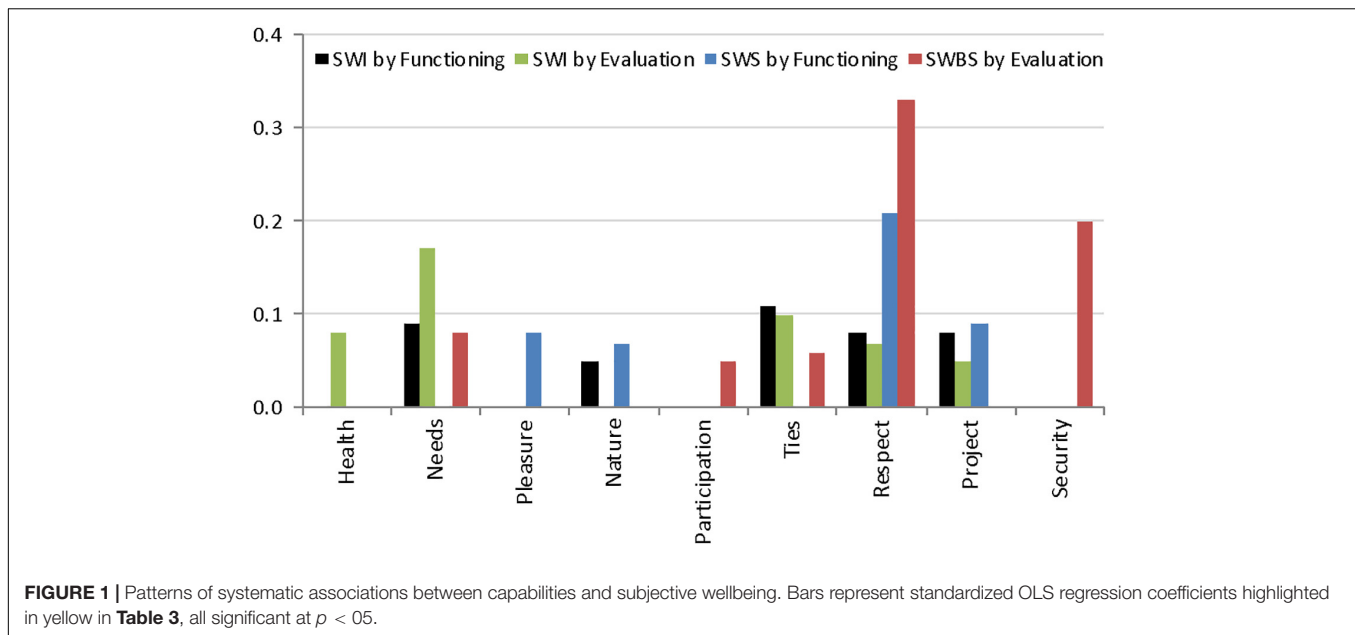
In the second place, it is interesting to note that the positive impact of an increase in endowment of these capabilities positively impact life satisfaction or social subjective wellbeing in a sometimes non-linear way. For example, panel 1 of **Figure 3** describes the effect of the functioning life project as non-existent in the first third of the capability scale, while highly increasing on the second two thirds. Conversely, panel 2 of **Figure 2** shows a steeper increase of social subjective wellbeing as the life project capability improves through the first third of the scale, while the curve tends to flatten above that level.

DISCUSSION

The findings reported underscore the need of a multidimensional perspective on the relationships between capabilities and subjective wellbeing, considering both subjective and objective, as well as individual and social aspects. The results documented consistent associations between dimensions of capabilities exposures (subjective evaluations and effective functionings) and of subjective wellbeing outcomes (individual and social). While there is precedent of the first relationship in terms of correlations between life satisfaction and capabilities, to our knowledge this is the first study to link capabilities with an indicator of social subjective wellbeing integrated by dimensions of trust in institutions and evaluation of social opportunities.

The results for needs, ties, respect, and project are consistent with previous results (Anand et al., 2009; Muffels and Heady, 2013; Graham and Nikolova, 2015; Yeung and Breheny, 2016). Nature measured as functioning is associated with both subjective wellbeing outcomes. This is consistent with the fact that actual contact with nature is the one that makes a difference in individual's life, not the possibility of having or desire of having more contact. Self-knowledge and understanding the world have no significant associations with subjective wellbeing outcomes, which is also consistent with the literature. In particular, Graham and Nikolova (2015), using quantile regression, are able to discuss differences between groups. These differences appear also when using dose response matching.

The two capabilities that influence the most social and individual subjective wellbeing are "social ties" and "feeling recognized and respected in dignity and rights." Both capabilities are intimately related with social belongingness. The effect of social ties on individual subjective wellbeing has already been stressed for individual subjective wellbeing and health outcomes such as mortality (see Kawachi and Berkman, 2001; Holt-Lunstad et al., 2010, 2015; Choi et al., 2014; Ehsana et al., 2019). Although not conceptualized as the capability "feeling recognized and respected in dignity and rights," the experience of discrimination has also been documented to have an impact on individual subjective wellbeing and other health outcomes (Hackett et al., 2019; Jackson et al., 2019; Couto e Cruz et al.,



2020), while the presence of social support might mitigate these negative effects of discrimination (Giurgescu et al., 2017). While the relationship with individual subjective wellbeing has been extensively documented in the literature, the relationship of social ties and respect with social wellbeing is a novel contribution of the present paper that deserves further exploration.

These results stress the importance of including measures of subjective evaluations of capabilities and not only functionings as is usually the case in standard surveys.

It is important to acknowledge the limitations of the study. First, it relies on cross-sectional data and therefore it is neither possible to establish causal relationships nor to isolate potential endogeneity or double causality. The information provided is mostly correlational, but nevertheless important to understand the relationships between key variables related to human wellbeing. In addition, using dose response matching allows to disentangle the relationship between subjective wellbeing and different levels of capability evaluation and functioning.

Second, it is not possible to rule out completely confounding variables that might cause omitted variable bias. However, the use of a specially designed survey that included all relevant capabilities as deliberated by different socioeconomic groups and the inclusion of all controls identified by the literature makes the problem less likely than when using existing surveys that have been designed for other purposes.

Third, the estimated relationship holds for the context of Chile at a certain moment in time and is not possible to extent to other societies. However, the sample is representative of this population and therefore contributes to the understanding of the relationship between subjective wellbeing and capabilities evaluation and functioning that should be complemented with other studies.

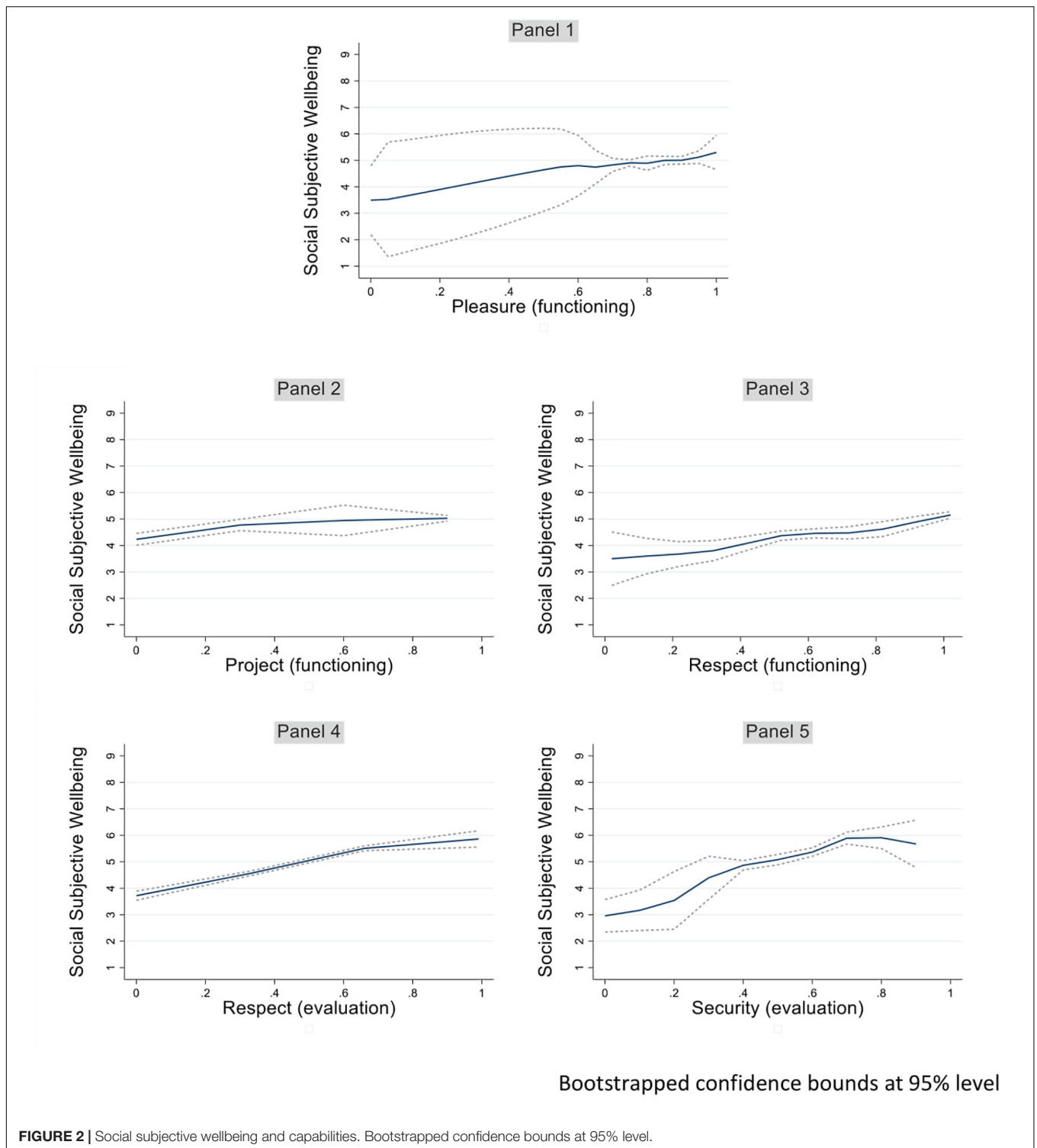
Nevertheless, these results provide important insights for public policies in societies that are experiencing problems of

social belongingness. It is important to stress the size of the effect of respect (feeling recognized and respected in dignity and rights) and human security as determinants of social wellbeing is very large. Not surprisingly, disruptive social movements that Chile experienced during 2011 (the year of the survey) and more recently in 2019, referred to exclusion and discrimination, lack of human security and equalitarian access to social opportunities. If the objective is to reduce social discontent, governments facing similar situations as Chile, might focus on policies that improve “respect” and “human security.”

On the other hand, those concerned about life satisfaction might consider policies removing obstacles to “life projects,” “social ties,” “basic needs,” and facilitating actual contact with nature that also have an effect on social wellbeing although of a lesser magnitude compared to respect and human security. Moreover, respect has an important relationship with life satisfaction but human security appears not to be related. As expected, mental health as functioning, measured by the control depressive symptoms might also be important for life satisfaction.

Furthermore, the non-linear relationship of certain capabilities with subjective wellbeing suggests certain minimum thresholds should be guaranteed, as the effect is large going from complete deprivation to the threshold, while declining afterward. This is the case of human security, project, respect and to a lesser extent, pleasure (experience of pleasurable activities). This suggests the need for universal policies that guarantee access to these capabilities.

Capabilities and subjective states related to social belongingness seem to play a crucial role. Social ties and respect are capabilities that should be of particular concern for public policies as they not only affect both individual as well as social wellbeing but also, as capabilities, are themselves ends of public policies. The article also recognizes that social

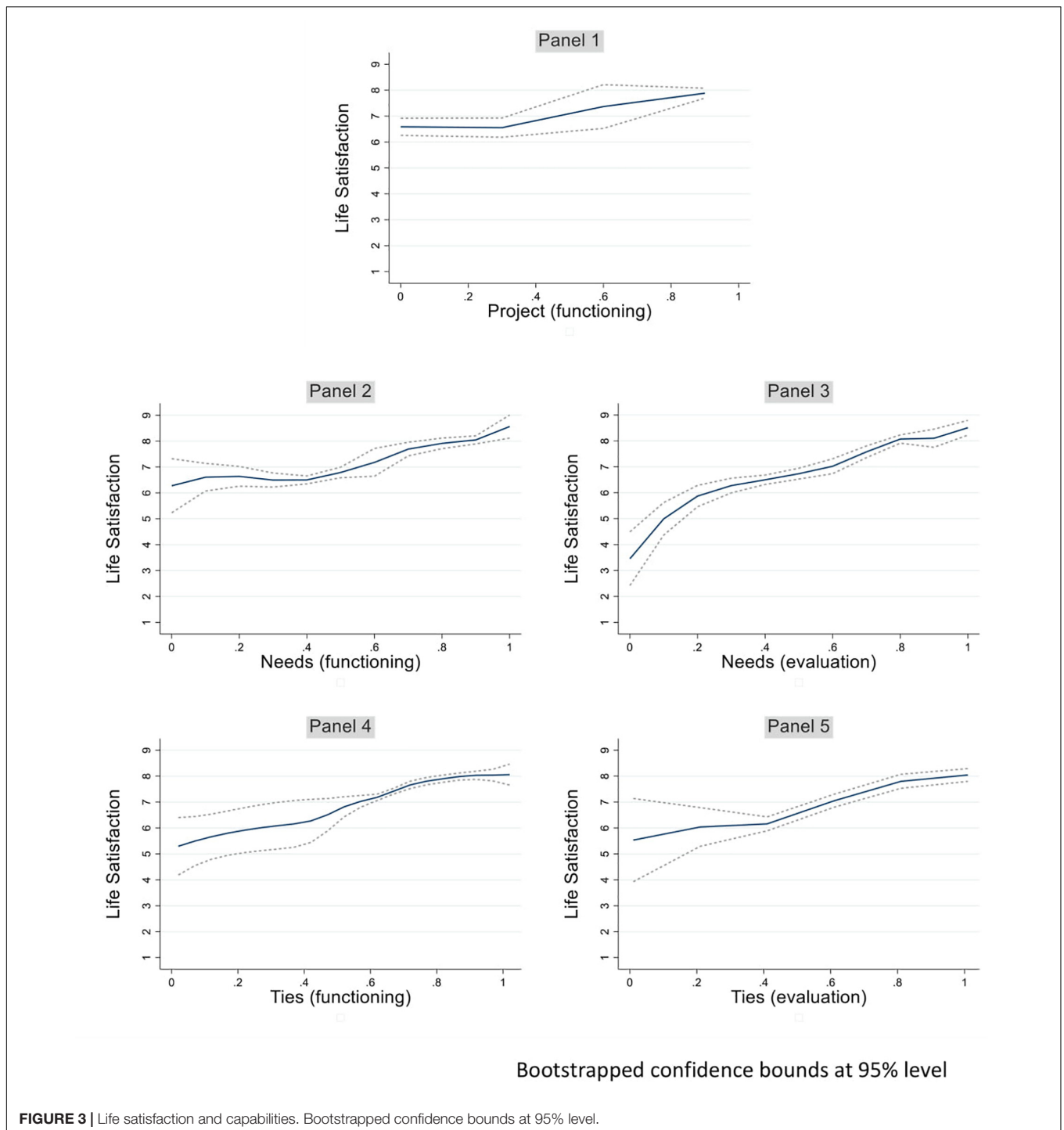


wellbeing is a subjective state that is important independently of life satisfaction and crucially determined by other variables, and therefore individual and social wellbeing might move in different directions.

Overall, these findings represent challenges for public policy, which require further research on the cultural and structural

determinants of these capabilities, including the realm of subjective experience.

Does it mean that the other capabilities are not important? On the contrary, capabilities are ends, as might be subjective wellbeing outcomes. The fact that understanding the world or self-knowledge are not correlated with the assessment that



individuals make about their life and their experience of society does not imply that they should not be facilitated by public policies.

Findings from this study have practical and policy implications, and may inform public deliberation processes and policy decisions to develop capabilities, promote subjective wellbeing, and ultimately promote positive belongingness. Future challenges aside measurement and analysis of the

determinants of wellbeing, include the necessity to better understand policies that improve capabilities, by their own sake but also as determinants of individual and social wellbeing and social belongingness. Public policies and programs should be evaluated not only on the basis of standard tools such as cost-benefit analysis but also multi-criteria methods that might integrate its effects on other less conventional measures such as the ones considered in this paper.

CONCLUSION

In this study we sought to contribute to a multidimensional perspective on belongingness by analyzing the relationship between capabilities (subjective evaluation and effective functioning) with subjective wellbeing (social and individual). We identified (satisfaction of) basic needs, social ties, respect (“Feeling recognized and respected in dignity and rights”), and project (“Having and deploying a life project”) as capability evaluation and functioning that have fairly consistent beneficial associations with both individual and social subjective wellbeing outcomes.

Other statistically significant capability evaluations include “Health” for individual subjective wellbeing and “human security” and “participation and influence in society” for social wellbeing. The variables more correlated with individual subjective wellbeing are basic needs, social ties and respect, both as capability evaluation as functioning. Those more associated with social subjective wellbeing are respect and human security, both measured as functionings.

Capabilities relate to subjective wellbeing outcomes in a non-linear manner, so that the magnitude of the effect usually depends on the initial level of the capability. Inspecting associations only between means of the variables involved, therefore, gives a hint on the existence of a relation but, to further grasp its exact nature, an analysis that takes into account complete distributions is required. This document develops one of the methods that are used to understand distributional effects, dose response matching. Its application not only corroborates that when an increase in the capability endowment has an effect on wellbeing, its magnitude usually depends on the initial level of the capability but also that the relationship is not linear.

Further, a threshold level of certain functionings appears to be necessary for them to have a positive effect on subjective wellbeing. This is the case of project and needs for life satisfaction and, to some degree, respect and human security for social wellbeing. On the contrary, needs as evaluation has a large effect when increasing from very low levels of the capability,

while high levels of human security do not longer continue to increase social wellbeing. Social ties have a more continuous positive effect on life satisfaction, both as capability evaluation as well as functioning. Note that this concept is also a measure of experienced links with others and therefore is closely related with social belongingness.

DATA AVAILABILITY STATEMENT

Publicly available datasets were analyzed in this study. This data can be found here: <https://www.estudiospnud.cl/bases-de-datos/encuestas-de-desarrollo-humano-2011/>.

AUTHOR CONTRIBUTIONS

PG conceptualized the study and led the writing of the manuscript. FD and EC conducted the analyses and contributed to writing the manuscript. All authors contributed to the article and approved the submitted version.

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Membership, Neighborhood Social Identification, Well-Being, and Health for the Elderly in Chile

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The world's elderly population is growing, and in Chile they represent 16.2% of the total population. In Chile, old age is marked by retirement, with a dramatic decrease in income that brings precariousness. Older adults are economically, socially, and psychologically vulnerable populations. This condition increases their likelihood of disengaging from their usual social environment, facilitating their isolation, sadness, and discomfort. From the perspective of social identity, well-being (WB) can be explained by two principles: social groups' importance for health and people's psychological identification with those groups. This study analyzes the relationships between belonging to the neighborhood and extra-neighborhood groups and neighborhood social identification with WB. Urban or rural location and gender are measured, and the sample is 1,475 older Chilean adults of both sexes. The results show that the majority are not members of social groups (52%), and the remaining 48% are members of one or two groups or organizations (42.65%). Only 4.47% belong to three groups or organizations. Those who belong to groups obtain higher scores, emotional-mental WB, and positive emotions than older adults who do not belong to any organization. Urban and rural older adults have the same level of WB. Membership in close social organizations (neighborhood councils) or distant ones (clubs for the elderly and religious groups) causes different WB associations. Membership in neighborhood councils reduces gender differences in self-assessment of health. This result supports the idea that participation in heterogeneous groups with a shared sense of belonging to the neighborhood is associated with higher WB and lower perceived loneliness. Social identification with the neighborhood, rather than belonging to the group, had the most widespread impact on WB and health indicators. The variable social identification with the neighborhood was consistently associated with indicators of hedonic WB.

Keywords: well-being, neighborhood councils, social identification, older adults, belong to social organizations

INTRODUCTION

In the United Nations (2015) reported that almost 901 million people were over 60, comprising 12% of the global population. An aging society is a significant issue in many countries. However, in developed countries, a large, growing elderly population has occurred over a long period. In contrast, low- or middle-class Latin American countries have seen a faster and more drastic increase.

The world's population of older adults is growing. In the Southern Cone countries, Argentina, Uruguay, and mostly Chile have experienced accelerated aging of their population and in a context of inequality (Fuentes-García et al., 2013). In Chile, older adults represent 16.2% of the population, and in 30 years, one in four people will be over 60 (Instituto Nacional de Estadísticas, 2017). Thus, the decrease in the birth rate and the sustained economic growth in Chile brought a significant increase in life expectancy at birth, which has tripled in the last century. In 1900, life expectancy was at 23.6 years for women and 23.5 years for men, and today, for the period 2015–2020, it is 82.1 for women and 77.3 for men.

Therefore, the challenge is not only to live longer but also to live well, with the best quality of life and well-being (WB) possible. However, older adulthood in Chile is marked by retirement with a dramatic decrease in income, bringing precariousness. Thus, older adults are economically, socially, and psychologically vulnerable populations (Grenier et al., 2017; Romaioli and Contarello, 2019). His or her change of role—from worker to pensioner—is also accompanied by a change in his or her environment. He or she will no longer go to the usual workplace, producing an ecological transition that is both a consequence and an instigator of development processes (Bronfenbrenner, 1987, p. 46). This vulnerable position increases the likelihood that older adults disengage from their usual social environment, facilitating their isolation, sadness, and discomfort. Thus, belonging to social groups can counteract this vulnerable position by providing the possibility of social interaction, participation, and social support.

Social activity is considered part of an active lifestyle, alongside physical, and cognitive activities. Social activity has been demonstrated to be beneficial for various health outcomes, including physical health status, mental health status, and quality of life (James et al., 2011; Stav et al., 2012; Lee and Kim, 2014). Numerous studies indicate that social participation positively affects older adults' health (Tomioka et al., 2015; Su et al., 2018; Tomioka et al., 2018).

According to the World Health Organization (World Health Organization (WHO), 2002), social activities are an essential component of “active aging,” and the Active Aging Framework has been adapted as a global strategy in aging policies, practices, and research over the last decade (Narushima et al., 2018). Older adults are at an elevated risk of adverse health effects associated with social isolation and loneliness. Social participation is considered a modifiable determinant of health and WB has been proposed to reduce this risk. However, there is limited knowledge to date about the patterns of social activities among older adults (Dawson-Townsend, 2019).

The neighborhood environment and its relationship with group membership, social participation, and the health of the elderly is one of the relevant issues of environmental gerontology (Kendig, 2003; Moore, 2014). Zheng et al. (2019) assert that the fundamental goal of building “age-friendly communities” (Meneec et al., 2011) is to help the elderly access more opportunities for participation and better health, but little is known about the complex relationships between neighborhood environment and elderly health. It has been observed that older adults who perceive that the neighborhood gives the possibility of being

healthy experience WB (Sánchez et al., 2017). Neighborhood social reciprocity is an essential aspect of neighborhood social capital, and many previous studies have found that it benefits people's mental health status (Adjayegbewonyo et al., 2018; Wang et al., 2019; Xiao et al., 2019). Wang et al. (2019) found that neighborhood social reciprocity influenced Chinese seniors' mental health directly through the frequency of physical activity, social interaction with neighbors, and volunteering experience. The perception of insecurity in the neighborhood has a significant effect on depressive symptoms; however, a greater sense of belonging to the community dampened or had a significant mediating effect on this relationship (Gonyea et al., 2017) and, more generally, on mental health (Fong et al., 2019). Kim and Kawachi (2017) found that neighborhoods with the right interpersonal environment could make it easier for older adults to participate more in social interactions and exchange information useful for their health.

A set of concepts similar to social capital, such as social engagement, social involvement, social networks, social integration, and social gatherings, has been used interchangeably with social participation. Thus, social participation appears as a polysemy concept, which includes membership in social or community clubs or organizations or activities such as individual activities (e.g., hobbies, neighborhood relations) and community activities (e.g., local events, volunteers, senior centers, and religious; Levasseur et al., 2010). Besides, a systematic review of social isolation interventions suggests that a social activity in-group format was more likely to be beneficial than a one-to-one format (Dickens et al., 2011).

Social identity theorists have proposed that people's sense of identity is also derived from their membership in social groups (Tajfel, 1978; Turner et al., 1994; Fong et al., 2019). They distinguish between social identities as a cognitive psychological aspect and social identification as an affective psychological component. On one hand, we analyze and count membership of groups or organizations understood as a central part of social identity, and on the other hand, we understand social identification with the neighborhood as people's strength or psychological closeness. Thus, people have various social identities, corresponding or eventual social identifications, where the former are a precondition for developing the latter (Zacher et al., 2019). The social identity approach suggests that membership and social identification with important groups or organizations are primary determinants of WB and health (Fong et al., 2019). Thus, the non-membership of social groups and loneliness in older adults are most likely associated with worse health and lower WB. “Group life is central, a key source of meaning, purpose, and direction.” “the groups make life worth living, and they are what we live for” (Haslam et al., 2018, p. 17). Groups can also be a source of discomfort, so a complementary hypothesis from the approach of the theory of social identity is that a person will generally experience health-related benefits or costs of a given group membership only to the extent that they identify with the group. In this study, membership in neighborhood groups and extra-neighborhood groups will be analyzed, as well as their neighborhood social identification (NSI) and their relationships with WB and health.

It is possible to establish the determinants of WB and health associated with social membership and participation at different levels of analysis: territorial (e.g., urban–rural), individual (sociodemographical variables as sex and educational level), and neighborhood or extra-neighborhood level. These will have different impacts on the WB of people, and they interact with each other. Regarding territorial determinants, some studies have shown that Chinese older people in rural regions, compared with their urban counterparts, have a lower perception of satisfaction with life and happiness (Li et al., 2015). Overall, however, the lack of services, including local health care facilities, was less important than the attachment to place and social capital associated with aging in place. So, many rural-dwelling older adults reported that the positive aspects of rural residence, such as attachment to community and familiarity, create a sense of belonging that far outweighs the negative (Carver et al., 2018).

The relationships between social participation and health varied according to social activity and the rural–urban context. The rural dwellers were less socially active than their urban counterparts, and in the rural areas, religion and the arts were associated with later health perception (Vogelsang, 2016). Pan (2018) examined the relationship between social capital in the form of cognitive (trust, family support) and structural aspects (social membership, activity frequency) and the life satisfaction of the Chinese elderly in a rural area. Trust and family support were positively associated with life satisfaction, whereas social membership was negatively associated with life satisfaction. Activity frequency did not show any significance in relationship with life satisfaction.

Tomioka et al. (2018) suggest that participation in various social groups effectively maintains older people's effectance, while the beneficial effect of each type of social participation on effectance is more substantial for females than for males. Furthermore, the beneficial effects of frequent participation may be stronger for women than for men. Another study (Zaitzu et al., 2018) reported that Japanese participants involved in social groups with greater diversity had better self-rated health than people who did not participate in social groups. Participation in gender-diverse groups was associated with the best health profile.

Amagasa et al. (2017) indicate that frequent participation at church was related to the low prevalence of depressive symptoms in older women than in older men. Amagasa et al. (2017) have sustained that higher community involvement in older women living with others was also associated with a lower risk of psychological distress. Community involvement provides older women with mental health benefits regardless of the individual relationship level, so promoting community involvement may be an effective strategy for healthy mental aging. Tomioka et al. (2017) examined the cross-sectional associations of the type, frequency, and autonomy for social participation with physical and mental health. Overall, positive associations of the frequency and autonomy of social participation were stronger in females than males. They concluded that obligatory social participation had significantly lower effects on mental health than voluntary participation and occasionally non-participation; there is a possibility that obligatory social participation has

harmful influences on the mental health of the community-dwelling elderly.

Preceding research has suggested that participation in social activities, such as neighborhood, retired, senior, or charitable associations, alleviates depressive symptoms (Chiao et al., 2011; Cruwys et al., 2013). Participation in physical, social, and religious activities was associated with a decreased risk of depression in the elderly. The risk of depression was much lower in the elderly who participated in two or three of the abovementioned types of activity than that in the elderly who did not (Roh et al., 2015). The protective effects of social activity involve various psychosocial mechanisms, including increased social support and buffering distress (Teo et al., 2013). Regular participation in leisure-time physical activity has many benefits, including postponing premature mortality (Janssen et al., 2013; Lahti et al., 2014; Haak et al., 2019), reducing the development of chronic non-communicable diseases (Annear et al., 2009; Deplanque et al., 2012), and improving quality of life (Sánchez-Villegas et al., 2016).

A positive social environment and opportunities for social participation have demonstrated associations with positive health outcomes for older adults in North America (Glass et al., 1999; Gilmour, 2012), East Asia (Hsu, 2007; Kondo et al., 2007; Gao et al., 2018), and Europe (Bennett, 2005; Sirven and Debrand, 2008; Vogelsang, 2016). However, the literature on the subject in Latin America is very scarce, and we do not know if the same type of results would be obtained here. Simões Oliveira et al. (2016) report that older Brazilians who participate in social groups had better quality of life scores in the social and intimate domains. In Chile, a study showed four social participation sources associated with personal satisfaction: the home, the rural environment, social policy, and religiosity. The latter is an essential source of association with greater participation for women than men, although it equals after 80 years old (Herrera Ponce et al., 2014). In another Chilean population sample study, Fernández et al. (2018) identified active aging predictors. In this study, social variables (social and labor participation understood as active involvement in groups or work activity) showed the best predictive capacity, followed by lifestyle variables and individual characteristic variables (Fernández et al., 2018). A comparative study of the relationship between participation in social organizations and life satisfaction in older adults between 2011 and 2013 shows contradictory results. For 2011, the relationship between both variables was positive, while for 2013, it was negative (Alvarado et al., 2016). In general, older adults receive essential health benefits from more robust social capital. Nevertheless, the mechanisms behind these associations are not fully understood (Ho et al., 2018).

The Present Study

We believe that belonging to the neighborhood and extra-neighborhood groups and social identification with the neighborhood determine the elderly's WB and health. Membership is understood here as a proxy for social participation (Levasseur et al., 2010), and it will be measured or accounted for. The NSI is a measure of how positive the inhabitants feel their belonging to the place where they live, implying

comfort, a sense of welcome and support, collaboration and trust between neighbors and, more broadly, a sense of community. Consequently, this study's objective is to determine in older adults of both sexes the relationships between their membership to neighborhood and extra-neighborhood groups, NSI, and WB and health.

The global general working hypothesis is that belonging to the neighborhood and extra-neighborhood groups and organizations and social identification with the neighborhood are factors that positively determine the hedonic and health WB of the elderly. However, although social membership and social identification with the neighborhood are associated with each other (Zacher et al., 2019), they are not similarly related to WB and health indicators.

In this work, we consider two hypotheses that are complementary to each other. In the first place, and from the perspective of social identity, the structural hypothesis (Pan, 2018) proposes that the greater the social membership, the greater the indicators of WB and health. From the perspective of the affective component of social participation, we expect that the greater the social identification with the neighborhood in the elderly, the greater the reported WB and health. Concerning the sociodemographic variables, urban people are expected to have higher membership, higher social identification of the neighborhood, and better WB and health than rural people. Regarding sex, we expected women to have higher membership and NSI than men and less WB and worse health.

MATERIALS AND METHODS

This study corresponds to secondary data analysis, which is why the approval of an ethics committee associated with this article is not necessary. According to the information available on the Ministry of Health's website, it is possible to review the instrument used, which allows us to confirm that the study considers delivering a letter of presentation of the study and the informed consent before starting the application of the survey. We can also observe no potential risk for the participants because anonymity was guaranteed throughout the data.

Participants

This research used information from the Survey on the Quality of Life from the Ministry of Health of Chile, and Department of Epidemiology (2016)¹, which was applied nationally to a random sample of participants from 15 years of age and older ($N = 6,099$). Of those participants, 1,475 older adults were selected for this study. The participants were older than 65 years (59.93% women) with an average age of 73.42 years and $SD = 6.36$ (95.25% of the sample was ≤ 85 years old). Regarding the distribution according

to educational level, 7.9% of the participants completed university education or superior, 20.9% completed secondary education, 11.3% had incomplete secondary education, and the remaining 59.9% completed primary education or less. A total of 79.05% of the participants were urban inhabitants, and 20.95% were rural inhabitants.

Measures

The selection of items from the Survey on Quality of Life allowed making an instrument *ad hoc* consisting of four parts.

- (1) *Membership* in neighborhood councils and extra-neighborhood groups (church and senior clubs): To measure membership, we count and add the participation of each subject to a neighborhood council, senior citizen club, and church. Therefore, the membership variable has a possible value between zero and three.
- (2) *Neighborhood social identification scale*: This was used to measure the degree to which the person perceives belonging to the place or immediate environment they live and integrate. This scale includes a feeling of closeness and comfort, collaboration, support, trust, and loyalty with neighbors. This scale considers 19 items answered in a five-point Likert format, where 1 = strongly agree to 5 = strongly disagree. Examples of items are as follows: "In general I feel very comfortable living in this neighborhood," "I feel loyalty to the people in my neighborhood," or "Living in this neighborhood gives me a sense of community" (complete instrument in section "Appendix 1"). According to the principal component analysis carried out, we found a univariate factorial structure of the scale, which explained 46% of the variance. The scale reliability obtained was $\alpha = 0.92$ and $\omega = 0.92$. We separated between those who have more and less social identification with the neighborhood, using cutoff scores above and below the median, and performed comparisons in WB and health variables. Thus, two groups were formed: high social identification with the neighborhood (score above the median = 3.58) and another with low social identification with the neighborhood (score below the median).
- (3) *Health perception* corresponds to a five-point mono-item "In general, you would say that your health is" 1 = "bad" or 5 = "excellent." This question is part of the questionnaire of Hennessy et al. (1994) measuring health-related quality of life (Moyano Díaz and Ramos, 2007, Spanish version).
- (4) *Hedonic WB*: This includes five indicators about emotionality, mental-emotional WB, life satisfaction, and perceived loneliness. The description of each of the measures is provided below.

Two mono-items to measure satisfaction with life and mental-emotional WB, respectively: "All in all, how satisfied are you with your life?" Participants answered on a 10-point scale, ranging from "extremely unsatisfied" (1) to "extremely satisfied" (10). This question is the most extensive single-item question designed to measure life satisfaction, and it has shown good psychometric properties (Unanue et al., 2017). "All in all, how satisfied are

¹This research used information from the Health Surveys for epidemiological surveillance of the Under Secretariat of Public Health. The authors thank the Ministry of Health of Chile for allowing them to have the database. All the results obtained from the study or investigation are of exclusive responsibility of the authors and in no way involves the abovementioned institution.

you with your mental WB or emotional WB?" Participants answered on a seven-point scale, ranging from "very bad" (1) to "very good" (7).

Emotionality

To measure emotionality, we use the question "How often have you felt during the last 2 weeks?" This question refers to eight emotions: four positive (optimistic, happy, calm, and determined) and four negatives (angry, worried, sad, and tired). Participants responded on a five-point scale, ranging from "never" (1) to "always" (7). Score corresponds to the calculated means, and reliabilities to positive and negative emotions are $\alpha = 0.78$ and $\omega = 0.79$ and $\alpha = 0.73$ and $\omega = 0.73$, respectively.

Perceived Loneliness

To measure perceived loneliness, we use three questions: "How often do you feel that you lack company?," "How often do you feel excluded or left out by others?," and "How often do you feel isolated by others?" Participants answered on a three-point scale: "rarely" (1), "sometimes" (2), and "almost always" (3). The score corresponds to the calculated means, and their reliabilities were $\alpha = 0.86$ and $\omega = 0.87$.

Data Analysis

First, frequency distribution analyses and reliabilities were obtained. To check the normality, this study applied the statistical method of skewness and kurtosis following Kline's (2011) skewness ($sk < 3$) and kurtosis ($k < 10$) criteria. Hence, the normality distribution was achieved. Second, in the data analysis, only the scales with all the items answered were included and those in which the Cronbach's α and McDonald's ω coefficient were higher than 0.70. Then, Pearson's correlation coefficients were used to calculate the associations between membership, social identification with the neighborhood, perceived economic security, health, and hedonic WB indicators in the entire sample.

The entire sample was divided into study groups according to sociodemographic characteristics: urban-rural distinctions, sex, belonging to territorially close groups (neighborhood council), and distant groups (older adults clubs and religious groups), for the indicators of health and hedonic WB. This separated analysis was performed to explore the independent effect of belonging to a different group on health and hedonic WB indicators. Finally, one comparison was made to evaluate the impact of belonging to the neighborhood council as close territorial organizations related to sex and perceived health and hedonic WB indicators.

To respond to the objectives of the study, Pearson's correlation analysis and comparison of means were carried out using the Student's t test or ANOVA and its respective effect size calculation using Cohen's d . Additionally, we conducted a 2×2 ANOVA to assess whether there is a differentiated impact on neighborhood membership about the sex of the participants. Tukey's HSD *post hoc* test was used because it is more conservative (minor type I error). To interpret the correlations, Gignac and Szodorai's (2016) criteria were used. They suggest that the interpretation of social studies' correlations would correspond to small, medium, and large with indices of 0.15, 0.25, and 0.35, respectively. The interpretation of effect size

is based on Erceg-Hurn and Miroseovich's (2008) proposal, where 0.2, 0.5, and 0.8 are interpreted as small, medium, and large effect sizes, respectively. To analyze the data, the statistical software JASP Team (2020) version 0.13.1 was used.

RESULTS

We will present the results starting by showing the sociodemographic variables, then the correlations between all the study variables, and finally, the analysis of membership and social identification of the neighborhood in relation to WB and health.

Sociodemographic Differences

Concerning the urban-rural origin, only differences are observed in NSI ($t = -6.95$, $p < 0.001$, and $d = -0.45$) and perceived loneliness ($t = -4.07$, $p < 0.001$, and $d = -0.26$), with both scores being lower in the rural population than in the urban one. We do not find differences between urban and rural groups in other variables (health, economic security, life satisfaction, mental-emotional WB, and positive or negative emotions).

Regarding the educational level of the elderly, we found differences in the NSI [$F(3, 1,465) = 4.60$; $p = 0.001$; and $\eta^2 = 0.009$] and membership [$F(3, 1,459) = 3.21$; $p = 0.02$; and $\eta^2 = 0.006$], and in both cases, these differences had minimal effects. In the case of the NSI variable, differences are found between the groups with primary education and completed secondary education levels [mean difference = 0.12; $t_{(1,189)} = 2.85$, $p_{\text{Tukey}} = 0.02$], where the former group has more NSI than the latter group. In the case of the membership variable, differences are found between the groups with higher and lower educational levels (mean difference = -0.23 ; $t_{(990)} = -2.72$, and $p_{\text{Tukey}} = 0.03$), where the former group participates in fewer groups compared with the latter group.

In relation to sex, differences are observed in health ($t = -4.60$, $p < 0.001$, and $d = -0.24$) and emotional-mental WB ($t = -2.26$, $p = 0.02$, and $d = -0.12$), both of which are lower for women than for men. In the case of negative emotions ($t = 5.23$, $p < 0.001$, and $d = 0.28$), women obtained higher scores than men ($t = -5.23$, $p < 0.001$, and $d = 0.28$). No statistically significant differences were found in NSI, economic security, life satisfaction, positive emotions, or perceived loneliness.

Global Correlational Analysis

A general overview of correlations for the total study variables is provided in **Table 1**. It is observed that membership correlates negatively with NSI, perceived economic security, mental-emotional WB, and positive emotions. NSI correlates positively with health, perceived economic security, life satisfaction, mental-emotional WB, and positive emotions. It is observed that the NSI variable significantly impacts all the WB indicators, while the membership variable is related to only one of them (positive emotions).

From the WB indicators' point of view, health is positively related to mental-emotional WB, to the absence of negative emotions, and to the existence of positive emotions and to

TABLE 1 | Pearson's correlation between social identification, health, and hedonic well-being.

| | Social identification | | Health | Hedonic well-being | | | | |
|---------------|-----------------------|----------|----------|--------------------|----------|----------|---------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1. Membership | – | | | | | | | |
| 2. NSI | –0.19*** | – | | | | | | |
| 3. Health | –0.05 | 0.18*** | – | | | | | |
| 4. LS | –0.05 | 0.18*** | 0.35*** | – | | | | |
| 5. MEWB | –0.07** | 0.23*** | 0.42*** | 0.46*** | – | | | |
| 6. PE | –0.14*** | 0.25*** | 0.40*** | 0.43*** | 0.50*** | – | | |
| 7. NE | 0.05* | –0.19*** | –0.48*** | –0.35*** | –0.44*** | –0.45*** | – | |
| 8. PL | 0.04 | –0.07** | –0.23*** | –0.25*** | –0.33*** | –0.31*** | 0.31*** | |
| <i>M</i> | 3.33 | 3.52 | 2.59 | 7.28 | 5.39 | 4.01 | 2.72 | 1.45 |
| <i>SD</i> | 0.86 | 0.63 | 0.89 | 2.01 | 1.32 | 0.72 | 0.77 | 0.59 |
| <i>sk</i> | –1.02 | –0.26 | 0.49 | –0.51 | –0.98 | –0.46 | 0.08 | 1.31 |
| <i>k</i> | 0.34 | 0.62 | 0.56 | –0.05 | 0.49 | –0.32 | –0.10 | 0.80 |

Social identification: Membership, membership organization to belonging; NSI, neighborhood social identification. Health, health perception. Hedonic well-being: LS, life satisfaction; MEWB, mental–emotional well-being; PE, positive emotions; NE, negative emotions; and PL, perceived loneliness.

* $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.

life satisfaction and perceived economic security. Perceived economic security had a large correlation with all positive WB indicators (life satisfaction, mental–emotional WB, and positive emotions).

The membership variable correlates with indicators of WB and health differently by sex. For women, it correlates statistically significantly and negatively with health ($r = -0.09$, $p < 0.01$), perceived economic security ($r = -0.10$, $p < 0.01$), life satisfaction ($r = -0.07$, $p < 0.05$), mental–emotional WB ($r = -0.09$, $p < 0.05$), and positive emotions ($r = -0.14$, $p < 0.001$) and positively with negative emotions ($r = 0.08$, $p < 0.05$). In the case of men, the membership variable only correlates with positive emotions ($r = -0.16$, $p < 0.001$).

Membership and Neighborhood Social Identification Analysis

The membership variable distribution analysis shows that most of the sample participants do not participate in any of the groups considered (52.07%). The percentage that follows in second place corresponds to participants who are members of only one organization (30.51%), then to a group that participates in two organizations (12.14%) and, finally, a small group of people who belong to three organizations (4.47%); 0.81% of the participants did not answer this question.

Association analysis between high and low membership and high and low NSI on WB and health is found in **Table 2**. People in the high-membership group show only one difference compared with the low-membership group: it is in the variable positive emotions. In contrast, the high NSI group obtained higher scores in all the WB variables analyzed (health, life satisfaction, mental–emotional WB, and positive emotion) than participants of the low NSI group. Additionally, the group with high social identification with the neighborhood also obtained significantly lower scores in negative emotions and loneliness than the group with low social identification with the neighborhood.

To deepen the analysis regarding belonging to organizations, when comparing by membership to the seniors club, it is observed that those who participate in them obtain higher scores in mental–emotional WB ($t = 1.93$, $p = 0.05$, and $d = 0.12$) and positive emotions ($t = 3.71$, $p < 0.001$, and $d = 0.24$) than those older adults who do not report membership in them. In turn, those who reported membership in religious groups presented higher scores in perceived economic security ($t = 2.57$, $p < 0.001$, and $d = 0.18$) than those who did not report membership in religious groups. Regarding neighborhood membership, we compared WB indicators among those who report membership in neighborhood councils with those who do not (**Table 3**). When comparing the means in the different WB indicators between those who belong and do not belong to the neighborhood council, differences in favor of the former are observed in all the WB indicators. Thus, in general, they present more WB and better health and less negative emotions and perceived loneliness. When we observed the effect of these three different memberships on health and hedonic WB indicators, membership in neighborhood councils has a more significant association with WB than membership in extra-neighborhood groups.

Membership in neighborhood councils can be considered a variable whose effect interacts with other variables such as gender. Thus, evaluation of the interaction between belonging to neighborhood councils and gender is presented below to explain its impact on health. A comparison was made to evaluate the impact of sex and belonging to neighborhood councils (nearby territorial organizations) to explain health perception. The results of the 2×2 ANOVA for health perception show a main effect for sex, [$F(1, 1,458) = 8.06$; $p = 0.0005$; and $\eta^2 = 0.006$], but no main effect for neighborhood council membership [$F(1, 1,458) = 3.01$; $p = 0.08$; and $\eta^2 = 0.003$]. However, an interaction effect between both variables [$F(1, 1,458) = 4.40$; $p = 0.04$; and $\eta^2 = 0.003$] was found (**Figure 1**). When examining the simple main effects, there is a higher score in health perception (better health)

TABLE 2 | Comparison of the average of health and well-being in older adults according to their level of high or low membership and neighborhood social identification.

| | Membership | | | | | | | | | Neighborhood social identification | | | | | | | | |
|--------|------------|-----------|----------|----------|-----------|----------|----------|----------|----------|------------------------------------|-----------|----------|----------|-----------|----------|----------|----------|----------|
| | High | | | Low | | | <i>t</i> | <i>p</i> | <i>d</i> | High | | | Low | | | <i>t</i> | <i>p</i> | <i>d</i> |
| | <i>M</i> | <i>SD</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>N</i> | | | | <i>M</i> | <i>SD</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>N</i> | | | |
| Health | 2.67 | 0.79 | 66 | 2.54 | 0.90 | 766 | 1.13 | 0.26 | 0.15 | 2.69 | 0.90 | 696 | 2.49 | 0.87 | 769 | 4.26 | <0.001 | 0.22 |
| LS | 7.30 | 1.61 | 66 | 7.17 | 2.06 | 759 | 0.52* | 0.61 | 0.07 | 7.53 | 1.84 | 695 | 7.05 | 2.13 | 763 | 4.60* | <0.001 | 0.24 |
| MEWB | 5.40 | 1.32 | 65 | 5.28 | 1.31 | 761 | 0.68 | 0.49 | 0.09 | 5.64 | 1.21 | 696 | 5.17 | 1.37 | 762 | 6.96* | <0.001 | 0.36 |
| PE | 4.21 | 0.61 | 66 | 3.91 | 0.74 | 765 | 3.23* | 0.001 | 0.41 | 4.18 | 0.68 | 695 | 3.86 | 0.72 | 768 | 8.60 | <0.001 | 0.45 |
| NE | 2.74 | 0.72 | 66 | 2.76 | 0.79 | 765 | -0.25 | 0.80 | -0.03 | 2.59 | 0.80 | 696 | 2.83 | 0.73 | 768 | -5.92* | <0.001 | -0.31 |
| PL | 1.49 | 0.67 | 65 | 1.47 | 0.61 | 763 | 0.17 | 0.87 | 0.02 | 1.39 | 0.54 | 692 | 1.49 | 0.62 | 763 | -3.26* | 0.001 | -0.17 |

Health, health perception. Hedonic well-being: LS, life satisfaction; MEWB, mental-emotional well-being; PE, positive emotions; NE, negative emotions; and PL, perceived loneliness.

*Levene's test is significant ($p < 0.05$), suggesting a violation of the equal variance assumption.

TABLE 3 | Comparison of means between older adults who are and are not members of neighborhood councils on hedonic health and well-being indicators.

| | Yes | | | No | | | <i>t</i> | <i>p</i> | <i>d</i> |
|------------------------------|----------|-----------|----------|----------|-----------|----------|----------|----------|----------|
| | <i>M</i> | <i>SD</i> | <i>N</i> | <i>M</i> | <i>SD</i> | <i>N</i> | | | |
| Health perception* | 2.67 | 0.82 | 368 | 2.56 | 0.91 | 1,094 | 2.21 | 0.03 | 0.13 |
| Life satisfaction | 7.51 | 1.88 | 369 | 7.21 | 2.04 | 1,086 | 2.55 | 0.01 | 0.15 |
| Mental-emotional well-being* | 5.56 | 1.25 | 369 | 5.33 | 1.34 | 1,086 | 2.80 | <0.001 | 0.17 |
| Positive emotions | 4.14 | 0.67 | 367 | 3.97 | 0.73 | 1,092 | 4.09 | <0.001 | 0.25 |
| Negative emotions | 2.64 | 0.70 | 369 | 2.74 | 0.79 | 1,092 | -2.03 | 0.04 | -0.12 |
| Perceived loneliness* | 1.38 | 0.54 | 366 | 1.47 | 0.60 | 1,090 | -2.66 | <0.001 | -0.16 |

*Levene's test is significant ($p < 0.05$), suggesting a violation of the equal variance assumption.

in men than in women who do not belong to neighborhood councils ($F = 23.92$; $p < 0.001$), which is not observed among those who are members of the neighborhood council ($F = 0.18$; $p = 0.67$).

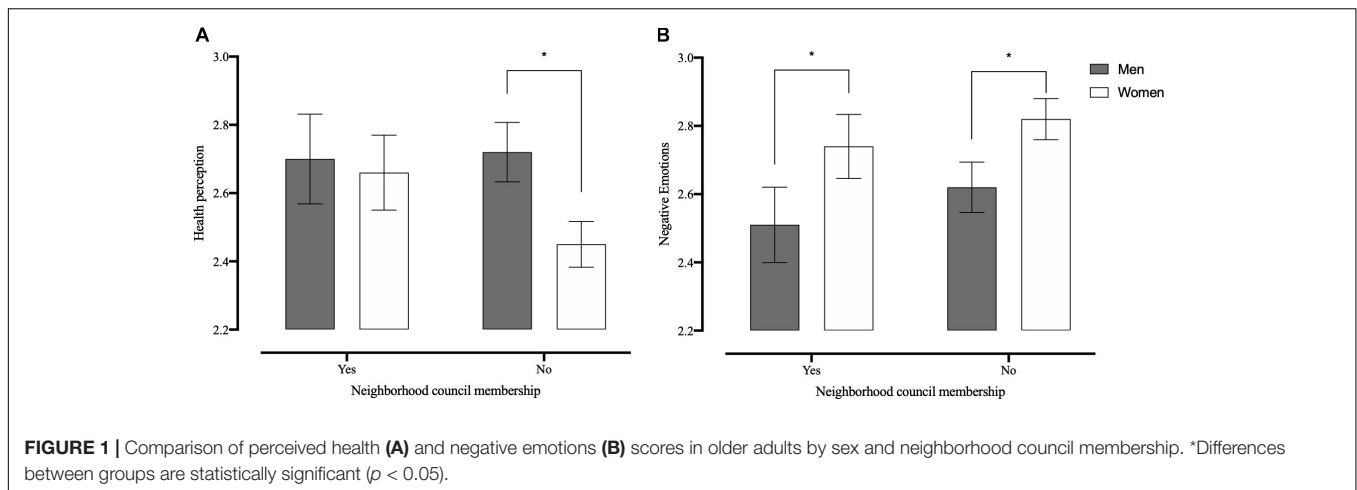
The same analysis was performed for all WB indicators. The results of the 2×2 ANOVA for satisfaction with life show a main effect for neighborhood council membership [$F(1, 1,451) = 5.55$; $p = 0.02$; and $\eta^2 = 0.004$], but no main effect for sex [$F(1, 1,451) = 0.54$; $p = 0.46$] or interaction effect [$F(1, 1,451) = 0.70$; $p = 0.40$]. The results of the 2×2 ANOVA for mental-emotional WB show a main effect for neighborhood council membership [$F(1, 1,451) = 6.63$; $p = 0.01$; and $\eta^2 = 0.004$], but no main effect for sex [$F(1, 1,451) = 2.18$; $p = 0.14$] or interaction effect [$F(1, 1,451) = 0.62$; $p = 0.43$]. The results of the 2×2 ANOVA for positive emotions show a main effect for neighborhood council membership [$F(1, 1,455) = 17.74$; $p < 0.001$; and $\eta^2 = 0.01$], but no main effect for sex [$F(1, 1,455) = 1.73$; $p = 0.19$] or interaction effect [$F(1, 1,455) = 1.33$; $p = 0.25$]. The results of the 2×2 ANOVA for negative emotions show a main effect for sex [$F(1, 1,455) = 20.40$; $p < 0.001$; and $\eta^2 = 0.01$] and neighborhood council membership [$F(1, 1,457) = 3.91$; $p = 0.05$; and $\eta^2 = 0.003$], but not an interaction effect [$F(1, 1,457) = 0.05$; $p = 0.82$]. The results of the 2×2 ANOVA for perceived loneliness show a main effect for neighborhood council membership [$F(1, 1,452) = 5.67$; $p = 0.02$; and $\eta^2 = 0.004$], but no main effect for sex [$F(1, 1,452) = 0.003$; $p = 0.95$] or interaction effect [$F(1, 1,452) = 1.48$; $p = 0.22$].

DISCUSSION

This study identifies the relationships between belonging to the neighborhood and extra-neighborhood social groups, NSI, and their impacts on hedonic WB and health in urban and rural older adults, sexes, and different educational levels. The general results and those related to the hypothesis of the study allow us to draw some conclusions and discuss them with previous literature.

First, it is found that majority of older adults (52%) do not belong to social groups. This result means that participation can be encouraged from public policy with a great possibility that older adults join existing groups, with consequent benefits.

From a theoretical point of view, the two central variables of the social identity approach used here are verified as relevant in their importance to influence health and WB, although they have different impacts. Thus, the two main variables analyzed, membership in local or extra-neighborhood groups and NSI, both have a different relationship with hedonic WB and health. Social membership is not related to life satisfaction nor health. NSI is positively associated with satisfaction with life and health. In fact, the result obtained in this sample of elderly participants indicates that social membership is associated negatively with mental-emotional WB and positive emotions. Of these two, it was social identification with the neighborhood, rather than group membership, which had the most widespread impact on all numbers of WB indicators and with greater intensity as well. Thus, the elderly having a greater NSI (favorable conditions)



reported a greater hedonic WB and better health. At the same time, these social identification variables were consistently associated with indicators of hedonic WB.

Regarding the urban–rural differences, the rural older adults presented higher scores in NSI and negative emotions than urban older adults, but not in active social participation. Regarding satisfaction with life, no differences were observed between the urban and rural Chilean samples, which differs from other studies, such as Alvarado et al. (2016) for life satisfaction, or Li et al. (2015), in Chinese samples where rural people had lower levels of happiness and life satisfaction than urban people. The fact that the rural environment in Chile has undergone a process of rapid and growing transformation (urbanization or “new rurality”) perhaps tends to blur the limits and differences with the urban environment, which could explain this result. This has been exacerbated by the accelerated globalization process reaffirmed in 2000 with the signing of the free trade agreement with the United States of America. The inhabitants of urban areas know and expect that the products produced on their lands are exported so their gaze is becoming increasingly global or international. Thus, in rural areas, there is increasing availability of basic goods and services (drinking water, electricity, schools, clinics, pharmacies, cable TVs, and the internet, and among others), which previously defined the identity of urban areas or the urban. This has expanded consumption patterns and transformed rural actors’ mentalities and lifestyles (Canales Echeverría, 2006).

Regarding membership in nearby (neighborhood) and distant groups or organizations (extra-neighborhood), the results are interesting in the sense that the closer they were, the greater the difference was in favor of hedonic WB. Thus, participation in senior citizen clubs or religious groups was not as effective in their impact on WB and health as participation in neighborhood councils. This may be because the neighborhood councils were local (close), territorially delimited on a smaller scale than the clubs for the elderly, which in most cases bring together participants from different neighborhoods of the city. The first facilitates the closest relationships or reinforces those existing in the neighborhood and, thus, social identification.

However, both types of participation, in local neighborhood councils or extra-neighborhood groups (religious groups and clubs for the elderly), contribute to WB, giving overall support to the active aging approach. This is in line with the result reported by Sánchez et al. (2017), showing that Chilean older adults trust more in social-civic organizations that are more tightly linked to neighborhoods compared with more distant ones such as political parties (or large private banks). In this way, we believe that this result advances concerning the limited knowledge regarding the activity patterns of older adults (Tomioka et al., 2016; Dawson-Townsend, 2019). Additionally, perhaps the fact of not differentiating between belonging to organizations closer or farther away from home in previous studies explains the contradictory results on WB concerning social participation previously reported in Chile (Alvarado et al., 2016).

The differences between the health perception of men and women coincide with previous literature. Thus, in the sample studied, women presented lower levels of health perception and mental–emotional WB and, in turn, higher scores in negative emotions and frequency of negative feelings. Although these differences appear to be stable according to the literature, it is necessary to consider other variables, such as participation in neighborhood councils, to moderate these results. On the other hand, in life satisfaction, and unlike Alvarado et al. (2016), no differences were observed between sexes.

Social participation in the neighborhood was associated with fewer depression-related elements (perceived loneliness and negative emotions) and higher hedonic WB (mental–emotional WB and positive emotions). It is also associated with a higher health perception. In the case of participation in religious organizations, it was only associated with less perceived loneliness. Thus, our results coincide with previous literature (Chiao et al., 2011; Cruwys et al., 2013; Roh et al., 2015), supporting the idea that participation in heterogeneous groups, despite differences in beliefs and ages but with a shared sense of belonging (neighborhood), is associated with higher levels of hedonic WB and a lower risk of depression.

Finally, when analyzing the effects on health perception, belonging as a neighborhood council member had a significant effect mainly for women. Thus, the health perception of women who participated in neighborhood councils was equal to that of men. These results converge with those of the previous literature regarding the differential impact of social participation on mental health by gender (Kim, 2009; Amagasa et al., 2017), alleviating depressive symptoms (Chiao et al., 2011; Cruwys et al., 2013) and preventing clinical deterioration (Tomiooka et al., 2018) in women. In very general terms, social participation in councils favors health. As has been reported, participation is beneficial for maintaining physical function and mental health (Holt-Lunstad et al., 2017). Today, however, given the particular SARS-CoV-2 pandemic situation, social participation in face-to-face groups can put older adults at risk of contagion and, therefore, turn negative.

Finally, from a public policy perspective, our results suggest promoting voluntary membership in social groups, particularly in neighborhood associations, which are ancient forms of organization in the country, and also strengthening urban community actions, which—although focused—will strengthen social identity and belonging to the neighborhood and its groups, which is associated with satisfaction with the place and in line with the social identity approach (Haslam et al., 2009, 2018).

Among the limitations of the study, the following can be mentioned: Firstly, the fact that a pre-existing database was analyzed constitutes a limitation to the type of hypothesis to be verified and the type of measurement instruments used. These are not necessarily the most widely used or conventional instruments

on the subject, but they are prepared and applied to fulfill the purposes of a national survey whose purpose is primarily a social diagnosis. Secondly, being a pre-existing survey, not all the hypotheses could be verified as one could wish, but only those possible ones based on the existing database.

DATA AVAILABILITY STATEMENT

Publicly available datasets were analyzed in this study. This data can be found here: <http://epi.minsal.cl/condiciones-de-uso/>.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

EM-D: responsible for the conception and design of the study. Review of the literature and writing of the work. Support for the analysis or interpretation of data for work. RM-L: responsible for the statistical analysis, interpretation, and description of the results. Support in the revision of different versions of the manuscript, up to the version presented. Both authors contributed to the article and approved the submitted version.

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APPENDIX 1

Neighborhood Social Identification Scale

1. In general, I feel very comfortable living in this neighborhood.
2. I feel like I belong to this neighborhood.
3. I visit my neighbors at their houses.
4. The friendships and relationships I have with other people in my neighborhood mean a lot to me.
5. If I had the opportunity, I would like to leave this neighborhood (reverse encoding).
6. If people in my neighborhood plan something, I would think that it is something that we are doing together and not something that others are doing.
7. If I need advice, I can ask someone in my neighborhood.
8. I think I agree with most of the people in my neighborhood about what life is important.
9. I think my neighbors could help me in case of an emergency.
10. I feel loyalty to the people in my neighborhood.
11. With my neighbors, we lend each other things and do each other favors.
12. I am willing to collaborate with other people to improve my neighborhood.
13. I plan to continue living in this neighborhood for several years.
14. I like to feel similar to the people who live in my neighborhood.
15. My neighbors rarely visit my home (reverse encoding).
16. I have a feeling of deep fellowship with other people in this neighborhood.
17. I regularly stop to chat with people in my neighborhood.
18. Living in this neighborhood gives me a sense of community.
19. If you dropped a purse or wallet in your neighborhood, on your street, or in your village or town, and someone saw it, do you think he or she would return it to you?



Revisiting the “The Breakfast Club”: Testing Different Theoretical Models of Belongingness and Acceptance (and Social Self-Representation)

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The current work tests different theoretical models of belongingness and acceptance as fundamental needs for human motivation. In the current study, 372 participants were presented with 52 different items measuring five different theoretical models of belongingness (with a total of 32 items) and three different theoretical models of acceptance (with a total of 20 items). In a first step, Confirmatory Factor Analysis (CFA) failed to provide support for these eight theoretical models. In a second step, we therefore applied Exploratory Factor Analysis yielding three factors, which we interpreted as communicating: (1) Belongingness, (2) Emotion-Acceptance, and (3) Social Self-Representation. In a third step, these three factors were corroborated by a CFA. We discuss how these two factors of “belongingness,” “emotion-acceptance” respond to the literature on the need to belong and be accepted, and we reflect on how ‘social self-representation’ seems to be an alternative motivation for how we present ourselves to our social relations to fulfill our needs.

Keywords: belongingness, acceptance, social, self, representation, needs, EFA, CFA

INTRODUCTION

“You see us as you want to see us – in the simplest terms, in the most convenient definitions. But what we found out is that each one of us is a brain . . . an athlete . . . a basket case . . . a princess and a criminal. . .”
– “The Breakfast Club” by John Hughes

This infamous 80s movie tells a story about five strangers forced to be in detention and have centered the belief of who they are around how they belong, are accepted, and how their self is socially presented. Based on social interactions with one another during detention, they were able to see themselves, not for how they are socially presented, but for who they truly are: as fellow human beings with a burning need for belongingness and acceptance fulfilled through their friendships. It is this realization of social connectedness motivating Brian’s declaration of the group as the “The Breakfast Club.”

As illustrated by the movie, the need to belong (e.g., Baumeister and Leary, 1995) and the need for acceptance (e.g., Rogers and Koch, 1959; Rogers, 1961) make up two essential parts of what it means to be oneself in response to our social relations (Cohen and Syme, 1985; Hagerty and Patusky, 1995; Leary et al., 2006; Leary and Cox, 2008). Despite the longstanding

influence that the concepts of belongingness and acceptance have had on psychological thinking (e.g., Murray, 1938; Maslow, 1943, 1968; Rogers, 1951; McClelland, 1987; Deci and Ryan, 1991; Goodenow, 1993; Ryan, 1993; Vallerand, 1997) one should have expected an agreement on what “belongingness” and “acceptance” mean. Yet, there is no shared agreement on what is meant with “belongingness” (see Maslow, 1962; Thoits, 1982; Hagerty and Patusk, 1995) and “acceptance” (see Rogers, 1961; Greenberg, 1994; Cialdini and Goldstein, 2004) as each of the two constructs are defined differently depending on who you ask. By such, both “belongingness” and “acceptance” are presented as having different variations wowed within them. If this is true, one should expect that it should be possible to (1) differentiate among all the different variations of “belongingness” and “acceptance.” Alternatively, if they can’t be differentiated, we believe it should be possible to (2) demonstrate their *shared* similarities; that all definitions of “acceptance” and “belongingness” are universal and undifferentiated regardless of theoretical standpoint. However, if it should not be possible to differentiate them or find them to be so similar that they can form two distinct, but related constructs, we need to explore and re-think what “belonging” and “acceptance” means for theoreticians and researchers. With these ideas in mind, we followed Gausel et al.’s (2012) and Gausel et al.’s (2016) approach to “scale validation” using Confirmatory Factor Analysis (CFA).

TWO PSYCHOLOGICAL NEEDS FOR HUMAN MOTIVATION: BELONGINGNESS AND ACCEPTANCE

The evaluation of the need to belong and the need for acceptance is largely judged in relation with one’s emotional bond with another (Baumeister and Leary, 1995; Shah, 2003). The degree of subjectively appraised need-fulfilment has a great impact on one’s psychological well-being, motivation, and functioning (e.g., Bowlby, 1969, 1973; Baumeister and Leary, 1995; Murphy et al., 2007; Cheryan et al., 2009). If the needs are fulfilled, they positively influence how people appraise themselves, how they feel about themselves and how they behave, (Gausel and Leach, 2011) and thus, contribute to a subjective sense of social connectedness with others (e.g., Rogers, 1951; McClelland, 1987; Baumeister and Leary, 1995; Vallerand, 1997) and better well-being (e.g., Cohen and Janicki-Deverts, 2009). Yet, if these needs are appraised as deprived or unfulfilled, a feeling of rejection is felt (Baumeister and Leary, 1995; Gausel and Leach, 2011) leading to a sense of worthlessness (Tangney and Dearing, 2002) and depression (Baumeister and Leary, 1995; Hagerty and Patusk, 1995). However, as these needs are fulfilled through our social bonds, the way we present ourselves socially to others (Ellemers et al., 2008) is an important aspect of how we balance our needs to belong and to be accepted up against the desired view of one’s social-image in the eyes of others (Gausel and Leach, 2011; Gausel, 2013).

As the two needs seem to incorporate various aspects of the way the self is functioning and develops, many different theoretical models of what “belonging,” and “acceptance” mean

have evolved consequently. In our reading, we were able to detect what seemed to encompass at least five theoretical models of “belongingness” and three theoretical models of “acceptance.” For “belongingness” we identified a sense of “identity-proximity” (e.g., Kohut, 1971, 1977; Kohut et al., 1984), a sense of “emotion-sharing” (e.g., Lee and Robbins, 1995), a sense of “supportive-proximity” (e.g., Hill, 1987; Lazarus, 1991; Kelly and Barsade, 2001; Pickett et al., 2004), a sense of “similarities of *Self* and *Others*” (e.g., Tajfel and Turner, 1979; Turner, 1999), and a sense of “environmental-satisfaction” (e.g., Bronfenbrenner’s, 1979). For “acceptance,” we identified a sense of “usefulness” (e.g., Rogers and Koch, 1959), a sense of “satisfactory” (e.g., Hayes, 1994), and a sense of “attitude to change” (e.g., Vygotsky, 1978; Bandura, 1986; Linehan, 1993; Heard and Linehan, 1994). In the following, we will lay out these theoretical models.

FIVE DIFFERENT THEORETICAL MODELS OF BELONGINGNESS

Identity-Proximity: Understanding One’s Identity Through Proximity With the “Other”

According to Kohut (1971, 1977) and Kohut et al. (1984), there cannot be a cohesive self without someone else in proximity to mirror oneself in. That is, the “other” in the relationship provides a platform where one’s value can be mirrored, one can reciprocally be liked and by such experience a sense of connectedness and likeness with the “other.” In this way, the experience of responses from the “other” is what reinstates and encapsulates the experiences of self and give rise to the emergence of self-identification in proximity with “the other.” Similarly, Baumeister and Leary (1995) argued that the subjective experience of oneself is experienced through one’s social relationship, where these relationships maintain a certain measure of belongingness depending on its proximal distance from oneself. Any shortcomings or failures can by such threaten one’s relationships, which in turn will threaten the need to belong, ultimately leading to severe feelings of isolation and alienation (Gausel and Leach, 2011), anxiety and depression (Baumeister and Leary, 1995; MacDonald and Leary, 2005). What we term “identity-proximity” is, therefore the understanding of one’s identity through the need to belong fulfilled via affiliation and relationship with the proximal “other.”

Emotion-Sharing – Reciprocal Connectedness

It is theorized that the need to belong involves the psychological experience of social connectedness obtained through emotion sharing. According to Lee and Robbins (1995), a sense of belongingness evolves from infancy to maturity through companionship, affiliation, and connectedness. Despite not being able to empirically confirm this three-parted argumentation they convincingly argued that one’s need to belong is growingly associated with a sense of worth obtained through, not only caregivers, but also through affiliations with others, and later,

relationships outside their comfort circle. The joint theme for their argumentation is that the need to belong in these stages are marked by the ability to reciprocally share emotions and thus experience mature connectedness. By such, Lee and Robbins (1995) argued that the need to belong is fulfilled through emotion-sharing and reciprocal connectedness.

Supportive-Proximity – Emotional Support From Others

Lazarus (1991) proposed that people appraise stressful situations based on whether they think they have the resources to cope with the stressors or not. One of the key coping strategies in relation to social stressors is to check whether they have social resources needed to cope. Therefore, in the face of a stressor, people typically reach out to their social relations to receive emotional support. By such, appraising stressful situations should elicit one's sense of belonging (or the need to reach out for emotional support) beyond significant others in order to re-appraise the stressor based on the emotional support one receives from whomever close enough to be offering support. Hill (1987) therefore theorized that one's social affiliation motive can be structured on the aim for continuous emotional support, as one's need for belongingness is sensitized based on the subjective experiences and cues (Kelly and Barsade, 2001; Pickett et al., 2004). The need to belong can therefore be understood as a need oriented toward emotional support from proximal others.

Similarity of Self and Others – Social Identity

According to social-identity theory, understanding who one is, is affected by how we identify with similar others (Tajfel and Turner, 1979). According to Turner (1999), self-categorization becomes fully operational as a social identity only once an individual has identified with her/his social category. By such, one's worth is influenced by the number of possible social groups in which one belongs. If belongingness has been obtained through allocation with a group of similar others, one will prioritize one's group simply because oneself is a belonging member of that group. Thus, the need to belong is created through a cognitive process where one's self-worth is dependent on a similarity of *Self* and *Others*' as represented by a group-membership (Tajfel, 1978; Turner et al., 1987).

Environmental-Satisfaction – Interactions and Experiences

A sense of belonging is attached to the influences of the environment one is interacting with. Bronfenbrenner's (1979) ecological framework posits that human experiences and development tie themselves to the interactions of individuals and the events of their environment as satisfactory or unsatisfactory. Thus, belongingness based on "environmental-satisfaction" is interconnected to how one centers or attaches oneself with the overall satisfaction of an experience within their environment. This consequently motivates one's need for participation and the influence of self-perception of belongingness, as this feeling of emotional connection within a setting can accordingly result

in the feeling of rejection if unsatisfactory, or belonging if satisfactory (e.g., Lynch, 1976; Relph, 1976; Canter, 1977).

THREE DIFFERENT THEORETICAL MODELS OF ACCEPTANCE

Usefulness

Rogers and Koch (1959) posits that there is an inherent need for acceptance to feel useful for others, that is, that there is a use for me in the world. Rogers connects this usefulness to the need for acceptance as a way to self-actualize, or to become a "fully functioning person" (p. 208). This actualizing tendency, where acceptance feeds individuals toward an evaluative process of appraised usefulness and worthiness, is a prerequisite to personal growth in Rogers' eyes. The driving force behind this type of acceptance is the emphasis on how "useful" an individual feels in response to one's self-actualizing tendency. As the need for acceptance is inherent to self-actualization, the experience of acceptance from others as 'useful', demonstrates a fulfillment of the need for acceptance. By ideal, this perception of oneself as "useful" is then consistent with the self-representation of the ideal-self, and accordingly creates a state of congruency toward a fully functioning, and accepted person (Rogers and Koch, 1959).

Satisfactory

Hayes (1994) illustrates acceptance to be "experiencing events fully and without defense" (p. 30). By such, he suggests that regardless of the events being positive or negative the experience itself embraced without defense should be satisfying the need for acceptance. Naturally, in contrast to an unwanted experience and feeling toward the self in a social interaction, people are typically inclined to be more satisfied and more content based on a positive social interactions and relationships (e.g., Deci and Ryan, 2002; Nguyen et al., 2016). Nevertheless, the need for acceptance, and its fulfillment, according to Hayes (1994) should create a feeling of self-satisfaction when one relates to events in one's life without a defensive stance.

Attitude to Change

One's attitude to change in relation to feedback from our social relations can form a basis for the fulfillment of the need to be accepted. For instance, when there is a lack of acceptance communicated, it will effectively influence one's "attitude to change" to the point that if change is not initiated acceptance will be withdrawn and the need will go unfulfilled (Gausel, 2013). Indeed, it is only natural that the experience of not receiving acceptance from others will support one's "attitude to change." That said, a strong alternative to lack of acceptance as a motivator for change is unconditional acceptance (Rogers and Koch, 1959). This will also spur one's attitude to change, especially in therapeutic engagement (e.g., Rogers and Koch, 1959; Linehan, 1994). Taken together, the need for acceptance and the attitude to change are focusing on interactions in everyday life, highlighting how the casual attribution of acceptance affects one's 'attitude to change' to satisfy the need for acceptance (Vygotsky, 1978; McCormick and Martinko, 2004; Betz, 2007).

THE CURRENT STUDY

The goal of the current study was to test whether it was possible to differentiate among the five variations of belongingness and three variations of acceptance as we have suggested. However, if this is not feasible, we believe it should still be possible to tap into their shared similarities so that the eight variations reflect two larger “umbrella constructs” where one would be reflecting a global “belongingness” factor (incorporating the five variations of belonging), and the other a global “acceptance” factor (incorporating the three variations of acceptance). To investigate and test these two hypotheses, we followed Gausel et al. (2012, 2016) approach to “scale validation” performing various steps using CFA.

METHOD

Participants and Procedure

Three hundred eighty-seven English speaking community participants from 51 different nationalities (where English was the *de facto* and the *de jure* language for 15 of them) across the world were originally invited to a voluntary online survey titled “Social Relations” using Google forms. Out of these participants, 15 cases were deleted due to missing data of gender and nationality, making the final sample a total of 372 (229 women and 143 men, $M_{age} = 38.39$, $SD = 12.27$, age-range = 18–79).

Participants were first presented with information regarding the purpose of the study and the nature of their involvement as voluntary. Following this, they were reassured participation was completely anonymous, and that no information could be traced back to them. Participants were informed that the study contained statements about their thoughts toward being social and that there were no right or wrong answers, and that completion of the study was calculated to be around 10 min. Following this, participants were asked to fill in their demographics as reported above (i.e., gender, age, nationality) and then went on to respond to the 52 items developed to be representative of belongingness and acceptance.

Measures

Five Variations of “belongingness”

Drawing on the framework as described in the introduction, 32 items were developed for this study to reflect the five variations of ‘belongingness’. (1) Identity-Proximity (five items $\alpha = 90$, $M = 5.36$, $SD = 1.17$) “I feel that people listen to me,” “I feel like I can be myself,” “I feel that I am valued by others,” “I feel that I was recognised by others,” and “I feel respected by others.” (2) Emotion-Sharing (seven items $\alpha = 80$, $M = 5.24$, $SD = 0.75$) “I have a need to belong,” “I feel the need to belong with others,” “I feel other people affect my behavior,” “I feel I am involved with other people,” “I feel close to other people,” “People need to feel that they belong,” and “I feel I can talk to people.” (3) Supportive-Proximity (six items $\alpha = 83$, $M = 5.99$, $SD = 0.19$) “I feel it is important that people can come and share with me,” “It is important that people can come to me for help,” “I feel it is important that I can share with others,” “I feel is important

that I can turn to people for help,” “I think it is important that people can trust me,” and “I think it is important that I can trust in people,” (4) Similarity of *Self* and *Others* (four items $\alpha = 90$, $M = 5.16$, $SD = 1.29$) “I feel I am part of other,” “I feel I am recognised by others,” “I feel that I am important to others,” and “I feel I am acknowledged by others.” (5) Environmental-Satisfaction (ten items $\alpha = 79$, $M = 5.28$, $SD = 0.53$) “I feel safe when I am with others,” “I find opportunities within the situation I am in,” “I feel comfortable within the place I am in,” “It is important for me to feel part of others,” “It is important that I feel part of the situation,” “I feel it is important that I feel belongingness where I am,” “It is important that in the situation I can depend on people,” “It is important that I am not being compared by others,” “I feel that I can work together with people,” and “It is important that I can share my ideas openly.”

Three Variations of “Acceptance”

Similarly, 20 items were developed in reflection to the three variations of “acceptance.” (1) Usefulness (five items $\alpha = 85$, $M = 4.99$, $SD = 0.99$) “I feel that I am in control of my life,” “I feel emotionally connected to others,” “I feel connected to others,” “I get what I want emotionally from others,” and “I feel that people know who I am.” (2) Satisfactory (five items $\alpha = 65$, $M = 4.86$, $SD = 0.97$) “I feel that I need to convince people about myself,” “I feel that I get positive feedback from others,” “I feel that I can be myself around people,” “I feel that I can show my emotions to others,” and “I feel I am allowed to express my emotions around others.” (3) Attitude (ten items $\alpha = 56$, $M = 4.66$, $SD = 0.56$) “I feel that people listen to me,” “I feel I am safe,” “I feel I am useless,” “It is important that I often get good feedback,” “I would like for people to respect me more,” “I feel better when someone compliments me,” “I would like to feel good in response to others,” “It is important for people to see me the way I see myself,” “I feel that others are as much as worth as I am,” and “I actively look to fit in with others.” All 52 items were anchored with a seven-point intensity scale (1 = *not at all*, 7 = *very much*).

RESULTS

Testing the Hypothesized 5 + 3 Structure: Confirmatory Factor Analysis

With the use of AMOS 26 from IBM, we examined the hypothesized eight-factor structure (5 belongingness factors + 3 acceptance factors) with a CFA. Missing data within the questionnaire was handled using “Estimate means and intercepts” allowing for maximum-likelihood (ML) estimation (as little as 49 items of total of 19344 responses was left unanswered equaling 0.25%). No sample simulation was used. A variety of criteria and fit indices were considered to assess the model fit: Comparative Fit Index (CFI) > 0.90 adequate fit (see Bentler, 1990; Hu and Bentler, 1999; Schreiber et al., 2006), Incremental Fit Index (IFI) > 0.90 acceptable fit (Bentler and Bonett, 1980). In terms of Root Mean Square Error of Approximation (RMSEA) cut-off values.05 and.08 are acceptable and values between 0.08 and 0.1 are marginal (Browne and Cudeck, 1993; Fabrigar et al., 1999), and a p -value of <0.05. for χ^2 (Hu and Bentler, 1999;

Mehmetoglu and Jakobsen, 2016). In line with the scale validation recommendations by Gausel et al. (2012, 2016), we allowed each of the eight factors to correlate, but no correlations were allowed between the error terms. To our disappointment, this model fit the data poorly as yielded by a significant chi-square, $\chi^2(1246) = 4827.1, p < 0.000, (\chi^2/df = 3.87)$, a very low Comparative Fit Index: $CFI = 0.698$, a very low Incremental Fit Index: $IFI = 0.702$, but a relatively good Root Mean Square Error of Approximation, $RMSEA = 0.088$, with a Akaike information criterion index (AIC) of 5195.09. Although the isolated $RMSEA$ value was decent, it did not conform with the other (very poor) fit indices and could therefore not be used as an overall indication of good fit (Kline, 1998; Hu and Bentler, 1999). Moreover, factor loadings ranged from $\lambda = -0.83, p < 0.001$ – $0.93, p < 0.001$, indicating that the factors were poorly defined by their respective items (Gausel et al., 2012, 2016), with very high correlations between the eight different factors (ranging from $r = -0.87, p = 0.012$, to $r = 0.97, p < 0.001$) Due to the poor fit of the data, we must admit that we failed to receive support for our first hypothesis.

Our second hypothesis was based on the thinking that it should be possible to tap into the shared similarities of all the belongingness items so that they reflected a global “belongingness” factor (incorporating the five variations of belong), and the shared similarities of all the acceptance items so they reflected a global “acceptance” factor (incorporating the three variations of acceptance). As with the first model, we allowed the two factors to correlate, but no correlations were allowed between the error terms. However, as with the first model, this model fit the data poorly, $\chi^2(1273) = 6214.08, p < 0.001, (\chi^2/df = 4.88), CFI = 0.584, IFI = 0.587, RMSEA = 0.102, AIC = 6532.08$. Moreover, the difference in $\Delta AIC = 1336.99$ for this model as compared to the first model demonstrated that this latter model fit the data much worse than the original model. This conclusion was supported by the $\Delta\chi^2(27) = 1386.98, p < 0.001$, as well. By such, we must admit that we failed to receive support for our second hypothesis.

With the two failed models, we now decided to follow a third recommendation by Gausel et al. (2012, 2016) where all items collapse onto one factor. Hence, all 52 items were collapsed into a big, global “social need” factor. However, this solution did not fit the data either, $\chi^2(1274) = 6321.4, p < 0.001, (\chi^2/df = 4.96), CFI = 0.575, IFI = 0.578, RMSEA = 0.103, AIC = 6635.39$. In fact, this model fit the data even worse than both, the first ($\Delta AIC = 1440.30, \Delta\chi^2(28) = 1494.30, p < 0.001$) and the second model ($\Delta AIC = 103.31, \Delta\chi^2(1) = 107.32, p < 0.001$).

Exploring the Data: Exploratory Factor Analysis

Left with the realization that both hypotheses were not confirmed, but rather falsified, we saw it necessary to explore what “belonging” and “acceptance” meant to our community-participants and what they were trying to communicate to us. In a second step, we, therefore deployed an *Exploratory Factor Analysis (EFA)* with *SPSS 26* from *IBM*, in order to non-directionally investigate the relationships among

the variables (Bryman and Cramer, 2005) and by such uncover the empirically distinct factorial structure of the participants’ responses to the items (Lord et al., 1968; Zhang and Stout, 1999). Thus, all 52-items were subjected to an *EFA* with a direct oblimin rotation. ML estimation was applied due to its advantage of providing standard errors for factor loadings, and a χ^2 fit-indicia of the overall goodness-of-fit was applied to evaluate the fit of the extracted factors (Fabrigar et al., 1999; Hayashi et al., 2007). As a first step, we examined the data in response to the default setting of Kaiser’s criterion eigenvalue of 1. Results yielded a significant [$\chi^2(810) = 1489.12, p < 0.000$] 10-factor solution after 11 iterations with several cross-loadings around 0.40 and 0.50 indicating too high of a correlation between the factors. By such, the 10 factors did not communicate any meaningful pattern of information to us thus, so we disregarded this initial factor solution.

In a second step, we decided to examine more closely the associated scree plot (Preacher and MacCallum, 2003). This visual information suggested that three factors should be retained. We, therefore, removed the most notorious cross-loadings and ran the *EFA* again, this time instructing *SPSS* to extract three factors. This move provided 11 items under three factors after 22 iterations where the sum of squared loadings ranged from 0.372 to 0.937 (see **Table 1** for all loadings). Even though the factorial solution was significant, $\chi^2(25) = 75.58, p < 0.000$, all three factors meet the Kaiser’s criterion of eigenvalues greater than 1, and the three-parted factorial solution

TABLE 1 | EFA three-factors.

| Item | Factor | | |
|--|--------------|--------------|--------------|
| | 1 | 2 | 3 |
| Q7 I feel the need to belong with other | 0.937 | −0.244 | −0.037 |
| Q6 I have a need to belong | 0.799 | −0.248 | −0.004 |
| Q26 It is important for me to feel part of others | 0.626 | −0.026 | 0.127 |
| Q42 I feel I am allowed to express my emotion around others | 0.414 | 0.816 | 0.097 |
| Q41 I feel that I can show my emotion to others | 0.414 | 0.746 | 0.160 |
| Q36 I get what I want emotionally from others | 0.355 | 0.595 | −0.094 |
| Q40 I feel that I can be myself around people | 0.407 | 0.595 | −0.014 |
| Q47 I would like for people to respect me more | −0.024 | −0.393 | 0.589 |
| Q45 I feel that I am useless | −0.064 | −0.368 | 0.504 |
| Q38 I feel that I need to convince people about myself | 0.084 | −0.351 | 0.422 |
| Q30 it is important that I am not being compared with others | 0.050 | −0.101 | 0.372 |

Extraction method: maximum likelihood, Rotation method: Oblimin with Kaiser normalization, loading larger than 0.30 are in bold.

accounted for in total of 65.58% of the variance. Factor 1 had an eigenvalue of 3.60 and accounted for 32.77% of the variance. Factor 2 had an eigenvalue of 2.37 and accounted for a variance of 21.53%. Factor 3 had an eigenvalue of 1.24 and accounted for 11.28% of the variance.

According to Karagoz and Kosterelioglu (2008), labeling factors discovered from factor analysis is rightly challenging, and the use of strongest factor loading can therefore guide us toward a conceptual understanding, allowing us to create an encapsulating, meaningful label for each factor. Factor 1, with its three items, was oriented toward a need to belong and being a part off others, thus, we thought this factor was best labeled as “Belongingness” ($\alpha = 0.83$): “I feel the need to belong with others,” “I have a need to belong,” and “It is important for me to feel part of others.” Factor 2, communicated a sense of acceptance through being allowed to express and show ones emotions around others, thus we labeled this factor, with its four items, as “Emotion-Acceptance” ($\alpha = 0.87$): “I feel that I can be myself around people,” “I feel that I can show my emotions to others,” “I feel I am allowed to express my emotions around others,” and “I get what I want emotionally from others.” Factor 3, listed four items reflecting a value-based need to represent oneself in response to one’s social environment, hence, we labeled this factor “Social Self-Representation” ($\alpha = 0.64$): “It is important that I am not being compared with others,” “I feel that I need to convince people about myself,” “I feel that I am useless,” and “I would like for people to respect me more.”

Confirmatory Factor Analysis Again: Testing the Newfound 3-Factorial Structure

As the results from the *EFA* suggested three factors, we followed the recommendations of van Prooijen and van der Kloot (2001) to test whether it was possible to replicate, and thus cross-validate, the newfound three-factorial structure with a *CFA*. If the factorial structure suggested by the exploratory approach was a sensible one, one should expect the factorial structure “to hold” within the same dataset when trying to confirm the factorial structure communicated by the participants in the *EFA* (e.g., van Prooijen and van der Kloot, 2001; Schmitt, 2011; Toyama and Yamada, 2012). Again, we followed the recommendations for scale-validation as suggested by Gausel et al. (2012, 2016).

We performed a *CFA* with *AMOS 26* from IBM to examine the three newly generated factors. Again, the missing data within the questionnaire was handled using “Estimate means and intercepts” allowing for ML estimation. No sample simulation was used. All three factors were allowed to correlate and correlations between error terms were not allowed to correlate. As before, we used the same fit indices and criterion to determine the goodness-of-fit of the model. As shown in **Figure 1**, the three-factors model confirmed that each item loading measures within limits and with significance of .30. Even though the χ^2 was significant $\chi^2(41) = 143.78, p = 0.000$, the χ^2/df of 3.51 was within the range of acceptable (e.g., Jöreskog and Sörbom, 1993; Wan, 2002; Kline, 2005). Moreover, the other fit-indices such as the *CFI* = 0.937, the *IFI* = 0.938, and the *RMSEA* = 0.082, all indicated an acceptable

to good fit of the model (e.g., Bentler and Bonett, 1980; Bentler, 1990; Fabrigar et al., 1999; Schumacker and Lomax, 2010) with an AIC of 215.78. Factor loadings ranged from $\lambda = 0.33$ to 0.98, and $M = 0.71$ indicating that the factors were well defined by their respective items (Gausel et al., 2012, 2016), with low to moderate correlations between the three different factors (ranging from $r = -0.41, p = 0.001$, to $r = 0.23, p < 0.001$). By such, we concluded that the exploratory factorial solution was replicated and validated with a *CFA* (see **Table 2** for means, standard deviations, and correlations).

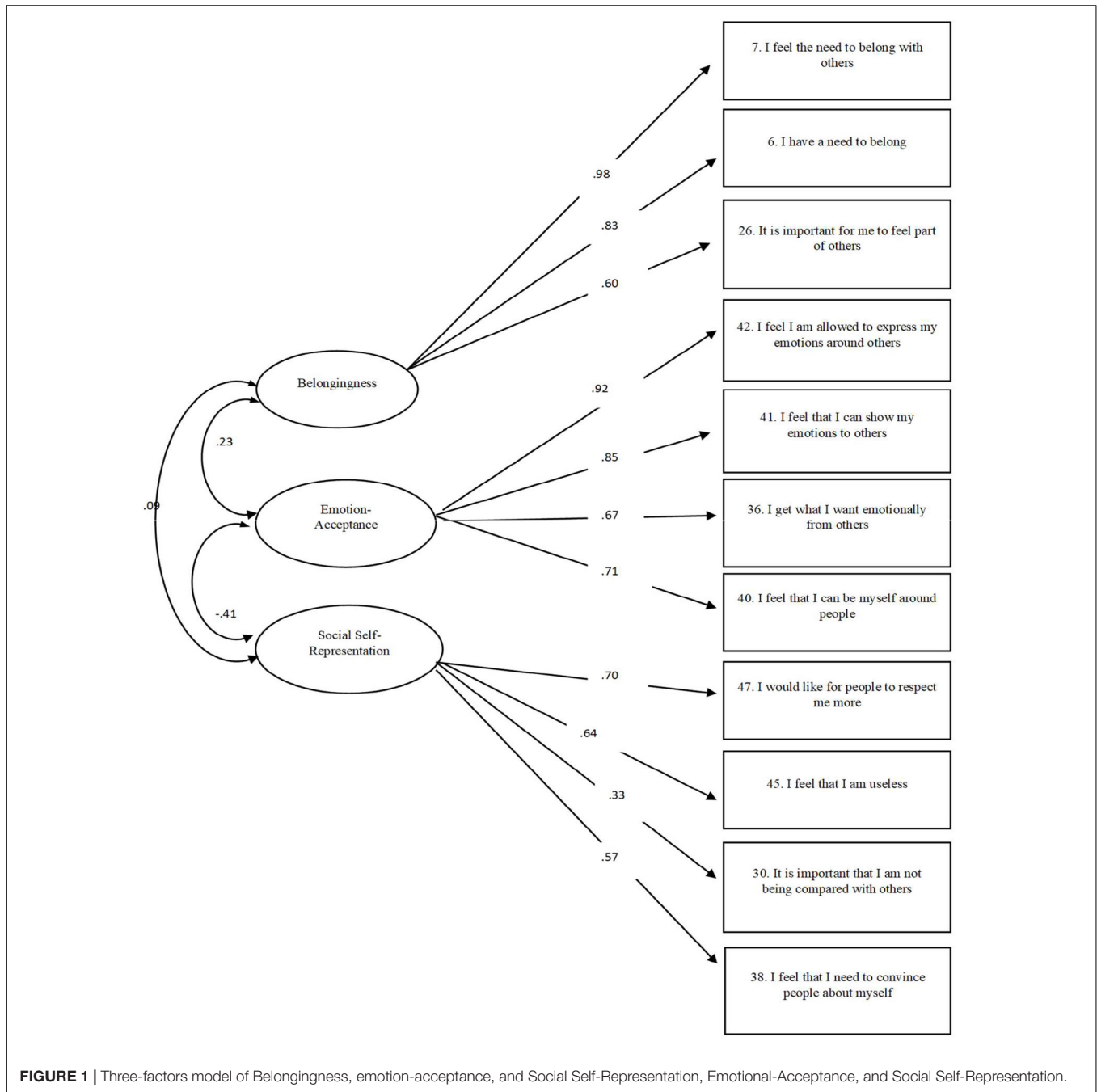
The next steps in the scale validation procedure (Gausel et al., 2012, 2016) was to test the three-factorial structure up against other possible alternatives. First, we tested it up against a model where we allowed all the “Belongingness” items and all the “Social Self-Representation” items to load onto one factor, while the items of “Emotion-Acceptance” loaded onto a second factor. This model fit the data much worse than the three-factorial model ($\Delta AIC = 228.363, \Delta \chi^2(2) = 232.36, p < 0.000$). Second, we tested the three-factorial structure up against a model where all items of “Belongingness” and “Emotion-Acceptance” loaded onto one factor, and “Social Self-Representation” items loaded onto a second factor. Again, this model fit much worse than the three-factorial model ($\Delta AIC = 504.184, \Delta \chi^2(2) = 508.18, p < 0.000$). Third, we tested the three-factorial structure up against a model where all items of “Emotion-Acceptance” and “Social Self-Representation” loaded onto one factor, while the “Belongingness” items loaded onto a second factor. Again, this model fit much worse than the three-factorial model ($\Delta AIC = 153.537, \Delta \chi^2(2) = 157.537, p < 0.000$). Finally, we tested the three-factorial structure up against a model where all items loaded onto one global factor. Like before, this model fit much worse than the three-factorial model ($\Delta AIC = 6439.276, \Delta \chi^2(2) = 6201.28, p < 0.000$).

Correlational Analyses of the Three Constructs

Looking at the correlations, there was a significant positive relationship between ‘belongingness’ and ‘emotion-acceptance,’ $r = 0.29, p < 0.001$, such that the more belongingness needed, the more emotion-acceptance was needed, and vice versa. There was a weak, but significant, positive relationship between “belongingness” and “social self-representation,” $r = 0.11, p = 0.034$, such that the greater the need for belongingness, the greater the need to socially self-represent, and vice versa. Finally, there was a significant, negative relationship between “emotion-acceptance” and “social self-representation,” $r = -0.31, p < 0.001$, such that the greater the need for emotion acceptance, the less of a need to socially self-represent.

DISCUSSION

The goal of the current study was to test whether we were able to identify five variations of belongingness and 3 variations of acceptance. Somewhat to our disappointment, we realized that the 8 variations proposed were simply not possible to confirm. Using the approach to “scale validation” as suggested



by Gausel et al. (2012, 2016), our CFA demonstrated that the first hypothesis was falsified. This means that the five variations of belongingness as we were able to identify in our reading of the literature: “Identity-proximity” (Kohut, 1971, 1977; Kohut et al., 1984), “emotion-sharing” (Lee and Robbins, 1995), “supportive-proximity” (e.g., Hill, 1987; Lazarus, 1991), “similarities of self and others” (Tajfel and Turner, 1979; Turner, 1999), and “environmental-satisfaction” (Bronfenbrenner, 1979; Bronfenbrenner and Ceci, 1994) were unsupported. The failure to confirm our hypothesis also meant that the three variations of “acceptance” in which we identified

as: “Usefulness” (Rogers and Koch, 1959), “satisfactory” (Hayes, 1994), and “attitude to change” (Rogers and Koch, 1959; Linehan, 1993) were also unsupported.

We were also unable to receive support for our second hypothesis, that there should be enough shared similarities among the constructs to demonstrate a global “belongingness” factor (incorporating the five variations of belonging), and a global “acceptance” factor (incorporating the three variations of acceptance). By such, the CFA demonstrated that our second hypothesis, like the first one, was falsified. By such, the argumentation that there are two different needs, the need for

TABLE 2 | Correlation on three constructs, and means and standard deviations.

| Variables | Belongingness | Emotion-Acceptance | Social Self-Representation |
|----------------------------|---------------|--------------------|----------------------------|
| Belongingness | – | | |
| Emotion-Acceptance | 0.29* | – | |
| Social Self-Representation | 0.11 | –0.31* | – |
| <i>M</i> | 5.08 | 4.86 | 3.71 |
| <i>SD</i> | 1.26 | 1.14 | 1.11 |

* $p < 0.05$ (2-tailed).

belongingness and the need for acceptance (e.g., Baumeister and Leary, 1995; Shah, 2003), was not supported in these analyses. Nevertheless, the supplementary *CFA* demonstrated that belongingness and acceptance could not be made to “fit into” a unidimensional construct as long as the global “social need” factor failed to be supported. This latter finding therefore offers support to Baumeister and Leary’s (1995) argument that belongingness and acceptance are not the “same thing,” even though they are both involved in our understanding of oneself in relation to our social relationships, and it opens up for the reasoning of Lee and Robbins (1995) that the need to belong and the need for acceptance are elusive.

As we failed to receive support for our hypotheses, we had to return to a more data-driven approach and reach out to our participants in order to re-think and explore their responses through an Exploratory Factor Analysis (*EFA*). With this approach, three meaningful factors emerged in which we termed: “belongingness,” “emotion-acceptance,” and “social self-representation.” In regard of “belongingness,” the three items that made up this factor clearly tapped into the internal need to belong and the importance to feel part of others. This first factor therefore supports Kohut’s (1971, 1977), Kohut et al.’s (1984) view that there is an internal motivation, a drive to be needing “the other” in order to mirror oneself and to feel connectedness and alikeness in being part with the “other.” This factor also supports Lee and Robbins (1995), and Baumeister and Leary’s (1995) argumentation that the need to belong is fulfilled through reciprocal connectedness in relation to one’s social relationship. A similar view of the “belongingness” factor emerging from the *EFA* can be found in Brewer (1991) and Fiske’s (2004) theories, where the realization on one’s self-concept in terms of belongingness can only be meaningfully interpreted with reference to one’s attachment with social groups. By such, there is good support in the literature for our interpretation of the first factor of “belongingness.”

The second factor, “emotion-acceptance,” with its four items of being allowed to be oneself and to express one’s emotions around others, communicated a sense of acceptance focusing on being allowed to experience and own one’s emotions and to express them to others. This kind of emotion-acceptance can especially be found in Hill’s (1987) argumentation that a core motivation for a human motive is structured on the aim for continuous emotional support, and in Lazarus’s (1991) view that when people face a stressor, people typically try to communicate their emotions to others in order to receive emotional support and “get what they

need” to cope with the stressor. This second factor of “emotion-acceptance” also lend support to Lee and Robbins (1995) that a secure development evolves from infancy to maturity through the ability to reciprocally share emotions. This need to share emotions and be accepted for one’s emotions bears a strong resemblance to Rogers and Koch’ (1959), Rogers’ (1961) view of the therapeutic dynamic between the client and the therapist where the therapist needs to be fully acceptive of the client’s emotions in order to allow the client to gain enough courage and trust to openly express emotions regardless of the emotions being “proper or not.” Similarly, this second factor lends support to Hayes (1994) view of acceptance as emotionally experiencing events openly and without defense regardless of the experiences being positive or negative. It is this need for acceptance of being allowed to openly express and show one’s emotions that Rogers and Koch (1959); Rogers (1961), and Linehan (1994) theorize as the keyways for the client to feel useful and to experience worth. In conclusion, there is much support in the literature for our interpretation of the second factor of “emotion-acceptance.”

The third factor, “social self-representation,” provided four items reflecting a value-based need to represent oneself socially as a person of worth in order to gain respect and to avoid being compared with others. This need for social self-representation illustrates a more complex interconnection and participation situated in the perspective of social representation and interactions (Ellemers et al., 2008), where one strives to present oneself favorably to avoid negative reactions from others due to social-image concerns (Gausel and Leach, 2011). This hinge to socially self-represent as someone to be respected and be worthy helps us construct an inner reality of how we perceive, feel, and think of ourselves, a process which is dependent on whether we receive positive or negative social feedback on our attempts to socially self-represent (Hardin and Higgins, 1996). In line with this, Leary et al. (2013, p. 3) stated that individuals that tend to “seek a larger number of relationships, worry about how they are valued by others, and put a great deal of effort into sustaining interpersonal relationships.” In support of the interpretation of this third factor, Cooley (1902) and Kohut (1971) underline how people try to portray a view of oneself in the eyes of others as someone to be liked and valued.

As the *EFA* had presented us with three factors that we were able to interpret as meaningful, and that we could relate to the literature, we decided to follow the recommendations of van Prooijen and van der Kloot (2001) to test whether it was possible to replicate the factorial solution proposed by the *EFA* with a *CFA*. Indeed, we managed to confirm the three-factorial structure suggested by the exploratory analysis. This model fit the data in an acceptable to good way and proved to be superior to all other alternatives to disentangle another factorial solution. Moreover, it proved to be superior to a solution where we collapsed all items onto a “social-need” factor. Like before, this latter finding supported Baumeister and Leary’s (1995) argument that belongingness and acceptance cannot be collapsed into the ‘same thing’.

Looking at the correlations, our result demonstrated that “belongingness” had a positive relationship with both “emotion-acceptance” and with “social self-representation.” For its

relationship with emotion-acceptance, this means that the more one feels the need to belong, the more one feels the need to be accepted for one's emotions and to be allowed to share them with others. This goes well with Baumeister and Leary's (1995) argumentation that these two needs operate in conjunction, and it supports Lee and Robbins (1995) view that the need to belong is fulfilled through emotion-sharing and reciprocal connectedness.

For the positive relationship "belongingness" has with "social self-representation," it means that these two needs operate together as well, so that the way one presents oneself socially must be involved in fulfilling the need for belongingness. Undoubtedly, if we present ourselves in a way that we think is socially approved of, there should be greater chance to secure belonging, instead of social condemnation (Gausel, 2013). Perhaps therefore, some people go to great lengths to agree with and follow others, even in destructive and immoral behavior, in order to feel that they belong and avoid being rejected (e.g., Leary et al., 2006; Smart Richman and Leary, 2009).

An interesting finding is the negative relationship between "emotion-acceptance" and "social self-representation," meaning that the greater the need to be accepted for one's emotions, the less of a need to present oneself in a favorable view in order to receive respect, and vice versa. This finding seems to indicate that if one is focused on trying to socially present oneself one cannot be open about who one is and what one feels, instead, one needs to be alert of which emotions to communicate (e.g., Hayes, 1994). By such, it lends support to the differentiation between socially acceptable emotions and socially unacceptable emotions and consequences of expressing them (Semin and Manstead, 1982; Meyerson, 1990; Tamir et al., 2016). Akin to social status (Fiske, 2010), social self-representation much like self-esteem (Cooley, 1902; Harter, 1993) are mutually in correspond to the positive and negative experiences that the self encounters with the environment and with others (e.g., Rogers and Koch, 1959; Rosenberg, 1965, 1979). Ultimately, not being able to fully be oneself and accepted for it by holding back on showing who one truly is, can accordingly result in the feeling of rejection and a risk of losing emotional connection within a social setting (e.g., Lynch, 1976; Relph, 1976; Canter, 1977).

POSSIBLE LIMITATIONS

In response to the first and second hypothesis that failed, there is a plausible chance that the items we especially developed to reflect these eight variations of belongingness and acceptance were not representative of the variations we had identified. After all, we did not approach the theoreticians and asked them for their guidance in designing items tapping into their variation of the construct in which we identified – an approach suggested by Hernández et al. (2020). By such, one might say that the failed eight factor model, and the failed two factor model were caused by us developing "improper" items. However, we are convinced that the developed items represent the three variations of belongingness, emotion-acceptance and social self-representation in a meaningful information manner. Another limitation is the use of the English language. It could be that

our findings are related to some artifact of the English language. Nevertheless, as long as the need to belong and feel accepted are theorized to be universal (e.g., Baumeister and Leary, 1995) there is ground to assume that one should be able to find similar results in other languages as well. Therefore, further studies can be examined based on similar items, yet with different languages, and different samples (e.g., Hernández et al., 2020). Some might say that a final limitation is our use of EFA and CFA on the same sample. However, we (and others) respectfully disagree with this viewpoint as other does as well (e.g., van Prooijen and van der Kloot, 2001; Schmitt, 2011). In line with this, van Prooijen and van der Kloot (2001) see it as a critical test of a factorial structure because if the "CFA cannot confirm results of EFA on the same data, one cannot expect that CFA will confirm results of EFA in a different sample or population" (p. 780). The main reason for this is that a CFA specified on an EFA in the same dataset operates under different conditions where two of the clearest differences are that EFA allows cross-loadings while CFA does not, and CFA provides fit of data, while EFA does not (Schmitt, 2011; Kline, 2015). Naturally, if the EFA cannot be replicated within the *same* sample, then there is less reason to expect factor replication with *different* datasets. This means that if the design and participant-pool are not 100% identical methodological variance will likely cause a failure of replication that is not caused by the factorial structure, but caused by methods, design and different people in the participant pool from the one study to the other (Fabrigar et al., 1999). It is precisely due to this dilemma that some suggest randomly splitting the file in two halves and then do EFA on the one and CFA on the other (Kline, 2015). However, in our view there is little reason to expect the two halves to be significantly different from each other. On the contrary, we believe there to be very good reason to expect the two halves to be *identical* as the participant pool is the same, the method is the same and the design is the same. Due to this, there is little reason to justify a split of the file in order to perform the EFA in the one half, then CFA in the other half under the belief that this is any more different than doing the same thing on a complete dataset. In conclusion, we believe our approach to be a sound approach while acknowledging that there are different views on EFA/CFA and how to understand a sample (Schmitt, 2011; Kline, 2013, 2015; Smith et al., 2016).

CONCLUSION

In the 'Breakfast club,' the five strangers interacted with each other in detention. At first, they presented themselves to each other socially as someone they hoped the others would find acceptable. However, as detention went along, they received a togetherness, a belongingness where each of the five found themselves to have less of a need to socially self-represent in an idealized way. Rather, they found the courage to express their emotions, to show the others who they really were; as fellow human beings with a burning need for belongingness and to be accepted based on their real self, of who they really are, and not a socially presented self.

It is this realization motivating Brian's declaration of the group as the "The Breakfast Club."

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by FEK (Fakultetets Etsiske Komite). The

patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

SP did the design and analysis and contributed to the interpretation of the data, theoretical framework and write-up, and approved submission. NG contributed to the design and analysis, the interpretation of the data, theoretical framework and write-up, and approved submission. MH contributed to the interpretation of the data, design, theoretical framework and write-up, and approved submission. All authors contributed to the article and approved the submitted version.

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Relationship Between Self-Concept, Self-Efficacy, and Subjective Well-Being of Native and Migrant Adolescents

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In the last decade, the migrant population in Chile has substantially increased, where the rates have not only increased in the adult population, but also among children and adolescents, creating a potential for social and cultural development in the educational system. The present work analyzes the relationship between self-concept, self-efficacy, and subjective well-being in native and migrant adolescents in Santiago de Chile. The sample consisted of 406 students, 56.65% women, with an age range that fluctuated between 12 and 16 years, with an average of 13.36 years ($SD = 0.96$). Student's t -tests were used to compare the average of the constructs evaluated between natives/migrants and boys/girls participants. Subsequently, two multivariate models of simple mediation were constructed, one for natives and another for migrants, which assumed subjective well-being as a dependent variable, academic self-concept as an independent variable and the general self-efficacy as a mediating variable. In both models, gender was considered as a control variable. Results show that migrant students present higher levels of academic self-concept and general self-efficacy than native students. There are no differences with regard to well-being. In the case of gender, differences are observed only for the case of general self-efficacy, where boys present higher levels. On the other hand, a partial mediation is observed for the model of native students and a total mediation for the model of migrant students. The study yielded interesting results regarding the differences in the evaluation of the constructs of self-concept, self-efficacy, and subjective well-being in both groups. Such data can be used as inputs for the development of public policies for adolescents.

Keywords: self-concept, self-efficacy, subjective well-being, migration, adolescence

INTRODUCTION

Chile has seen in recent years, nearly a million migrants enter its borders, coming mainly from Latin America and the Caribbean, where factors such as political stability, security levels, and constant economic growth throughout the last decades, have turned Chile into a pole of attraction for people seeking better employment and development opportunities (Godoy, 2019). This human

movement has brought along thousands of children and adolescents, who have been integrated into the Chilean school system, representing a significant number of municipal school enrollment in the districts with the highest index of habitability of immigrants. In this way, it can be observed that in Santiago, the capital of the country, there was a significant percentage increase in foreign students enrolled in public schools in just 3 years, where it went from 8.9% of foreign students to 15.5% in 2017 (Ministerio de Educación, Centro de Estudios, 2018), modifying the cultural and ethnic composition in the classrooms.

In relation to studies on migrant adolescents in contexts of South–South movements, that is, massive displacement of people from developing countries to others in the same condition but with better economic and human development indices, Chile constitutes a case and studies by Alvites and Jiménez (2011) and Tijoux (2013) begin to shed light on the problems experienced by migrant students due to challenges that the stress of acculturation process implies (Berry, 1997; Mera-Lemp et al., 2020). The immigrant paradox theory suggests that this movement may have an effect in school performance (Suárez-Orozco et al., 2009) and the persistent gender differences in detriment of girls (Alfaro et al., 2016) in the Latin American context may also have consequences in different psychological constructs.

In the case of young foreigners who now live in a country other than their own, their behavior may be shaped by the sum of environmental factors, behavioral and personal aspects, in direct interaction with the degree of stress involved in moving to a geographical place that is not the place of origin, with new customs and values in order to adapt to the new reality of a different community (Berry, 1997; Prilleltensky and Prilleltensky, 2007). In the case of Chile, migrant adolescents have evidenced depressions, anxiety and nostalgia regarding the place of origin (Villacieros, 2020) which may play against the necessary emotional and sociological resetting required to adapt into a new society (Mera-Lemp et al., 2020).

The stage of human adolescence, whether in natives or migrants, is traditionally considered as conflictive, and includes questions and difficulties inherent to its evolution and gender (Oliva et al., 2010). Among the psychological resources related with a good psychological adjustment and social integration of adolescent in the school experience the following constructs can be found: self-concept, self-efficacy, and subjective well-being (Pajares, 1996; Martínez-Antón et al., 2007; Jiménez and Hidalgo, 2016).

Self-concept, widely studied from its multidimensionality (Shavelson et al., 1976; Valentine et al., 2004), since, as indicated by Shavelson et al. (1976) this construct of self-perception is the result of interaction and experience with others on levels such as the academic, emotional, and social, among others. In this sense, it can be assumed that the school experience in a new sociocultural and educational setting puts into play the self-concept (Goffman and Guinsberg, 1970) of migrant adolescents, since as studies carried out in Spain show, students who presented low socialization and self-concept obtained a low academic performance (León del Barco et al., 2007; Plangger, 2015). In the case of the adolescent population, academic self-concept is one of the most relevant personal characteristics when it comes to

explaining, for instance, subjective well-being (Huebner, 1991). The studies by McCullough et al. (2000) concluded that academic self-concept was the main predictor of well-being and that measuring it was a good way to understand the well-being of adolescents. The previous point suggests that the adolescent's self-concept will play a fundamental role in self-assessment, as well as with respect to psychological well-being and the affirmation of one's own identity (Harter, 1998; Luján, 2002). To the best of our knowledge, there are currently no studies in Chile measuring academic self-concept indices neither in migrant adolescents nor in natives. However, it is a relevant issue since authors such as Hay et al. (1998) affirm that high self-concept is positively related to performance, integration and relationships in the school context, while it is negatively correlated with anxiety. In terms of gender differences on academic self-concept, the study by Costa and Taberero (2012) did not launch statistically significant gender differences, however, studies by Padilla Carmona et al. (2010) showed that girls surpasses boys in terms of academic self-concept. In Chile, studies such the one of Gálvez-Nieto et al. (2017) did not evidence statically significant differences. Following this same line, it can be considered that one of the most relevant challenges faced by migrant adolescents is the adaptation to a school setting different from that of their country of origin, where self-efficacy, understood as the capacity perceived by an individual to successfully face situations of daily life (Bandura, 1986), this construct plays a crucial role in the inclusion and interaction of individuals, in this case migrants, who join the new group (Briones et al., 2005). According to Briones et al. (2005), self-efficacy in the experience of migrant adolescents suggests a very positive aspect between the level of self-efficacy and the degree of satisfaction with the achievement obtained. Likewise, students who report higher levels of social self-efficacy also notice a greater degree of comfort in environments aimed at sociocultural interaction and better skills in the field of integration. Studies such as that of Juárez-Centeno (2018), indicate that migrant families with a low level of self-efficacy experience higher levels of depression, which affects the behavior of adolescents. Studies carried out in Colombia such as that of Gómez-Garzón (2018), with people who are victims of forced displacement; suggest that there would be a positive relationship between self-efficacy and other constructs such as belonging, inclusion and social well-being. The study of Fan and Mak (1998) in Australia, found that migrant students show lower level of self-efficacy compared with natives as well. In Chile, however, there is still no comparative research in adolescents on self-efficacy of local residents compared to migrants. In terms of gender, contributions made by Blanco Vega et al. (2012), in the Latin American context, suggest that boys tend to have greater indexes of self-efficacy. Similar results were obtained by Junge and Dretzke (1995) and Huang (2013). Quality of life, an important motivational factor in migratory processes, has been conceptualized and measured in different ways. One of them is the concept of subjective well-being, which is positioned within the hedonic tradition and serves as an approach to the satisfaction and happiness of individuals with their own life (Diener, 1994; Cummins and Cahill, 2000). In the context of migration, studies suggest that factors such as time of residence,

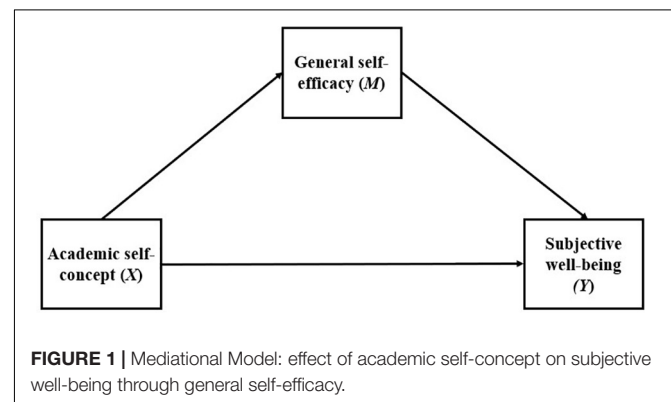
legal status, size of the social network and coverage of basic needs (Basabe et al., 2009) would be positively related to subjective well-being while factors such as discrimination (Murillo and Molero, 2012) would be negatively related. Along the same lines, studies such as that of Panzeri (2018) point out the importance of post-migration subjective well-being as a valid measure related to future labor productivity, mental health and social integration from the otherness and needs of the migrants themselves. Regarding the perception of subjective well-being among the native population and the migrant population, Bilbao et al. (2007), Herrero et al. (2012), Muñoz and Alonso (2016), and Hendriks and Bartram (2019) have found that migrants tend to exhibit lower levels. Similar results have been found in Chile in studies carried out by Alfaro et al. (2016) regarding adolescents. In this regard, gender differences in favor of men in the Ibero-American context could lead to the assumption that the migration process in girls could have a negative effect in terms of some psychological constructs. This is evidenced by studies by Oyanedel et al. (2015) and Alfaro et al. (2016) in Chile, where boys have higher scores on this scale. Similar results were obtained in studies in Spain such as that of González-Carrasco et al. (2017) where it is concluded that the homeostatic system of girls is probably more sensitive to external variations and that there is a relationship between physical and cognitive aspects that occur in girls as well as their specific pattern of subjective well-being.

In this regard, studies on subjective well-being in the adolescent population have been carried out under cross-cultural formulations such as that of Casas et al. (2015) with adolescents from Latin-speaking countries (Spain, Romania, Brazil, and Chile), with adolescents from the two Latin American countries having the lowest scores in terms of subjective well-being. However, studies comparing subjective well-being in migrants and locals are still needed to provide key information to different actors and thus guide decision-making in preponderant sectors, positioning well-being as the center of attention in the development of public policies and as part of the strategies to improve the quality of life (Lucas and Diener, 2008).

Now, regarding to the constructs of self-concept, self-efficacy and subjective well-being. Literature has reported relations among them (García-Fernández et al., 2016). For example, the three of them operate at the level of self-perceptions in social, emotional, and behavioral terms (Bandura, 1992; Lent et al., 1997; Casas et al., 2007). Similarly, these three constructs are sensitive to the context and are built or modified according to lived experiences and social interactions, so they are not stable but rather dynamic (Bandura, 1986; Shavelson and Marsh, 1986). In the educational context, self-efficacy is linked to confidence since students evaluate this ability in order to solve problems, while self-concept is related to the perceived personal competence when executing a task (Bong and Skaalvik, 2003), both constructs emerge as personal competencies in adolescence, which serve as positive development indicators (Oliva et al., 2010). In the case of subjective well-being, this construct is positively related with self-concept and self-efficacy in the educational setting (Gómez et al., 2007; Reyes-Jarquín and Hernández-Pozo, 2011; Malo et al., 2011; Chavarría and Barra, 2014).

As explained, various studies show a positive correlation between subjective well-being and other variables such as self-concept, and self-efficacy (Huebner, 1991; Harter, 1998; McCullough et al., 2000; Luján, 2002; Gutiérrez and Gonçalves, 2013). However, there is still a lack of studies of this nature in Chile. In the same line, literature has reported that self-efficacy would play a mediational role between subjective well-being and other constructs such as meaning in life, life satisfaction and even personality traits such as extraversion and openness (Krok and Gerymski, 2019). To the best of our knowledge the relations between self-concept and subjective well-being have been widely described but no contribution has been made regarding the mediational role of self-efficacy between these two constructs (see **Figure 1**). For this purpose, the following conceptual mediational model of self-efficacy in the relationship of between self-concept and subjective well-being has been proposed.

Considering the information above, it can be noted that in the Chile's school context, there is a gap in the literature regarding the differences between migrant and native students regarding the relationship between self-concept, self-efficacy, and subjective well-being. One might think that there would be an effect on the part of the levels of self-concept and self-efficacy on the subjective well-being exhibited by these students, but there are indications to affirm how this relationship between natives and migrants could be differentiated. Facing a new educational context, adapting to new models, new relationships and especially to a whole new society could put to the test all the cognitive and affective areas that would influence the global satisfaction (Caprara et al., 2006) of migrant students, hence a different configuration of the relationships between self-concept, self-efficacy, and subjective well-being for them (with respect to the natives) could happen not only due to the condition of local or native but because of the gender. In this respect, works by Oyanedel et al. (2015) and Alfaro et al. (2016) in Chile evidenced gender differences in terms of subjective well-being and satisfaction with life with male scoring better in these constructs. Similar records were obtained by González-Carrasco et al. (2017) in Spain finding statistically significant differences. However, studies comparing migrant adolescents with locals in terms of subjective well-being as well as self-concept, self-efficacy and gender, to the best of our knowledge, are not available.



In this new scenario, where Chile is a recipient of migrants, this study aims to constitute a contribution in the investigation of relationships on academic self-concept and self-efficacy regarding the subjective well-being of migrant adolescents versus the local population, including also gender differences. The importance lies in the fact that both groups will coexist to form part of the productive and intellectual assets of Chile, where a clear understanding of behavioral aspects of these groups would guide the efforts of central and local governments in improving public policies for the optimal personal development of all the country's adolescents. In the same line. This research may serve as input to improve school experience for both locals and migrant students.

This research has set as objective to compare the levels of self-efficacy, academic self-concept and subjective well-being among migrant adolescents and local adolescents. This research also aims at exploring gender differences. On the other hand, the objective is also to analyze how the variables of general self-efficacy and academic self-concept are related, as well as to observe their effect on subjective well-being for each of the study subsamples (migrant and local adolescents).

MATERIALS AND METHODS

Sample

The present study is quantitative and considered a cross-sectional design. The sample was made up of adolescent students belonging to 7th and 8th grade of the Chilean educational system. The students correspond to four municipal public educational centers located in the district of Santiago, Metropolitan Region of Chile. Regarding the selection of schools, two criteria prevailed: convenience and percentage of migrant enrollment (not less than 20%).

As a criterion to calculate the sample size, a 5% error was considered, with a confidence level of 95%. The sample is made up of 406 students, distributed evenly among the four participating establishments. 56.65% of the students were women and 43.35% were men, 45.81% were in 7th grade and 54.19% were in 8th grade, while the age fluctuated between 12 and 16 years, with an average of 13.36 years ($SD = 0.96$). Regarding the key variable of the study (native or migrant condition), the sample consisted of 55.91% of students born in Chile and 44.09% of migrants with similar percentages of school vulnerability index. 28.09% of the migrant students were from Peru, 21.35% from Venezuela, 18.54% from Colombia and 32.02 from other Latin American countries and the rest of the world. The average residence time of migrant students in Chile was 2.59 years ($SD = 1.68$). For the purposes of this study, Chilean-born students were considered as Chilean and foreign students with at least 1 year and a maximum of 5 years in Chile as migrants.

Instruments

AF5 Academic Self-Concept

The AF5 scale (García and Musitu, 1999) emerges as an improved version of the AFA Scale (Form A Self-Concept). The AF5 Scale has been developed taking self-concept as a multidimensional construct based on the works of Shavelson and

Marsh (1986). The AF5 Scale was validated in Chile by Riquelme Mella and Riquelme Bravo (2011), showing validity and internal consistency. Under these conditions, the present study showed a high internal consistency (Cronbach's Alpha of 0.824).

General Self-Efficacy Scale

The General Self-efficacy Scale is an instrument developed by Schwarzer and Jerusalem (1995) and measures individual perception in relation to the abilities to cope with daily situations in stressful circumstances. In Chile, Cid et al. (2010) demonstrated internal consistency or homogeneity when obtaining a high Cronbach's alpha coefficient, similar to the results obtained in other Spanish-speaking countries. In this study, the observed Cronbach's alpha was 0.859.

Personal Well-Being Index – School Children 7 (PWI-SC7)

The Personal Well-Being Index (PWI) was developed and validated by Cummins and Lau (2005), its validity and reliability being demonstrated. Later, there was an adaptation of this instrument to apply it in populations of children and adolescents, generating the PWI-SC 7 Scale, which is a version of seven questions that has been validated in Chile by Alfaro et al. (2013). This instrument uses 11-point scales for responses, ranging from Strongly Disagree (0) to Strongly Agree (10). In the different applications carried out in Chile, the instrument has shown a good factorial fit (one dimension), observing in this study a high internal consistency, with a Cronbach's alpha value of 0.864.

In addition to these variables, participants were also asked about the different sociodemographic variables: age (in years), sex (0 = boy; 1 = girl), country of birth, time they have been in Chile if they were not born in this country and parents' country of birth.

Procedure

The self-report questionnaire was applied to the students, after having obtained the corresponding permits from the directors of the educational centers and subsequent authorization to be taken at agreed times. On the other hand, an informed consent form was given to the students and their tutors. The application was developed in regular school hours of adolescents, during the 2018 school period (within the months of August–November). The material was delivered to the students, the instructions were given and then the time they needed to respond was allowed. In each application a responsible teacher and one or more researchers were present in the classroom.

Schools in the Metropolitan Region of Chile were contacted for convenience, considering the criteria established for the study (having at least 20% migrant students). The only exclusion criterion was that of handling the Spanish language: students from non-Spanish-speaking countries, who had not yet managed the Spanish language to understand the instructions and content of the applied instrument, were left out.

Analysis of Data

First, descriptive analyzes were performed for the total scores of each scale (for the total sample, and the natives/migrants and boys/girls subsamples). Subsequently, *t*-tests were performed for

independent samples for each of these variables, with the aim of comparing the mean scores obtained for each subsample. Subsequently, two multivariate models of simple mediation were constructed (Hayes, 2018), one for the subsample of natives and another for the sub-sample of migrants, which assumed subjective well-being of the students as a dependent variable (PWI-SC7), academic self-concept as an independent variable and general self-efficacy as a mediating variable. In both models, gender (0 = boys; 1 = girls) was considered as a control variable. ABCa bootstrapped CI based on 5,000 samples was used to calculate the confidence intervals of all the models used.

The statistical analyses were carried out through IBM-SPSS v.24 and the modeling tool PROCESS for SPSS v2.10 (Hayes, 2018).

RESULTS

Descriptive and Comparative Results

Table 1 presents the mean and standard deviation of the scores obtained on the academic self-concept, general self-efficacy, and subjective well-being scale, for the total sample and the sub-samples of migrants and natives. In addition, Independent Samples *t*-test are also presented to establish differences between these groups. For the three comparisons, equality of variances was assumed, based on Levene's test. The differences were statistically significant (p -value < 0.05) for the case of academic self-concept and general self-efficacy (being the subgroup of migrants the one that obtained the highest score). No statistically significant differences were observed for these groups in the case of subjective well-being.

Table 2 presents the mean and standard deviation of the scores obtained on the academic self-concept, general self-efficacy, and subjective well-being scale, for the total sample and the sub-samples of girls and boys. In addition, Independent Samples *t*-test are also presented to establish differences between these groups. Equality of variances was assumed for the case of general self-efficacy and subjective well-being, while different variances were assumed for the case of academic self-concept (based on Levene's test). The differences between the mean scores were statistically significant (p -value < 0.05) only for the case of general self-efficacy, where boys had higher scores than girls.

Mediation Analyzes

The results of the simple mediation models are presented below, which considered subjective well-being as a dependent variable, academic self-concept as an independent variable, general self-efficacy as a mediator variable, and gender as a control variable. Model 1 considered the subsample of natives, while model 2 considered the subsample of migrants.

The results of the regression analyzes that make up the mediation model 1 are presented in **Table 3**, while the general diagram of this model is presented in **Figure 2**.

A partial mediation can be observed in this model, where the total effect (TE: $b = 0.41$, 95% BCa CI [0.30, 0.52]), the direct effect (DE: $b = 0.31$, 95% BCa CI [0.20, 0.43]), and the indirect effect

(IE: $b = 0.10$, 95% BCa CI [0.05, 0.17]) of academic self-concept on subjective well-being were statistically significant.

On the other hand, the results of the regression analyzes that make up the mediation model 2 are presented in **Table 4**, while the general diagram of this model is presented in **Figure 3**.

A total mediation can be observed in this model, where the total effect (TE: $b = 0.22$, 95% BCa CI [0.09, 0.36]) and the indirect effect (IE: $b = 0.13$, 95% BCa CI [0.07, 0.21]) of academic self-concept on subjective well-being were statistically significant, while the direct effect was not statistically significant (DE: $b = 0.10$, 95% BCa CI [-0.04, 0.24]).

DISCUSSION

Regarding the study variables, statistically significant differences were found in terms of academic self-concept and general self-efficacy, but not in subjective well-being.

In relation to the highest scores obtained by migrant students in academic self-concept, the results contradict those found in Spain by León del Barco et al. (2007) and Plangger (2015), as well as results obtained in Israel (Ullman and Tatar, 2001) and in Greece (Giavrimis et al., 2003). The explanation for these results could lie in the fact that migrant students come from family environments, where the importance of study as a tool for social mobility has been understood and that in the case of migrant families the situation is exacerbated as a result of arriving in a country in search of opportunities and substantial changes in their socioeconomic situations (Aragonés and Salgado, 2011). The cultural weight that migrant families bring (Shershneva and Basabe, 2012) in terms of intentions of progress and substantial improvements in the quality of life could be generating in their homes a discourse favorable to study and trust in the capacities of adolescents, which would be reflected in that they feel appreciated by their teachers and that they work a lot in class. The fact of feeling good at an academic level is reflected in the grades obtained by migrant students, where self-concept is built in interaction with teachers and classmates who positively reinforce these attitudes, giving as a result a student who feels competent and works to achieve its objectives (Gargallo et al., 2011).

In relation to general self-efficacy, an important contribution of this study is the differences found in the total score of the scale. The results contradict the literature in that migration could show a negative correlation with self-efficacy (Fan and Mak, 1998; Briones et al., 2005; Gómez-Garzón, 2018; Juárez-Centeno, 2018). In this sense, the family environment and somewhat more adverse economic situations could be generating more independent adolescents and with a greater sense of responsibility, affecting their perceptions of the capacities they have to solve problems and the range of possibilities they have to face difficulties. Immigration can bring with it worldviews other than local ones that could be beneficial in terms of innovation, flexibility and other soft skills. This is where transculturation comes into play (González, 2009), since this cultural fusion recovers the best of migrants and natives (Carreón et al., 2016), which could be generating positive changes in the Chilean educational system by enrolling more competitive students.

TABLE 1 | Descriptive results and comparisons of means of variables by country of birth.

| | Mean (SD) | | | Levene's Test | | Independent Samples T-Test | | |
|-----------------------|-----------------|-------------------|--------------------|---------------|---------|----------------------------|-----|---------|
| | Total (N = 406) | Natives (n = 227) | Migrants (n = 179) | F | p-value | t | df | p-value |
| Academic self-concept | 6.14 (2.03) | 5.94 (2.05) | 6.40 (1.98) | 0.19 | 0.66 | -2.31 | 404 | <0.05 |
| General self-efficacy | 2.91 (0.63) | 2.85 (0.64) | 2.99 (0.61) | 0.71 | 0.40 | -2.29 | 404 | <0.05 |
| Subjective well-being | 7.68 (1.89) | 7.75 (1.91) | 7.59 (1.86) | 0.06 | 0.81 | 0.86 | 404 | 0.39 |

TABLE 2 | Descriptive results and comparisons of means of variables by gender.

| | Mean (SD) | | | Levene's Test | | Independent Samples T-Test | | |
|-----------------------|-----------------|----------------|-----------------|---------------|---------|----------------------------|--------|---------|
| | Total (N = 406) | Boys (n = 176) | Girls (n = 230) | F | p-value | t | df | p-value |
| Academic self-concept | 6.14 (2.03) | 6.22 (1.87) | 6.08 (2.15) | 3.95 | <0.05 | 0.72 | 397.02 | 0.47 |
| General self-efficacy | 2.91 (0.63) | 2.99 (0.65) | 2.85 (0.60) | 1.11 | 0.29 | 2.20 | 404 | <0.05 |
| Subjective well-being | 7.68 (1.89) | 7.86 (1.80) | 7.54 (1.95) | 2.15 | 0.14 | 1.72 | 404 | 0.08 |

TABLE 3 | Linear regression analyzes for Mediation Model 1 (subsample: natives).

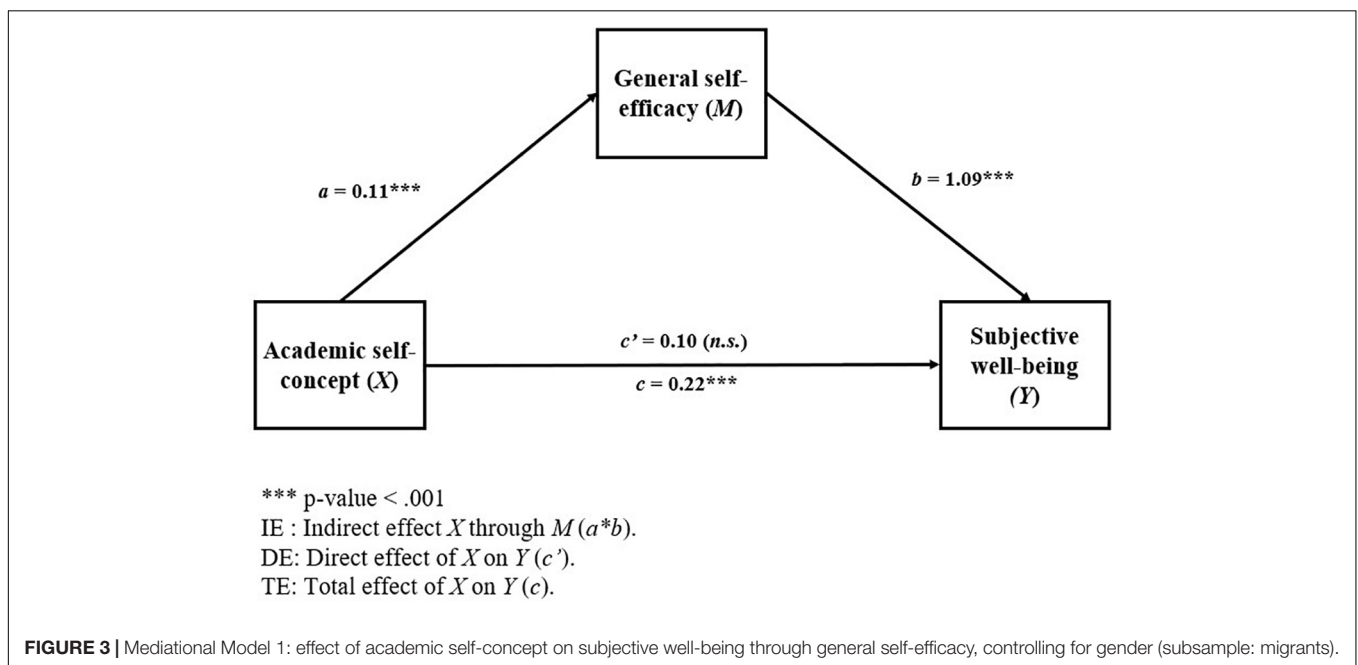
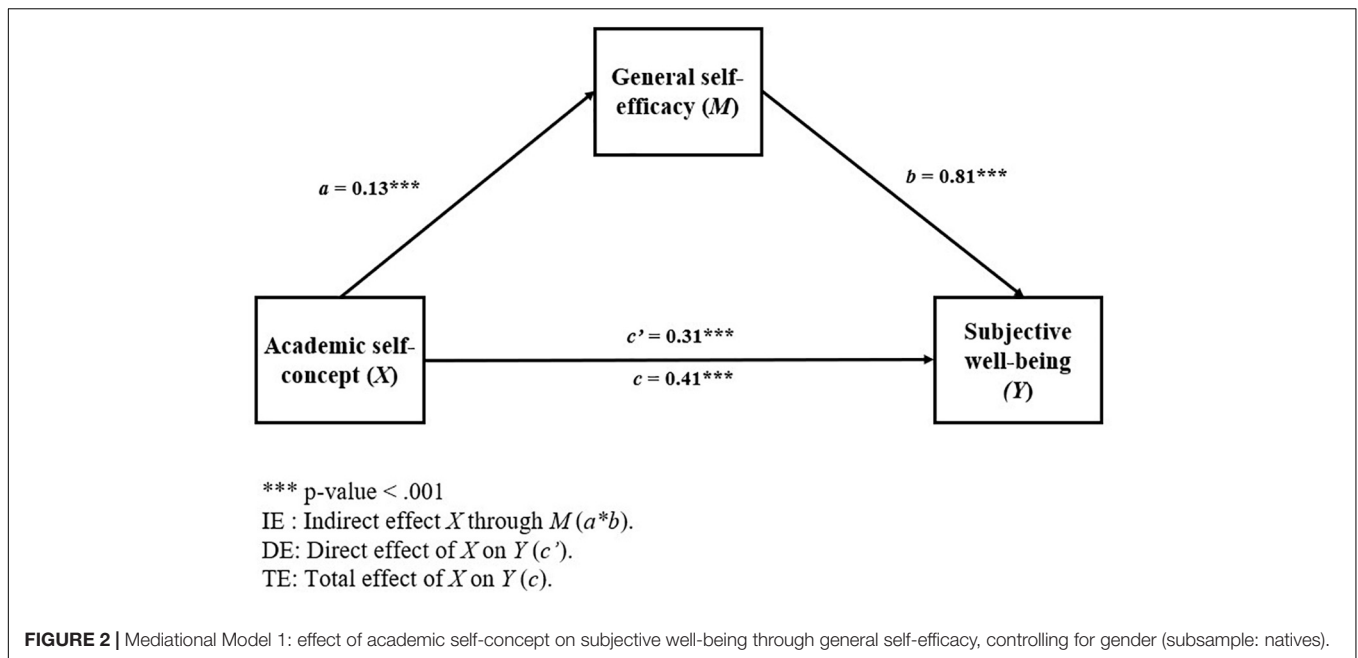
| | | Consequent | | | | | | |
|---------------------------|----------------|---------------------------|------|-----------------------------|-----------------------------|--------|------|--------|
| | | M (General self-efficacy) | | | Y (Subjective well-being) | | | |
| Antecedent | | Coeff. | SE | p | | Coeff. | SE | p |
| X (Academic self-concept) | a | 0.13 | 0.02 | <0.001 | c' | 0.31 | 0.06 | <0.001 |
| M (General self-efficacy) | | — | — | — | b | 0.81 | 0.19 | <0.001 |
| Gender | | -0.14 | 0.08 | 0.08 | | -0.11 | 0.23 | 0.62 |
| Constant | i _M | 2.18 | 0.13 | <0.001 | i _M | 10.28 | 0.65 | <0.001 |
| | | | | R ² = 0.18 | | | | |
| | | | | F(2,224) = 24.23, p < 0.001 | | | | |
| | | | | | R ² = 0.26 | | | |
| | | | | | F(3,223) = 26.40, p < 0.001 | | | |

TABLE 4 | Linear regression analyzes for Mediation Model 2 (subsample: migrants).

| | | Consequent | | | | | | |
|---------------------------|----------------|---------------------------|------|-----------------------------|-----------------------------|--------|------|--------|
| | | M (General self-efficacy) | | | Y (Subjective well-being) | | | |
| Antecedent | | Coeff. | SE | p | | Coeff. | SE | p |
| X (Academic self-concept) | a | 0.11 | 0.02 | <0.001 | c' | 0.10 | 0.07 | 0.16 |
| M (General self-efficacy) | | — | — | — | b | 1.10 | 0.23 | <0.001 |
| Gender | | -0.07 | 0.08 | 0.39 | | -0.41 | 0.25 | 0.11 |
| Constant | i _M | 2.29 | 0.15 | <0.001 | i _M | 3.88 | 0.69 | <0.001 |
| | | | | R ² = 0.15 | | | | |
| | | | | F(2,176) = 14.98, p < 0.001 | | | | |
| | | | | | R ² = 0.19 | | | |
| | | | | | F(3,175) = 13.29, p < 0.001 | | | |

In connection with subjective well-being, studies carried out in other countries by Bilbao et al. (2007), Herrero et al. (2012), Muñoz and Alonso (2016), and Hendriks and Bartram (2019), have found that migrants evidenced lower levels of subjective well-being than their native counterparts. Similar results were even found in Chile by Alfaro et al. (2016). This research exhibited differences favoring natives, however, they were not statistically significant. These results could be attributed to various factors that are possibly attributable to the fact that the perception of material well-being, health, achievements and future is being

managed in a good way by both migrant and native students, as a result of the equal integration of both groups in the health and educational systems with possibilities of personal development through the laws of fee exceptions in higher education and reforms to the system. For example, in terms of satisfaction with health, literature has widely documented the migrants arrive in the host country with better health condition compared with locals, situation that it is likely to be maintained in time (Constant et al., 2018; Luthra et al., 2020). In the specific case of migrant students, they seem to have been successful in restructuring their



network of interpersonal relationships in the host country, with no impact on subjective well-being, despite the fact that the literature suggests that the social capital of migrants in general is lower and that this has high correlations with subjective well-being and that it can be a predictor of satisfaction with life (Helliwell, 2003).

Studies such as those by Martínez García et al. (2001) establish a close relationship between subjective well-being and social support, the latter being of great importance in situations of high stress that usually accompany migratory experiences (Berry, 1997). Local governments (municipalities) have made remarkable

efforts to integrate migrant students, which seem to have resulted in similar subjective perceptions of well-being among native and migrant students. The absence of statistically significant differences between migrants and natives could suggest that the migration process has not been a traumatic experience for adolescents and that they view their future with optimism.

Regarding gender differences, this study found no statically significant differences in terms of academic self as were also encountered in the contributions by Costa and Taberno (2012) and the one of Gálvez-Nieto et al. (2017). This may be related to the fact that self-efficacy is related to academic achievement

and social adjustment (Trautwein et al., 2006) and both boys and girls would have similar perceptions regarding the achievement of goals. The results obtained are a good incentive since the Government of Chile has highlighted the need to narrow the gender gap in the educational context (Government of Chile, 2013). These results are important because adolescence is a particularly complex period and the literature has reported that it is a more difficult process for girls. Presumably, the results speak of a similar social adjustment in both genders and good socialization, which is especially important given that self-concept is a social product that is generated through the interaction and valuation of others (García and Musitu, 1999). In terms of roles rooted in Latin American societies, male provider and female housewives, it could be expected that girls would show a lower academic self-concept in relation to boys based on expectations. The results do not mirror these assumptions, on the contrary, they could be indications that Chilean society is advancing in terms of equality and equitable treatment in terms of gender and it is also providing a supportive social context. This situation could also be determined by a good attitude of the teachers toward their students regardless of their gender and that the perspectives and aspirations of both girls and boys are not being affected by discrimination and machismo.

Now, the results on self-efficacy mirrored those of Junge and Dretzke (1995), Blanco Vega et al. (2012), and Huang (2013). The differences evidenced could mean the level of achievements and goals will be different in men and that this fact would have repercussions, for example, in the choice and concretion of professional careers and ventures that they decide. Likewise, these results could give indications that the higher levels of resilience in boys could lead to greater well-being in them compared to girls in the future. The fact that boys feel they have more resources to solve unexpected situations and that they feel more confident in their abilities could have repercussions in the world of work and, for example, perpetuate salary gaps by feeling that they "deserve" better positions and salary conditions because they are more self-effective. Society must advance in this regard and promote self-efficacy as an engine in achieving goals and equality.

In terms of subjective well-being, this study found no statistically significant differences regarding gender. These findings are not in line with those of Oyanedel et al. (2015) and Alfaro et al. (2016) in Chile, and in studies in Spain such as that of González-Carrasco et al. (2017). Factors such as material, health, and relations satisfaction could be operating at similar levels in both groups. In line with Casas (1998, 2006), this finding highlights the importance of conducting studies on subjective well-being in adolescent populations in developing countries, contrasting genders in order to advance a conception of well-being beyond meeting basic needs and focusing on the development of adolescent potentials, since happy adolescents are later happy adults. In terms of social support which is highly related with subjective well-being, girls and boys seem to have been successful in structuring their network of interpersonal relationships, exhibiting similar social capital which has high correlations with subjective well-being and that it can be a predictor of satisfaction with life (Helliwell, 2003). In this line, the size of the social network and coverage of basic needs (Basabe

et al., 2009) would be positively related to subjective well-being. The results suggest that, at least in this sample, social and structural factors such as access to opportunities, expectations and roles (Stevenson and Wolfers, 2009), which have traditionally favored men in Latin American contexts, may have a window to experience changes that can be reflected in similar subjective well-being indexes for both groups. These changes can also lead to more equal and democratic spaces of study and better opportunities at work places.

As explained, various studies show a positive correlation between subjective well-being and other variables such as self-concept, and self-efficacy (Huebner, 1991; Harter, 1998; McCullough et al., 2000; Luján, 2002; Gutiérrez and Gonçalves, 2013). Literature has also suggested that self-efficacy may mediate the relations between subjective well-being and other constructs such as meaning in life, life satisfaction and self-concept (Krok and Gerymski, 2019). In the case of native-born students, the results controlled by gender assume a direct relationship between academic self-concept and subjective well-being; however, general self-efficacy also presents a mediational role. This partial mediational relation can be explained by the fact that academic self-concept highly predicts subjective well-being in Chilean adolescents; However, academic self-efficacy would exercise a mediational function, since the literature has reported in many studies that higher self-efficacy comes with greater self-concept.

In the case of migrant students, self-efficacy would exercise a total mediational role according to the results obtained. It could be assumed that migrant students came to Chile with a more solid academic self-concept and therefore it would not predict their subjective well-being.

The results obtained could constitute a contribution to the Theory of Achievement Goals outlined a few decades ago (Dweck, 1985; Ames, 1987), which could help us to propose the mediational role of self-efficacy in the relationship between self-concept and subjective well-being. Personal goals, according to Nicholls (1984), would be understood as determining agents of behavior and would therefore be mental representations regarding objectives set in an achievement oriented environment and that determine behavior, affectivity and cognition in different situations, and in the case of migrant students, they face contexts where they put their competences and skills to the test in a setting with new motivations, which Ames (1992) understands as a subjective evaluation of the goal structure that is emphasized in a given situation, in order to achieve social approval and status in a group.

The mediational role of self-efficacy would indicate that a more self-effective individual would show higher levels of subjective well-being, a situation that has been supported by previous evidence (Lachman and Weaver, 1998; Lang and Heckhausen, 2001) and where self-efficacy would turn out to be the greatest predictor of subjective well-being (Halisch and Geppert, 2000; Gómez et al., 2007) in native and migrant students.

In this line, the self-concept of individuals would have the ability to generate relevant changes in their attitudes (Marsh, 2006), so that in terms of achievements it could have effects on

subjective well-being, directly in the in the case of native students and via self-efficacy in the case of migrant students.

The results obtained in this study should be taken with the appropriate caution, since more extensive studies and other information-gathering techniques as well as different scales will be required in the future to study in greater depth self-concept, self-efficacy, and subjective well-being and especially the possible causal relationships between these constructs.

New lines of research could emerge from this study, for example the study of the mediational role of self-efficacy with subjective well-being with other constructs such as meaning of life, self-esteem and social support. Among the limitations of this study it can be mentioned that non-random samples and a cross-sectional design were used. The lack of similar studies in the Chilean context to use as a point of reference was also a limitation in some cases.

The new inhabitants of Chile have been looking for quality of life and the importance of studying subjective well-being in adolescents and its influential constructs lies in the possibility of generating inputs for the development of public policies that can arise from the systematic study of the Chilean and migrant population in such a way as to provide key information to relevant actors to make decisions that affect minors in Chile.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Comité de Ética de la Facultad de Administración

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y Economía de la Universidad de Santiago de Chile. Written informed consent to participate in this study was provided by the participants’ legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

CC contributed to the conception of the study, involved in planning, supervised the work, processed the experimental data, performed the analysis, interpreted the data, drafted the manuscript, and designed the figures. AR involved in planning and supervising the work, processed the experimental data, performed the analysis, drafted the manuscript, and designed the figures. FV contributed to the conception, analysis, interpretation of data, aided in the sample design, interpreting the results, worked on the manuscript, and revised it critically. SC contributed to the conception, analysis, interpretation of data, aided in the sample design, interpreting the results, worked on the manuscript, and revised it critically. EL-O performed the measurements, sample design, aided in interpreting the results, and worked on the manuscript. JR processed the experimental data, performed the analysis, drafted the manuscript, and designed the figures. All the authors discussed the results and commented on the manuscript.

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The University as a Source of Social Capital in Chile

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This paper investigates the structure and composition of the social network formed on the campus of the Faculty of Economics and Business of Diego Portales University, Chile, exposing a series of characteristics that are aligned with similar research in the field of networks. We use a model of social networks formation in order to understand socioeconomic and academic factors that predict the formation of friendship between two students. Specifically, we test empirically our model, using students' administrative information. Of special interest is the impact of the length of stay of the students in the university, with which we refer to the years completed in the degree course, in the probability of establishing friendship ties where being socioeconomically different is a condition. The mechanism behind a result like this is the sense of belongingness that being part of the same institution may induce amongst students. By means of counterfactual simulations we found evidence in favor that passing through the university increases the probability of forming friendship networks, which can mean a kind of social capital, thus reducing socioeconomic segregation from the Chilean school system. Given the importance of this finding, we believe that policies that increase the sense of belongingness such as cultural events, leaderships programs, and community should be implemented on university campuses.

Keywords: belongingness, networks, segregation, friendship, homophily

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1. INTRODUCTION

The goal of this investigation is to cast light on the effect that university has upon the chance of befriend students from different socioeconomic backgrounds. Chilean cities and schools present high levels of socioeconomic segregation (Lambiri and Vargas, 2011; Elacqua, 2012; Trevino et al., 2014). The latter changes when students arrive into university, a place where is possible to observe more mixed communities (Espinoza and González, 2012). However, given the fact that at this point, from neighborhoods and schools, student have already form their social networks one would ask if it will be enough sharing a university ward with students from different socioeconomic status to modify their social networks.

The answer is not necessarily clear at first sight. On one hand, there is significant evidence regarding the tendency of individuals with similar characteristics to form ties. For instance, it has been found that the social origin is an important driver to induce homophily in university learning networks (Xu and Weinberg, 2014; Weber et al., 2020). In the same way, networks analysis and their different components are marked by the actors tendency to establish relationships in terms of how similar they are (Lazarsfeld and Merton, 1954; Currarini et al., 2009), and for this reason the concept homophily is widely linked to a network's segregation levels (Blau, 1977; McPherson et al., 2001). Homophilia's level on the process of bounding plays a key role, as it determines

the way people gather, exchange information, and make decisions, what is not irrelevant when it comes to networks shaped up by race features, income level, religious belief, and educational background (Currarini et al., 2009). High levels of homophily caused distance among actors within a social network, and this distance does impact on integration. On the other hand, university may induce a sense of belongingness, a concept that lies on people's need of bounding, where those bounds will embody the boost individuals need for their self-development, being this the result of the experience and interaction with their environment (Baumeister and Leary, 1995; Den Hartog et al., 2007; Brechwald and Prinstein, 2011). In this line of argument, it has been found that the sense of connection to one's university buffers racism and provides a base for exploration of cross-cultural relationships amongst international and domestic students in American universities (Glass and Westmont, 2014).

On this regard, belongingness means to humans their need of being accepted, being able to identify and be identified, as well to recognize and be recognized by their partners as part of a whole (Maslow, 1970; Baumeister and Leary, 1995; Yuval-Davis, 2006; Brechwald and Prinstein, 2011; Mahar et al., 2013). According to literature, belongingness is a society's main motivation to gather, therefore bounding is essential for belongingness theory, being critical for individuals bounding, communication, and social relationships along their lives (Maslow, 1970; Baumeister and Leary, 1995; Den Hartog et al., 2007). As a result, belongingness is directly linked to individuals interaction inside a social network, that is to say, the way they teamwork and the results individuals achieve, the way they collaborate when part of a group, the status they can achieve as part of society, besides peers effect and influence within educational contexts (Den Hartog et al., 2007; Brechwald and Prinstein, 2011). Within groups with high levels of segregation and homophilia, belongingness is critical for reducing distance among sub groups in a social network, especially for education contexts analysis, where networking relies on individuals influence on their peers (Baumeister and Leary, 1995; Choudhury et al., 2006; Brechwald and Prinstein, 2011). Aspects such as the dissemination of information, investment and risk decisions, access to jobs, commerce, education, opinion formation and social mobility, to name a few, are affected by the degree to which society is segregated (Montgomery, 1991; Granovetter, 1995; Calvó Armengol and Jackson, 2004; Currarini et al., 2009), considering the latter as the dispersal of a particular group in a geographic area or in a certain situation (Royuela and Vargas, 2006). In this sense, a society where there is a greater degree of social mobility, the relevance of the socioeconomic origin of individuals would not represent an obstacle to accessing a set of new and better opportunities.

This is an important subject of research because networks play a central role in a series of relevant aspects of individual and collective action, permeating the social and economic life of individuals. Several studies have shown the relevance that social networks have on individuals well-being (Calvó-Armengol et al., 2009; Lee et al., 2011; Fletcher and Ross, 2012) and on learning, information transmission and labor market outcomes at the beginning of professional careers (Mayer and Puller, 2008).

Summing up, the innumerable ways in which network structures influence people's well-being make it essential to understand both their impact on behavior, as well as to identify those patterns of network structures that are likely to be observed in a society (Currarini et al., 2009).

2. LITERATURE REVIEW

2.1. Social Networks Formation

The Chilean educational system is very segregated as it going to be explained later on, something that is particularly true at school level. The latter changes at some extent in universities (Espinoza and González, 2012). However, the fact that students in university have the chance to interact with more mixed communities does not guarantee that they will intermingle with students of different socioeconomic backgrounds, or in other words that their social networks will significant change once they are in the university. Understanding how social networks formation work in university arises as an important task because networks and their structure is a determining factor in the way a society works and they have an important effect on individuals well-being. Social networks are key elements in societies because they are device which allows the exchange of information, culture, knowledge and social capital and social support (Yuan et al., 2018).

The importance of social networks also falls on the labor markets, this being well documented in a series of studies present in the associated literature. There is considerable evidence regarding the role that social media plays in job search. A vast body of research in economics and sociology has shown and concluded that at least 50% of jobs are found through informal channels, such as friends, family and general social contacts (Montgomery, 1991; Granovetter, 1995; Calvó Armengol and Jackson, 2004). The exploration of the vast majority of these studies with different types of occupations and varied levels of education and income, present similar figures that support the relevance of social contacts in terms of employment (Calvó Armengol and Jackson, 2004). Therefore, the exchange of information is more likely to be more productive, regarding labor supply, when two agents are closer in terms of their respective occupations and ties (Conley and Topa, 2003). Better connected individuals will have the opportunity of having access to new information sooner and at the same time they will be able to have high level of influence on the eventual spread of information (Jackson et al., 2017). There are investigations on the opposite causality as well: unemployment induces social withdrawal particularly for people above 50 years of age (Von Scheve et al., 2017; Rozer et al., 2020).

Consequently, social networks matter and universities are an important place where they can be formed. First, because, something that is particularly true in Chile, probably it will be the first place where a significant amount of students will have the chance of interact, for first time, with people of a different socio-economic background, something that does not guarantee that these interactions will have as a result the formation of friendships. Second, because, it has been documented that labor market connections and business partners networks are formed using knowledge from previous social interactions as those that

arise in universities (Ioannides and Loury, 2004). As a matter of fact, at least in U.S.A., universities have made an effort in order to implement different policies to facilitate the integration of students of diverse race, nationalities and socio-economics background (Mayer and Puller, 2008).

The formation of social networks has been studied both theoretically and empirically. On the theoretical side, the traditional approach has been using game theory and agent-based models which propose micro level rules for the formation of connections and they prove that these rules have implications for the macro level properties and structures (Calvo Armengol and Jackson, 2004; Jackson, 2008; Yuan et al., 2018). On the empirical side, using game theory models as a base, several investigations have analyzed the networks formation with focus on the identification of those characteristics that are the drivers of the link formation (Mayer and Puller, 2008; Smirnov and Thurner, 2016; Mele, 2017). Some results that have been found regarding the networks formations in universities indicate that this type of social networks in U.S.A. are strongly determined by factors such as race, as matter of fact, blacks and Asians have disproportionately more same race friends than would arise from the random selection of friends, even after controlling for socioeconomic background, ability, and college activities (Mayer and Puller, 2008). It has been shown as well that academic homophily (this concept is explained in the next subsection) is a result of selection because students prefer to reorganize their social networks according to their academic performance, instead of adapting it to the level of their local group and there is no evidence of a pull effect, i.e., a social environment of good performers that would motivate bad students to improve their academic outcomes (Smirnov and Thurner, 2016).

The present investigations belongs to this second branch. Based on a simple theoretical model, we study, empirically, the forces behind the social networks formation in the Chilean higher education system context, trying to identify the factors that explain the friendship between students such as academic performance, gender, age or socio-economic background. As we do not have experimental data, we conduct a series of counterfactual simulations in order to test our hypotheses.

2.2. Segregation, Social Networks and Homophily

The degree to which a society is segregated throughout the network can be critical when determining aspects such as how fast information is disseminated or what the level of underinvestment in human capital will be, among other things (Currarini et al., 2009). This is why in the social media literature the phenomenon of homophilia is recurrent. The term is defined as the tendency of people to establish relationships with those who share similar characteristics (Lazarsfeld and Merton, 1954; Currarini et al., 2009). The level of homophilia that exists in a given network is of great importance in the speed at which a society reaches a global consensus, which becomes more relevant when the agents' decisions are complementary, so the authors argue that studying and understanding homophily is crucial to understanding the functioning of a society (Calvo Armengol

and Jackson, 2004; Golub and Jackson, 2012). Homophilia is also closely linked to segregation. High levels of homophily imply high segregation on social media across a variety of basic demographic states such as race, ethnicity, age, education, and income (Blau, 1977; McPherson et al., 2001), thus influencing phenomena such as social isolation, which in turn is theoretically linked in contemporary literature with issues of social inclusion, inequality and poverty (DiPrete, 2011). There is an extensive literature that has investigated the phenomenon of homophily according to characteristics such as age, race, gender, religion, and profession, generally being a strong and robust observation (Currarini et al., 2009). Empirical evidence regarding homophilia and segregation indicate significant levels for both phenomena in both adolescents and adults. An example of this is indicated by Currarini et al. (2009), who conducted a friendship network analysis of a representative sample of high school students from schools in the United States. They used the national Add Health 2 survey as a data set and identified homophily patterns in the network. Specifically, they point out three important observations, the first of which shows that those groups of a greater relative size in the population have a greater tendency to form bonds of friendship with those who are of the same type, considering type according to race. As a second observation, the authors conclude that these same groups of greater relative size tend to form significantly more friends per capita. As a third point, they reveal that those groups of smaller relative size in the population tend to integrate more effectively, with minorities being less racially segregated groups than those that represent a higher percentage of the population. Similar results are found in recent studies on racial and ethnic homophilia, mainly in the United States (Moody, 2001; Mollica et al., 2003; Currarini et al., 2009). High levels of homophily may guide groups to be insular and to act different from others groups, generates poverty traps and underinvestment because of complementarities in behavior, and makes information diffusion slower across groups (Jackson et al., 2017). Associated with the phenomena of homophily and segregation arises the concept of social capital. In the search for the definition of social capital, we find different perspectives and a series of concepts that basically refer to the resources that the actors of society can mobilize as a consequence of their belonging to a group. This extends to the fact that in these relationships there is a certain degree of trust, solidarity and reciprocity, therefore, culture and institutions are a relevant factor in this dynamic, in addition to which their training would be linked to individual characteristics, thus as well as contextual variables such as inequality, racial diversity, institutions and political designs (Boix and Posner, 1996; Adler and Kwon, 2002; Durlauf, 2002). One of the first definitions of social capital indicates that they are those characteristics of a social organization, such as networks, norms and trust, that facilitate coordination and cooperation among its members in order to achieve a common benefit (Putman, 1995), reason why social capital as the connection between individuals in their social networks, and understood as a rich resource, is a factor that would contribute to the development of the well-being of agents in a more virtuous way than in those societies where individuals are segregated. Later, following the same

line, the literature indicates the importance of the use and accumulation of social capital as a resource that facilitates the lives of individuals and allows them to reconcile individual interest with common interest (Putman, 1995). Social capital can also be defined as a set of values or norms shared among members of the same group that allows them to cooperate with each other informally or circumstantially. Trust in this interaction would be essential in the path toward more efficient organizational functioning (Fukuyama, 1997). (Lazarsfeld and Merton, 1954) classifies homophilia according to two parameters, value and status. Homophily of value is related to the personality, attitudes, aspirations and future expectations, while status homophilia is based on intrinsic characteristics of individuals such as age, ethnicity, religion and gender, or acquired characteristics such as education, profession or occupation. An interesting bridge can be established between the research question posed and the importance of social capital. The interaction between individuals of different socioeconomic levels and the information they share, given the bonds of friendship that are formed through the network in the university, can mean a relevant source of social capital, especially for those who in the first instance were more segregated, this prior to entering the institution.

2.3. Segregation in Chilean Educational Institutions

Chilean cities are segregated (Lambiri and Vargas, 2011). This spatial inequality is represented in the educational system as well. There are several reasons behind this fact. First, as mentioned, cities and neighborhood in Chile are segregated, hence schools in well-off neighborhoods have a greater share of students coming from high income households, meanwhile schools in poor neighborhoods the composition is the opposite. For instance, some investigations have shown a comparison between different countries of the school segregation by aggregate socioeconomic status (SES), the result is that school segregation level is much higher in Chile than the one observed in countries such as USA, Brazil, and Argentina (Chmielewski and Savage, 2014; Allende et al., 2018). Second, the framework of the Chilean educational system is quite segmented as well as it is made out of three different type of schools, namely, private, subsidized, and public. The first group corresponds to fully private school where tuition fees are fully paid by families. In the second groups, the Government gives a voucher to households so they can choose from a group of private schools, not any school but subsidized schools, and the third group correspond to schools fully financed by the Government, as a matter of fact these type of schools since the reform in the 80's have depend directly from municipalities. Therefore, on average, high income students go to private school, middle income to subsidized schools and poor students to public schools. There is an important body of research that has described this system and that has studied its consequences on different aspects of students well-being (Saporito, 2003; Schneider et al., 2006; Elacqua et al., 2011; Allende et al., 2018). However, this is not the end of the story. Within the subsidized schools there is another layer of segmentation as well. Families, if they want, can pay an extra amount additionally to

the voucher in order to choose a school that charge a greater amount of money than the voucher provides: the co-payment. Consequently, according to the amount of the co-payment, it will possible to observe an additional level of segregation, because within the middle class segment, households will separate each other in different subsidized schools according to the extra money they pay (Mizala and Torche, 2012).

This is particularly important if we consider that the school system represents the first formal approach of individuals to an environment of socialization outside the family¹. In Chile, this first instance is conditioned to the high level of socioeconomic segregation of the students in the system, mainly when we refer to the most vulnerable and those with better socioeconomic conditions. According to the evidence already mentioned, the educational results of Chilean students are closely linked to the socioeconomic level of the families and the degree of stratification of the school system, given that they tend to attend establishments of similar socioeconomic level, sharing with peers who have similar social conditions and cultures (García Huidobro and Bellei, 2003; Valenzuela et al., 2008). Hence, the Chilean school system, for the moment, does not represent a space in which students from different socioeconomic levels are integrated.

That said, the question arises about the means and instances in which socioeconomic origin is not an impediment to establish relationships that allow agents to form a network of contacts through which access to greater and better opportunities contributes to increase your well-being. It is of particular interest in this research to determine if the university, as a heterogeneous medium, represents a channel through which individuals from different socioeconomic levels manage to interact and establish bonds of friendship, ties that build a network of contacts that means an increase in social capital for the students. The latter is understood as the set of characteristics of a social organization, such as networks, values or norms that are shared among the members of a group and that allow them to cooperate with each other informally or circumstantially. Trust in this interaction would be essential on the way to more efficient organizational functioning (Putman, 1995; Fukuyama, 1997).

The broad theoretical framework on social capital allows us to answer a series of political, social and economic questions, so moving forward in its study represents opening up new possibilities to answers that have not yet been resolved, especially when the objective is to expand social capital in countries where socioeconomic segregation does not allow dynamic social mobility. This research seeks to highlight the friendship networks formed by university students, to later relate them to the socioeconomic level that each one has. This is a first

¹In Chile, the results of research on social mobility indicate a relatively mobile and permeable middle class structure with a tendency to polarize, as social distances continue to increase despite economic growth. Specifically, the results suggest high mobility for the middle deciles and low mobility for the richest deciles in the distribution (Contreras et al., 2004). That said, the intervention of policies that manage to increase dynamism across the socioeconomic scale must consider all those situations or means in which the integration of the different structures of the social network is achieved, especially those that are more segregated.

approximation to the diagnosis of the distribution of social capital prior to the world of work.

The sample corresponds to Commercial Engineering (BA in Economics) students from Diego Portales University who self-report their five best friends within the School of Economics and Business, this through a friendship survey applied to students from first to fifth year. Given the segregation from the school system, it is interesting to measure how the proportion of friends who are from a different socioeconomic level changes, for each individual in the sample, throughout the 5 years they remain in the university. The reason for choosing this university is because it presents a blended community regarding social backgrounds of its students.

3. MATERIALS AND METHODS

3.1. Data

The central axis of this research is found in the friendship networks formed at the university. In order to identify this network, it is essential to determine the links that the students have formed throughout the years of the program. Given that in Chile there is no network data at the university level, it is necessary to apply a survey to students that allows building the network. Specifically, the questionnaire contemplates that the students report who are their five best friends belonging to the same career, five at most, being explicit that in said nomination the order of proximity is relevant, those who are closest occupy the first places in the list of who answers the questionnaire. As a test of effectiveness of the questionnaire, a test pilot was carried out in June 2017. The questionnaire was applied in person to a sample of 78 students belonging to the second and fourth years mainly. The results indicate that 74.36% reported the maximum of five friends, while regarding the way of responding 5.13% did not manage to do it correctly. During the pilot phase difficulties were established in the transcription and processing of the data, this given the calligraphy of the names and surnames reported. Along with this, it was possible to identify the influence among the students when writing their answers, given the spatial proximity when responding. Both difficulties are expected to generate the least possible bias since the final questionnaire will be sent personally to each student via email. In October 2017, the final questionnaire was sent to 1,500 Commercial Engineering students from the Diego Portales University. The data collection process lasted for a period of 3 weeks, a period in which the survey was made available to students through a link sent to the personal email registered by the university. The identification and liaison between those who answered the questionnaire with those who were reported as friends is of fundamental importance and became one of the first challenges of the investigation. The first objective was to identify those who answered the survey, for this, we have a database that contains administrative information about the students. The crossing of said base with the list of registered emails allowed us to identify it. The second objective was to identify the reported students as friends. This stage required more work since the students only reported the first and last names of their friends, often misspelled or repeated, with the latter we mean students

with the same name and surname. This process requires the verification of the names one by one, comparing both databases. Finally, a network of 965 nodes and 1,510 links was built. In addition to the aforementioned information, a set of data with academic and socioeconomic characteristics of the students is available. Said information was granted by the university to be used only for research purposes, a rule that is stipulated by contract. The variables used are gender, year of admission to the university, values correspond to the period 2013 to 2017, academic ranking, type of school from which each student comes, that is, municipal, subsidized or private, decile, type of financing of the program and commune of residence.

As a second source of information, we have an administrative database that contains the students' socioeconomic characteristics and academic results. Used variables include gender, year of admission to the university, values correspond to the period 2013 to 2017, academic ranking, type of school from which each student comes, that is, municipal, subsidized or private, decile (referring to the students' family income), type of financing of the program and commune of residence. One of the variables used to build the students' socioeconomic profile is the type of school. We talk about municipal school to refer to those with full public financing. These establishments are mainly assisted by students coming from families places in the low and medium of the country's income distribution. State-subsidized schools are those with mixed financing, both public and private, where students from medium income families assist. Particular or private schools, are fully privately funded, and composed of students from families whose income are in high levels of the distribution system. Within the Chilean school system, 36% of students goes to municipal establishments, while 54% goes to private or state-subsidized schools. **Table 1** presents a description of these variables².

University access segregation in the country is concerning. Only 34% of students who graduate from municipal schools and participated in the admission test for 2018 was granted entrance at the university where they postulated, vs. 81% of students graduated from private schools that were admitted. Data shows that student distribution in the country's universities shows 23% are from municipal schools, 54% from state-subsidized, 20% from private schools³.

In this regard, 16% of our sample is composed of students coming from municipal schools, while 41% is from state-subsidized schools and 40% are students from private facilities. The financing variable is composed of private financing, category in which students finance their university tuition through family income of that of their own. State guaranteed loans, or CAE, is a mixed system where students finance their tuition with a state-backed loan and private co-payment. State-backed loan and complementary scholarship, means that the student funds the tuition with CAE and the copayment is financed by the state scholarship system. Lastly, the gratuity segment includes students

²Chilean Ministry of Education.

³"The University Admission System: Commitment and Contribution of the Council of Rectors of Chilean Universities to higher education 2020."

TABLE 1 | Variables description.

| | |
|------------------------|--|
| Year of admission | Students' college entrance year. |
| Type of school | Kind of financing of the student's school. |
| Municipal | Public schools. |
| Subsidized private | Schools financed by The State and privates, that is to say, mix-financing modality. |
| Private | Private schools, that is to say, those ones financed by the students' families. |
| Type of financing | Type of financing of the program |
| Private | Category where student's college is paid by their families or by themselves. |
| Private and CAE | Category where students finance their studies through CAE plus student's own resources or their families'. |
| Scholarship and CAE | Category where students finance their college through CAE plus complementary scholarships. |
| Free of charge | Category where students are benefited with full scholarships. |
| Decile | Income range of students' families, according to the country's income distribution. |
| Sector of residence | Areas where students live. |
| Time at the university | Time students have spent at college. |

whose tuition was fully financed by the state. This last financing system started implementation in 2016.

Within our network, 37% of students finances their studies through private sector funds, 25% uses the mixed system of CAE and private copayment, 18% uses CAE and a complementary scholarship, and 20% has a gratuity benefit. State-guaranteed loans, CAE, are granted to students coming from 80% of families with the lowest income, meaning the first eight distribution deciles. Meanwhile, complementary scholarships are granted to students belonging to 70% of the most vulnerable, meaning the first seven deciles, while gratuity is only granted to the most vulnerable 50%, meaning the first five deciles². The results are presented in **Table 2**.

3.1.1. Network Description

The social science literature that has dedicated their research to the study of networks provides a wide variety of tools for characterizing networks, therefore it is necessary to introduce the notation used in this document since we will apply some of these measures (Jackson, 2008; Mayer and Puller, 2008). We consider a field with n students, or following the terminology of network analysis, a network with n nodes. If students i and j are friends, then there is a link or connection between them. This relationship is symmetrical, that is, if student i reports being a friend of student j , then student j is also a friend of student i , this characteristic is characteristic of non-directed networks. The friendships between the students are contained in a matrix g of dimension $n \times n$. If students i and j are friends, the components $g(i, j)$ and $g(j, i)$ of the matrix are equal to one, otherwise the elements of g are zero (Jackson, 2008). Research on networks indicates that these are characterized by a series of patterns in common, among them we can mention the width of the queues

in the distribution of the number of friends whose bias tends to be to the right, the cluster coefficients cannot be explained by the random formation of the links and the correlation between the number of friends of the individuals, degree correlation, is positive, this means that nodes with many (few) links tend to be connected with other nodes with many (few) links (Newman, 2003; Goyal et al., 2006; Jackson, 2008). One of the measures that we will use in the analysis and characterization of the network is the aforementioned cluster coefficient. This captures the proportion of an individual's friends who are friends with each other (Newman, 2003; Jackson, 2008; Mayer and Puller, 2008), specifically we will use the average of the cluster coefficients calculated for each individual, so for the individual i we define (Jackson, 2008):

$$C(i) = \frac{\sum_{j \neq i, k \neq j, i} g_{ij} g_{jk} g_{ik}}{\sum_{j \neq i, k \neq j, i} g_{ij} g_{ik}} \tag{1}$$

Regarding the characteristics of the network under analysis, the average number of friends varies from 2.71 to 4.09, while the variance fluctuates between 2.61 and 4.46. Furthermore, it is possible to identify a bias to the right of 0.34 to 1.13, this indicates that in the distribution many students have on average few friends, while fewer and fewer students have more friends. Regarding the cluster coefficient, the maximum value is 0.39 while the minimum is 0.19, the literature indicates that larger networks tend to have small cluster coefficients, so this is directly related to the density of the network, that is, networks with higher density have high cluster coefficients (Mayer and Puller, 2008). In our case, the results match with the evidence since the density of our network is 0.008. The degree correlation is positive in all cohorts.

3.1.2. Segregation of the Network

Regarding the analysis of the level of network segregation, the method proposed by Mayer and Puller (2008) is used, who propose a simple and easy-to-interpret measure when comparing the probability that two individuals in a subgroup are friends, with the probability that two random individuals are friends. This measure of relative segregation is independent of the size of the two groups. The relative probability of friendship of two students from a private school, for example, is defined as:

$$\begin{aligned} & \text{Relative probability of friendship (private \& private)} \\ &= \frac{\frac{\text{No pairs of friends from private schools}}{\text{Total pairs private schools students}}}{\frac{\text{No of pairs of friends from any type of school}}{\text{Total pairs students of any type of schools}}} \tag{2} \end{aligned}$$

Using the variables type of school of origin and university financing system as an approximation to a socioeconomic profile of the students, we document in the upper part of **Table 3** that students who come from the same type of school are more likely to form friendship in comparison for those students who come from different types of school, especially these values are higher for the combinations municipal/municipal school and private/private school. Two municipal college students are 1.23 to 1.37 times more likely to form friendships than two random

TABLE 2 | Composition and characteristics of the network.

| | 2013 | 2014 | 2015 | 2016 | 2017 | Faculty level |
|---|------|------|------|------|------|---------------|
| Composition | | | | | | |
| Number of students | 136 | 175 | 171 | 247 | 236 | 965 |
| Fraction of women | 0.40 | 0.44 | 0.44 | 0.41 | 0.32 | 0.40 |
| Fraction of municipal school students | 0.19 | 0.13 | 0.12 | 0.18 | 0.19 | 0.16 |
| Fraction of subsidized private school students | 0.32 | 0.27 | 0.37 | 0.41 | 0.47 | 0.41 |
| Fraction of private school students | 0.48 | 0.41 | 0.50 | 0.37 | 0.32 | 0.40 |
| Fraction of students with private financing | 0.44 | 0.38 | 0.39 | 0.37 | 0.29 | 0.37 |
| Fraction of students with CAE funding | 0.21 | 0.33 | 0.23 | 0.21 | 0.26 | 0.25 |
| Fraction of students with CAE funding and scholarship | 0.27 | 0.29 | 0.38 | 0.05 | 0.04 | 0.18 |
| Fraction of students with free funding | - | - | - | 0.36 | 0.42 | 0.20 |
| Characteristics | | | | | | |
| Average number of friends | 2.82 | 2.78 | 2.71 | 4.09 | 2.90 | 3.13 |
| Variance number of friends | 4.46 | 3.16 | 3.57 | 3.87 | 2.61 | 3.77 |
| Skewness number of friends | 1.13 | 0.55 | 0.96 | 0.34 | 0.56 | 0.68 |
| Cluster coefficient | 0.19 | 0.23 | 0.20 | 0.39 | 0.29 | 0.27 |
| Degree correlation | 0.22 | 0.15 | 0.18 | 0.03 | 0.05 | 0.12 |

students form friendships, the latter value should be one when the match is random. Similarly, two private school students are 0.95 to 1.51 times more likely to befriend those of the same type. The rest of the categories, cross combinations, have values less than one. Taking a look at the faculty level, the category with the lowest value is municipal/private, 0.58, while the other categories exhibit values close to one. Regarding the segmentation by type of financing, the free of charge/free of charge combination is the most segregated since it is 2.38 times more likely to form friendship, this at the school level. It is important to mention that the social environment of each individual is determined by the probability of forming friendship with an individual of a particular category together with the composition of said category in the population, which is why the fraction of friends from private school in a private school student depends on his relative probability of forming friendship and on the proportion of students from private school in the total population. Thus, the fraction of private school friends of a private school student corresponds to Mayer and Puller (2008):

$$\begin{aligned} & \text{Relative probability of friendship} \\ & \times \text{Proportion of private school students in the population} \end{aligned} \quad (3)$$

If the friendships were formed at random, the distribution of characteristics among the friends of any subset of students should be equal to the distribution of these characteristics in the population (Jackson, 2008; Mayer and Puller, 2008; Currarini et al., 2009), this is what the lower part of **Table 3** documents. Specifically, 50% of the students belonging to the 2015 cohort come from private schools, however, 76% of their friends at the university also come from private schools. At university school level the results are similar, private school students represent 40% of the student population and the fraction of friends who studied at the same type of school is 50%. For the category of students from private subsidized schools, it is recorded that they

represent 41% of the student body with 49% of friends from private subsidized schools. The students of municipal schools, at the faculty level, represent 16% of the population and the fraction of friends who are also from municipal school is 20%. The results coincide with the evidence from similar research in the area of friendship networks, which indicates that those groups of greater size in the population tend to segregate more than those groups that represent minorities, the latter being the ones that integrate better with groups of different characteristics (Mayer and Puller, 2008; Currarini et al., 2009). In the analysis of the variable related to the type of financing that students use to pay for their degree, we can document that the segregation between students with different types of financing is repeated as with the school variable. In particular, for the category of students benefiting from gratuitousness almost double its proportion in the student population corresponds to the fraction of friends under this modality, in the 2016 cohort, the benefited students represent 36%, while the fraction of friends who finance their studies also via gratuitousness is 69%. The same is true for the 2017 cohort, which registers values of 42% versus 88%. The situation is repeated in most cohorts and categories, with the fraction of friends of the same type being greater than the proportion of these in the faculty in most cases.

3.2. Methodology and Results

3.2.1. A Model of Social Network Formation

The model used here to explain social network formation is based on what has been done previously in literature (Jackson and Rogers, 2007; Mayer and Puller, 2008). At the beginning it is assumed an unconnected network. Friendship between students i and j arises after two events: first, two students meet each other with a probability $p_{ij}(Z_i Z_j)$, where Z represents students observable characteristics of their institutional environment such as being part of the same cohort or how many years the students has been in the university, and second, after meeting they choose

TABLE 3 | Segregation by school of origin and university financing system.

| | 2013 | 2014 | 2015 | 2016 | 2017 | Faculty level |
|--|------------------------------------|------|------|------|------|---------------|
| Segregation by type of school | | | | | | |
| Pair of: | Relative probability of friendship | | | | | |
| Municipal/Municipal | 1.39 | 0.00 | 1.23 | 1.37 | 1.24 | 1.23 |
| Municipal/Private | 1.09 | 0.79 | 0.77 | 0.87 | 0.74 | 0.58 |
| Municipal/Subsidized private | 0.80 | 0.98 | 1.04 | 1.08 | 1.25 | 1.09 |
| Subsidized private / Subsidized private | 0.79 | 1.26 | 0.97 | 1.18 | 1.50 | 1.21 |
| Subsidized private /Private | 0.86 | 0.77 | 0.87 | 0.87 | 0.77 | 0.81 |
| Private/Private | 1.47 | 1.51 | 1.51 | 1.19 | 0.95 | 1.25 |
| Segregation by type of financing | | | | | | |
| Par de: | Relative probability of friendship | | | | | |
| Private/Private | 1.62 | 1.29 | 1.30 | 1.00 | 0.82 | 1.12 |
| Private/Private and CAE | 0.91 | 1.09 | 0.98 | 0.67 | 0.99 | 0.88 |
| Private/Scholarship and CAE | 1.23 | 1.08 | 1.26 | 0.53 | 0.34 | 0.87 |
| Scholarship and CAE / Private and CAE | 1.08 | 1.57 | 1.62 | 0.37 | 0.42 | 1.02 |
| Private and CAE / Private and CAE | 1.28 | 1.23 | 0.72 | 1.30 | 1.21 | 1.15 |
| Scholarship and CAE / Scholarship and CAE | 1.29 | 1.74 | 1.61 | 0.63 | 0.00 | 1.27 |
| Free of charge/Private | - | - | - | 1.20 | 0.99 | 0.94 |
| Free of charge / Private and CAE | - | - | - | 1.26 | 1.31 | 1.05 |
| Free of charge / Scholarship and CAE | - | - | - | 0.58 | 0.53 | 0.36 |
| Free of charge /Free of charge | - | - | - | 1.93 | 2.10 | 2.38 |
| Segregation by type of school | | | | | | |
| Fraction of municipal school students | 0.19 | 0.13 | 0.12 | 0.18 | 0.19 | 0.16 |
| Fraction of municipal schools students friends of students of municipal schools | 0.26 | 0.00 | 0.15 | 0.25 | 0.24 | 0.20 |
| Fraction of students of private schools | 0.48 | 0.41 | 0.50 | 0.37 | 0.32 | 0.40 |
| Fraction of private schools students friends of students of private schools | 0.71 | 0.62 | 0.76 | 0.44 | 0.31 | 0.50 |
| Fraction of subsidized private schools students | 0.32 | 0.27 | 0.37 | 0.41 | 0.47 | 0.41 |
| Fraction of subsidized private schools students friends of students of subsidized private schools | 0.25 | 0.34 | 0.36 | 0.48 | 0.71 | 0.49 |
| Segregation by type of financing | | | | | | |
| Fraction of students with private financing | 0.44 | 0.38 | 0.39 | 0.37 | 0.29 | 0.37 |
| Fraction of students with private financing friends of students with private financing | 0.71 | 0.49 | 0.51 | 0.37 | 0.24 | 0.41 |
| Fraction of students financed using Scholarship and CAE | 0.27 | 0.29 | 0.38 | 0.05 | 0.04 | 0.18 |
| Fraction of students financed using Scholarship and CAE friends of students financed using Scholarship and CAE | 0.35 | 0.50 | 0.61 | 0.03 | 0.00 | 0.23 |
| Fraction of students free of charge | - | - | - | 0.36 | 0.42 | 0.20 |
| Fraction of students free of charge friends of students free of charge | - | - | - | 0.69 | 0.88 | 0.48 |

Values in the inferior part of this table were calculated using those categories with the highest index of segregation.

if they become friends or not. This decision depends on students features which may be both: observable or unobservable. The former is represented by the vector X and the latter by the vector u . If student i become friend of student j then she will derive a utility $U_{ij}(X_i, X_j, u_i, u_j, ; \beta)$ where vector β represents tastes for the observed characteristics. Let us consider now a cost related to friendship formation c , for instance the time needed to become friends. Taking all these aspects into account we will assume that two students become friends if they considers that the utility derived is greater or equal than the cost of a friendship. So we have for any i, j that meet:

$$g(i, j) = I(U_{ij}(\cdot) \geq c_i) \times I(U_{ij}(\cdot) \geq c_j) \equiv I(f(X_i, X_j, u_{ij}; \beta) > 0) \tag{4}$$

$I(\cdot)$ is an indicator function. The reduce form function f corresponds to the joint choice to be friends. The functional form

used in the analysis is given by:

$$Friendship_{ij} = f(X_i, X_j, u_{ij}; \beta) \forall i, j = 1, 2, \dots, n \tag{5}$$

Where $Friendship_{ij}$ is a dichotomous variable that takes value 1 when both individuals are friends and 0 otherwise. Assuming that u follows an extreme value distribution, we can estimate the probability of being friend using a Probit model. We consider this analysis as a good predictor of the factors that determine the formation of friendship in the university, however, we must emphasize that we do not suppose such evidence as causal. The selection of students characteristics that are contained in vector X is based on literature previous findings (Jackson, 2005; Marmaros and Sacerdote, 2006; Mayer and Puller, 2008; Flashman, 2011). These characteristic may be either intrinsic to each student or institutional. Consequently, vector X contains the

TABLE 4 | Factors that predict the probability that two students are friends.

Dependent variable = 1 if individual *i* and individual *j* are friends

Dependent variable mean: 0.0032

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Constant | -1.978*** [0.018] | -1.918*** [0.023] | -1.794*** [0.027] | -1.734*** [0.029] | -1.710*** [0.031] | -1.770*** [0.034] |
| Different gender | -0.303*** [0.021] | -0.303*** [0.021] | -0.304*** [0.021] | -0.305*** [0.021] | -0.305*** [0.021] | -0.305*** [0.021] |
| Different income | -1.252*** [0.028] | -1.252*** [0.028] | -1.259*** [0.028] | -1.259*** [0.028] | -1.257*** [0.028] | -1.278*** [0.029] |
| Different ranking | -0.129*** [0.020] | -0.128*** [0.020] | 0.130*** [0.020] | -0.129*** [0.020] | -0.129*** [0.020] | -0.123*** [0.021] |
| Different decile | | -0.088*** [0.021] | -0.005 [0.027] | -0.004 [0.024] | -0.003 [0.024] | -0.008 [0.024] |
| Different sector of residence | | | -0.221*** [0.027] | -0.211*** [0.027] | -0.209*** [0.027] | -0.199*** [0.027] |
| Different type of school | | | | -0.115*** [0.020] | -0.109*** [0.020] | -0.110*** [0.020] |
| Different type of financing | | | | | -0.044** [0.021] | -0.038* [0.021] |
| College time | | | | | | 0.007*** [0.001] |
| R2 | 0.193 | 0.194 | 0.198 | 0.199 | 0.199 | 0.202 |

***Significant at 1%, **Significant at 5%, *Significant at 10%.

following characteristics: gender, cohort, academic performance, income decile, neighborhood of residence, type of school, type of financing, and college time.

As our main hypothesis, we test whether studying in the same university increases the probability that two students of different socioeconomic background become friends. We expect that senior students will have a greater probability of befriend students of a different socio economic background. Albeit in this article we do not test any kind of mechanisms, one plausible explanation behind our hypothesis is that being part of the same university will provide a sense of belongingness that in turn will encourage friendship between students.

In the following section the marginal effect of these variables on the probability of being friend are estimated using a Probit model and after that using counterfactual simulations we test our main hypothesis.

4. RESULTS

4.1. Empirical Analysis of Friendship Probability

The focus of this research is on the friendship network formed at the School of Economics and Business of Diego Portales University, which has administrative information that provides data on the students referred to the year of admission, gender, ranking of grades in the university, as well as socioeconomic data such as the type of financing employed to pay for the program, type of school from which they come and the commune in which they reside, the latter provide relevant information

for the analysis of the central axis of the research that aims to socioeconomic segregation at the university. The sample used contains 965 students who make up the friendship network formed at the school, for whom there is a complete set of information on the variables mentioned above. To quantify the relationship of individual characteristics with friendship formation, all pairs of students were considered, that is, $N(N - 1)/2$ possible pairs of friendship. The results obtained are detailed in **Table 4**. When not conditioned by the characteristics of the individuals, the predicted probability that two students form a friendship bond is 0.32%. The first model analyze some of the variables that predict the probability that student *i* and student *j* are friends. Belonging to different years of entering the university, being of a different gender and different ranking are factors that decrease the predicted probability of forming a friendship link. In the following models, the predicted probability of forming friendship when the students are socioeconomically different is evaluated. For this, variables are added that contain information referring to the type of financing for the degree, type of school, decile and sector of residence. All the mentioned variables decrease the probability that individual *i* and individual *j* are friends. Having different types of financing decreases the predicted probability to a greater extent than living in different sectors of the city, which in turn is greater than belonging to different deciles. In addition, dummy variables that indicate the existing cohorts were included, this in order to evaluate the behavior of the predicted probability between old students and new students. When evaluating the marginal effect, the coefficients indicate

TABLE 4.1 | Factors that predict the probability that two students are friends.

Dependent variable = 1 if individual *i* and individual *j* are friends
 Dependent variable mean: 0.0032

| | (1) | (2) | (3) |
|--|-----------|-----------|-----------|
| Constant | -1.836*** | -1.574*** | -1.639*** |
| Different gender | -0.308*** | -0.122*** | -0.132*** |
| Different income | -1.397*** | -1.397*** | -1.469*** |
| Different ranking | -0.123*** | -0.122*** | -0.132*** |
| Different decile | | -0.006 | -0.005 |
| Different sector of residence | | -0.205*** | -0.196*** |
| Different type of school | | -0.110*** | - |
| Private school - municipal friendship | | | -0.068* |
| Private school - private subsidized friendship | | | -0.057 |
| Private school - private school friendship | | | 0.050 |
| Municipal school - municipal school friendship | | | 0.031 |
| Municipal school - private subsidized friendship | | | 0.022 |
| Subsidized private school - subsidized private school friendship | | | 0.058 |
| Different type of financing | | -0.042** | - |
| Friendship without financing - CAE | | | -0.102** |
| Friendship without financing - CAE and scholarship | | | -0.058 |
| Friendship without financing - free of charge | | | -0.031 |
| Friendship CAE - free | | | -0.033 |
| Free friendship - CAE and scholarship | | | -0.023 |
| Friendship both without financing | | | 0.005 |
| Friendship both with CAE | | | 0.024 |
| Friendship both with CAE and scholarship | | | 0.054 |
| Friendship both free of charge | | | 0.009 |
| R2 | 0.195 | 0.201 | 0.210 |

***Significant at 1%, **Significant at 5%, *Significant at 10%.

that the probability of forming friendship ties decreases by the same amount. **Table 4.1** includes variables that allow a more specific analysis regarding the type of school and type of financing categories. Regarding the type of school from which individuals come, the results indicate that those who come from schools of the same type, that is, the categories both of municipal schools, both of private subsidized schools and both of private schools have a greater probability of being friends, being the last category the one that has a greater effect. In contrast, those particular combinations—municipal and private—subsidized private decrease the predicted probability of forming a bond between both students⁴. Regarding the type of financing of the program, those students who use different financing methods have a lower propensity to form friendship compared to those who use the same method. We must bear in mind that in each of the estimated models the *R*² obtained is low, this should not be surprising since there are several factors that determine the formation of friendship that are not being considered, such as preferences.

The following exercise carried out uses model (6), presented in **Table 4**, and estimates the predicted probability of forming a

⁴For the analysis of these results see **Table 4.1**, where the decomposition of each category is presented.

TABLE 4.2 | Factors that predict the probability that two students are friends, cohort 2013 and 2016.

Dependent variable = 1 if individual *i* and individual *j* are friends
 Dependent variable mean: 0.0032

| | Cohort 2013 | | Cohort 2016 | |
|-------------------------------|-------------|----------|-------------|----------|
| | (6) | dy/dx | (6) | dy/dx |
| Constant | -1.550*** | | -1.971*** | |
| Different gender | -0.329*** | -0.00045 | -0.299*** | -0.00220 |
| Different ranking | -0.115* | -0.00020 | -0.135** | -0.00139 |
| Different decile | -0.091 | -0.00002 | 0.030 | -0.00029 |
| Different sector of residence | -0.157* | -0.00011 | -0.193** | -0.00224 |
| Different type of school | -0.071* | -0.00022 | -0.084** | -0.00083 |
| Different type of financing | -0.079 | -0.00001 | -0.099** | -0.00101 |
| Time at the university | 0.199*** | 0.00003 | -0.048*** | -0.00006 |
| R2 | 0.212 | | 0.235 | |

***Significant at 1%, **Significant at 5%, *Significant at 10%.

conditional friendship bond that individuals belong to the 2013 cohort, senior students, and to the 2016 cohort, corresponding to new students in the career. The results are presented in **Table 4.2**. Again, differences in socioeconomic factors decrease

TABLE 4.3 | Factors predicting the probability of two students being friends.Dependent variable = 1 if individual *i* and individual *j* are friends

Dependent variable mean: 0.0032

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--|-----------|-----------|-----------|-----------|-----------|-----------|
| Constant | -1.978*** | -1.710*** | -1.770*** | -2.159*** | -2.170*** | -2.223*** |
| Different gender | -0.303*** | -0.305*** | -0.305*** | -0.308*** | -0.307*** | -0.308*** |
| Different income | -1.252*** | -1.259*** | -1.278*** | -1.036*** | -1.037*** | -1.035*** |
| Different ranking | -0.129*** | -0.129*** | -0.123*** | -0.121*** | -0.121*** | -0.121*** |
| Different decile | | -0.003 | -0.008 | -0.009 | -0.009 | -0.010 |
| Different sector of residence | | -0.209*** | -0.199*** | -1.199*** | -0.199*** | -0.200*** |
| Different type of school | | -0.109*** | -0.110*** | -0.112*** | -0.106*** | -0.019 |
| Different type of financing | | -0.044** | -0.038* | -0.035* | -0.026 | -0.025 |
| Time at the university | | | 0.007*** | 0.023*** | 0.025*** | 0.025*** |
| Dummy by entrance Year | | | | | | |
| 2014 | | | | 0.061* | 0.061 | 0.166* |
| 2015 | | | | 0.215** | 0.215* | 0.241* |
| 2016 | | | | 0.381** | 0.382** | 0.448*** |
| 2017 | | | | 0.331** | 0.331** | 0.376** |
| Time at the university x Different type of school | | | | | -0.001* | -0.002* |
| Time at the university x Different type of financing | | | | | -0.002* | -0.001* |
| Entrance 2017 x Different type of school | | | | | | -0.183* |
| Entrance 2016 x Different type of school | | | | | | -0.074 |
| Entrance 2015 x Different type of school | | | | | | -0.038 |
| Entrance 2014 x Different type of school | | | | | | -0.110 |
| R2 | 0.193 | 0.199 | 0.202 | 0.204 | 0.204 | 0.205 |

***Significant at 1%, **Significant at 5%, *Significant at 10%.

the probability that individual *i* is a friend of individual *j*. The marginal effect of time is less when we evaluate the 2017 cohort, while this increases when evaluating the 2014 cohort. That is, new students have a smaller marginal effect on the probability of forming friendship compared to old students, so the permanence at university, measured in career years, favors the formation of links between students.

In **Table 4.3** is presented model (4). In this case dummy variables by students years of entrance are included. The parameters estimated are all positive and significant. Models (5) and (6) additionally consider interaction between time at university and type of school and time at university and type of financing. Results show a negative impact of these two interaction on the probability of being friends, hence despite the time that students have spent at the university, if they have different socioeconomic background (different type of school and different type of financing) the probability of being friend will be reduced.

4.2. Counterfactual Simulations

Without detracting from the valuable information that we have, it represents a first approach to the formation of networks in the country's universities, and therefore, of utmost importance in future research that will serve as the basis for the formulation and implementation of policies that aim to reduce segregation in the system, we are aware that the nature of our data limits the econometric options that we can resort to answer the question posed. This is why, after the analysis carried out in the previous

section, we have decided to follow the method proposed by King et al. (2000)⁵. This proposes statistical simulation as a way to compute amounts of interest considering uncertainty as a factor present, being, therefore, a tool that helps researchers understand statistical models taking full advantage of the information reported by the estimated parameters. The literature indicates that the definition of simulation moves, mainly, between two fundamentals, the first one refers to the manipulation of variables in order to compute amounts of interest and their variations since they have been assigned different values (Kass et al., 1998; King et al., 2000; Gélineau et al., 2012), while the second corresponds to the manipulation of these estimates taking into account the characteristics of the distribution of the variables. There are multiple forms of simulation, which is why it is important to note that this definition has as a warning that it is not a necessarily unifying definition (King et al., 2000). The approach that we will follow is based on empirical simulations, whose main objective is to explore the distribution properties of the parameters and lead this information to the use of probabilities (King et al., 2000; Gélineau et al., 2012). We must mention that the methodology to be followed does not mean a solution to the endogeneity problems that we face, however, it allows us to carry out a more complete analysis by giving us the possibility of

⁵The authors developed a computer program called Clarify; software for the interpretation and presentation of statistical results, designed to implement in stata the methods that we use in this document. Available at <http://GKing.Harvard.Edu>.

comparing probabilities in two different scenarios. By scenario, we consider a situation in which we assign a specific set of values to the independent variables in the model to obtain a predicted probability.

The benefit of this exercise is that it allows us to measure the impact of a particular variable on the predicted probability. To perform this exercise, the simulation is repeated keeping the variables at their same values except for the variable of interest, which varies freely within a certain range, for example, an increase of one unit in the case of a continuous variable. Although the method is extremely simple, it can be useful for representing realistic scenarios of interest and reporting the effect of certain variables (King et al., 2000). Our interest in statistical simulation is that it methodologically represents a bridge to counterfactual analysis. The logic of the latter is closely related to experimental language, treatment versus control, however this does not have to be limited to experimental designs, and it is at this point that observational analysis can emulate counterfactual logic. It is important to note that the above does not suggest that statistical simulations act as a substitute for experiments, but rather, we highlight that they can be designed using a counterfactual language, thus approaching experimental designs (Gélineau et al., 2012; Kästner and Arnold, 2012). Survey-based research uses random samples of the population to report certain characteristics, such as the mean or variance, the estimated values of which will be more accurate as the number of observations, n , in the data set increases. The simulations follow a similar logic, with the difference that we are informed by probability distributions instead of populations. The information of a distribution is obtained by simulating from it random numbers that allow us to draw an approximation of a certain characteristic of the probability distribution. The approximations can be computed with a certain degree of precision by increasing the number of simulations (King et al., 2000; Gélineau et al., 2012). The proposed methodology is based on the simulation of estimated parameters to then obtain predicted values, expected values and first differences. It is important to mention that the value of said parameters is not accurate because the sample is finite. As a consequence of this, it is necessary to capture this uncertainty by simulating a plausible number of parameter sets from the random draw of the sample distribution. Although the simulated values may differ from the estimated β , they are consistent with the sample and the statistical model (King et al., 2000). To simulate the parameters, it is necessary to have the estimates and their respective variance and covariance matrix, so we consider \hat{y} as the vector of $\hat{\beta}$ and $\hat{\alpha}$, $\hat{y} = \text{vec}(\hat{\beta}, \hat{\alpha})$, and $\hat{V}(\hat{y})$ as the variance and covariance matrix associated with the estimates. Using the central limit theorem, with a large enough sample and a limited variance it is possible to simulate randomly the parameters of a normal distribution with mean \hat{y} and variance $\hat{V}(\hat{y})$, so that:

$$\tilde{y} \sim N(\hat{y}, \hat{V}(\hat{y})) \tag{6}$$

The simulation of y is based on the following steps (King et al., 2000):

1. Estimate a model that maximizes the probability function and obtain $\hat{y} \sim \hat{V}(\hat{y})$.
2. Simulate a vector value y from the multivariate normal distribution, $\tilde{y} = \text{vec}(\tilde{\beta}, \tilde{\alpha})$, (5).
3. This last step is repeated $M = 1,000$ times to obtain 1,000 “drawings” of the parameters.

That said, and even more specific, our interest in the proposed method lies in the possibility of simulating a value of y conditional on a certain value chosen for the independent variables, denoted as vector X_c . Likewise the simulated value δ corresponds to $\tilde{\delta}_c$, while the simulated predicted value of y is \tilde{y}_c , it is this last value that we will use as a simulated counterfactual predicted value. The process involves the following stages (King et al., 2000):

1. Using the algorithm described above, a value for the vector is simulated $\tilde{y} = \text{vec}(\tilde{\beta}, \tilde{\alpha})$.
2. Identifying the predicted value to simulate, the value for the independent variables represented by the vector is fixed X_c .
3. Taking the simulated effect of the coefficients of the upper portion of \tilde{y} , is computed $\tilde{\delta}_c = g(X_c, \tilde{\beta})$, where the function g is the systematic component of the statistical model.
4. Finally, the result variable is simulated \tilde{y}_c taking a random drawings of $f(\tilde{\delta}_c, \tilde{\alpha})$, stochastic component of the statistical model.

4.2.1. Simulation Stages

Before presenting the results obtained, it is important to point out how the theoretical foundations mentioned in the previous section were applied. The first strategy consists of estimating the predicted probability of forming friendship establishing the values of all the explanatory variables included in the model around its mean, with this it is possible to calculate the average probability of occurrence of a positive value in the dependent variable, that is to say, propensity to form friendship. This analysis allows us to answer the question about the probabilities of forming friendship for an average student at the university, defined by their socioeconomic characteristics. Regarding this, the theory indicates that when using average values, this strategy assumes that the independent variables follow a normal distribution. The second strategy consists of estimating again the predicted value of forming friendship but instead of using the mean values of the sample the exercise involves working through iterations using the actual values observed for each individual in the data set. The first iteration uses the values of individual i , the second the values of individual ii , the third the values of individual iii , and so on. Finally, as many iterations as individuals are completed in the dataset. Final estimates are obtained by taking the predicted mean probabilities of the n iterations performed. It is important to note that the particularity of this method is that it reflects the actual values observed, so it does not assume that the independent variables follow a normal distribution. As a third strategy, the differences in the predicted probabilities (first difference) are estimated establishing the explanatory variables in their mean. Given that the research focuses on the effect of staying at university on the probability of forming friendships, it is of interest to describe the marginal effect

of the *time*(time) variable, so the strategy used allows the latter to vary by reducing it by one standard deviation below average, thus capturing the effect of shorter time spent at the university on friendship formation. This is where counterfactual logic is used when comparing two scenarios since the variables have been manipulated through simulation. Although the first differences report information regarding the magnitude of a certain variable, the results estimated using the strategy described above continue to be limited by the values at which the independent variables were established, in this case by the mean. In order to obtain more robust results, in this fourth and last exercise we will work with iterations, as described in the second strategy. The exercise consists of degrading the explanatory variable of interest, in this case time, by one unit from the actual value observed for each individual. This means that for the first observation the time variable is decreased by one standard deviation from the real value, which is done successively with the rest of the sample. This is again where we turn to counterfactual logic. Therefore, the first difference is estimated for each observation in as many iterations as observations contained in the data set. The individual effects are averaged, so are the upper and lower confidence interval. We maintain that this strategy allows the predicted probabilities to be estimated with respect to the real values and, therefore, to be more robust.

4.2.2. Applications and Results

Given that we are interested in the effect of the time spent at the university on the probabilities of forming friendship networks, in this section we will focus our attention on years completed in the program by the students. As mentioned in the previous section, the *time* variable is statistically significant at a level of 0.001, while the associated coefficient is positive, which suggests that the longer the time spent at the university, the greater the propensity to form friendship ties, when all other variables remain constant. As described above, the first post-estimation strategy is to obtain the predicted probability of forming friendship when all other explanatory variables contained in the model are adjusted to their mean value. The results of this exercise are contained in **Table 5** simulation section 1, being 0.0006 the average of the predicted probability of forming friendship. This result is interesting in itself, however it has an implicit warning regarding the dichotomous variables included in the model. When it comes to dichotomous variables, the mean, although statistically correct, is simply not realistic (King et al., 2000). Given that in this case variables such as different types of financing and different types of school are dichotomous, it is appropriate to resort to an approach that is more representative with respect to the data (King et al., 2000; Gélinau et al., 2012).

The second strategy implemented sequentially imposes the values of each observation and then averages the predicted probability. As reported in simulation 2, the results indicate that the estimated probability of forming friendships is 0.0032, with a confidence interval of 0.0028 to 0.0037.

It is interesting to note that our second strategy results in a predicted probability that differs from that calculated in the first strategy, so it is important to note that these types of post-estimation methods are sensitive to the values we use to obtain

TABLE 5 | Counterfactual simulations.

| <i>Simulation 1</i> | | | |
|---|----------|----------------|--------------------|
| Predicted probability of forming friendship when independent variables fit the mean | | | |
| | Mean | Standard error | Conf. Interval 95% |
| Pr (y=1) | 0.00059 | 0.00005 | 0.00050; 0.00067 |
| <i>Simulation 2</i> | | | |
| Predicted probability of forming friendship since observed values are imposed sequentially | | | |
| | Mean | Standard error | Conf. Interval % |
| Pr (y=1) | 0.00321 | 0.00675 | 0.00277; 0.00370 |
| <i>Simulation 3</i> | | | |
| Marginal effect of the time variable, since all independent variables are adjusted to their mean and the time variable is downgraded one standard deviation from its mean | | | |
| | Mean | Standard error | Conf. Interval 95% |
| dPr (y=1) | -0.00011 | 0.00002 | -0.00016; -0.00007 |
| <i>Simulation 4</i> | | | |
| Marginal effect of the time variable, since all the independent variables are adjusted to their mean and the time variable is downgraded one standard deviation from its observed value | | | |
| | Mean | Standard error | Conf. Interval 95% |
| dPr (y=1) | -0.00005 | 0.00010 | -0.00007; -0.00003 |

the estimated probabilities. The results of simulations 3 and 4 correspond to the difference in the predicted probabilities, first differences, applying the two approaches previously described. This strategy estimates the marginal effect of time by setting all explanatory variables to their mean value allowing the time variable to vary by downgrading it one standard deviation from the mean. The marginal effect, in this case, is simply the reported difference between the two predicted probabilities for the two counterfactual scenarios. As a result, we observe that the marginal effect of time is -0.0001 , with a confidence interval that goes from -0.0002 to -0.0001 , which suggests that 1 year less in university means a decrease in the predicted probability of forming friendship. Finally, the marginal effect of the time variable is again estimated, being degraded, this time, iteratively by one standard deviation for each observation. The results of simulation 4 show that the marginal effect of time on the propensity to form friendship -0.00005 , with a confidence interval that ranges from -0.00007 to -0.00003 . Again, the results are aligned to the positive effect of the time spent in the university.

5. DISCUSSION

We have analyzed social networks and friendship formation in a Chilean university. The aim has been to test if being part of the same institution increases the probability of two students of different socioeconomic background become friends. One possible underlying mechanism is the sense of belongingness that being part of the same institutions may produce amongst students. For instance, it has been shown that the sense of belongingness increases cross-cultural interactions between

domestic and international students in American universities and it enhances international students' average grade earned.

Literature has indicated that environmental and individual characteristics are crucial drivers of friendship and that there is a tendency of forming friendship with similar others. Consequently, it is common to observe segregation or homophily in friendship networks. Our results indicate that being part of the same institution increases the probability of two students of different socio-economic background become friends. This observed homophily may have significant effects on those less advantaged students as networks play an important role in aspects of social and economic life of individuals such as well-being, learning, information transmission and labor market outcomes at the beginning of professional careers. For instance, regarding the latter it has been shown that better connected individuals will have the opportunity of having access to new information sooner and at the same time they will be able to have high level of influence on the eventual spread of information. Additionally, there is evidence on the positive effects that social connections have on health and longevity and on the fact that lacking social connections qualifies as a risk factor for premature mortality (Holt-Lunstad, 2018). Increasing friendship between students of different socioeconomic profile is not good just for the less advantaged students but for the society as whole. Greater levels of interaction between individuals of different social class would have as a result greater levels of generalized trust, and trust, as it has been documented in several investigations, is a key factor behind countries development. In this sense, a society where there is a greater degree of social mobility, and the relevance of the socioeconomic origin of individuals would not represent an obstacle to accessing better opportunities, boosts trust and development.

Albeit we have shown that the longer students are in university the greater the probability of students of different socioeconomic background become friends, it is very important to implement policies able to encourage interaction amongst students of different social classes, like sport or social clubs as there are investigations pointing out that cultural events, leaderships programs, and community service enhance belongingness, buffer racism and provide a secure base for cross-cultural relationships.

6. CONCLUSIONS

Undoubtedly, the data on networks represent valuable information to understand how the interaction of agents affects a series of social phenomena. Segregation as well levels of homophilia within a network, determine a person self-development, as sense of belonging and levels of integration allow people to have access to different options to improve their lives, and so their well-being. Belongingness is the driving force to integrate the different parts of a social network, in particular by considering that our analysis claims university to be the context where students own the chance of strengthening their social networks. Peers influence and belongingness absence may determine more diverse as well less segregated social networking. The level of connection of a network is decisive in the learning

processes, information dissemination, access to employment opportunities, social mobility, among other phenomena, which is why the study of networks is crucial on the road to a society with minor segregation levels. This document shows our interest in opening a window in the analysis of networks at the educational level in Chile, this as a contribution to the development and implementation of future policies that reduce socioeconomic gaps that hinder access to more and better opportunities both in education as in employability. The data provides us with an overview of the network formed at the university. Given that there is no university-wide network registry in the country, it is important to note that we are aware of the limitations and problems of endogeneity that having a cross-sectional set of data represents. However, our analysis shows many of the characteristics exhibited on social networks from similar research. In particular, we can reference the level of grouping, the positive degree correlation, variance and asymmetry in the degree distribution, all variables whose result is aligned with the evidence present in the associated literature. More specifically, we assess the level of student segregation, using variables of socioeconomic characterization. Our findings suggest that for certain categories the segregation is rather moderate, this occurs in the categories in which the crossing of different characteristics is analyzed. On the other hand, when analyzing the crossing of equal categories, segregation increases substantially since the fraction of friends with equal socioeconomic characteristics differs significantly from the fraction that would be generated through a process of random assignment of friends. Regarding the factors that determine the probability of forming friendship, gender, year of entry (cohort) and academic ranking of the students are significant variables. Regarding socioeconomic variables, the results are also significant, showing that different students in this aspect are less likely to form friendships. On the other hand, the variable time of stay in the university, referring to the years that the student has been studying, increases this probability. Having exposed the above, it seems relevant to us that the administrative authorities implement measures that better integrate their students, taking advantage of the positive impact of time on the probability of forming friendship. Using counterfactual simulation as a methodology to achieve a broader analysis of the data in a counterfactual scenario, we found evidence in favor of the results obtained previously. In particular, we find interesting the impact of time on the predicted probability of forming friendship even when we condition this value to certain socioeconomic characteristics. Specifically, the variable is positive even when the individuals come from different socioeconomic levels. It is important to highlight that the procedures used in the simulations have certain limitations that derive from the specification of the estimated model and the values assigned to the independent variables, so it would be ambitious to think that we can completely avoid endogeneity problems. That said, we leave the challenge for future research, in which it is possible to develop models that allow the implementation of more complex mechanisms of interaction between agents, incorporating in them a series of factors that are impossible to avoid when understanding network formation.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by The University Diego Portales, Chile. The ethics committee waived the requirement of written informed consent for participation.

AUTHOR CONTRIBUTIONS

PL: data collection, questionnaire design, statistical analysis, counterfactual simulations, results interpretation, and writing.

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Segregation and Life Satisfaction

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Our aim is to cast light on socioeconomic residential segregation effects on life satisfaction (LS). In order to test our hypothesis, we use survey data from Chile (Casen) for the years 2011 and 2013. We use the Duncan Index to measure segregation based on income at the municipality level for 324 municipalities. LS is obtained from the CASEN survey, which considers a question about self-reported well-being. Segregation's impact upon LS is not clear at first glance. On one hand, there is evidence telling that segregation's consequences are negative due to the spatial concentration of poverty and all the woes related to it. On the other hand, segregation would have positive effects because people may feel stress, unhappiness, and alienation when comparing themselves to better-off households. Additionally, there is previous evidence regarding the fact that people prefer to neighbor people of a similar socioeconomic background. Hence, an empirical test is needed. In order to implement it, we should deal with two problems, first, the survey limited statistical significance at the municipal level, hence we use the small area estimation (SAE) methodology to improve the estimations' statistic properties, and second, the double causality between segregation and LS; to deal with the latter, we include lagged LS as a regressor. Our findings indicate that socioeconomic segregation has a positive effect on LS. This result is robust to different econometric specifications.

Keywords: subjective wellbeing, quality of life, segregation, inequality, social capital, small area estimations

INTRODUCTION

What is the effect of socioeconomic residential segregation on subjective life satisfaction (LS)? This is the research question of the present investigation. The relevance of this question lies, mainly, in the following reasons. First, LS is an important component of individuals' well-being, and therefore, it should be analyzed for exploring appropriate policies to protect and improve well-being (Ruggeri et al., 2020). The latter demands to have an understanding of what the drivers are behind LS, and according to the literature, there is a nexus between LS and residential satisfaction (Ibem and Amole, 2013). As a matter of fact, LS is an aggregate satisfaction in the different life domains (Van Praag et al., 2003). These include social relationships, education, and housing (Argyle, 2001). Previous investigations have identified a link between housing environment and overall well-being (LS is part of the overall well-being) (Bovaird and Elke, 2003; Park, 2006). The type of housing and quality of surrounding environment have a significant influence on people's overall well-being (Bashir, 2002; Cazacova et al., 2010; Theriault et al., 2010). Hence, previous investigations suggest that households' LS is influenced by their satisfaction with housing environment, which is

composed, among others, of the location and socioeconomic characteristic of their neighborhoods (Ibem and Amole, 2013).

Second, the answer to this question is not clear at first sight. Previous investigations have pointed out the pernicious effects of segregation on a wide range of individuals' economic, health, and educational outcomes (Jencks and Mayer, 1990; Brooks-Gunn et al., 1993; Cutler and Glaeser, 1997; Leventhal and Brooks-Gunn, 2000; Fabio et al., 2009; Jargowsky, 2014; Chetty et al., 2016 and Sampson et al., 2002). Regarding mental health, Ludwig et al. (2012) find that neighborhoods have effects on subjective well-being (SWB) (once again, LS is one of the components of well-being) and mental health; hence, people living in high-poverty neighborhoods will improve their LS if they move to lower-poverty neighborhoods. In the same line, Bittencourt et al. (2020) explore how differences in scale, geography, and race interact with segregation and the impact that these interactions have on the access to cities' amenities by public transport, finding that accessibility varies across the socio-spatial structure. Gibbons et al. (2020) found that segregation is associated with clusters of poor health households albeit the final effect depends on races and ethnicities being poor—afro descent households the most affected group. Jimmy et al. (2019) describe the association between residential segregation and quality of life in the city of Nairobi. They found a positive correlation between symbolic integration, safety, and quality of life related to housing in poor neighborhoods but a negative correlation of these variables in gated communities. However, evidence about segregation's positive effects on individuals' LS has been found as well. For instance, racial homogeneity is related to lower rates of psychosis, suicide, common mental disorders, and mortality (Okulicz-Kozaryn, 2019). Besides, segregated neighborhoods may induce people to a greater sense of belongingness, which induces social cohesion, trust, participation, mutual support, collective action, and social capital (Alesina and La Ferrara, 2000; Luttmer, 2001; Luttmer and Singhal, 2008; Stafford et al., 2010). Additionally, the poor may feel stress, unhappiness, and alienation when comparing themselves to better-off people (Davis, 1988), and there is previous evidence regarding the fact that, on average, adult people prefer to neighbor people of a similar socioeconomic background (Luttmer, 2005). Segregation, particularly when the segregated group corresponds to better-off members of society, produces a greater level of labor productivity (Díaz et al., 2020). Social interactions within neighborhoods are a significant device to find a job among peers; hence, they boost labor market matchings. Segregated neighborhoods may provide consumption benefits due to the fact that individuals of similar income and preferences tend to consume similar goods and similar local amenities (Cheshire, 2007). Moving grown-ups and adolescents from poor to richer neighborhoods has a negative impact maybe due to disruption effects (Chetty et al., 2016). In the same line, it has been found that Whites, Afro Americans, and Hispanics are happier among their own race (Okulicz-Kozaryn, 2019). From the mental health point of view, there are several investigations pointing out the possible positive effects of segregation (Wilkinson and Pickett, 2008; Stafford et al., 2010; Shaw et al., 2012). Particularly, the focus is on what has been called "the ethnic density hypothesis," which suggests that living

in neighborhoods of higher own-group density may be protective for mental health. This effect may operate through a buffering effect for individuals living in high own-group density areas through improved social networks or due to the reduction of the frequency of negative experiences like racism (Das-Munshi et al., 2010). Possible mechanisms behind protective effects of own-group density on mental health have to do with enhanced social support, mitigated negative attitudes from other groups, positive identity, and higher self-evaluation. In this sense, own-group density may promote resilience by providing appropriate social support with which to resist the psychological stresses due to negative attitudes coming from different socioeconomic groups. Living in areas with people more like oneself may reinforce one's own identity and allow an individual to view himself or herself with higher self-esteem, as it is widely acknowledged that identity and self-evaluation are both self-determined and shaped by the definitions of others, which may incorporate the perceived views of one's local community (Jenkins, 2004; Shaw et al., 2012). Similar results are found in Chile as discrimination has a negative impact on psychological well-being, and collective identity has a positive one. Consequently, promoting the sense of belongingness and the own-group self-esteem would encourage mental health (García et al., 2017).

To answer this question, we conduct an econometric analysis using the Chilean National Socio-Economic Characterization Survey (Casen) for the years 2011 and 2013. In 2011 and 2013, CASEN includes a question about LS. As a dependent variable, we use the municipality average level of LS, and as regressors, those controls that theory and previous research have identified as determinants of LS plus municipalities segregation, which have been measured using the Duncan Index. Our main result is that socioeconomic segregation has a positive and significant effect on LS. We run different specifications: ordinary least square (OLS), OLS including lagged LS, and first difference to control for non-observed fixed effects. In all these specifications, the socioeconomic segregation estimated parameter is positive and significant. To the best of our knowledge, this is the first investigation that searches to cast light on income base segregation effects on LS in a Latin American country.

It is important to stress here the difference between a municipality socioeconomic composition and its segregation. A municipality may be poor, for instance, if 80% of the population is poor, but not necessarily segregated if every block has the same 80% of poor households, but it will be segregated if it has the same 80% of poor people but some blocks concentrate the total amount of poor inhabitants. In the present investigation, the focus is on segregation. Residential segregation is a multidimensional phenomenon, as it has been defined in the literature (Massey and Denton, 1988). Specifically, this article defines five dimensions: evenness, exposure, concentration, centralization, and clustering. The vast majority of investigation on this subject has been focused on evenness, and it is not very common to find an article dealing with more than one dimension, a phenomenon called hypersegregation (see, for instance, Massey and Tannen, 2015). In the present investigation, we consider as residential segregation evenness because it fixes better to the Chilean cities geographical structure and because it has been widely used and hence it is

TABLE 1 | Descriptive statistics of auxiliary information.

| Variable | Observations | Mean | SD | Minimum | Maximum |
|--|--------------|--------|----------|---------|---------|
| Number of people in formal employment system | 345 | 12,673 | 22,249.9 | 6 | 159,652 |
| % of Rurality | 345 | 0.39 | 0.30 | 0 | 1 |
| % of People in private health system | 345 | 0.05 | 0.06 | 0.00 | 0.44 |
| % of People in poorest public health system | 345 | 0.21 | 0.10 | 0.01 | 0.70 |

Source: Census 2002, National Institute of Statistics and Administrative Records.

easier to make comparisons with other findings in the literature. Additionally, some dimensions, like centralization, have lost relevance. The best index to measure evenness is the Dissimilarity Index (Massey and Denton, 1988), which is the one used here. It is important to point out the fact that Chilean cities exhibit high levels of segregation, something that has been corroborated by different investigations and using different segregation measures (Lambiri and Vargas, 2011; Vargas, 2016; Garrido and Vargas, 2020).

Our result may seem controversial; however, it is important to point out the fact that well-being is a multidimensional construct that goes beyond hedonism and the pursuit of happiness or pleasurable experiences and that an informative measure of well-being must encompass both hedonic and eudaimonic aspects (Ruggeri et al., 2020), and, albeit this is an important component of well-being, because of that, it is relevant to pay attention to those factors that are behind it; in order to implement a public policy, it is crucial to know how segregation would affect the full set of dimensions that compose well-being.

Summarizing, the effort of understanding determinants of LS is important to individuals and society as a whole because it is strongly connected to people quality of life, hence it will help design public policies that contribute to improve society’s quality of life (Skevington and Böhnke, 2018; Ruggeri et al., 2020). LS offers a good measure of human progress as well because it takes into account more factors than gross domestic product (GDP) alone (Diener et al., 2013). Besides, there are several investigations that have shown that LS has objective benefits on major life domains such as health and longevity; income, productivity, and organizational behavior; and individual and social behavior (De Neve et al., 2013).

MATERIALS AND METHODS

We use the Casen survey for the years 2011 and 2013. This survey is one of the main sources of socioeconomic characterization used in Chile for public policy design and impact evaluation. This survey is taken every 2 years, and the sample design is probabilistic and stratified according to geography and population size. The sample selection is made in two stages in urban areas and in three stages in rural areas. In 2011, this survey was applied to 59,084 households; meanwhile, that in 2013, to 66,725—both in 324 municipalities. However, the statistical significance is not at municipality level but at national and regional levels and at urban and rural areas. The latter presents a challenge as we use segregation at the municipality level;

therefore, we need to characterize LS at the same level. In order to deal with this problem and to improve the statistical properties of our estimations, we implement the small area estimation (SAE) methodology, which is explained in section *Small Areas Estimations*. Each municipality is divided into segments (census tracts), which are the primary sampling units.

The decision of using these two particular years is based on the fact that the Casen survey included a question about LS in 2011 and 2013. The exact question was: “Taking into account all aspects in your life: How satisfied are you with your life?” According to international standards, the answer to this question is in a scale that goes from 1, fully unsatisfied, to 10, fully satisfied.

Small Area Estimations

As mentioned, to face the statistical limitations of Casen when the unit of analysis is more disaggregated, we implement the SAE methodology. Following this procedure, we improve the precision of our dependent variable (Molina and Rao, 2010; Ministerio de Desarrollo Social y Familia, 2013; Casas-Cordero et al., 2016; Molina, 2019).

SAEs comprise a range of alternative procedures, but given the nature of the Casen data, we will use the Fay–Herriot model, which provides estimates at the area level. This model links an indicator δ_d for all areas $d = 1 \dots D$ using information from the survey ($\hat{\delta}_d^{DIR}$) and the prediction of a synthetic regression model.

The advantages of this procedure are multiple. This estimator usually improves the efficiency of the direct estimations, and regression incorporates heterogeneity not explained by the areas. Additionally, the estimator of the mean square error is stable.

The direct estimator has the form $\hat{\delta}_d^{DIR} = \delta_d + e_d$, where $e_d \sim iid(0, \psi_d)$, and the synthetic estimator can be written as $\delta_d = x'_d \tilde{\beta} + u_d$, where $e_d \sim iid(0, \sigma_u^2)$. In general, the model is formulated as follows:

$$\hat{\delta}_d^{DIR} = x'_d \tilde{\beta} + u_d + e_d$$

where $\tilde{\beta}$ is the feasible least squares:

$$\tilde{\beta} = \left(\sum_{i=1}^D \hat{\gamma}_d x_d x'_d \right)^{-1} \sum_{i=1}^D \hat{\gamma}_d x_d \hat{\delta}_d^{DIR}$$

and $\hat{\gamma}_d$ is the shrinkage factor $\hat{\gamma}_d = \frac{\hat{\sigma}_u^2}{\hat{\sigma}_u^2 + \psi_d}$.

Finally, the Fay–Herriot model can be expressed as a linear combination of both estimations:

$$\tilde{\delta}_d^{FH} = \hat{\gamma}_d \hat{\delta}_d^{DIR} + (1 - \hat{\gamma}_d) x'_d \tilde{\beta}$$

The variance of the estimations will determine the weight assigned to each source of information. The smaller the variance of the direct estimate, the greater is the weight. Another thing to consider is that variances of the direct estimate are heteroscedastic. Each municipality (local area) has a different variance, which is estimated based on its standard error. In our case, this corresponds to the standard error of the average of LS by municipality. The variance of the synthetic model is

homoscedastic, and the efficiency will depend on the goodness of fit achieved. We estimate $\hat{\sigma}_u^2$ using the Restricted Maximum Likelihood (Molina and Marhuenda, 2015).

The main objective of the SAE estimation is to fortify the direct estimates and absorb the impact of working at a small area level, especially due to the probability of being in the presence of inaccurate indicators (Polettini and Arima, 2015). To solve this problem in the LS variable, we have resorted to the use of external information, where the mission is to provide support to the data that we are faced with. Having auxiliary data with no out-of-range observations and no measurement error is vital to safeguard the good properties of this implementation (Xie et al., 2007; Ybarra and Lohr, 2008).

The variables previously described were used to make the SAE poverty estimations published by the Ministry of Social Development and Family. The selection of these variables was carried out following Casas-Cordero et al. (2016) using the stepwise procedure (Table 1). On the other hand, these data were collected from reliable administrative records that are reported periodically. The percentage of people in both private and public health systems is calculated as the number of people who attend these systems (granted by each of the relevant institutions) divided by the total number of people in each municipality (information based on population projections). The number of people in the formal employment system is provided by the Unemployment Fund Administrator (AFC), and the percentage of people living in rural conditions is provided by the National Institute of Statistics.

Socioeconomic segregation is measured using the Dissimilarity Index. This index indicates departure from an even distribution across the space by taking the weighted mean absolute deviation of every unit's minority proportion from the city's minority proportion and expressing this quantity as a proportion of its theoretical maximum (James and Taeuber, 1985; Massey and Denton, 1988). This index varies between 0 and 1, and, conceptually, it represents the proportion of minority members that would have to change their area of residence to achieve an even distribution, with the number of minority members moving being expressed as a proportion of the number that would have to move under conditions of maximum segregation (Jakubs, 1977; Massey and Denton, 1988). This index has been widely used in the literature because it is very easy to calculate; it demands very few data, and it is easy to make comparisons with other studies. Additionally, this is the index with the best statistics properties to measure the segregation dimension of evenness (Massey and Denton, 1988). However, it possesses some weaknesses as well. The most important is that this index does not take into account spatial aspects of segregation such the well-known modifiable areal unit problem where the arbitrary selection spatial partition, such as census tracts, county districts, or post code areas, would generate statistical bias. Several corrections to this issue have been proposed (see, for example, O'Sullivan and Wong, 2007); however, all of them demand spatial data. The nature of our data does not allow us to undertake a spatial analysis; consequently, we will use the traditional Dissimilarity Index without spatial adjustments. Notwithstanding, it has been shown that the

TABLE 2 | Descriptive statistics.

| | Casen 2011 | Casen 2013 |
|-----------------------------------|------------|------------|
| Life satisfaction | 7.09 | 7.47 |
| Segregation | 0.68 | 0.69 |
| % People in public health system | 0.43 | 0.38 |
| % People in private health system | 0.07 | 0.07 |
| Labor participation rate | 0.53 | 0.53 |
| Unemployment rate | 0.04 | 0.04 |
| % Women | 0.52 | 0.52 |
| Age | 35.9 | 36.5 |
| % Elderly | 0.15 | 0.16 |
| Observations | 324 | 324 |

Source: Casen survey 2011 and 2013.

TABLE 3 | Proportion analysis.

| | Model (1) | Model (2) |
|-----------------------------------|-------------------------|-------------------------|
| Log (monetary household income) | 0.0570** (0.0275) | 0.0594** (0.0244) |
| Labor participation rate | -0.178** (0.0886) | -0.176** (0.0746) |
| Unemployment rate | -0.0790 (0.184) | -0.0765 (0.163) |
| % women | 0.0165 (0.162) | -0.00188 (0.142) |
| Age | -0.0125 (0.0105) | -0.0121 (0.00892) |
| Age squared | 0.000139 (0.000146) | 0.000130 (0.000124) |
| % Elderly | -0.183 (0.296) | -0.162 (0.259) |
| % People in public health system | -0.0412 (0.0403) | -0.0405 (0.0367) |
| 10/40 Index | -9.04e-05 (0.000326) | -0.000139 (0.000293) |
| % People in private health system | 0.00598 (0.0844) | -0.00279 (0.0755) |
| Segregation | 0.0634*** (0.0200) | 0.0610*** (0.0180) |
| Constant | 0.345 (0.411) | 0.326 (0.372) |
| Observations | 310 | 310 |
| R-squared | 0.096 | 0.116 |

Robust standard errors in parentheses.

***p < 0.01; **p < 0.05; *p < 0.1.

TABLE 4 | Determinants of life satisfaction.

| | Dependent variable: life satisfaction | | Dependent variable: life satisfaction estimated by SAE | |
|-----------------------------------|--|------------------------|---|-------------------------|
| | (1) | (2) | (3) | (4) |
| Segregation | 0.288** (0.124) | 0.287** (0.126) | 0.233** (0.0924) | 0.236** (0.0917) |
| Lag. Segregation | – | 0.0477 (0.187) | – | 0.0731 (0.132) |
| Log (monetary household income) | 0.466*** (0.171) | 0.443** (0.172) | 0.398*** (0.121) | 0.382*** (0.128) |
| % People in public health system | –0.498*** (0.243) | –0.537** (0.253) | –0.446** (0.186) | –0.457** (0.192) |
| % People in private health system | –0.263 (0.559) | –0.493 (0.573) | 0.0126 (0.379) | –0.0976 (0.394) |
| Labor participation rate | –0.747 (0.612) | –0.684 (0.633) | –0.733* (0.420) | –0.683 (0.438) |
| Unemployment rate | –1.697 (1.212) | –2.098* (1.239) | –1.438* (0.862) | –1.720* (0.887) |
| % Women | 1.324 (0.999) | 1.226 (1.006) | 1.239 (0.785) | 1.189 (0.790) |
| Age | –0.136** (0.0608) | –0.144** (0.0618) | –0.122*** (0.0418) | –0.128*** (0.0429) |
| Age squared | 0.00154* (0.0008) | 0.00169* (0.0009) | 0.00140** (0.000632) | 0.00153** (0.000661) |
| % Elderly | –1.100 (2.037) | –1.411 (2.127) | –1.282 (1.518) | –1.547 (1.653) |
| 10/40 Index | 0.000496 (0.00219) | –0.000185 (0.00213) | –0.000129 (0.00162) | –0.00101 (0.00146) |
| Constant | 3.691 (2.492) | 3.838 (2.508) | 4.128** (1.769) | 4.368** (1.826) |
| Observations | 310 | 305 | 310 | 305 |
| R squared | 0.165 | 0.151 | 0.261 | 0.239 |

Life satisfaction is measured in a scale ranging from 0 to 10. Robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

SAE, small area estimation.

Source: Casen survey 2011 and 2013.

traditional Dissimilarity Index is highly correlated with other more sophisticated measures of evenness.

The formula of this index is as follows:

$$D = \sum_{n=1}^n \left(\frac{t_i}{p_i} - P/2TP(1 - P) \right)$$

where t_i and p_i are the total population and minority proportion of areal unit i , in our case, municipalities' segments, and T and P are the population size and minority proportion of the municipality, which is subdivided into n segments.

Table 2 shows descriptive statistics after implementing SAE methodology. Regarding LS, it is possible to see that it is around 7 on a scale of 1 to 10 (7.09 for 2011 and 7.47 for 2013). The segregation index, calculated with Duncan's methodology, is around 0.7 in said period. As expected, for that period, the unemployment rate was around its natural level (between 3 and 4% in the case of Chile). As can be seen, for both years, information is available for 324 municipalities.

As a way to appreciate the effect of estimating LS through the SAE methodology, Figures 1, 2 present the relationship between the original variable (X axis) and its estimation via SAE (Y axis) for the years 2011 and 2013. The municipalities that are on the red line (45 degrees) are those where the SAE estimate does not make a difference from the original variable. In this way, it is possible to appreciate that the majority of the municipalities experience a significant change in the variable "life satisfaction" for both years. It is also possible to notice that there are some communes that experience a substantive variation in this variable. Hence, what is learned from this exercise is that the estimation by SAE offers an improvement when working with data at the municipality level—at least for the case of Chile.

Robustness Analysis: Regression to the Proportion

The database we have is at an aggregate level. Given this, the variables are at the average level. According to O'Connell

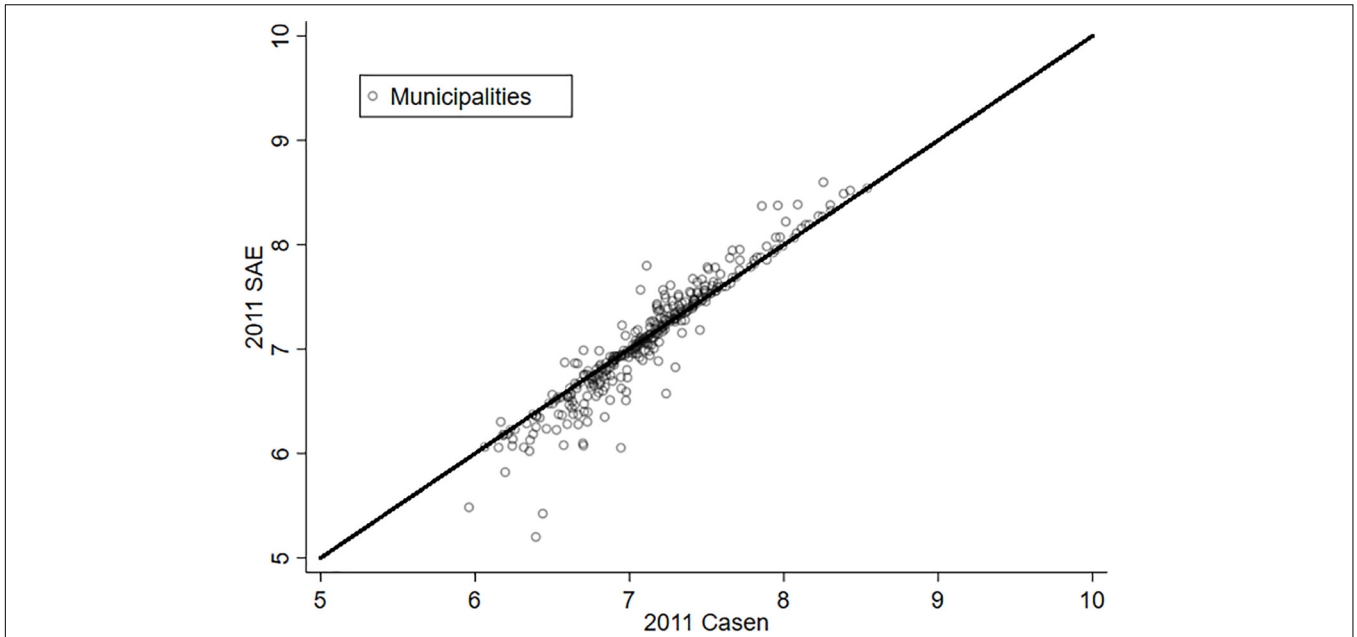


FIGURE 1 | Life satisfaction and SAE, 2011.

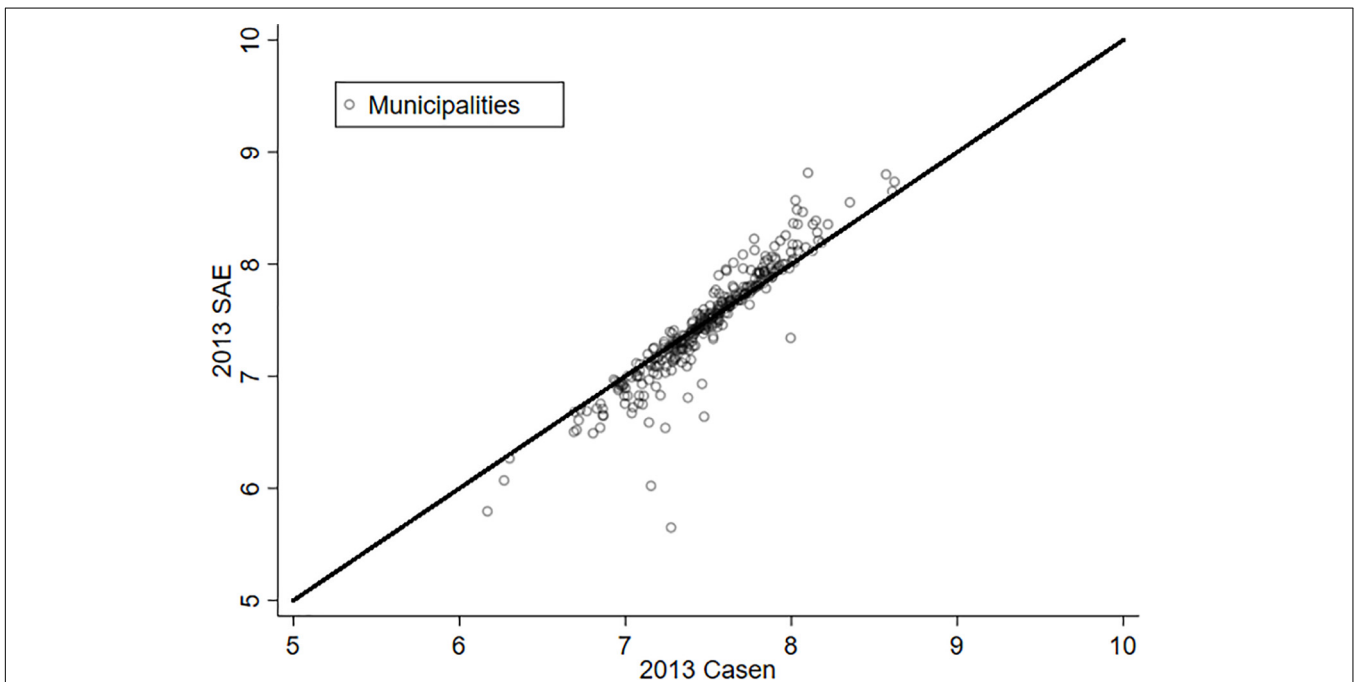


FIGURE 2 | Life satisfaction and SAE, 2013.

(2000), we could have problems in the measure of average LS, since its original nature is ordinal. To solve and reaffirm the robustness of the results, a regression was performed on the transformed dependent variable of satisfaction with life. This variable represents “the percentage of people who are satisfied with their life at the communal level,” and it is a variable that is in the interval [0,1].

In addition, SAE estimates are subject to additional variance treatments, since an endogeneity problem arises: The definition of variance of a proportion depends on the estimated proportion.

Jiang et al. (2001) proposed a transformation to the dependent variable when it is a proportion and in this way avoids the endogeneity of variance problems. The transformation is

TABLE 5 | Determinants of life satisfaction (model in differences 2013–2011).

| | Dependent variable: Dif. in life satisfaction | Dependent variable: Dif. in life satisfaction estimated by SAE |
|--------------------------------------|--|--|
| Segregation | 0.322*** (0.123) | 0.259*** (0.0886) |
| Log (monetary household income) | 0.401 (0.255) | 0.419** (0.175) |
| % People in public health system | 0.138 (0.488) | 0.124 (0.344) |
| % People in private health system | 0.209 (0.773) | −0.183 (0.519) |
| Labor participation rate | 0.525 (0.631) | 0.961** (0.467) |
| Unemployment rate | −2.763* (1.520) | −2.712*** (1.006) |
| % Women | 1.622 (1.201) | 1.554* (0.812) |
| Age | 0.0373 (0.0788) | 0.0247 (0.0494) |
| Age squared | −0.000608 (0.00108) | −0.00032 (0.000663) |
| % Elderly | 1.388 (2.037) | 0.756 (1.387) |
| 10/40 Index | −0.0000446 (0.00314) | 0.00011 (0.00219) |
| Constant | 0.218*** (0.0678) | 0.218*** (0.0479) |
| Observations | 305 | 305 |
| R squared | 0.048 | 0.08 |

Life satisfaction is measured in a scale ranging from 0 to 10. Robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

SAE, small area estimation.

Source: Casen survey 2011 and 2013.

arcsenic and is defined as $\arcsin(\sqrt{LS_i})$, while the variance estimate associated with this transformation takes the form $\frac{deff_i}{4n}$, where $deff$ is the design effect associated with each area, in our case, municipalities, and $4n$ is four times the size of the sample associated with each area.

Considering these estimations represents a challenge that allows verifying the robustness of the available data. The following is the regression of the synthetic estimate associated with the proportion of people satisfied with their life, which takes the value 1 when the person answers 6 or more to the question described previously and 0 otherwise (Table 3).

We have chosen to follow model 2. This model incorporates the SAE poverty rate as a predictor. The inclusion of regions as control variables does not allow the percentage of rurality to remain significant, but the recommendations aim to maintain the variable even when it loses significance.

Finally, it should be noted that when we consider SAE technology to improve the characteristics of the LS variable, in addition to the considerations applied to the direct variance estimates, they allow us to conclude that the LS variable is robust. The constriction factor rises from 0.678 to 0.936, which implies that the direct estimation has the greatest participation within the model (Figure 3).

RESULTS

Table 4 presents the model's estimates for LS. Columns 1 and 2 show the estimates when the variable LS is used as the dependent variable. On the other hand, columns 3 and 4 show the estimates when the variable LS estimated by SAE is used as the dependent variable.

Firstly, it stands out as the main result that the segregation variable has a positive and statistically significant impact (at 5%) on LS. This result is maintained regardless of whether it is estimated with the LS variable (columns 1 and 2) or with the LS variable estimated by SAE (columns 3 and 4). Since socioeconomic segregation can have a dynamic effect on the LS variable, its lag is incorporated into the right side of the equation. When this is done, it is appreciated that the lagged variable does not have a statistically significant effect.

With respect to the other variables incorporated in the model, the results are in line with the previous empirical evidence.¹ The coefficient associated with the logarithm variable of household monetary income is positive and statistically significant (in three of the four models, it is significant at 1%). This means that the monetary income of the home has a diminishing marginal return on LS. This result is maintained regardless of whether it is estimated with the LS variable or with the LS variable estimated by SAE. With respect to age, a U-shaped relationship is seen. This means that satisfaction with life is greater at the ends of life and reaches a minimum value around the average age of the person. In fact, it is possible to calculate the age at which satisfaction with life is minimized, which in the case of Chile, and according to these estimates, is obtained at 42 years of age. Finally, it should be noted that the four models have a high R squared (between 15 and 26%).

One aspect that may affect the previous estimates has to do with the role of the unobservable factors, which would bias the estimated coefficients.² If these unobservable factors are assumed to be invariant over time, a difference estimate eliminates the problem. Therefore, Table 5 presents the results of estimating the model in differences, with data from the Casen survey 2011 and 2013.

The results show that the variable socioeconomic "segregation" is, practically, the only variable that remains

¹These results should be viewed with caution, as there are potentially other elements that also affect life satisfaction. For example, the role played by unobservables (in terms of individual personality traits) is well documented in the literature. Unfortunately, with the information available, it is not possible to take these types of factors into account. However, the signs for the rest of the explanatory variables incorporated in the model have the expected sign.

²These unobservables have to do with those existing at the municipality level.

TABLE 6 | Determinants of life satisfaction (evaluating persistence).

| | Dependent variable: life satisfaction | | Dependent variable: life satisfaction estimated by SAE | |
|---|--|------------------------|---|------------------------|
| | (1) | (2) | (3) | (4) |
| Segregation | 0.278** (0.124) | 0.291** (0.128) | 0.197** (0.0922) | 0.204** (0.0934) |
| Lag. segregation | – | 0.0940 (0.196) | – | 0.0576 (0.140) |
| Log (monetary household income) | 0.346 (0.226) | 0.348 (0.232) | 0.230 (0.166) | 0.228 (0.175) |
| % People in public health system | –0.270 (0.325) | –0.318 (0.328) | –0.161 (0.242) | –0.194 (0.244) |
| % People in private health system | 0.106 (0.527) | –0.135 (0.550) | 0.424 (0.362) | 0.294 (0.382) |
| Labor participation rate | –0.0310 (0.639) | 0.0183 (0.651) | –0.0847 (0.454) | –0.0683 (0.462) |
| Unemployment rate | –1.952 (1.213) | –2.289* (1.254) | –1.519* (0.878) | –1.721* (0.918) |
| % Women | 1.504 (1.004) | 1.405 (1.017) | 1.487* (0.769) | 1.410* (0.780) |
| Age | –0.119* (0.0612) | –0.126** (0.0624) | –0.102** (0.0417) | –0.106** (0.0428) |
| Age squared | 0.00129 (0.000887) | 0.00142 (0.000923) | 0.00113* (0.000624) | 0.00121* (0.000654) |
| % Elderly | –0.503 (2.067) | –0.805 (2.167) | –0.607 (1.564) | –0.793 (1.640) |
| 10/40 Index | –0.000168 (0.00216) | –0.000513 (0.00219) | –0.000913 (0.00147) | –0.00118 (0.00146) |
| Life satisfaction 2011 | 0.0676 (0.0537) | 0.0483 (0.0579) | – | – |
| Life satisfaction 2011 estimated by SAE | – | – | 0.167*** (0.0475) | 0.152*** (0.0542) |
| Observations | 310 | 305 | 310 | 305 |
| Constant | 3.987 (3.366) | 4.190 (3.457) | 4.410* (2.494) | 4.636* (2.615) |
| R squared | 0.162 | 0.146 | 0.279 | 0.251 |

Life satisfaction is measured in a scale ranging from 0 to 10. Robust standard errors in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

SAE, small area estimation.

Source: Casen survey 2011 and 2013.

significant. The coefficient associated with it is positive and statistically significant at 1%. The logarithm of household monetary income has a positive effect on LS but only when the LS variable estimated by SAE is used. And the unemployment rate has a negative effect on the LS of the population.

A final aspect that is evaluated has to do with a supposed persistence that the variable LS may have. That is why an estimation of a first-order autoregressive model is carried out for the variable LS. The results of the estimation for a model with these characteristics are presented in **Table 6**. Columns 1 and 2 present the estimates when the variable LS is considered as the dependent variable, while columns 3 and 4 show the estimates when the LS variable estimated by the SAE

methodology is used. It should be noted that columns 2 and 4 show the estimates when the lagged segregation variable is added as a control.

The main result that has been shown is maintained, that is, segregation has a positive and statistically significant effect (at 5%) on the satisfaction with life of the population. The difference that can be seen basically has to do with the effect of the lagged dependent variable. While in models 1 and 2, it is seen that the lagged variable does not have a significant effect on the LS variable, in models 3 and 4, a positive and statistically significant effect is found.

The results indicate that segregation continues to have a positive and significant effect at 1%. Also note that the

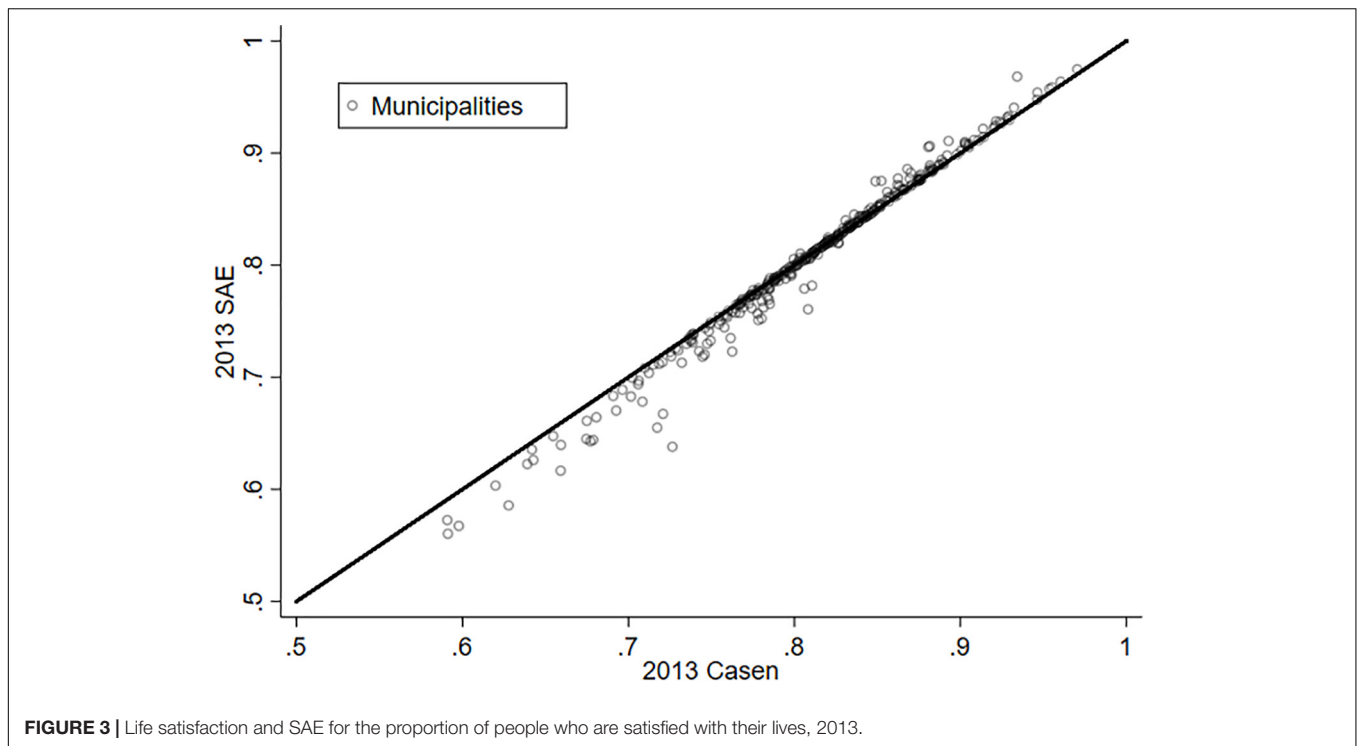


FIGURE 3 | Life satisfaction and SAE for the proportion of people who are satisfied with their lives, 2013.

expected signs and significance for the household income variables, measured in logarithm, and the labor force are maintained (Table 7).

TABLE 7 | SAE for life satisfaction measured as proportion.

| | Model (1) Life satisfaction (≥6) | Model (2) Life satisfaction (≥6) |
|--|-------------------------------------|-------------------------------------|
| Number of people in formal employment system | -0.0143*** (0.00528) | -0.0104* (0.00530) |
| SAE poverty rate | -0.179*** (0.0589) | -0.243*** (0.0643) |
| % of Rurality | -0.0627** (0.0299) | -0.0221 (0.0308) |
| Region 7 (D = 1) | | -0.0426** (0.0184) |
| Region 9 (D = 1) | | 0.0486** (0.0195) |
| Region 5 (D = 1) | | 0.0395** (0.0169) |
| Constant | 1.305*** (0.0541) | 1.265*** (0.0549) |
| Observations | 324 | 324 |
| R-squared | 0.066 | 0.118 |

Standard errors in parentheses.
***p < 0.01; **p < 0.05; *p < 0.1.

Finally, it is worth mentioning that the segregation variable is robust to these considerations. Significance is maintained by changing its nature and by incorporating the SAE methodology to evaluate its robustness, even when we have a variance estimation that is more exact than the previous ones.

A requirement for the arcsenic transformation is that the prediction of the synthetic model must be kept within the real numbers that the transformation supports. By definition, the arcsine of a variable X is real if its values are in the range $[0, \frac{\pi}{2}]$. The prediction values for the LS variable range between 1.03 and 1.22, which guarantees valid results.

In this way, what has been shown, through the different models that have been estimated, is that the socioeconomic segregation variable has a robust, positive, and statistically significant impact on the LS.

DISCUSSION

We have tested the hypothesis that socioeconomic segregation has a negative effect on individuals' LS. Several investigations produced by social scientists coming from different backgrounds such as sociology, psychology, and economics have shown the pernicious consequences of segregation on well-being. Consequently, at first sight, we would expect to observe a similar result regarding segregation impact on LS. Notwithstanding, our finding goes in an opposite direction: socioeconomic segregation has a positive effect on LS. Despite the latter may seem as a striking result, there is empirical and theoretical background supporting it. First, similar results have been found about the

effects of racial segregation on SWB in the USA regarding the fact that households are happier living among households of the same race. Social capital may be increased as well if people of similar income, needs, and tastes share the same neighborhoods. Segregated households may have a greater sense of belongingness, social cohesion, trust, participation, and mutual support and collective action. Another possible explanation to this result has to do with the acculturation process. For instance, in an integrated neighborhood, people of different socioeconomic backgrounds may face the stress of acculturation, which would have a negative effect on LS. Albeit it is not the same situation that has been studied here, it has been found in literature that immigrants must deal with the stress due to acculturation and rooting with the host country (Urzúa et al., 2019). Hence, our finding has support in literature. However, we are aware about the severe negative effects that segregation imposes to minorities. Additionally, we have to consider the fact that even if segregation has a positive effect on LS, it does not mean that the final effect on well-being will be positive, as both concepts are not the same, as the former is just a constituent part of the latter (Diener, 1984; Samman, 2007; Busseri and Sadava, 2010; Diener et al., 2018; Ruggeri et al., 2020). But the problem seems to be that grown-ups and adolescents will face just disruptive effects because of the dismantling of their social networks, among others, if they are moved to richer neighborhoods. Therefore, any public policy design to reduce

segregation should take into account these effects and maybe it should be focused on children; otherwise, it will cause just distress, a reduction of LS, and its positive impact will be almost negligible.

DATA AVAILABILITY STATEMENT

Publicly available datasets were analyzed in this study. This data can be found here: <http://observatorio.ministeriodesarrollosocial.gob.cl/encuesta-casen>.

AUTHOR CONTRIBUTIONS

RM: econometric analysis, results' analysis, and interpretation. MV: research question, methodological design, results' interpretation, and write down the document. DV: econometric analysis and data analysis. All authors contributed to the article and approved the submitted version.

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Contributions of Individual, Family, and School Characteristics to Chilean Students' Social Well-Being at School

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Schools are an essential part of students' lives and can promote and facilitate their well-being. Although research on well-being among school-aged children and adolescents has distinguished subjective well-being from social well-being, very few studies examined student's social well-being at school (SWS). SWS is understood as students' valuation of the circumstances and functioning of their school. This framework posits that the context of the schools can shape students' perception of feeling integrated and making significant contributions to their schools. However, not much is known regarding the joint contribution of individual, family, and school characteristics to students' SWS. This study analyzed these joint contributions in a nationally representative sample of 6,389 children and adolescents enrolled in 5th–11th grades. Findings show that being female and younger were individual predictors of SWS. Students' satisfaction with their family and fewer changes of schools were also significant contributors. When students' perceptions of their schools were incorporated, the individual and family characteristics decreased or lost significance. In the full model, the highest contribution to SWS was explained by the school-level aggregated perception of school climate. These findings call for integrated policies and practices to foster students' sense of belonging, feeling integrated, and contribution to their schools, with a focus on school-level interventions to improve SWS through positive and engaging school climates that foster students' sense of agency.

Keywords: social well-being, school, school climate, family, multi-level

INTRODUCTION

Schools are an essential part of students' lives and can promote and facilitate their well-being. Research on well-being among school-aged children and adolescents has distinguished subjective well-being from social well-being. Whereas subjective well-being refers to how people experience and evaluate their lives in general and in specific domains (Krueger, 2009), social well-being refers to how they evaluate the quality of their relationships with other people in general and in specific contexts (Keyes, 2006, p. 5). In this study, we posited that social well-being at school (SWS) can

be understood as students' valuation of their school's circumstances and functioning, acting as a context-based evaluation of their quality of life in society (Keyes, 2009). School is an important domain of society for children and adolescents due to the amount of time spent in schools and the multiple opportunities for engaging in significant social interactions with peers and adults that attending school implies. Therefore, a sense of belonging and contributing to their schools is an important aspect of children and adolescents' quality of life. Based on the social well-being framework (Keyes, 2009), we posited that the contexts of schools can shape students' perception of feeling integrated and making significant contributions to their schools. In this sense, schools can make a difference in shaping students' SWS. As an essential part of students' lives, schools can promote and facilitate their well-being, but they can also hinder it depending on the opportunities for enriched social and pedagogical interactions they offer to all students. However, it is also possible that factors outside the school context, such as the social and economic circumstances that shape students' individual experiences and their family experiences, may also contribute to their SWS. However, there is scarce research regarding the joint contribution of individual, family, and school characteristics to students' SWS (Ahmadi and Ahmadi, 2019). Hence, this study analyzed these joint contributions in Chilean students.

In recent years, the study of well-being has become a challenge for school systems, because of not only its impact on the mental health of students (Berger et al., 2009; Cobo et al., 2020) but also its contribution to improving academic results (López et al., 2017; Govorova et al., 2020). Students who perceive themselves as integrated, accepted, and contributing to their context and that their context is favorable and consistent with their own needs (Keyes, 1998; Keyes and Shapiro, 2004) present not only better adjustment in individual psychological variables and mental health (Keyes, 2013; Venning et al., 2013) but also better results on performance measurement tests. Research has also shown that higher levels of well-being improve students' average school attendance and with it, indicators of motivation and commitment to learning (Oyarzún, 2018), preventing dropout and dropout-related phenomena (Torres-Vallejos, 2020). Likewise, its consideration has been brought to the fore in the reduction of violent behaviors among peers (Berger et al., 2009; Benbenishty and Astor, 2018), with fewer punitive practices associated with school suspensions and expulsion (Norris, 2018). Therefore, schools are an essential promoter of individual and social well-being for students.

In this study, we argue for the need to approach the study of students' well-being from a more complex and socioecological approach (Astor and Benbenishty, 2018), which allows integrating the individual–environment dialectic considering not only the individual voices of participants (Oyarzún et al., 2017) but also the joint contribution of individual and contextual factors (Fernández et al., 2020).

Social well-being is defined as “individuals' perceptions of the quality of their relationships with other people, their neighborhoods, and their communities” (Keyes, 2006, p. 5). This construct is made up of five subdimensions: (a) social integration:

an individual appreciation of the quality of our relationships with society and the community; (b) social acceptance: trust in others and acceptance of the positive and negative aspects of our life; (c) social contribution: a feeling of usefulness and being able to contribute something to the society in which we live; (d) social actualization: confidence in the future of society and its ability to produce conditions that favor well-being; and (e) social coherence: confidence in the ability to understand the dynamics and functioning of the world in which we live. The literature on social well-being emphasizes that it contributes to the construction of a life with meaning and purpose by having meaningful relationships with others and feeling that we belong in a relevant way to the social and surrounding environment, allowing us to develop and contribute to an imagined future (Blanco and Díaz, 2005; Keyes, 2009; Bilbao et al., 2014). According to Cicognani et al. (2008), this construct allows the well-being of individuals nested in social structures to interact, given that its dimensions cover the evaluation that individuals make of their overall performance in society. The authors pointed out that social context evaluation is carried out through social integration and social contribution. The evaluation of other people is carried out through the dimension of social acceptance, and the evaluation of personal performance in society is carried out through the dimensions of social coherence and social actualization.

For children and adolescents, K-12 schooling is usually the first space for socialization and learning of social interaction outside the family (Oyarzún et al., 2017). In schools, the relational patterns learned in neighborhood contexts and cultural groups tend to be applied and reproduced (Ahmadi et al., 2020). The possibility of a positive school experience, then, is inscribed in a healthy ecological environment that favors a comprehensive curriculum for the development of all types of skills, including socioemotional learning, in the framework of a school culture that cares about the quality of life of its community, both individually and collectively (Benbenishty and Astor, 2005; Shirley et al., 2020).

However, research that considered well-being at school has focused mainly on indicators of subjective well-being indicators. Satisfaction with school (Oyarzún et al., 2017) is an evaluative judgment about school quality from the students' perspective. There is far less research that addressed the social dimension of well-being and its relationship to the school. Recent research on well-being in the school context shows that it is not only about schools caring for and catering to the development and well-being of their students but also about students feeling that they belong to and feel attached to their schools and students perceiving the necessary agency to assume that they can make significant contributions to their schools (Khoury-Kassabri et al., 2004). In this sense, the literature on SWS can be closely related to the literature on school belongingness (Boston and Warren, 2017; Ahmadi et al., 2020), in the sense that both constructs posit the need for students to feel that they belong to and feel engaged with their schools. However, the construct of social well-being highlights the need to provide opportunities that may make students feel not only engaged but also a significant part of and contributor to their schools, highlighting the role of students'

agency and participation. For example, Cicognani et al.'s (2001, 2008) studies have shown that the social well-being of students increases based on participation and a sense of belonging to the educational community. In Berkman et al.'s (2000) study, socially oriented behaviors and feeling of belonging to a significant social context (sense of community) increased students' social well-being and reinforced their social participation.

From a socioecological approach (Bronfenbrenner and Morris, 1998; Benbenishty and Astor, 2005; Astor and Benbenishty, 2018), social well-being can be interpreted as the result of the interaction of the individual with different social environments (Shirley et al., 2020). Thus, a student's personal characteristics, when interacting with their family and school context, will influence the quality of well-being. According to Bronfenbrenner and Morris (1998), the factors that influence a person's experience are located at different levels, where family and school as microsystems offer opportunities to develop belongingness to different significant groups. The development of close social relationships enhances skills to understand and interact in the social world (Shirley et al., 2020). Therefore, the study of SWS requires considering the different microlevels in which students develop, especially their family and school contexts.

In the next pages, we provide evidence of factors associated with SWS. Although some of the literature reviewed dealt specifically with social well-being in the school context, most reports focused on social well-being in general or subjective well-being in the school context.

Regarding individual factors, results concerning the influence of age and gender on social well-being have not been conclusive. Some studies showed significant differences between age and satisfaction with life. For example, Chen et al. (2019) found that boys and girls obtained higher scores than adolescents. Similarly, Petito and Cummins (2000) found that well-being decreased with age, and other studies have confirmed that as adolescence progresses, satisfaction with life decreases (Suldo and Huebner, 2004; Tomy and Cummins, 2011; Casas et al., 2012; Oyanedel et al., 2015). Gender differences also seem to be present during adolescence. For example, Venning et al. (2013), in a representative sample of South Australia adolescents, found significant gender differences, whereby boys in metropolitan areas with better well-being were more likely to engage in healthy behaviors such as sleeping longer than their counterparts in rural areas. Cicognani et al. (2008), in a study carried out with a sample of American, Italian, and Iranian university students, found no differences by age but did find gender differences, particularly between American or Italian students and Iranian students.

These findings suggest that the gender variable has a cultural correlate that affects social well-being. An extensive bibliographic review of the relationship among violence, discomfort, and gender showed that in underdeveloped cultures, particularly sub-Saharan Africa, women present lower levels of well-being (Dunne et al., 2006). Le Mat (2016), in an investigation with female Ethiopian students, showed that patriarchal structures were associated with lower well-being among women. Regarding the relationship between the specific dimensions of Keyes's (2003) social well-being scale and gender, Zubieta et al. (2012)

found greater autonomy relative to social pressure among men but a better perception of their social contribution and ability to develop their capacities in the social context among women. Zubieta and Delfino (2010), in a study with university students from Buenos Aires, found that women had better social relationships and felt more useful than men. However, these studies found gender differences among adults. To our knowledge, no studies have reported gender differences in SWS in school-aged children and adolescents.

Research addressing the associations between children's and adolescents' socioeconomic status (SES) and social well-being has not been entirely conclusive. For the most part, the literature supports a positive and significant relationship between SES and social well-being. In Cicognani et al.'s (2008) study, SES was related to a sense of belonging to the school. A possible explanation is that people with higher SES have more significant and better opportunities to participate in social life. These findings are consistent with previous studies that indicated that students with low SES show little connection and sense of belonging to their school, which affects their social well-being (OECD, 2013; Chiu et al., 2016). Sarriera et al. (2015) investigated the relationship between the perception of material resources (clothes in good condition to go to school, access to a computer at home, and access to the internet and a mobile phone) and satisfaction with life in a sample of 953 boys and girls between 10 and 14 years old in eight countries. The study showed a positive and significant relationship between material resources and life satisfaction. This relationship was higher in countries with less access to these material resources (Algeria, Uganda, and South Africa) and lower in countries with better access conditions (South Korea, England, and Spain). In Chile, research has shown that lower SES is related to lower happiness, using a single-item measure of happiness (Oyanedel et al., 2015). In contrast, Kwan (2008) found that life satisfaction among adolescents from the same geographical context is independent of their economic situation.

Other factors act on an individual level but are related to students' academic and social experiences in their school. The sense of belonging to a school is positively associated with attendance (Rosenfeld et al., 2000), greater motivation and effort (Sánchez et al., 2005), and academic performance and success (Barber and Olsen, 1997; Blum, 2005; Boston and Warren, 2017; Korpershoek et al., 2019), measured as grade point average (GPA) (Roeser et al., 1996), and completion rates at school (Connell et al., 1995). However, we found no studies relating these variables to SWS. Therefore, there is a need to understand if and how academic performance, as measured by students' GPA, contributes to their SWS. Likewise, the quality and character of students' social interactions with their peers in school might affect their SWS. In this respect, we know that social support is a relevant characteristic for the construction of satisfaction with life and students' individual and social well-being (Benson and Scales, 2009; Rodríguez et al., 2016). Peer social support has been found to moderate the levels of victimization and aggression among peers (Villalobos et al., 2016), helping students adapt to the school context. Relationship with peers seems to play a key role during adolescence, a stage in which students configure

their identity based on their social network (San Martín and Barra, 2013). Along the same lines, several studies have shown that students who perceive their family relationships positively present less victimization by peers and teachers, particularly during adolescence (Demaray and Malecki, 2002; Moreno et al., 2009; Bokhorst et al., 2010).

In the school context, peer social support favors the perception of satisfaction with life, higher levels of self-esteem and subjective well-being, and a peaceful and non-violent attitude among peers (Clara et al., 2003; Ben-Ari and Gil, 2004; Zhang and Zhang, 2012). Positive associations have been found between students perceiving that it is possible to establish friendships in school and their social well-being (Chu et al., 2010). However, peer relationships are not the only type of relationship that seems to influence students' SWS. Their relative contribution regarding other important relationships, such as with their family and teachers, has been scarcely studied and needs to be considered jointly. In this sense, Gutiérrez et al.'s (2017) findings that academic social support from peers, when considered together with social support from teachers and family, was not associated with students' satisfaction with school is consistent with Chu et al.'s (2010) meta-analytic findings that social support received from peers weakly predicted social well-being.

Family characteristics might also make a relevant contribution to students' SWS. Research on subjective well-being has shown that families act as a moderating variable of subjective well-being (González et al., 2015; Gutiérrez et al., 2017). Likewise, family is relevant for the construction of a sense of social belonging, especially among adolescents (Oliva et al., 2002; Bernal et al., 2013). Satisfaction with family has been shown to influence adolescents' development and emotional stability (Olson, 1985). Establishing positive emotional ties with the family system contributes to maintaining not only intrafamily ties but also those established with others (Crespo, 2011; Bernal et al., 2013). Living with both parents is related to higher levels of well-being, mainly because it's positive relationship with family income (Berger and McLanahan, 2015); and parent involvement and time spent with parents also contribute significantly to children's well-being (Moreno and Vicente, 2019). Studies have shown that when the family climate is positive, life satisfaction increases in adolescents, directly influencing self-esteem and decreasing the depressive symptoms they may experience (Jiménez et al., 2008; Tercero et al., 2013; Organización Mundial de la Salud, 2018). In addition, its impact is significant in the construction of the self-image that students develop in school. Gutiérrez et al. (2017) found that perceptions of both school and family climate contribute to students' satisfaction with life. Platsidou and Tsirogiannidou (2016) found similar evidence, adding that family climate was especially relevant for satisfaction with life among students who reported higher levels of family cohesion and communication.

Last, student turnover is a relevant issue to consider regarding students' social well-being. Continuous academic trajectories not only contribute to better academic results (Riglin et al., 2013) but also provide opportunities for a social experience based on friendships and future projections (Rodríguez et al., 2016; Villalobos et al., 2016). In contrast, frequent changes of schools can signify an anxious experience that affects the mental health

of students (Ng-Knight et al., 2019). Now, the impact of vital changes on well-being is not the same for all people (Luhmann et al., 2012; Kettlewell et al., 2020). In the case of children and adolescents, they face different changes and transitions, at both developmental and social levels, which undoubtedly affect well-being and can alter life trajectories (Benner et al., 2017). School changes are no exception, because they imply making a significant adjustment at social and academic levels and can cause vulnerability at a psychological level as a risk factor for mental health and well-being (Slee and Allan, 2019). Changing schools reconfigures a student's social network (Benner et al., 2018), and very few students maintain their friendships after an institutional change (Ng-Knight et al., 2019).

Although in some cultures changing schools is a rare phenomenon and, therefore, might be considered an individual characteristic of certain students who, due to various difficulties in their current school, ask to be or are transferred to a different school, in Chile, changing schools is a highly frequent situation for students. According to Treviño et al.'s (2016) national cohort study, only 14% of senior high school students finish their senior year with the same class they started in their freshman year. Although most of this is due to changes in classroom (51%), 20% is due to changes of school. The market-driven school choice model implemented in Chile for nearly four decades has an impact on frequent changes of schools (Plank and Sykes, 2003; Forsey et al., 2008; Musset, 2012). Historically, Chilean families have had the freedom to choose a school, with no controlled or regulated strategies. Families select their child's school in the public or private sector, regardless of their place of residence, with no limit on the number of changes (Hernández and Raczynski, 2015). Therefore, in a market-driven educational system, the families decide in which school their children will study, regardless of the proximity of the school to the neighborhood where the student lives. Families can move their children freely from one educational establishment to another, in search of a better-quality education (Zamora and Moforte, 2013). In general, the decision to change schools reflects the satisfaction of the parents with the educational service provided, which does not always correspond with actual student achievement scores but on factors such as trust in the school (Zamora, 2011). Student turnover due to changing schools affects educational outcomes, even more so for the most vulnerable students, who are less able to mitigate the effects of the change in learning pace (Bonal and Zancajo, 2020). Therefore, in this study, we viewed student turnover as a family characteristic.

Finally, regarding school factors, a positive school climate undoubtedly contributes to an experience of individual and social well-being (Hamre and Pianta, 2001; Blum, 2005; Lester and Cross, 2015; Cruz et al., 2020). A positive school climate includes fair and known rules, high teacher expectations, student participation, and teacher support (Berkowitz et al., 2017). Also, school connectedness and positive student-teacher relationships have been shown to have a significant relationship to school satisfaction in middle and high school students (Zullig et al., 2011). Clear, well-known, and fair norms and fair treatment are factors that enhance school climate (Molinari and Mameli, 2018).

A school experience perceived as unfair can negatively affect students' identity, sense of coherence, and performance (Ascorra et al., 2014). Some research linked fair norms to SWS. Fair, clear, and well-known rules and fair play have been identified as variables that favor social well-being and affect academic performance (Cobo et al., 2020). Along the same lines, Gage and Berliner (1996) suggested that injustices and the lack of fair norms negatively affect students' sense of coherence and performance. Positive relationships between teachers and students, as well as support from teachers to students, play a determining role in the quality of children's experience in school (Hamre and Pianta, 2001). Teacher support is one of the strongest predictors of school belongingness (Allen et al., 2018) and students' well-being (Chu et al., 2010). The support of teachers and other adults who encourage participation in school improves school climate and constitutes a protective barrier against students' risky behaviors (McNeely and Falci, 2004; Drolet et al., 2013). Conversely, school disengagement relates to the rupture of membership in social networks and the loss of security in local contexts (Alonso-Martínera, 2017). As a consequence, a school in which its members feel unengaged may attain low levels of academic performance, low levels of subjective well-being among its members, a more violent school climate, and a higher level of perception of subjective uneasiness (Benbenishty and Astor, 2005; Bilbao et al., 2014; Wang and Degol, 2016).

Research is also consistent in pointing out a negative relationship between well-being and peer victimization. The longitudinal study by Looze et al. (2020) of a sample of 232 Australian teenagers concluded that the emotional well-being of both boys and girls declined between 2009 and 2013. Perceived pressure of schoolwork was associated with this decline. Improved communication between parents and adolescents and decreased bullying victimization explained why emotional well-being remained stable between 2013 and 2017, despite a further increase in schoolwork pressure. Lester and Cross (2014) found that men who had been victimized in school had worse well-being and presented behavioral and hyperactivity problems, whereas women who had been victimized by peers also had decreased well-being, presenting emotional symptoms.

School factors are related to students' experiences with their teachers. On the one hand, research has suggested that the victimization of students by teachers is related to the victimization of teachers by students. This spiral of aggression is known as cross victimization (Khoury-Kassabri, 2006; López et al., 2020). The explanatory hypothesis of this spiral of violence is related to teachers' beliefs that through their own aggression, they might stop the aggression of students or achieve the academic objectives that the school has demanded of them (Innes and Kitto, 1989; Emmer and Hickman, 1991). As a result of this interaction, teachers feel overwhelmed and begin to perceive the school as a threatening environment, deteriorating the school climate and social well-being (Martin et al., 1999). Victimization by teachers and other school staff members has detrimental effects on the psychological and social well-being of children, which leads to feelings of sadness and lower self-esteem (Pottinger and Stair, 2009). In addition, these children show less motivation for learning and have lower academic achievements

(Pinheiro, 2006). The violence of an adult toward a child is rooted in power relations and beliefs linked to age and gender regarding legitimate ways of instilling discipline. International research suggested that the victimization of teachers toward students is associated with cultural values. These values are the basis of violence against students. Because it follows cultural patterns, this type of violence is usually invisible. The impact of cultural values is especially relevant for female students from developing countries victimized by male teachers (Le Mat, 2016). On the other hand, students' perception of their teachers' well-being also has an impact on students' social well-being. According to Shirley et al. (2020), well-being should be understood at the community level and not in individual terms. Following socioecological theory (Bronfenbrenner, 1992; Astor and Benbenishty, 2018), if members of the educational community suffer, including teachers, students will see their well-being decrease (Harding et al., 2019).

In Chile, research on social well-being has been scarce compared with evidence reported on subjective well-being and its measurement and contributions (Oyanedel et al., 2015; Oyarzún, 2018). Several qualitative studies on subjective well-being have highlighted the need to consider variables of interpersonal relationships and the material and affective environments in which students engage and participate, to quantify the school experience in a positive and collective way (Berger et al., 2009; Fernández et al., 2020; Ramírez et al., 2021). A few quantitative studies positioned social well-being together with school climate and teacher support as a moderating variable to explain the association between academic results and the subjective well-being of students (Bilbao et al., 2014) and to analyze the processes of acculturation of minority students (Mera et al., 2017; Céspedes et al., 2019).

However, none of these studies systematically investigated whether, which, and to what extent—when considered relative to their joint contribution—individual, family, and school characteristics are associated with better levels of SWS. The framework of SWS posits that the context of schools can shape students' perception of feeling integrated and making significant contributions to school. However, not much is known regarding the joint contribution of individual, family, and school characteristics to students' SWS. Furthermore, from a socioecological perspective (Bronfenbrenner, 1992; Astor and Benbenishty, 2018), SWS can be understood as being shaped by interacting contexts that are constantly evolving. Outside contexts, such as student characteristics (i.e., gender) and family demographics (i.e., poverty) and characteristics, may influence students' experiences in the school, but they do not predetermine what happens in school nor SWS. This is because the school's internal context moderates these external influences and helps shape students' experiences, perceptions, emotions, and behaviors. Therefore, and considering that students are nested in schools, we hypothesized that school-level factors, both when reported individually by students and considering the school mean, would have a higher contribution than individual and family factors to SWS. Hence, this study analyzed, through a multilevel design, the joint contribution of individual, family, and school characteristics to students' SWS.

MATERIALS AND METHODS

Participants

This study used a probabilistic, stratified, and two-stage sample (region and school) of students in traditional schools in urban zones of the 16 regions of Chile. The sampling framework used was the 2017 National School Enrollment Registry from the Chilean Ministry of Education. Later, and to include the school's SES in the data, the National School Vulnerability Index was linked to the original database.

The sample consisted of 6,389 students (56% female) enrolled in fifth to 11th grades from 212 schools. The sample size had an observed error of ± 1.2 , assuming a maximum variance, a 95% confidence level, and a response rate of 88.9%. Sample age ranged from 10 to 20 years ($M = 13.89$, $SD = 2.08$). Students were enrolled in all types of officially recognized schools: public subsidized schools (48.7%), public schools (37.5%), private schools (7.9%), and another administrative dependency (5.9%). According to the Chilean Index of School SES (known as school vulnerability), 49.4% of school catered to students with low SES, 28.2% to medium SES, and 22.4% to high SES.

Measures

Criterion Variables

Social well-being at school

Bilbao et al. (in press) applied Keyes' (1998) construct of social well-being to the school context and developed measures of SWS reported by students and teachers. SWS was defined as students' and teachers' evaluation of the circumstances and functioning of their school. In this study, we used Bilbao et al.'s (2014) adapted instrument of SWS, reported by students. This instrument consisted of an adapted form of the Social Well-Being Scale developed by Keyes (1998) and later modified by Blanco and Díaz (2005) to assess five dimensions of social well-being. The adaptation consisted of replacing the word "society" for "school," as a way to contextualize students' evaluation of their society through a more proximal, context-based experience of school as society. These changes were first piloted qualitatively with students to see if they made sense and if the items were comprehensible. After that, psychometric properties were studied, with adequate results. These two processes produced 21 suitable items, from the 25 proposed by Blanco and Díaz (2005). The adapted version of 21 items had a five-point Likert scale (from 1 = *I completely disagree* to 5 = *I completely agree*) and measured five dimensions of social integration (four items), social acceptance (six items), social contribution (two items), social actualization (four items), and social coherence (five items), but with a different phrasing. Instead of "in this society," the item was modified to "in this school." The internal consistency for the full scale was 0.808. We used a standardized index of SWS from the average of item responses. Confirmatory factor analyses (CFAs) showed suitable fit [$\chi^2_{(181)} = 3,643.61$, $p < 0.001$; CFI = 0.952; root mean square error of approximation (RMSEA) = 0.041; standardized root mean square residual (SRMR) = 0.041].

Predictors Related to Students' Individual Characteristics

Gender and age

These variables were measured as reported by students.

Number of information and communication technologies at home

Due to the absence of questions related to family income and parents' schooling level, we used the number of information and communication technologies (ICTs) as a proxy variable of students' family wealth and SES (Buchmann, 2002). This index was calculated as the sum of five items n .

Students' grade point average

We used the students' GPA at the end of the school year. This was a continuous variable, which in Chile is measured on a scale from 1 to 7, where a higher score means a better GPA.

Satisfaction with peer friends

Three questions asked about how satisfied students were with their relationships with peers and friends (e.g., "How satisfied are you with your friends?"). One of these questions was measured on an 11-point Likert scale, from 0 = *not satisfied at all* to 10 = *completely satisfied*, and two were measured on a four-point scale. We used a standardized index from the average of responses to these three items. CFA showed suitable fit ($\chi^2_{(2)} = 41.83$, $p < 0.001$; CFI = 0.977; RMSEA = 0.051; SRMR = 0.023).

Predictors Related to Family Characteristics

Family satisfaction

We used an adapted form of the Family Satisfaction Scale developed by Olson and Wilson (1982). This scale is composed of 10 items that measure cohesion, adaptability, and communication in family dynamics measured with an 11-point Likert scale (from 0 = *do not agree at all* to 10 = *totally agree*, $\alpha = 0.926$ for this sample). We used a standardized index from the average of responses to the items. CFA showed suitable fit ($\chi^2_{(35)} = 2,058.57$, $p < 0.001$; CFI = 0.960; RMSEA = 0.088; SRMR = 0.033).

Change of schools

The students were asked how many times during the last 3 years they had changed schools. This single question was measured on a four-point Likert scale, from 0 = *never* to 3 = *three or more times*.

Predictors Related to School Characteristics

School climate

We used a short version of Benbenishty and Astor's (2005) School Climate Scale, as adapted by López et al. (2014). The scale is composed of 10 items with a four-point Likert scale (from 1 = *I completely disagree* to 4 = *I completely agree*). The scale assesses teacher social support (four items, $\alpha = 0.839$), fair norms (three items, $\alpha = 0.762$), and students' participation in school (three items, $\alpha = 0.785$). We created an index using the average of item responses for every dimension and the full scale. CFA showed suitable fit [$\chi^2_{(81)} = 2,186.70$, $p < 0.001$; CFI = 0.986; RMSEA = 0.052; weighted root mean square residual (WRMR) = 2.56]. We calculated the school average of the full index.

Peer victimization

We used the School Victimization Scale developed by Furlong et al. (1991), modified by Benbenishty and Astor (2005), and later adapted to the Chilean context by López et al. (2014). This scale assesses the prevalence of being victimized by school peers in the last month. It features 18 items aggregated in the following five dimensions: threats (four items), physical victimization (four items), sexual victimization (three items), and verbal victimization (seven items). We created an index using the average of item responses for every dimension and the full scale. CFA showed suitable fit ($\chi^2_{(131)} = 8,174.13$, $p < 0.001$; CFI = 0.907; RMSEA = 0.090; SRMR = 0.059). At the school level, we calculated the school average of the full index.

School socioeconomic status

A categorical variable measuring school SES, developed by the Chilean National Board of Assistance and School Scholarships (Junta Nacional de Auxilio Escolar y Becas), was included. This index classifies schools according to the percentage of enrolled students with vulnerability conditions, which is understood as low SES (range index = 0–100). Three categories were created, with high scores meaning high vulnerability, that is, low SES: (a) low vulnerability, if the vulnerability index is between 0 and 56 points; (b) medium vulnerability, if the vulnerability index is between 57 and 72 points; and (c) high vulnerability, if the vulnerability index is between 73 and 100 points.

Students' perception of teachers' well-being

This scale was created *ad hoc* in a previous study (Bilbao et al., 2014) and measures students' perceptions about their teachers' well-being (e.g., "My teachers are happy in this school") with seven items on a five-point Likert scale (from 1 = *completely disagree* to 5 = *completely agree*). We created an index using the average of item responses for the full scale. At the school level, we calculated the school average of the full index. CFA showed suitable fit ($\chi^2_{(2)} = 173.27$, $p < 0.001$; CFI = 0.988; RMSEA = 0.107; SRMR = 0.017).

Teacher-to-student victimization

Benbenishty and Astor's (2005) victimization scale, adapted by López et al. (2014), measures the prevalence of teacher-to-student victimization in the last month (e.g., "A teacher mocked, insulted or humiliated you") with four items ($\alpha = 0.859$ in this sample). We created an index using the average of item responses for the full scale. CFA showed suitable fit ($\chi^2_{(181)} = 3,643.61$, $p < 0.001$; CFI = 0.952; RMSEA = 0.041; SRMR = 0.041). At the school level, we calculated the school average of the full index.

Analytic Plan

We first conducted descriptive analyses of the study variables and calculated the bivariate associations of all predictor variables with reports of SWS. Later, we performed a two-level linear multilevel analysis on the criterion variable to test the effects of predictors related to students, their families, and their schools at individual (level 1) and school (level 2) levels. The individual-related demographic variables were entered in the first model. In the second model, we added the family-related variables. In the third model, we introduced students' individual experiences in

school through GPA, peer victimization, and school climate and their perceptions of teacher-related variables. In the final model, we included the school-related variables, measured as the school average and school SES.

Ethics Statement

This study was carried out in accordance with the recommendations of the National Agency of Science and Technology of Chile with written informed consent from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the Ethics Committee of Pontificia Universidad Católica de Valparaíso.

RESULTS

Description of Study Variables and Association Between Social Well-Being at School and Study Variables

Table 1 shows the descriptive statistics of the study variables and the bivariate correlations between the predictors and reports of SWS. All variables showed a significant correlation with SWS, except for the number of ICTs. Age, number of school changes, peer victimization dimensions, and teacher-to-student victimization had negative correlations with SWS.

Multilevel Regression Analysis Predicting Social Well-Being at School

The results of the multilevel regression analysis of students' reports of SWS are shown in Table 2. In the first model, featuring

TABLE 1 | Descriptive statistics and bivariate correlations at student level of study variables with social well-being at school.

| Variable | Mean | SD | (1) |
|--|-------|------|--------|
| (1) Social well-being at school | 0.01 | 0.58 | 1 |
| Gender (female = 1) | 0.56 | 0.50 | 0.05* |
| Age | 13.89 | 2.08 | −0.17* |
| Number of ICTs | 9.80 | 3.95 | −0.02 |
| Family satisfaction | 7.58 | 2.13 | 0.29* |
| School changes | 0.81 | 0.96 | −0.08* |
| 2018 GPA | 5.63 | 0.85 | 0.18* |
| Satisfaction with peers and friends | 0.01 | 0.72 | 0.48* |
| School climate: teacher social support | 2.99 | 0.74 | 0.53* |
| School climate: clear norms | 3.06 | 0.72 | 0.49* |
| School climate: student participation | 2.99 | 0.70 | 0.48* |
| Peer victimization: threats | 0.39 | 0.97 | −0.24* |
| Peer victimization: physical | 0.55 | 1.09 | −0.22* |
| Peer victimization: sexual | 0.26 | 0.71 | −0.20* |
| Peer victimization: verbal | 1.60 | 2.02 | −0.27* |
| Perceived teachers' well-being | 3.85 | 0.85 | 0.50* |
| Teacher-to-student victimization | 0.30 | 0.82 | −0.23* |

ICTs, information and communication technologies; GPA, grade point average.

* $p < 0.001$.

TABLE 2 | Summary of multilevel linear regression analysis for variables predicting social well-being at school at individual and school levels ($N = 6,389$ students at 212 schools).

| Variables | Null model | | Model 1 | | Model 2 | | Model 3 | | Model 4 | |
|---|-------------|---------|----------------|---------|--------------|---------|-----------------|---------|-----------------|---------|
| | <i>b</i> | (SE) | <i>b</i> | (SE) | <i>b</i> | (SE) | <i>b</i> | (SE) | <i>b</i> | (SE) |
| Constant | 0.01 (0.02) | (0.02) | 0.56*** (0.09) | (0.09) | -0.09 (0.09) | (0.09) | -1.47*** (0.09) | (0.09) | -1.83*** (0.19) | (0.19) |
| Student level | | | | | | | | | | |
| Gender (female = 1) | | | 0.05** | (0.02) | 0.06*** | (0.02) | 0.04*** | (0.01) | 0.04** | (0.01) |
| Age | | | -0.04*** | (0.01) | -0.03*** | (0.01) | -0.01*** | (0.00) | -0.01** | (0.00) |
| Number of ICTs | | | -0.01** | (0.00) | -0.01*** | (0.00) | -0.01*** | (0.00) | -0.01*** | (0.00) |
| Family satisfaction | | | | | 0.07*** | (0.00) | 0.01*** | (0.00) | 0.01*** | (0.00) |
| Change of schools | | | | | -0.03** | (0.01) | -0.01 | (0.01) | -0.01 | (0.01) |
| 2018 GPA | | | | | | | 0.05*** | (0.01) | 0.05*** | (0.01) |
| Friends satisfaction | | | | | | | 0.13*** | (0.01) | 0.13*** | (0.01) |
| School climate: teacher social support | | | | | | | 0.14*** | (0.01) | 0.14*** | (0.01) |
| School climate: fair norms | | | | | | | 0.06*** | (0.01) | 0.06*** | (0.01) |
| School climate: student participation | | | | | | | 0.08*** | (0.01) | 0.08*** | (0.01) |
| Peer victimization: threats | | | | | | | -0.03** | (0.01) | -0.03** | (0.01) |
| Peer victimization: physical | | | | | | | 0.00 | (0.01) | 0.00 | (0.01) |
| Peer victimization: sexual | | | | | | | -0.00 | (0.01) | -0.00 | (0.01) |
| Peer victimization: verbal | | | | | | | -0.01*** | (0.00) | -0.01*** | (0.00) |
| Perceived teachers' well-being | | | | | | | 0.14*** | (0.01) | 0.14*** | (0.01) |
| Teacher-to-student victimization | | | | | | | -0.03*** | (0.01) | -0.03*** | (0.01) |
| School level | | | | | | | | | | |
| School vulnerability index (reference: low-vulnerability school) | | | | | | | | | | |
| Medium-vulnerability school | | | | | | | | | -0.01 | (0.02) |
| High-vulnerability school | | | | | | | | | -0.01 | (0.02) |
| School climate: total (school average) | | | | | | | | | 0.14* | (0.06) |
| Peer victimization: total (school average) | | | | | | | | | -0.01 | (0.01) |
| Perceived teachers' well-being (school average) | | | | | | | | | -0.01 | (0.04) |
| Teacher-to-student victimization (school average) | | | | | | | | | -0.01 | (0.04) |
| Variance components | Null Model | | Model 1 | | Model 2 | | Model 4 | | Model 6 | |
| Student-level variance | 0.297 | (0.007) | 0.295 | (0.007) | 0.271 | (0.006) | 0.180 | (0.005) | 0.180 | (0.005) |
| School-level variance | 0.034 | (0.005) | 0.025 | (0.004) | 0.022 | (0.003) | 0.005 | (0.001) | 0.004 | (0.001) |
| % Level 1 variance explained | Base | | 0.87% | | 8.74% | | 39.63% | | 39.49% | |
| % Level 2 variance explained | Base | | 24.92% | | 35.56% | | 83.77% | | 88.88% | |

Standardized coefficients reported. Standard errors in parentheses. Explained variance compared with null model. ICTs, information and communication technologies; GPA, grade point average.

* $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.

individual-related variables, findings show that being female was associated with higher social well-being ($b = 0.05, p < 0.01$) and that age ($b = -0.04, p < 0.001$) and number of ICTs ($b = -0.01, p < 0.01$) predicted lower levels of well-being in school. In Model 2, the family-related variables were added to the previous model, with no changes in significance for gender, age, and ICT possessions. Higher family satisfaction was positively associated with SWS ($b = 0.07, p < 0.001$), and more changes of schools ($b = -0.03, p < 0.01$) predicted a lower level of SWS. Model 3 shows that when introducing the school-related variables, the number of changes of schools lost significance. Students' individual GPA at the end of the school year ($b = 0.05, p < 0.001$) and their satisfaction with peers and friends ($b = 0.13, p < 0.001$) were both positively associated with SWS. All school climate dimensions were statistically significant and predicted higher SWS, with participation ($b = 0.08, p < 0.001$) and teacher social support ($b = 0.14, p < 0.001$), showing the highest effect on SWS. The threat ($b = -0.03, p < 0.01$) and verbal ($b = -0.01, p < 0.001$) dimensions of peer victimization were negatively and statistically significant predictors of SWS. Students' perception of teachers' well-being in school ($b = 0.14, p < 0.001$) predicted a higher level of SWS, and teacher-to-student victimization ($b = -0.03, p < 0.001$) had a negative effect on SWS. Model 4 introduced the school-related variables at level 2. At the student level, none of the variables lost significance compared with the previous model. At the school level, only school climate was statistically significant and predicted higher SWS ($b = 0.15, p < 0.001$). The variables related to school SES, teachers' well-being, and teacher-to-student victimization at the school level were not statistically significant.

The bottom part of **Table 2** shows the partitions of the variance components of the criterion variable at the student and school levels and the explained variance compared with the null model of the specifications. The differences in SWS were concentrated at the individual level. However, even though variation at the school level was relatively low compared with the individual level, the proportion of the explained variance shows that the models explained more of the variance at the school level. Given the low variance, including variables at both levels increased the percentage of explained variance.

Robustness checks were conducted using the dimensions of the SWS scale as the criterion variable: social integration and contribution, social acceptance, social actualization, and social coherence. Results of these models predicted similar results as observed using the whole SWS scale. Major differences were (a) the significant coefficient of school-level peer victimization predicted lower scores of social acceptance and social coherence, and (b) only the social actualization dimension replicated the significant coefficient of school climate at the school level that was present in the SWS scale. Results of these estimations are shown in **Supplementary Tables**.

DISCUSSION

This study analyzed, through a multilevel design, the joint contribution of individual, family, and school characteristics to students' SWS. Taking a socioecological approach

(Benbenishty and Astor, 2005; Astor and Benbenishty, 2018), which places the school at the center as mainly responsible for students' SWS, we hypothesized that school-level factors, both when reported individually by students and when considering the school mean, would have a higher contribution than individual and family factors to SWS. Overall, the findings of this study provide evidence in favor of this hypothesis. These are highly relevant findings considering that adequate school policies, reforms, and interventions can change how schools cater to the social, emotional, and academic needs of all students (Astor and Benbenishty, 2018) by promoting and facilitating school well-being (Keyes, 2009) and that schools are more permeable to interventions than individual and family characteristics.

First, findings show that concerning individual demographic variables, being female was associated with higher SWS. These findings are in line with findings from other studies that show that girls have higher levels of well-being in school (Cicognani et al., 2008; Le Mat, 2016). A hypothesis explaining this gender difference in Latin America is the change in women's position in the sociopolitical area. In recent years and as a result of massive feminist mobilizations, women have begun to have a more significant impact in the social sphere (Zubieta and Delfino, 2010).

Evidence has shown that well-being decreases as age increases (Petito and Cummins, 2000; Huebner et al., 2004; Suldo and Huebner, 2004; Tomy and Cummins, 2011; Casas et al., 2013). Adolescents begin to question or analyze social structures, which are discovered to be unfair and unequal. As in previous studies, our findings show that age was negatively associated with SWS, meaning that younger students reported higher SWS. Recent explanations for these findings include that whereas children develop a greater sense of belonging to school because it is a meaningful space to participate in and contribute to the social world and explore their own interests, in contrast, adolescents find their well-being in other reference groups (Petito and Cummins, 2000; Zubieta et al., 2012; Oyarzún and Loaiza, 2020).

Findings regarding SES are not consistent with the literature. Results show that in all models, the number of ICT possessions in the household reported by students, used as a proxy variable of SES, was negatively associated with SWS, although the coefficients were relatively low compared with other predictors. Vaz et al. (2015) found in a sample of 12-year-old students in the final year of study of primary school in Australia that household SES did not have effects on school belongingness, arguing that students' social standing could not be relevant in this age group. At the school level, the school vulnerability index presented no variability associated with the students' perception of SWS, showing that a higher proportion of students with lower SES did not have a significant association with SWS. Therefore, analysis of the relationship between the number of ICTs and SWS offered inconclusive evidence and should be further explored.

Second, family-related factors were significantly associated with SWS in the expected direction. Higher satisfaction with family was positively associated with SWS, and more school changes was negatively associated with SWS. These findings support those reported by Martínez Ferrer et al. (2011), who found that a positive perception of family climate was associated

with higher well-being levels. Although school changes are an opportunity for new social interactions, they rarely allow students to maintain previous relationships, which is relevant for the construction of SWS (Riglin et al., 2013; Rodríguez et al., 2016). Given this, an experience of well-being in the previous school could cushion anxiety due to transfer or change of school (Kettlewell et al., 2020) and help students face future transfers or school changes. Therefore, schools should consider the negative impact of school changes on children's well-being in initiatives that allow them to enter this new social world in ways that help them develop a sense of belonging and new meaningful relationships with others.

When the variables measuring students' experiences at school were incorporated, the number of changes of school lost significance. This non-significance remained throughout the rest of the models, implying that the quality and character of students' experience in schools carry more weight than the fact that for some students their permanence in school might be shorter than the rest of their peers. This is significant evidence, considering that in Chile, approximately 20% of students change schools throughout the course of high school (Treviño et al., 2016). The context explaining this high number is a market-driven educational model that drives parents to "choose the best school" for their children, implicitly encouraging parents to change their children's schools constantly.

Students' individual GPA at the end of the school year and their satisfaction with peers and friends were both positively associated to SWS. These findings are consistent with research that showed that positive relationships with peers and friends are relevant for the construction of well-being during childhood and adolescence (Benson and Scales, 2009; Rodríguez et al., 2016; Villalobos et al., 2016). However, their contribution to SWS slightly diminished when studied jointly with their perception of teachers' well-being, which is consistent with Chu et al.'s (2010) meta-analysis findings, in the sense that teachers make significant contributions to students' well-being.

As expected, students' perception of their teachers' well-being in school predicted a higher level of SWS. These findings are consistent with socioecological approaches in the sense that the well-being of the student is permeable to the well-being of the teacher. These findings suggest that the school should be interpreted as a system, wherein its sustainability depends on the well-being of the entire community (Shirley et al., 2020). Considering well-being as a collective and not just an individual phenomenon (Alfaro et al., 2015; Harding et al., 2019; Ahmadi et al., 2020; Shirley et al., 2020) opens an important venue for fostering students' well-being, through encouraging elements that contribute to teachers' well-being. Surprisingly, there is a scarcity of research linking the evidence on teachers' work and working conditions (Maldonado and Cornejo, 2020) to students' school well-being and belongingness. In contrast, higher reports of teacher-to-student victimization were associated with lower reports of SWS. These findings provide evidence of the need to cater to a rights-based perspective regarding teacher-student relationships (Benbenishty et al., 2019).

Likewise, all school climate dimensions were statistically significant and predicted a higher report of SWS, with student participation and teacher social support showing the highest effect. Interestingly, the specific effect of verbal types of victimization, not physical or sexual victimization, made a difference for students' SWS. Verbal victimization is known to be one of the most frequent forms of peer victimization in different cultures (López et al., 2018), but it tends to be overlooked by schools as a "natural" way in which students treat each other (Khoury-Kassabri, 2006). These findings provide evidence of the need to consider the effects and consequences of verbal peer victimization in students' sense of belonging and contributing to their schools.

Overall, the strength of the coefficients for these school-related factors support our hypothesis that the school experience, beyond students' individual sociodemographic and family characteristics, contributes more to their sense of feeling integrated, valuable, and contributing significantly to their school. Particularly relevant is the climate of the school. School climate has been defined as the quality and character of school life (Cohen, 2008). In this study, the dimensions of student participation and teachers' social support proved to be particularly relevant. In the final model, school climate was the only school-related factor measured at the school level—that is, as the mean of students' response in a given school—that contributed to explaining changes in students' reports of SWS. This is very relevant, because demeaning behaviors related to peer victimization, particularly through threats and other verbal types of victimization, were significantly associated with SWS at the individual level but not the school level. These findings suggest that positive and engaging school climates may buffer the effect of unwanted peer behaviors on students' SWS and of specific teachers' possible demeaning behaviors toward some students.

In the final model, the demographic variables of age and gender lost their strength of contribution when incorporating family- and school-related factors. Likewise, family-related factors lost their strength of contribution (family satisfaction) and even lost significance (change of school) when incorporating school-related factors. In this final model, the highest contribution to SWS came from school-related factors. When considering students' individual appraisals, the most important school-related factors were teachers' social support, perception of teachers' well-being, and satisfaction with peers and friends—in other words, teachers and friends. These findings suggest that academic achievement is significant, but not as important as teachers and friends, in shaping students' sense of belonging and making an important contribution to their schools. When considering students' mean reports at the school level, the only school variable that remained significant was school climate. In fact, the highest contribution of SWS was explained by the school-level aggregated perception of school climate. We argue that this is because the school's internal context moderates external influences and helps shape students' experiences, perceptions, emotions, and behaviors (Astor and Benbenishty, 2018).

These findings call for integrated policies and practices to foster students' sense of belonging, feeling integrated, and contributing to their schools focused on school-level interventions to improve SWS through positive and engaging school climates that facilitate teachers' well-being and foster students' sense of agency. For school interventions and public policies, this is relevant because SWS may be considered an educational outcome, in the sense that schools and schooling should provide not only academic but also social development, which could be measured as schools' responsibility to offer opportunities for social integration, acceptance, contribution, actualization, and coherence (Keyes, 2006). Within the current pandemic situation, these findings call on the need to provide sustainable opportunities to engage and maintain teachers' and students' SWS throughout the online, remote, and hybrid forms of education that are taking place throughout the world, as a way of preventing student disengagement and future dropout (Miranda-Zapata et al., 2018; Shirley et al., 2020).

Theoretically, this study makes a significant contribution to the field of positive mental health and social well-being among children and adolescents. Although studies on social well-being within these age groups are increasing, only a dozen of more than 2,000 studies published in Web of Science from 2004 to 2021 take on a social-ecological approach and include children and adolescents' joint evaluation of their families, schools, and peers. This approach has an important theoretical contribution by helping comprehend the complexity of children and adolescents' well-being, which is strongly determined by the school context and by significant others (Chu et al., 2010; Tomyn and Cummins, 2011; Alfaro et al., 2015; Ahmadi and Ahmadi, 2019; Ahmadi et al., 2020). The findings from this study allow a deeper theoretical comprehension of the specific role of each ecological frame that is involved in the social well-being of students. This is important given the fact that most studies on positive mental health have been related to satisfaction with life, affects, or psychological well-being, all variables at the individual level. The study of social well-being gives the opportunity to broaden the comprehension of adolescents' global well-being and mental health, through understanding how they evaluate the quality of their relationships with others in social contexts that play a key role for them (Keyes, 2003, 2006, 2009, 2013). By taking into account the evaluation of the functioning and comprehension of the most relevant social context for children and adolescents—their schools—we provide a contextualized view of the central aspects of adolescents' social well-being. Likewise, the adaptation of the original scale to the school context also is a contribution to the field, providing an adapted instrument that might be further used in future studies (see **Supplementary Tables**).

Limitations and Future Directions

A limitation of this study was the cross-sectional design, given that it was not possible to identify causal relations between the study variables. Additionally, as a proxy of family SES, we used students' reports of the number of ITC possessions. Even though it was used as a representation of the wealth of the household, it is not optimal because it did not consider

other types of household possessions. There might also be inconsistencies between students' and parents' reports (Traynor and Raykov, 2013). Future studies should consider a longitudinal approach to help identify causal relationship between SWS and individual, family, and school-related variables. It is also necessary to include a more optimal measure of family SES. Future studies should explore the theoretical and empirical links between SWS and school belongingness and include families' and teachers' perception to complement students' view in understanding the factors that contribute to SWS and how schools can foster students' SWS.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of the National Agency of Science and Technology of Chile with written informed consent from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the Ethics Committee of Pontificia Universidad Católica de Valparaíso.

AUTHOR CONTRIBUTIONS

VL: design of the study, proposal of theoretical framework, supervision of data analyses, and write-up of the manuscript. JT-V: co-design of the study, definition of measures and organization of data analysis plan, data analysis, and contributions to theoretical framework. PA: literature review, organization and write-up of the introduction and discussion. LG: co-participation in data analysis plan and execution and participation in discussion. SO: literature review, write-up of the introduction and discussion, and formatting and reference list. MB: proposal of the measure of social well-being at school and revision of the final manuscript. All authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.620895/full#supplementary-material>

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Peer Relatedness, School Satisfaction, and Life Satisfaction in Early Adolescence: A Non-recursive Model

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Cumulative evidence suggests that, for children and adolescents, peer relatedness is an essential component of their overall sense of belonging, and correlates with subjective well-being and school-based well-being. However, it remains unclear what the underlying mechanism explaining these relationships is. Therefore, this study examines whether there is a reciprocal effect between school satisfaction and overall life satisfaction (Hypothesis 1), and whether the effect of peer relatedness on life satisfaction is mediated by school satisfaction (Hypothesis 2). A non-recursive model with instrumental variables was tested with econometric and structural equation modeling methodologies, using a cross-sectional sample of $n = 5,619$ Chilean early adolescents (49.2% girls), aged 10, 11, and 12 (46.13, 44.99, and 8.88% respectively). Results were highly consistent across methods and supported the hypotheses. First, the findings confirmed a significant reciprocal influence between school satisfaction and overall life satisfaction, with a greater impact from school to life satisfaction. Second, the effect of peer relatedness on overall life satisfaction was fully mediated by school satisfaction. The study further suggests the importance of considering reciprocal effects among domain-specific satisfaction and overall life satisfaction and illustrates the application of non-recursive models for this purpose.

Keywords: peer relatedness, school belonging, school satisfaction, life satisfaction, early adolescence, non-recursive model, reciprocal effects

INTRODUCTION

Around the same time that Baumeister and Leary (1995) introduced their *Belongingness Hypothesis* (for a review, see Oyanedel and Páez, 2021, in this special issue), Goodenow and Grady (1993, p. 80) conceptualized school belonging as “*the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment.*” Further theoretical development and empirical research showed that a strong sense of belonging to the school predicts positive academic outcomes and contributes to children and adolescents’ mental health and well-being (for reviews, see Fredricks et al., 2004; Martin and Dowson, 2009; Slaten et al., 2016; Allen and Kern, 2017).

Both the original Belongingness Hypothesis (Baumeister and Leary, 1995; Baumeister, 2012) and the foundational definition of school belonging (Goodenow and Grady, 1993) emphasize the role of “others” as sources of a sense of belonging. In school setting those others can be peers, teachers, or anyone in the school environment (Slaten et al., 2016). Indeed, in well-known measures of school belonging such as the Psychological Sense of School Membership scale (PSSM; Goodenow, 1993; Ye and Wallace, 2014), the Hemingway Measure of Adolescent Connectedness (HMAC; Karcher, Unpublished) or the School Connectedness Scale (SCS; Lohmeier and Lee, 2011), students are asked about their perceived connectedness with three targets: peers, teachers, and school.

Given that classmates are an essential component of school experience (Huebner et al., 2014), peer relatedness is a key ingredient of school belonging (Kingery et al., 2011; Allen and Kern, 2017; Mikami et al., 2017). Peer relatedness can be broadly conceptualized as the feeling that results from the sum of positive peer interactions with classmates (Schmidt et al., 2019, 2020), and the subjective experience of getting along with peers, being accepted, supported and valued by them (Furrer and Skinner, 2003).

Cumulative evidence reveals that an important outcome associated with peer relatedness at school is subjective well-being (Gross-Manos, 2014; Slee and Skrzypiec, 2016). These findings are particularly relevant due to the growing interest in the study of subjective well-being in childhood and adolescence (for a review, see Ben-Arieh et al., 2014), driven by the need for indicators to aid decision making within the context of public policies aimed at this population (Casas, 2011; Oyanedel et al., 2015).

Subjective well-being is usually conceptualized as how people evaluate their own lives, both in general and for specific life domains. It is a multidimensional construct, composed of a cognitive process (life satisfaction) and two affective processes, namely positive and negative affect (Diener et al., 1999).

Several studies have examined the relationship between peer relatedness and school well-being's cognitive component, i.e., school satisfaction (Oriol et al., 2017). For instance, Jiang et al. (2013) examined the effect of three sources of school-related social support on school satisfaction and found that peer support significantly explained school satisfaction. In the same vein, Muscarà et al. (2018) found that peer support in middle school predicts school satisfaction. On the other hand, Tian and colleagues (Tian et al., 2015, 2016a,b) conceptualize and measure school-related subjective well-being as being comprised of school satisfaction, and affective experience (positive and negative), and present compelling evidence on the association between peer relatedness and school-related subjective well-being, in children and adolescents.

Other studies have examined the association between peer relatedness and global subjective well-being, focusing on cognitive or affective processes. For example, Schwarz et al. (2012) reported that peer acceptance predicts life satisfaction in adolescents from 11 cultures, and that the effect was moderated by the importance of family values in each culture. On the other hand, in a two-wave panel study with Filipino adolescents, King

(2015) found that peer relatedness predicts positive and negative affect. And two recent studies using intensive longitudinal designs (Schmidt et al., 2019, 2020) shown that peer relatedness at school predicts positive and negative affect in German children.

Potential Reciprocal Effect Between School Satisfaction and Life Satisfaction

An unresolved question is clarifying the underlying mechanism by which peer relatedness is associated with subjective well-being and the role that school-based well-being plays in this relationship.

On the one hand, self-determination theory (Deci and Ryan, 2012) and Cognitive-experiential self-theory (Epstein, 1998) are usually cited for justifying a direct effect of peer relatedness on subjective well-being. Most studies in the field assume, explicitly or implicitly, a proximal effect according to which feeling accepted by peers satisfies the basic human need for belonging and that the relief of this need increases subjective well-being. Other studies assume a distal effect, in which peer relatedness promotes healthy psychological development, boosting overall positive affect and life satisfaction (e.g., Schmidt et al., 2019).

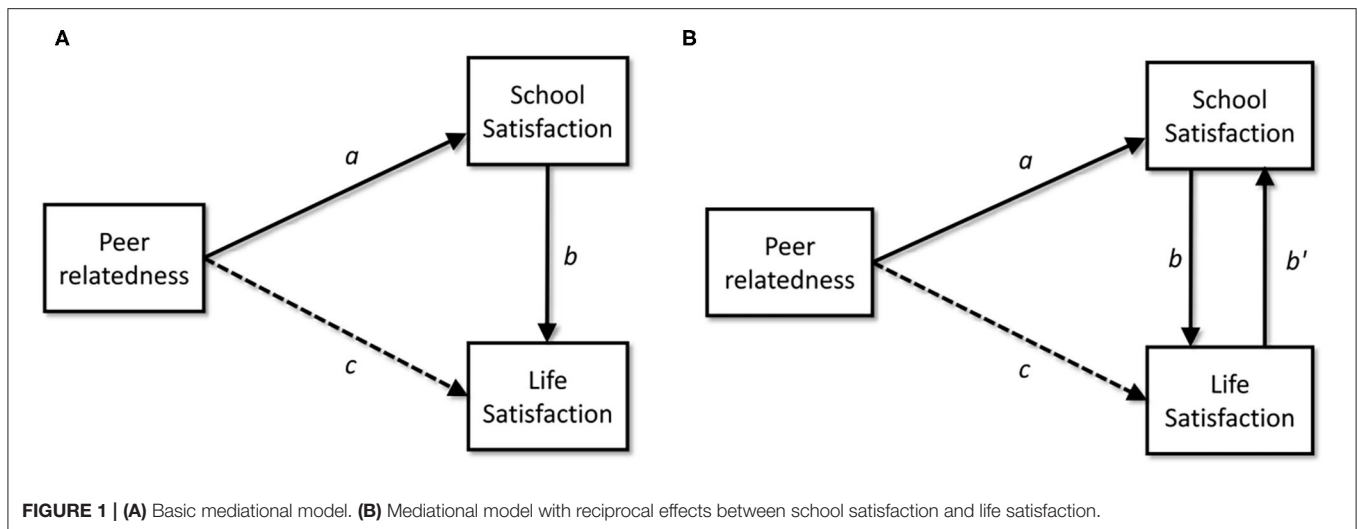
On the other hand, because social interaction with peers is a crucial component of school experience, it is logical to conclude that peer relatedness directly influences children's school satisfaction, as suggested by the previously summarized studies. Moreover, recent work in social identity theory applied to school social environment (Turner et al., 2014; Reynolds et al., 2017a,b; Simonsen and Rundmo, 2020) provides a framework to endorse a direct effect of peer relatedness on school satisfaction¹.

A way to reconcile these findings is to assume that the effect of peer relatedness on life satisfaction is mediated by school satisfaction. As shown in **Figure 1A**, peer relatedness at school would have a direct effect on school satisfaction and an indirect effect on life satisfaction. If this assumption is correct, paths *a* and *b* will be significant, and path *c* non-significant. A few studies (Suldo et al., 2008; Danielsen et al., 2009) have addressed this hypothesis, but their results indicate only a partial mediation effect (path *c* significant) rather than a full mediation (path *c* non-significant).

A potential flaw of this basic mediational model is that it assumes a unidirectional effect between school satisfaction and life satisfaction. Nevertheless, since Diener (1984) introduced the distinction between bottom-up and top-down models, cumulative evidence suggests that, for some life domains, the relationship between domain-specific satisfaction and overall life satisfaction could be bidirectional. For instance, reciprocal effects have been reported between life satisfaction and marriage satisfaction (Headey et al., 2005), team satisfaction (Chen et al., 2018), or job satisfaction (Bowling et al., 2010; Bialowolski and Weziak-Bialowolska, 2020), among others.

Although to the best of our knowledge, no published studies have examined the directionality of the relationship between school satisfaction and life satisfaction in early adolescents, we propose that a reciprocal causal link should be seriously considered. Given the evidence of directionality between domain

¹We thank the reviewer that suggested these references.



satisfaction and overall life satisfaction in various life domains, there is no reason to presume a priori that school satisfaction should be an exception.

Take, for instance, the well-documented reciprocal relationship between job satisfaction and life satisfaction (Bowling et al., 2010; Bialowolski and Weziak-Bialowolska, 2020). Early adolescents' school experience bears certain similarities to adults' work experience: it is a place where they spend many hours a week, and both are a source of social relationships and a sense of belonging, in addition to satisfying needs for relatedness, autonomy, and competence. Just as life satisfaction partially influences job satisfaction judgments (Bowling et al., 2010), it is plausible to assume that overall life satisfaction affects early adolescents' evaluation of school satisfaction. Just as job satisfaction directly affects life satisfaction, school satisfaction can be considered a determinant of early adolescents' life satisfaction. It is reasonable for both specific domains to expect a spillover effect with life satisfaction and job or school satisfaction mutually affecting each other.

The proposed reciprocal effect between school satisfaction and overall life satisfaction is presented in **Figure 1B**. Drawing on the widespread evidence on school relevance in early adolescents' lives, we specifically hypothesize (H1) that the effect of school satisfaction on life satisfaction will be greater than the effect of life satisfaction on school satisfaction. In **Figure 1B**, our first hypothesis proposes that path $b > \text{path } b'$.

Regarding the role of peer relatedness, based on previous research, we hypothesize (H2) that the relationship between peer relatedness at school and overall life satisfaction in early adolescence is fully mediated by overall school satisfaction. If this hypothesis is correct, in **Figure 1B** paths a and b will be significant, and path c will not.

Study Aim and Hypotheses

In summary, this study aims to test two hypotheses concerning the non-recursive mediational model shown in **Figure 1B**. Our first hypothesis (H1) proposes a significant bidirectional

relationship between children's school and life satisfaction, but that the effect from school to life satisfaction is greater than the opposite direction (path $b > \text{path } b'$). The second hypothesis (H2) is that the effect of peer relatedness on life satisfaction is fully mediated by school satisfaction (paths a and b as significant; path c as non-significant).

The best approach to test bidirectional relationships is to use panel data. When this is not possible, a tenable alternative is to use non-recursive structural equation models and rely on so-called instrumental variables (Paxton et al., 2011), as will be explained in the Method section below.

METHOD

Participants

We used data from the third wave of the Chilean Early-Childhood Longitudinal Survey (ELPI, 2017–2018), a nationally representative study conducted by the Chilean Ministry of Education to better understand sociodemographic characteristics and developmental outcomes of Chilean children and their families. The ELPI consisted of two household information-gathering visits at home, in which surveys were applied for children ages seven or more, and their caregivers. Also, psychological instruments were applied to assess cognitive, socioemotional, and physical aspects. Trained research assistants from undergraduate psychology programs, collected the data. Informed consent was obtained from all individual participants. The ELPI study was evaluated and approved by several ethical committees (see *Ethic Statements*, for details).

The third wave of the ELPI surveyed 17,307 boys and girls born between January 1, 2006, and December 31, 2016. Only the survey booklet for participants ages ten or more (thus, belong to the category of early adolescence; see Lansford and Banati, 2018) included questions about school and life satisfaction. Consequently, the current study draws on the 5,619 early adolescents (49.2% girls) aged 10, 11, and 12 (46.13, 44.99, 8.88%, respectively) who were asked about their life and

school satisfaction. Participants were enrolled in public (48.83%), voucher private (46.98%), and non-subsidized schools (4.19%), in 2nd (0.43%), 3rd (3.17%), 4th (20.14%), 5th (41.82%), 6th (27.27%), 7th (7.12%), and 8th (0.05%) grade. Note that primary school in Chile is compulsory and divided into eight grades, for students aged 6–14.

Measures

An attractive feature of the ELPI is that it collects information from the children's perspective. The survey includes a single-item scale on overall life satisfaction that asks, "to what extent are you satisfied with your life as a whole?" It also includes a question to evaluate overall satisfaction with school life: "to what extent are you satisfied with your school experience?" Both questions use a 1–7 scale, anchored from "not satisfied at all" to "very satisfied."

The questionnaire does not incorporate a peer relatedness scale, but it does embody several questions that can be used to assess it. Grounded in the conceptual definition of peer relatedness and from the review of other measures (e.g., Mikami et al., 2017; Devine et al., 2018; Schmidt et al., 2019), we select five questions to develop a scale: "How is your relationship with your classmates?" (very bad = 1, bad = 2, more or less = 3, good = 4, very good = 5); "My classmates think I have good ideas" (yes = 1, no = 0); "I feel lonely in the class" (never = 4, sometimes = 3, almost always = 2, always = 1); "I have a good time with my classmates" (never = 1, sometimes = 2, almost always = 3, always = 4); "I have a hard time in the classroom" (never = 4, sometimes = 3, almost always = 2, always = 1). To extract the maximum information from the items, and because of the mixed format of the answers options, we created a unidimensional scale using Item Response Theory instead of Classical Test Theory.

We calibrated the items using Samejima Graded Response Model 1997, with the MHRM estimation algorithm, through the IRTPRO 2.1 software (Cai et al., 2011). The scale fit was excellent (RMSEA = 0.01), with factor loadings from 0.61 to 0.84 and construct reliability $\rho = 0.86$. Item parameters are presented as **Supplementary Material**. We computed a scale score from response patterns, using *Expected a Posteriori* (EAP) method, as is usual in IRT applications (Brown and Croudace, 2015), with mean = 0 and standard deviation = 1.

Analytical Strategy: Instrumental Variables

Non-recursive models cannot be estimated unless we use Instrumental Variables (IV). In short, IVs are methodological devices used to resolve problems of endogeneity, which occur when an explanatory variable correlates with the error term of the dependent variable. If school satisfaction and life satisfaction have reciprocal effects, both correlate with the other one's error term; in fact, all non-recursive models suffer from endogeneity problems and need IVs. In an equation system as $IV \rightarrow X \rightarrow Y$, a IV is any variable that (a) has a strong and significant direct effect on X but (b) is not correlated with the disturbance term of Y. The first assumption (*instrument strength*) is necessary to achieve efficient estimates. The second assumption is called *instrument validity* and ensures consistent estimates. Both assumptions can be statistically tested. For instance, in the model presented in

Figure 1B, an IV for school satisfaction could be any variable that affects school satisfaction but does not correlate with the disturbance term of life satisfaction. An introduction to endogeneity and IVs can be found in any intermediate level econometric text. The monograph of Paxton et al. (2011) offers a thoughtful presentation regarding non-recursive models.

The model shown in **Figure 1B** requires at least one IV for school satisfaction and another one for life satisfaction to be identified. Due to technical details beyond this paper's scope (see Paxton et al., 2011 for an explanation) it is advisable to estimate an over identified model, which requires at least two IVs for each dependent variable.

For school satisfaction, we select as our first IV the question "How much do you like physical education classes?" (I like them very much = 5, I like them = 4, I neither like nor dislike them = 3, I dislike them = 2, I dislike them a lot = 1), because of the known effects of physical education classes on school satisfaction (Garn and Cothran, 2006; Dismore and Bailey, 2011) but the lack of documented effects on life satisfaction. As the second IV, we used the scale of attentional problems of Child Behavior Checklist (Achenbach and Ruffle, 2000; CBCL-2), applied to the children surveyed in the third wave of the ELPI, and validated by ELPI's technical staff. The underlying rationale is that early adolescents' with attentional problems have a greater probability of experiencing school adjustment difficulties and, consequently, lower school satisfaction (Ogg et al., 2016). However, attentional problems do not necessarily affect life satisfaction.

For life satisfaction, we selected as our IVs the questions "In the last week, did you and someone in your family play together at home?" (yes = 1, no = 0) and "Does [name of primary caregiver] know where you are after school?" (does not know = 0, has some idea = 0, knows a lot = 1). We chose these IVs because home-related positive experiences and parental knowledge about early adolescents' everyday life have an established effect on their life satisfaction (Padilla-Walker et al., 2008). Still, there are no logical reasons to presume that these specific home-related experiences must affect school satisfaction.

We assess the strength and validity of our putative IVs using statistical tools developed in econometrics (Wooldridge, 2002; Paxton et al., 2011). The results, presented as **Supplementary Material**, show that all our IVs are strong and valid.

Following Paxton et al. (2011) recommendation, we use two approaches to estimate the hypothesized model, and we check the results' consistency across methods as evidence of robustness. All analyses were conducted using Stata 16.

First, we use standard econometric methods for IVs, namely Two-Stage Least Squares (2SLS) and Three-Stage Least Squares (3SLS). In addition to providing statistical tests for testing the IVs' strength and validity, econometric methods are more robust to structural misspecifications than system-wide estimators used in Structural Equation Modeling (SEM) approach, but at the cost of not providing model fit indices.

We also estimate the model with maximum likelihood SEM, with standard errors and Chi-square adjusted with the Satorra and Bentler (1994) correction. Compared with 2SLS and 3SLS, SEM methods allow evaluating the fit and stability of the model,

TABLE 1 | Means, standard deviations, and correlations of the variables used in the model.

| Variable | Mean | SD | Min | Max | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------------|------|------|-----|-----|----------|----------|----------|---------|---------|---------|
| 1. Life satisfaction | 6.49 | 1.07 | 1 | 7 | | | | | | |
| 2. School satisfaction | 6.17 | 1.20 | 1 | 7 | 0.41*** | | | | | |
| 3. Peer relatedness ^a | 0.00 | 1.00 | -3 | 3 | 0.26*** | 0.36*** | | | | |
| 4. Liking physical education | 4.53 | 0.74 | 1 | 5 | 0.11*** | 0.16*** | 0.20*** | | | |
| 5. Attentional problems | 3.81 | 3.40 | 0 | 20 | -0.11*** | -0.16*** | -0.14*** | -0.04** | | |
| 6. Playing with family | 0.69 | 0.46 | 0 | 1 | 0.11*** | 0.08*** | 0.12*** | 0.10*** | -0.04** | |
| 7. Parental knowledge | 0.89 | 0.31 | 0 | 1 | 0.13*** | 0.08*** | 0.13*** | 0.02 | -0.03* | 0.06*** |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

^aExpected a posteriori (EAP) score; mean and standard deviation were scaled to 0 and 1, respectively, during the estimation process.

besides facilitating the estimation of indirect effects needed to test mediational hypotheses.

RESULTS

Table 1 shows descriptive statistics for all the variables used in the analysis. As expected, life satisfaction and school satisfaction are associated ($r = 0.41$, $p < 0.001$), and the correlation between peer relatedness and school satisfaction ($r = 0.36$, $p < 0.001$) is greater than its correlation with life satisfaction ($r = 0.26$, $p < 0.001$). The IVs correlate higher with their respective instrumented variables than with the other outcome.

Before estimating the model, we standardized (mean = 0, standard deviation = 1) all variables, except the dichotomous ones, which we kept with the 0/1 format to facilitate the results' interpretation.

Next, we estimate the model using 2SLS, 3SLS, and SEM methods, as previously described. The scaled Chi-Square, reveals that the absolute fit of the model is excellent [$\chi^2_{S-B}(2) = 0.01$; $p = 0.99$] and, consequently, the relative fit indices are good as well (CFI = 1.00; TLI = 1.00; RMSEA = 0). Parameter estimates, standard errors, and p -values, shown in **Table 2**, are highly similar across SEM and econometric methods, suggesting a robust result. Because parameters similarity across methods, only SEM estimates are presented in **Figure 2** and further discussed.

Regarding our first hypothesis (H1), the findings across the three methods confirm a significant reciprocal influence between school satisfaction and life satisfaction, with the impact from school to life satisfaction ($\beta = 0.67$, $p < 0.001$) being greater than the opposite effect ($\beta = 0.37$, $p < 0.001$).

Before moving on to the second hypothesis, we estimate a stability index (SI) to assess whether the variables do not influence each other successively in an infinite loop (Bentler and Freeman, 1983). The result (SI = 0.49) lies within the acceptable range [0, 1]; thus, we conclude that the model is in equilibrium and the mediational hypothesis (H2) can feasibly be analyzed.

As hypothesized, the results exhibited in **Table 2** and **Figure 2** confirm that peer relatedness has a significant direct effect on school satisfaction ($\beta = 0.24$, $p < 0.001$), but not on life satisfaction ($\beta = 0.00$, $p = 0.93$). Thus, the zero-order association between peer relatedness and life satisfaction ($r = 0.26$, $p < 0.001$) can be fully explained by the mediational mechanism of school

satisfaction, meaning that peer relatedness does not influence life satisfaction by itself but by first influencing satisfaction with school. This *indirect effect* is $\beta = 0.22$ ($p < 0.001$), meaning that in standardized scores, each unit of peer relatedness can explain around a fifth of standard deviation units of life satisfaction through the mediational effect of school satisfaction (see Paxton et al., 2011, for technical details about the estimation of indirect effects in non-recursive models).

We also tested the model's robustness to potential confounding effects of sociodemographic variables. For this purpose, we re-estimated the model, controlling the effect of age, gender, school grade, and type of school. The results, presented as **Supplementary Material**, shown that only gender (girls = 1) significantly affects life satisfaction ($\beta = -0.13$, $p < 0.001$) and school satisfaction ($\beta = 0.09$, $p < 0.001$), but without altering the pattern of effects exhibited in **Table 2** and **Figure 2**. Thus, girls report lower life satisfaction but greater school satisfaction than boys, which is congruent with recent meta-analytic evidence (Chen et al., 2019).

DISCUSSION

Our findings support the premise of a reciprocal effect between school and life satisfaction. We are not aware of other studies demonstrating this reciprocal effect, but this line of inquiry deserves to be further addressed, as far is consistent with prior studies in adults, reporting reciprocal effects among domain and overall life satisfaction (e.g., Headey et al., 2005; Bowling et al., 2010; Chen et al., 2018; Bialowolski and Weziak-Bialowolska, 2020). If a reciprocal effect model is correct, using bottom-up or top-down models for analyzing the relationship between life satisfaction and domain satisfaction in children and adolescents is misguided.

From a theoretical perspective, Bronfenbrenner (1979; 2005) social-ecological approach helps contextualize the findings. The model proposes that individuals' development occurs within interconnected systems classified according to how close they are to their daily lives (micro-, meso-, exo- and macro-system). The micro-system includes the relationships an individual has direct contact with insides his/her immediate environments such as family and school. The meso-system encompasses the interactions among the structures of the micro-system. The

TABLE 2 | Parameter estimates with econometric and SEM methodologies.

| | 2SLS | | | 3SLS | | | SEM | | |
|-------------------------------|---------|------|--------|---------|------|--------|-------------------|------|--------|
| | β | SE | p | β | SE | p | β | SE | p |
| Life satisfaction on | | | | | | | | | |
| School satisfaction | 0.67 | 0.09 | <0.001 | 0.67 | 0.09 | <0.001 | 0.67 | 0.11 | <0.001 |
| Peer relatedness | 0.00 | 0.04 | 0.909 | 0.00 | 0.04 | 0.911 | 0.00 | 0.04 | 0.925 |
| Parental knowledge | 0.23 | 0.04 | <0.001 | 0.24 | 0.04 | <0.001 | 0.24 | 0.05 | <0.001 |
| Playing with family | 0.10 | 0.03 | <0.001 | 0.10 | 0.02 | <0.001 | 0.10 | 0.03 | <0.001 |
| Intercept | -0.28 | 0.05 | <0.001 | -0.28 | 0.05 | <0.001 | -0.28 | 0.06 | <0.001 |
| R ² | 0.11 | | | 0.11 | | | 0.18 ^a | | |
| School satisfaction on | | | | | | | | | |
| Life satisfaction | 0.37 | 0.10 | <0.001 | 0.37 | 0.10 | <0.001 | 0.37 | 0.12 | 0.002 |
| Peer relatedness | 0.24 | 0.03 | <0.001 | 0.24 | 0.03 | <0.001 | 0.24 | 0.03 | <0.001 |
| Attentional problems | -0.08 | 0.01 | <0.001 | -0.08 | 0.01 | <0.001 | -0.08 | 0.02 | <0.001 |
| Liking physical education | 0.07 | 0.01 | <0.001 | 0.07 | 0.01 | <0.001 | 0.07 | 0.01 | <0.001 |
| Intercept | 0.00 | 0.01 | 0.837 | 0.00 | 0.01 | 0.837 | 0.00 | 0.01 | 0.839 |
| R ² | 0.25 | | | 0.25 | | | 0.25 ^a | | |
| Var (e.Life satisfaction) | | | | | | | 0.88 | 0.07 | |
| Var (e.School satisfaction) | | | | | | | 0.75 | 0.03 | |
| Cov (e.Life, School sat.) | | | | | | | -0.53 | 0.12 | |

2SLS, Two Stage Least Squares; 3SLS, Three Stage Least Squares; SEM, Structural Equation Modeling; var, variance of error term; cov, covariance between error terms.
^aBentler-Raykov corrected R².

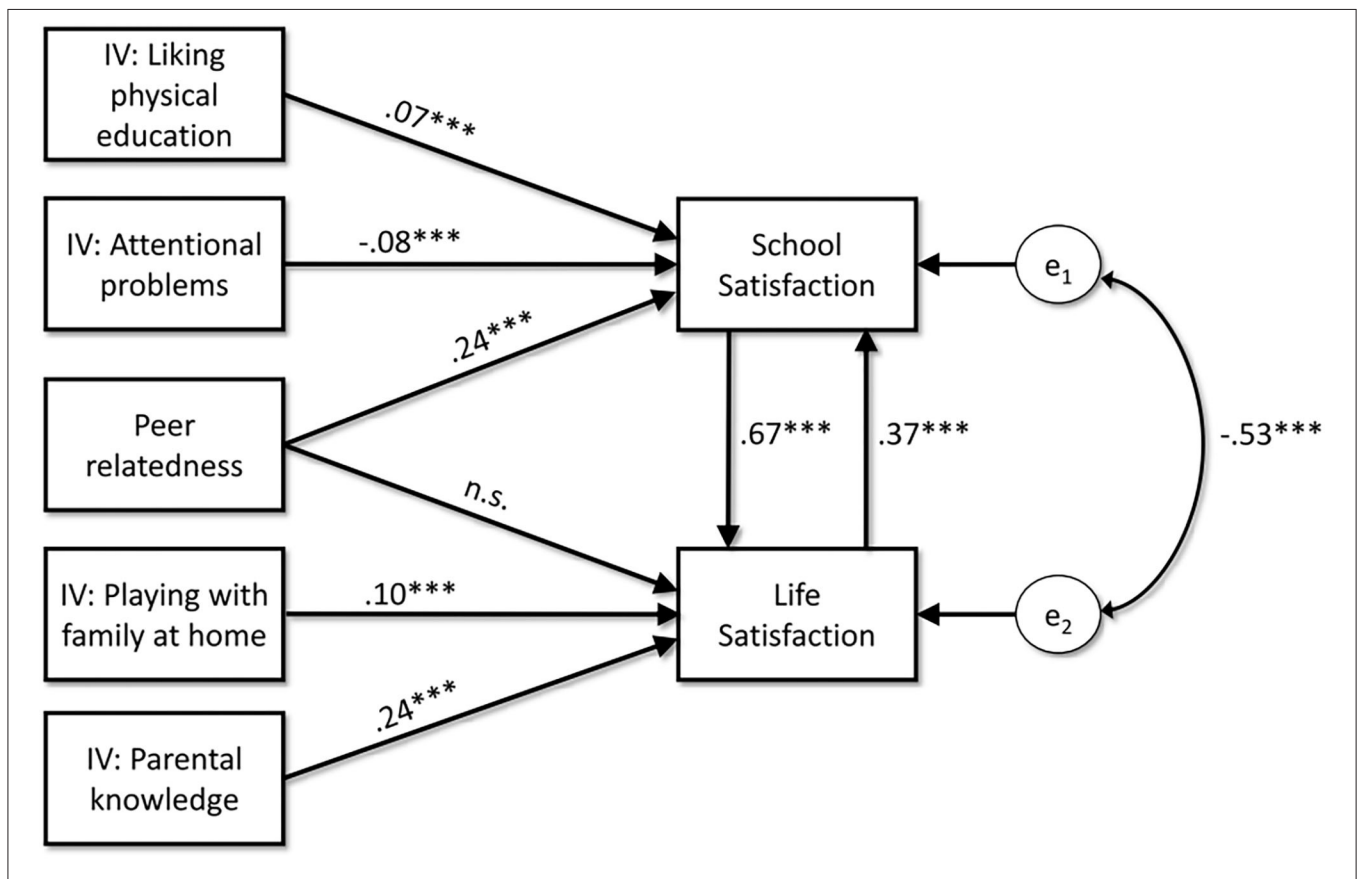


FIGURE 2 | Path diagram of parameter estimates from SEM analysis. ***p < 0.001. The estimate indirect effect of peer relatedness on school satisfaction is $\beta = 0.22$ ($p < 0.001$).

social-ecological model emphasizes that interactions are bi-directional. Applied to the present research, the school can be conceived as a micro-system structure that directly influences early adolescents' evaluations of their life satisfaction. Those evaluations can then generate beliefs and expectations about other contexts, including the school, which influences school satisfaction evaluations.

From a practical point of view, our results imply that interventions aimed to improve school-related well-being can boost overall life satisfaction in early adolescents. Also, promoting good relationships among classmates and nurturing peer relatedness could influence not only early adolescents' satisfaction with their schools but also their subjective well-being. The findings can also be interpreted in a reversed way: broken social relationships in the school context and low peer relatedness can jeopardize school satisfaction and harm subjective well-being. On a policy level, the results suggest the importance of considering peer relatedness as a relevant intervention focus in public policies to improve children's and adolescents' quality of life.

It is worth considering some important limitations when interpreting the findings of this study. First, we acknowledge that this study's potential contribution is also a serious limitation: we assess reciprocal effects with cross-sectional data because only the third wave of ELPI includes questions on subjective well-being. Even if non-recursive models with cross-sectional data are useful tools, they have limitations and do not supersede using panel data and cross-lagged designs to test reciprocal causality.

A second limitation is the use of single-item scales to measure both overall life satisfaction and school satisfaction. Although single-item measures are popular in survey research, they have lower reliability and validity than multi-item scales. A related limitation is that our peer-relatedness measure was created *ad-hoc* from available items because the ELPI survey does not incorporate a validated peer relatedness scale.

Another limitation of this research is that we use data from only one country; thus, our results could be culturally specific and only describe Chilean early adolescents' school experiences.

Even given these limitations, this brief research report contributes to the literature on peer relatedness and the field of well-being by testing and confirming two hypotheses about the underlying mechanism through which peer relatedness can influence school satisfaction and life satisfaction in early adolescence. Furthermore, we illustrate the use of non-recursive models to test reciprocal effects with cross-sectional data using instrumental variables.

DATA AVAILABILITY STATEMENT

Data from Chilean Early-Childhood Longitudinal Survey (Encuesta Longitudinal de Primera Infancia, ELPI) 2017-2018 are publicly available upon request (<http://www.elpi.cl>).

ETHICS STATEMENT

The ELPI survey was evaluated and approved by the Ministerio de Desarrollo Social y Familia, Chile, and by the Ethics Committee of the US National Institutes of Health (see <http://www.elpi.cl> for details). Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

RG conceived the study, reviewed the relevant literature, developed the hypothesis, analyzed the data, interpreted the results, and wrote the manuscript's first draft. MG-C supervised every stage of the process. Both authors played an equal role in manuscript editing and made a substantial contribution to this manuscript.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.641714/full#supplementary-material>

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Mediation of Problematic Use in the Relationship Between Types of Internet Use and Subjective Well-Being in Schoolchildren

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Subjective well-being is a broad category of phenomena that includes people's emotional responses, domain satisfactions, and global judgments of life satisfaction. This research investigates how schoolchildren's subjective well-being is affected by the different types of technology use, in personal contexts, and, concurrently, whether these effects are different when the use of technology is problematic. The central hypotheses are as follows: (1) the use of the Internet affects the subjective well-being of schoolchildren negatively only when this use is problematic and (2) the effect on subjective well-being is different according to the type of Internet use. To respond to the objectives of the research, a survey was applied to 15-year-old adolescents (2,579 cases), distributed in 330 public schools, beneficiaries of a government program for the delivery of personal computers and Internet for a year. The different uses of the Internet were measured using frequency scales by type of activity (social, recreational, and educational). Problematic use scale measured the perception of negative consequences of the intensity of Internet use on a daily basis. Subjective well-being was measured by the Personal Well-Being Index-School Children (PWI-SC). Subsequently, for analytical purposes, three simple mediation models were created, whose dependent variable was PWI-SC, while its independent variables were Internet use scales differentiated by purpose (social, recreational, and educational) and problematic use as a mediating variable, as well as attributes of the subjects and their social environment, which were incorporated as control variables. The main results show that only if Internet use is expressed as problematic does it negatively affect subjective well-being. On the contrary, when the use of the Internet is not problematic, the effect is positive and even greater than the simple effect (without mediation) between these two variables. This finding is relevant, since it allows us to provide evidence that suggests that, when studying the effect that the intensity of the Internet, firstly, one must consider the mediating effect exerted by the network's problematic use and, secondly, that not all types of use have the same impact. Therefore, it is useful to enrich the discussion on subjective well-being and social integration of schoolchildren in the digital age.

Keywords: subjective well-being, belonging, personal well-being index, problematic Internet use, digital divide

INTRODUCTION

Over the last decades, the relentless proliferation of digital technologies has profoundly transformed and impacted all human activities. We understand as digital development the degree to which these technologies penetrate society, considering the scope and depth of their deployment, and whether this is reflected in the increase in the possibilities that the population has to accessing, using, and learning about them (Minges, 2005; ITU, 2017; van Deursen et al., 2017). In this regard, experts on the field seem to agree that access to technology is not equitably distributed between countries, territories, or among the different members of society. This initial barrier, which hinders equitable access to technology, is called the first-generation digital divide (Selwyn, 2004, 2010; Talaee and Noroozi, 2019; Van Dijk, 2019). More recently, the specialized discussion has broadened the scope of the definition of the first-generation digital divide, since, in order to conceptualize the scope of digital development and its relationship with social integration, it is necessary to pay attention not only to the possibilities of access but also to the capacities that people should have to take advantage of them. This subsequent stage is called the second-generation digital divide (Büchi et al., 2016; Scheerder et al., 2017). Although it is evident that there is more and more access to mobile devices, computers, and Internet connectivity, as a result of the technological development, the existence of a first- and second-generation digital divide is a global ongoing problem, especially in developing countries. For this reason, countries have found in the school system an effective way to reduce it through various programs of access to technology at schools or through the delivery of digital equipment to students (Cabello and Claro, 2017; Cabello et al., 2020). In the case of Chile, the 1:1 modality was not massively adopted in its period of greatest popularity, in the mid-2000s, since the country opted to maintain technology for educational purposes in the institutional context of the school. Later, in 2015, this policy became universal for the case of seventh-grade students in public schools (Severin, 2016; Claro and Jara, 2020).

This significant expansion of digital technology access and the consequent increase in the intensity of its use have generated growing concern about the possible effects that it could have not only on the academic performance of adolescents, whether positively (Kim et al., 2017) or negatively (Bulut and Cutumisu, 2018), but also in other areas considered increasingly relevant, such as their subjective well-being (López et al., 2014, 2017; Alfaro et al., 2016; OECD, 2017, 2019). Subjective well-being research is one of the most prolific fields in the scientific literature in human and social sciences in recent years (Diener et al., 2018).

Theoretically speaking, subjective well-being is made up of cognitive judgments and emotional responses (Diener et al., 2018), and it is defined as the different assessments that people make about their life, the events that happen to them, their bodies and minds, and the circumstances in which they live (Diener, 2006). It is a broad category of phenomena that

includes people's emotional responses, domain satisfactions, and global judgments of life satisfaction (Diener et al., 1999).

In the case of school-age children and adolescents, it is essential to investigate what factors may affect this construct, since the experiences lived in this period are not only very relevant in their present lives but also determining factors for the development of their cognitive, social, and emotional skills (Ning et al., 2013) and are key to the formation of mentally healthy adults. They also play a role in the level of satisfaction these people will have toward life (Casas et al., 2020), their future fulfillment projects, relational and self-perception frameworks (Cobo-Rendón et al., 2020), and their sense of belonging (Berryman and Eley, 2019), among other fundamental elements for life in society (Bilbao et al., 2014).

In this regard, the existing literature on the possible effects between access and use of technology and subjective well-being in children and adolescents shows ambivalent results (Iviev et al., 2020; Kardefelt-Winther et al., 2020; Young et al., 2020). Primarily, it is possible to identify evidence that indicates that the access and use of digital technologies benefit the social integration of this segment of the population, their sense of belonging, as well as their level of connection and understanding between members of their social environment (Walsh et al., 2020). At the same time, it allows children and adolescents a better use of their time, both productive and free; it increases opportunities for learning and personal development (Hollingworth et al., 2011; Hatlevik and Christophersen, 2013; van Deursen and van Dijk, 2014); and it improves their mental well-being (Stephens-Reicher et al., 2011; Clifton et al., 2013). In this same trend, greater access to information and communications technology (ICT) may lead to acquiring technical skills and increasing self-esteem and social capital (Best et al., 2014). Also, evidence claims that students' subjective well-being is positively linked to their school's digital development and their social well-being and the school climate they are in (Donoso et al., 2021). Furthermore, a higher frequency of Internet use, given that context variables are adequately controlled, is not associated with lower subjective well-being (Paez et al., 2020).

In contrast, it is also possible to find negative associations between the use of digital technologies and personal well-being or mixed associations (Odgers, 2016; Przybylski and Weinstein, 2017; Orben and Przybylski, 2019; Young et al., 2020). Thus, there is literature that indicates that the use of the Internet by schoolchildren is often associated with risks related to loneliness (Song et al., 2014; Ho et al., 2017), social anxiety (Buyukbayraktar, 2020; Traş and Gökçen, 2020), cyberbullying (Devine and Lloyd, 2012; Casas et al., 2013; Viner et al., 2019; Craig et al., 2020; Garaigordobil et al., 2020), unsafe sexual behaviors (McBride, 2011; Vannucci et al., 2020), and psychological pathologies (Borzekowski, 2006; McBride, 2011). Other works suggest that a high use of social networks and online games are related to low subjective well-being (Devine and Lloyd, 2012) or addictive behaviors (García-Oliva et al., 2017; Marengo et al., 2020). It should be noted that it is possible to identify a concordance within the evidence that shows a negative association between the use of technologies

and subjective well-being, which occurs more strongly in girls than in boys when observed (Twenge and Martin, 2020).

Added to this open discussion is the fact that, in order to advance in the understanding of the phenomenon, it is essential to analyze the different social contexts where adolescents develop, considering a broad perspective to understand better how this relates to the use of digital technologies, subjective well-being, belonging, and social integration (Helsper et al., 2015; Helsper, 2017; Helsper and van Deursen, 2017; Livingstone et al., 2017; Boer et al., 2020). For this reason, recent research in the field no longer focuses solely on what happens inside schools but in all social spaces in which children and adolescents interact (Craig et al., 2020), both concrete and virtual. Particular emphasis is placed on screen time and Internet use, particularly on social networks (Büchi et al., 2019; George et al., 2020), at different times of the day, both school and personal time (Beyens et al., 2020). This use, when it becomes too intensive and frequent, can be considered excessive or problematic.

However, the complexity of the phenomenon makes its proper measurement difficult, despite the fact that various conceptualizations classify the problematic use of technologies in the field of addictions (Ho et al., 2017), whether behavioral, to the Internet, mobile phone, or social networks (Martín-Perpiñá et al., 2019), and that various proposals have come up on how to define problematic appropriately (García-Oliva et al., 2017; Büchi et al., 2019) or excessive use (Malo-Cerrato et al., 2018). In this sense, the literature indicates that in order to classify the use of technology as problematic, not only the intensity and frequency of such use should be considered but also how it affects the normal development of people's daily lives, especially in personal and social aspects (Castellana Rosell et al., 2007; Viñas Poch, 2009; Smahel et al., 2012; Rial and Gómez Salgado, 2018).

Since the concept of problematic use of technology is still inexact, it is not clear whether the type or purpose of its use has any differentiated effect on the subjective well-being of adolescents or whether this would also have a negative, harmless, or even positive effect when it is intense but still does not qualify as problematic.

Therefore, the research questions that lead this work are essentially the following: (1) Does the use of the Internet, in personal contexts, always affect schoolchildren's subjective well-being negatively or only when it is problematic? (2) Do the effects on subjective well-being differ when different types of Internet use are examined separately? The working hypotheses are the following: (1) the use of the Internet negatively affects the subjective well-being of schoolchildren only if the use falls under the category of problematic and (2) the effect on subjective well-being is different according to the type of use from Internet. Although these hypotheses are plausible according to the literature, there is still not enough evidence to support them since previous research has not delved further into whether there are differentiated effects by type of use.

The objective of this study is to provide evidence on how the access and use of digital technologies, distinguishing between their purposes and problematic nature, are related to the subjective well-being of adolescents.

MATERIALS AND METHODS

The research design is framed within a quantitative methodological approach, and it links the concepts of access and use of digital technologies (personal computer and Internet) and subjective well-being, distinguishing them by their purpose and problematic nature.

As a source of information, the data obtained by the Ministry of Education of Chile (MoE) were used in the framework of the evaluation of the implementation of a government program, which consists of the provision of personal computers and Internet access, through mobile broadband for 12 months, with an average speed of 700 Kbps download and 256 Kbps upload (DIPRES, 2018). It should be noted that the equipment delivered becomes the property of the beneficiary, and they do not have to return it. This public policy, currently called "Me Conecto para Aprender" or MCPA (In English, "I get connected to Learn"), was started in 2008 and later expanded in 2015, and it currently focuses on two large groups of the school population. On the one hand, seventh-grade primary school students who attend private state-subsidized schools show an outstanding academic record and belong to the poorest sectors of the population. And, on the other hand, seventh grade public school students, universally, that is, regardless of their socioeconomic status or their academic performance.

Sample

The universe was made up of student beneficiaries of the program described in the years 2015 and 2016. These students received the equipment and the respective Internet connection. The effective sample size reached 2,579 cases, of which 44.4% corresponded to female students and 55.6% to male, and whose average age was 14.23 years ($SD = 0.97$). Regarding the distribution by cohort of admission to the program, 45.5% of the cases correspond to students who attended the seventh grade of primary education during 2015 and 54.5% in 2016. Out of the total sample, 79.4% kept the computer delivered and 85.0% had an Internet connection either through the device delivered by the program or another available at home. Likewise, 8.5% did not have access to any computer at home, as the equipment delivered no longer worked, had been lost, sold, or stolen, and there was no other equipment available either for personal or family use.

The cases belong to 330 school establishments (87.9% urban and 12.1% rural) that receive public funding [86.7% public and 13.3% government-dependent private (voucher)], located in the regions with the highest concentration of population throughout the three geographical macro-areas of the country (12.8% north, 70.5% center, and 16.7% south). A probabilistic, two-stage, and stratified sample was used, where the first-level units were the establishments and the final units were the students, with national representation, and with an estimation error corresponding to $\pm 1.91\%$ with a 95% confidence level and maximum variance. The sampling frame was built using the national school enrollment registry of the Ministry of Education of Chile (2017) and was complemented with data from the National School Vulnerability Index (IVE) to include the average socioeconomic status (SES) of the school attended

by the subjects that constituted the units of analysis (López et al., 2017). The IVE, whose score ranges from 0 to 100%, where a higher score indicates greater vulnerability, is constructed from social, economic, health, and academic variables of the students and their homes (Ñanculeo and Merino, 2016). Said variables account for the situation of social or educational risk that they must face. Given the deep segregation of the Chilean school system, the consequent socioeconomic homogeneity of students within each school can be used as an indicator that mirrors the reality of each student who attends it (González and Fernández-Vergara, 2019; Bellei et al., 2020).

Given that the cases come from the beneficiaries of a focused public policy, the sample tends to prevail with students belonging to the lowest SESs. Indeed, 56.4% of the sample cases attend schools with high social vulnerability and 43.6% attend schools with low vulnerability (using the IVE score = 80% as a cutoff criterion), the mean of the sample being 70.51%.

Instrument

The instrument used was previously validated by experts from the MoE and academic institutions. In addition, the results obtained in a pilot application to a sample of 38 cases, belonging to three schools, carried out in June 2017, were considered. The pilot cases' selection criteria were the same as those used in the massive sample, and they were not part of the final database. This phase allowed observing the behavior of the questionnaire in aspects related to its applicability, duration, comprehension, and non-response per item rate. Thanks to this, specific adjustments, validated by experts, were made to improve the final instrument before being applied on a large scale.

The instrument considered dimensions related to the program's implementation, considering selection, delivery, and operating status of the equipment, as well as support mechanisms, habits of use, parental mediation, problematic use, and subjective well-being.

The Personal Well-Being Index-School Children (PWI-SC), designed by Cummins et al. (2003), was used to measure the subjective well-being of the students. Specifically, the Spanish version of the PWI-SC7 was used, adapted and validated by Bilbao et al. (2014), which investigates the level of satisfaction that adolescents have regarding areas related to their health, standard of living, achievements, interpersonal relationships, sense of agency, and satisfaction with themselves and with future security. The response range extends from "Totally Dissatisfied" (score = 0 points) to "Totally Satisfied" (score = 10 points). In the present study, its application registered a high internal consistency ($\alpha = 0.91$) and a configuration of a single factor (KMO = 0.91; Bartlett = 10,016.456, $p < 0.001$). Said results prove consistent with those obtained in previous applications of the scale at the national level (Casas and Bello, 2012; Bilbao et al., 2014). For the calculation of the described scale, the raw scores of its items were added, and then the simple average was obtained.

To measure the use of technology, specifically, Internet use, three scales were applied, designed to record activities with specific purposes: social, recreational, and educational. The questions of the three scales were formulated regarding the

frequency of use in the area consulted over the previous month, with a response range extending from "Never" (score = 1) to "Every day, several times a day" (score = 6). To calculate the total score of each scale, the raw scores of its items were added, and then the simple average was obtained. To analyze its factorial structure, the Principal Components Method with Varimax rotation was used to obtain the simplest and most coherent structure possible.

The scale of social use of the Internet (SUIS) is made up of six items. It considers activities related to participation in social networks and the use of instant messaging applications and video calls to communicate with peers or relatives, posting or sharing photos, videos, music, or personal interests. Its application registered a high internal consistency ($\alpha = 0.81$) and a configuration of a single factor (KMO = 0.80; Bartlett = 5,248.359, $p < 0.001$), which explains 52.28% of the total variance of the scale.

The Recreational Internet Use Scale (RUIS) considers four items and groups together the reproduction and consumption of content, both written and multimedia, including music and audiovisual material, as well as playing online video games. Its application registered an acceptable internal consistency ($\alpha = 0.69$) and a configuration of a single factor (KMO = 0.67; Bartlett = 2,351.803, $p < 0.001$), which explains 54.25% of the total variance of the instrument.

The items of both scales were originally developed by the Global Kids Online project (Livingstone and Haddon, 2009) and adapted to the Spanish language by Cabello and Claro (Cabello et al., 2020) for their application in the local context.

The educational use of the Internet scale (EUIS) was made up of 12 items, including school practices and informal learning. School practices consider homework, such as making presentations, assignments, and research, either individually or in groups, and communicating with other students and teachers for educational purposes (MINEDUC, 2013; Jara et al., 2015; Fraillon et al., 2020). In the case of informal learning activities (Helsper et al., 2015), they include the use of videos or tutorials to acquire skills of personal interest and the use of resources available on the Internet to learn or delve into unsolicited subjects in the school context. Its application registered high reliability ($\alpha = 0.88$) and a configuration that groups the items into three factors (KMO = 0.88; Bartlett = 3559.650, $p < 0.001$), according to what was expected, and that, combined, explain the 66.40% of the total variance of the instrument (homework, 26.35%; communication, 21.24%; and informal learning, 18.81%).

Finally, to measure problematic Internet use (PUIS), the scale developed by Smahel et al. (2012), which investigates the perception of negative consequences of the intensity of Internet use on a daily basis, was employed. Through five items, it considers aspects related to alternations in sleep and eating, conflicts with peers and family, low school performance, inability to self-regulate, and awareness of excessive use. The questions were formulated in reference to the last year, and they regarded the frequency of occurrence of episodes of problematic use, with the responses ranging from "Never" (score = 1) to "Always" (score = 5). Its application registered high internal consistency ($\alpha = 0.81$) and a configuration of a single factor (KMO = 0.81;

Bartlett = 4,020.315, $p < 0.001$) that explains 57.52% of the total variance of the instrument. Like the previous scales, this one was also adapted and translated into Spanish to ensure an adequate application to the study population.

Procedure

The production of the information was carried out in person at the schools that made up the sample, during regular class hours, after contacting the corresponding managers and under the supervision of a facilitator. All necessary procedures were followed to obtain the administrative authorization of the schools, informed consent, safeguarding of confidentiality, and voluntary participation, according to the ethical standards required by the MoE and the university in charge of collecting the information. The application period was between October and December 2017.

Access to the corresponding data sources was obtained through a formal request to the MoE, the entity responsible for the study. The information was processed using IBM SPSS Statistics 24 and the PROCESS Macro for SPSS v2.10 modeling tool. The information collected from IVE was added to the database, using the Role Database (RBD) as a key field, which operates as the sole identifier of each school in the country.

Analysis

Once the database was consolidated and refined, descriptive analyses of the main study variables were carried out. After that, tests of differences in means between sociodemographic attributes, the PWI (PWI-SC), and PUIS were performed. For this purpose, the PUIS was recoded using the average score observed in the sample as the grouping criterion. The resulting auxiliary variable was called level of problematic Internet use, and it has two categories, low and high, depending on the location of each subject on said scale (above or below the grand mean). Pearson and Spearman correlations were also calculated depending on the measurement level of the involved variables.

Subsequently, to further contrast the study's hypotheses, three multivariate models of simple mediation were constructed (Hayes, 2018), which assumed the subjective well-being of the students (PWI-SC7) as a dependent variable and PUIS as a mediating variable. Each model is distinguished by incorporating a specific use scale to the set of independent variables, with the purpose of separately analyzing the effect of the type of technology use on subjective well-being. Thus, the first model incorporated the social use scale (SUIS) into the group of explanatory variables; the second, the recreational use scale

(RUIS); and the third, the educational use scale (EUIS). Additionally, individual control variables of the subjects (sex, age, and cohort) were incorporated into each model and, to control the group effect, the SES of the school was included. The detail of the variables considered in the analyses can be seen in **Table 1**. In the case of categorical variables, fictitious variables (dummies) were constructed so that they could be included in the respective models. Both the independent and control variables were selected based on their theoretical and empirical importance for this investigation. A BCA bootstrapped CI based on 5,000 samples was used to calculate the confidence intervals of all the models used.

RESULTS

The results of the descriptive analysis (**Table 2**) indicate that the subjects that made up the sample registered an average PWI of 8.04 points (SD = 1.84), being 8.17 higher in men (SD = 1.76) than their female peers, 7.88 (SD = 0.97). This difference is statistically significant [$t(2509) = 3.953, p < 0.001, D = -0.16$].

In the case of the Internet-social use (SUIS), recreational (RUIS), and educational (EUIS) scales, it is observed that the mean is 3.31 (SD = 1.26), 3.86 (SD = 1.19), and 3.07 (SD = 0.96), respectively. Additionally, the mean of the problematic Internet-use scale is 1.88 (SD = 0.83).

When comparing the differences in the scores obtained by male students and female students in the four scales, it is found that the means are very similar in the SUIS (male = 3.31, SD = 1.25; female = 3.31, SD = 1.27), EUIS (male = 3.05, SD = 0.97; female = 3.09, SD = 0.95), and PUIS (male = 1.90, SD = 0.82; female = 1.84, SD = 0.84) and slightly higher in the case of male students on the RUIS scale (male = 3.92, SD = 1.19; female = 3.78, SD = 1.19). Finally, when applying tests of differences of means, using Student's $t(\alpha = 0.05)$, these were not statistically significant for SUIS, $t(2509) = 0.075, p = 0.940$; EUIS $t(2509) = 1.124, p = 0.261$; and PUIS, $t(2509) = -1.683, p = 0.092$; but it was in the case of RUIS, $t(2509) = -2.881, p = 0.004, D = -0.14$, although it is a minor effect.

When conducting mean difference tests (**Table 3**), using Student's $t(\alpha = 0.01)$, comparing the levels of PUIS (categorized as high and low), it is possible to see that students who present low problematic use evidence higher subjective well-being, expressed in PWI score, regardless of the grouping variable through which the contrast is performed. That is, the boys and girls who register low problematic use show an average

TABLE 1 | Contextual and control variable description.

| Level | Variable | Level of measurement | Categories |
|----------------------|--|----------------------|----------------------|
| School | Socioeconomic status (SES): retrieved from National School Vulnerability Index (IVE-SINAE) | Nominal | 0 = High 1 = Low |
| Individual (student) | Sex | Nominal | 0 = Men 1 = Women |
| | Age | Scale | |
| | Cohort: year of entry to the program and time since the student received the computer | Nominal | 0 = 2015 1 = 2016 |

TABLE 2 | Descriptive statistics.

| | N | Minimum | Maximum | Mean | SD |
|-------------------------------------|-------|---------|---------|-------|------|
| Personal Well-Being Index (PWI) | 2,511 | 0.00 | 10.00 | 8.04 | 1.84 |
| Social use of Internet (SUIS) | 2,511 | 1.00 | 6.00 | 3.31 | 1.26 |
| Recreational use of Internet (RUIS) | 2,511 | 1.00 | 6.00 | 3.86 | 1.19 |
| Educational use of Internet (EUIS) | 2,511 | 1.00 | 6.00 | 3.07 | 0.96 |
| Problematic use of Internet (PUIS) | 2,511 | 1.00 | 5.00 | 1.88 | 0.83 |
| Age | 2,511 | 12 | 18 | 14.24 | 0.97 |

SD, standard deviation.

subjective well-being 6.8% higher than their peers with high problematic use of technology when comparing within each sex, SES group, or cohort of admission to the MCPA program. The differences are statistically significant ($p < 0.001$) in all the disaggregations examined.

In this sense, it is possible to corroborate the trend that female students tend to register lower subjective well-being than their male counterparts, which, in this case, is maintained regardless of whether they show low (male students = 8.41, female students = 8.13) or high problematic use of Internet (male students = 7.87, female students = 7.52). This relationship is also observed when comparing by SES, where those students with a high SES present higher subjective well-being than their peers in the lower group, regardless of whether they register a low PUIS (high SES = 8.30, low SES = 8.27) or high (high SES = 7.77, low SES = 7.67).

The results of the bivariate correlations between the scales (Table 4) indicate that subjective well-being (PWI) is significantly and positively related to the SUIS ($r = 0.09$), RUIS ($r = 0.10$), and EUIS ($r = 0.15$) and negatively with the PUIS scale ($r = -0.15$). All the correlations, either positive or negative, are significant at the 0.01 (two-tailed) level.

The correlations between the central variables of the study and the sociodemographic variables present different results (Table 5). In the case of the PWI, there is a positive and significant correlation between subjective well-being and income cohort ($\rho = 0.06$), that is, in a shorter time elapsed since the student received the MCPA computer. The relationship is also positive with the group made up of male students ($\rho = 0.08$). On the contrary, it is negatively correlated with the age of the subjects ($r = -.08$). All the correlations, either positive or negative, are significant at the 0.01 (two-tailed) level.

Regarding Internet use, both the SUIS ($\rho = -0.06$, $p < 0.001$), RUIS ($\rho = -0.05$, $p < 0.005$), and EUIS ($\rho = -.04$, $p < 0.005$) are negatively correlated with SES. In other words, as the SES increases, the frequency of technology use by students tends to decrease. Likewise, both the RUIS ($\rho = 0.07$, $p < 0.001$) and the PUIS ($\rho = 0.04$, $p < 0.005$) are positively correlated with the group made up of male students. In other words, boys tend to use the Internet more intensively for recreational purposes and, at the same time, have more problematic use than girls. It should be noted that

TABLE 3 | Mean difference in Personal Well-Being Index.

| | | Problematic use of ICT level | |
|--------|-------|------------------------------|--------|
| | | Low | High |
| Sex | Women | 8.13 | 7.52** |
| | Men | 8.41 | 7.87** |
| SES | High | 8.30 | 7.77** |
| | Low | 8.27 | 7.67** |
| Cohort | 2015 | 8.10 | 7.74** |
| | 2016 | 8.43 | 7.70** |

ICT, information and communications technology; SES, socioeconomic status.

**Difference is significant at the 0.01 level (two-tailed).

the cohort and SES variables are ordered from lowest to highest in accordance with the original grouping categories.

Afterward, the results of the three simple mediation models are presented, which, in turn, are made up of two sub-models. For each, there is a path diagram with the regression coefficients of each of the components of the different pathways presented by the model, considering the indirect effect, the direct effect, and the total effect over PWI.

Model 1 incorporates PUIS as a mediating variable of the relationship between social use of Internet and subjective well-being. The results of the linear regression analysis for the two sub-models that make up the mediational model are presented in Table 6, and the magnitude of the effects and directions is shown in Figure 1.

As seen in the model, the total effect of social Internet use (SUIS) on subjective well-being was statistically significant [TE: $b = 0.13$, 95% BCa CI (0.08, 0.19)], as in the cases of the individual control variables sex ($\beta = 0.33$, $p < 0.001$) and age ($\beta = -0.15$, $p < 0.001$). On the contrary, the variables SES and cohort of admission to the program were not significant.

Also, when breaking down the total effect, it is observed that both the direct effect of SUIS on subjective well-being [DE: $b = 0.18$, 95% BCa CI (0.12, 0.24)] and the indirect effect through the problematic use of the Internet were statistically significant [IE: $b = -0.05$, 95% BCa CI (-0.06, -0.03)]. A partial mediation is observed, in which the direct effect (positive) increases with respect to the total effect, while the indirect effect is negative (Figure 1). In other words, when the PUIS effect is isolated, the relationship between SUIS and PWI is still positive, but in cases that present a high problematic use, a negative effect on the students' subjective well-being is observable.

Furthermore, Model 2 incorporated problematic use of Internet (PUIS) as the mediator of the relationship between recreational use of Internet (RUIS) and subjective well-being. Table 7 shows the results of the linear regression analysis, and their respective two sub-models, that make up the second mediational model.

Figure 2 presents the regression coefficients of each of the components of the different pathways presented by the model, considering the direction and magnitude of indirect, direct, and total effect over the dependent variable.

The total effect of recreational Internet use (RUIS) on subjective well-being was statistically significant [TE: $b = 0.14$, 95% BCa CI (0.08, 0.20)], and once the total effect was broken down, it

TABLE 4 | Correlation matrix for the central variables of the study ($n = 2,511$).

| S. No. | | 1. PWI | 2. SUS | 3. RUS | 4. EUS | 5. PUS |
|--------|---|---------|--------|--------|--------|--------|
| 1. | Personal Well-Being Index (PWI) | 1 | | | | |
| 2. | Social use of Internet Scale (SUIS) | 0.09** | 1 | | | |
| 3. | Recreational use of Internet Scale (RUIS) | 0.10** | 0.63** | 1 | | |
| 4. | Educational use of Internet Scale (EUIS) | 0.15** | 0.53** | 0.52** | 1 | |
| 5. | Problematic use of Internet Scale (PUIS) | -0.15** | 0.18** | 0.16** | 0.10** | 1 |

**The correlation is significant at the 0.01 level (bilateral).

TABLE 5 | Correlation matrix for the central variables of the study and the sociodemographic variables ($n = 2,511$).

| | | Cohort | SES | Sex | Age |
|---|-------------------|--------|---------|--------|---------|
| Personal Well-Being Index (PWI-SC7) | Correlation | 0.06** | 0.001 | 0.08** | -0.08** |
| | Sig. (two-tailed) | 0.00 | 0.75 | 0.00 | 0.00 |
| Social use of Internet Scale (SUIS) | Correlation | -0.02 | 0.06** | -0.01 | 0.02 |
| | Sig. (two-tailed) | 0.34 | 0.00 | 0.79 | 0.46 |
| Recreational use of Internet Scale (RUIS) | Correlation | 0.03 | -0.05** | 0.07** | -0.03 |
| | Sig. (two-tailed) | 0.14 | 0.02 | 0.00 | 0.11 |
| Educational use of Internet Scale (EUIS) | Correlation | -0.01 | -0.04* | -0.02 | -0.00 |
| | Sig. (two-tailed) | 0.49 | 0.03 | 0.26 | 0.83 |
| Problematic use of Internet Scale (PUIS) | Correlation | -0.00 | -0.04 | 0.04* | -0.00 |
| | Sig. (two-tailed) | 0.83 | 0.07 | 0.03 | 0.91 |

All correlations correspond to Spearman's coefficients (ρ), except in the case of age variable, which corresponds to Pearson's coefficient (r). SES, socioeconomic status.

**Correlation is significant at the 0.01 level (two-tailed).

*Correlation is significant at the 0.05 level (two-tailed).

was observed that both the direct effect of RUIS on subjective well-being [DE: $b = 0.19$, 95% BCa CI (0.13, 0.25)] and the indirect effect through PUIS [IE: $b = -0.04$, 95% BCa CI (-0.06, -0.03)] were statistically significant as well. The individual control variables sex ($\beta = 0.31$, $p < 0.001$) and age ($\beta = -0.14$, $p < 0.001$) were statistically significant, but the variables SES and cohort of admission to the program were not.

As in Model 1, a partial mediation was observed in Model 2, in which the direct effect (positive) increased with respect to the total effect, while the indirect effect was negative. Namely, as the recreational use of Internet increases, subjective well-being of students does in turn. However, as in Model 1, in those cases that present problematic use perceived as high, a negative effect on their subjective well-being is detected.

A third model was built, placing problematic use of Internet as a mediator of the relationship between educational use of the Internet (EUIS) and subjective well-being. The results of Model 3 are presented in Table 8. The scheme of the model is shown in Figure 3.

As observed in the two models examined above, the total effect of educational Internet use on subjective well-being was statistically significant [TE: $b = 0.29$, 95% BCa CI (0.21, 0.36)]. Also, it was observed that both the direct effect of the educational use of the Internet on subjective well-being [DE: $b = 0.32$, 95% BCa CI (0.25, 0.40)] and the indirect effect through the problematic use of the Internet [IE: $b = -0.03$, 95% BCa CI (-0.05, -0.02)] were statistically significant when the total effect was broken down.

Regarding the control variables, the same behavior was observed as in the two previous models. That is, sex ($\beta = 0.35$, $p < 0.001$) and age ($\beta = -0.15$, $p < 0.001$) were significant, but SES and cohort of admission to the program were not.

Thereby, as in the two previous models, in Model 3, a partial mediation was observed, in which the direct effect (positive) of the independent variable (EUIS) increased for the total effect over the dependent variable (PWI), and the indirect effect (PUIS) was negative. Concretely, as the educational use of Internet increases, subjective well-being increases in turn, except in those cases where, as in the two previous models, a problematic use high enough is shown, resulting in a negative effect on the subjective well-being.

When comparing the variance explained by the mediating variable, that is, problematic use of the Internet, this reaches 3.44% in the three models built. However, when comparing the explained variance by each specific scale, the results vary according to the type of use. Indeed, for the social and recreational use scales, the relative weight in the explained variance of the model is 1.59 and 1.72%, respectively, but for educational Internet use, the explained variance rises to 2.90%.

Finally, if a replacement exercise is performed in the regression equations of each model, and two hypothetical cases are raised, where, on the one hand, a case A, corresponding to a male student, age according to sample's mean and registering average scores across all scales of use of Internet (SUIS, RUIS, and EUIS), as well as average problem use (PUIS). On the other hand, a case B, a student with identical characteristics to case A but with a PUIS one standard deviation above the mean. Case A would obtain a PWI of 8.34, 8.38, and 8.30, respectively. Case B would obtain PWI scores of 8.02, 8.06, and 7.99, respectively. In other words, a student who presents a problematic use over the mean will register subjective well-being 3.8% (average) lower than his peers who present an average PUIS in any of the three scenarios of Internet use examined.

DISCUSSION

The results of the analyses allowed us to verify that the subjective well-being of students tends to decrease with age, in accordance with diverse evidence in the literature, which indicates that it decreases after 10 years (Casas and González-Carrasco, 2019; Casas et al., 2020). Also, another identifiable trend was verified in the recent discussion, and that is that female students have lower subjective well-being than male students in this same

TABLE 6 | Linear regression analysis for mediational Model 1.

| | | Consequent | | | | | | |
|---------------------------------|----------------------|---------------------------------|------|----------------------------------|----------------------------------|--------|------|----------|
| | | M (Problematic use of Internet) | | | Y (Subjective well-being) | | | |
| Antecedent | | Coeff. | SE | <i>p</i> | | Coeff. | SE | <i>p</i> |
| X (Social use of Internet) | <i>a</i> | 0.12 | 0.01 | <0.001 | <i>c'</i> | 0.18 | 0.03 | <0.001 |
| M (Problematic use of Internet) | | - | - | - | <i>b</i> | -0.39 | 0.04 | <0.001 |
| Sex | | 0.06 | 0.03 | 0.09 | | 0.33 | 0.07 | <0.001 |
| Age | | 0.00 | 0.02 | 0.92 | | -0.15 | 0.04 | <0.001 |
| Socioeconomic status | | 0.08 | 0.06 | 0.20 | | -0.21 | 0.14 | 0.12 |
| Cohort | | 0.02 | 0.04 | 0.63 | | 0.03 | 0.08 | 0.75 |
| Constant | <i>i_M</i> | 1.41 | 0.30 | <0.001 | <i>i_Y</i> | 10.28 | 0.65 | <0.001 |
| | | | | $R^2 = 0.03$ | | | | |
| | | | | $F(5, 2,505) = 17.88, p < 0.001$ | $R^2 = 0.05$ | | | |
| | | | | | $F(6, 2,504) = 23.16, p < 0.001$ | | | |

age range (Casas and González-Carrasco, 2019, 2020). When comparing the scores obtained by both male and female students, when it comes to social (SUIS) and educational (EUIS) use of the Internet, as well as problematic use (PUIIS), no statistically significant differences were found. However, in the case of the recreational use (RUIS), where the difference was statistically significant, this was a minor effect. That is, when the effect of any additional variable is not controlled for, boys and girls do not present a considerably different behavior in the different types of Internet use nor in the problematic use of the Internet, a finding consistent with other studies applied to comparable populations (Cabello et al., 2020). Despite recent evidence that shows differences in intensity of use according to gender (Twenge and Martin, 2020), it was found in the present work that these are not necessarily plain to see but are more clearly manifested when the effect is mediated or controlled by more variables (Paez et al., 2020).

Regarding hypothesis No. 1 of the study, that is, that personal use of technology negatively affects the subjective well-being of schoolchildren only if its use is problematic, a relevant finding was that subjective well-being (PWI) is significantly and positively correlated with the three types of Internet use examined and negatively with the PUIS. It was also found that there is a positive and significant correlation between subjective well-being and a shorter time elapsed since the student received the equipment assigned by the MCPA program, which can be explained by the direct relationship between the cohort of entry to the program and a minor age at the time of receipt (Casas and González-Carrasco, 2019; Casas et al., 2020), as well as the effect of initial enthusiasm toward the device that may tend to diminish over time. Similarly, it was found that, as the SES rises, subjective well-being tends to increase and, at the same time, the frequency of use of technology by students tends to decrease. This may be due to the parental mediation effect that is identified in the groups with higher SES, where more spirited active and passive controls are exercised over the use of technology (Odgers, 2016; Cabello-Hutt et al., 2018).

With the aim of making a more precise distinction, the results obtained in the different tests suggest that those students who present low problematic use show higher subjective

well-being than those who present a high problematic use, regardless of the grouping variable through which the contrast is carried out, whether it is sex, SES, or cohort. This difference reaches, on average, 6.8% of the PWI score.

Additionally, it was corroborated that, when schoolchildren are grouped according to the intensity of the PUIS (high and low), the general trend that female students register lower subjective well-being than their male peers is maintained, regardless of whether they belong to the low or high problematic use group. Likewise, both the RUIS and the PUIS are positively correlated with the male students. In other words, boys tend to use the Internet more intensively for recreational purposes and, at the same time, present a more problematic use than girls. Although this is consistent with the literature (García-Oliva et al., 2017), as already mentioned, it is also possible to find evidence to the contrary (Malo-Cerrato et al., 2018; Martín-Perpiñá et al., 2019). In this sense, it is possible to argue that, even when controlling for the effect of PUIS on the student population, female students register a lower PWI than male students. Likewise, this variable seems to explain better its relationship with subjective well-being than the intensity of Internet use, regardless of its purpose, and reaffirms the proposition that the sole frequency of use nor the length of time spent in front of the screen are sufficient approximations. Nevertheless, the disturbance they exert in the daily life of schoolchildren should be considered, especially in personal and social aspects (Castellana Rosell et al., 2007; Viñas Poch, 2009; Smahel et al., 2012; Rial and Gómez Salgado, 2018).

In order to fulfill the objective of the study, three multivariate models of simple mediation were also constructed, which assumed the subjective well-being of the students (PWI) as the dependent variable and the PUIS as the mediating variable. Each model incorporated a specific use scale (SUIS, RUIS, and EUIS) to its corresponding set of independent variables, which allowed a separate analysis of the effect of the type of Internet use on subjective well-being. Although the variance of the dependent variable explained by independent ones is apparently low (5–7% for the three models), it must be pointed out that subjective well-being is a complex variable, and it is affected by almost all the variables that surround the context of the individuals. For this reason, it should be considered,

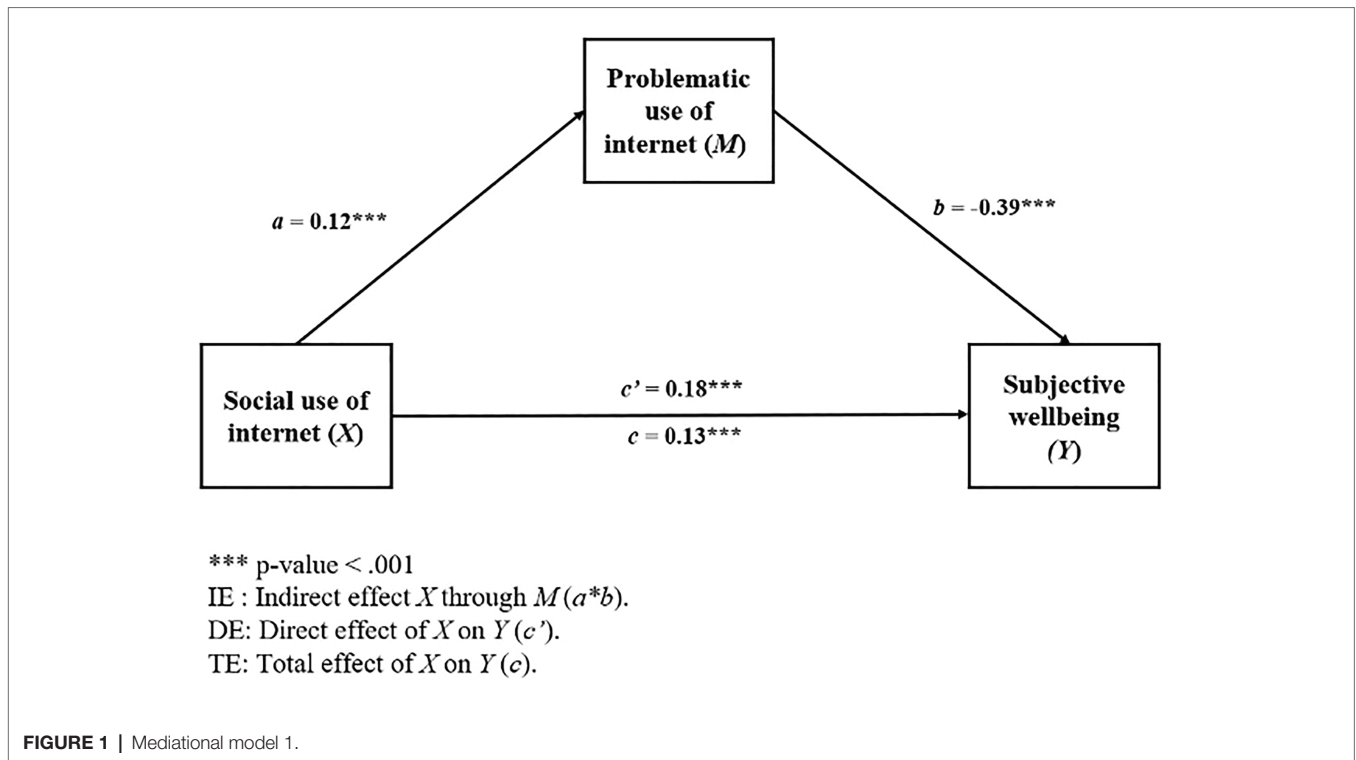


FIGURE 1 | Mediation model 1.

TABLE 7 | Linear regression analysis for mediational Model 2.

| | | Consequent | | | | | | |
|--|----------------------|--|------|----------------------------------|----------------------------------|--------|------|----------|
| | | <i>M</i> (Problematic use of Internet) | | | <i>Y</i> (Subjective well-being) | | | |
| Antecedent | | Coeff. | SE | <i>p</i> | | Coeff. | SE | <i>p</i> |
| <i>X</i> (Recreational use of Internet) | <i>a</i> | 0.11 | 0.30 | <0.001 | <i>c'</i> | 0.19 | 0.03 | <0.001 |
| <i>M</i> (Problematic use of Internet) | | - | - | - | <i>b</i> | -0.38 | 0.04 | <0.001 |
| Sex | | 0.04 | 0.03 | 0.24 | | 0.31 | 0.07 | <0.001 |
| Age | | 0.00 | 0.02 | 0.85 | | -0.14 | 0.04 | <0.01 |
| Socioeconomic status | | 0.07 | 0.06 | 0.24 | | -0.22 | 0.14 | 0.10 |
| Time since the student received the computer | | 0.01 | 0.02 | 0.86 | | 0.02 | 0.08 | 0.84 |
| Constant | <i>i_M</i> | 1.31 | 0.30 | <0.001 | <i>i_Y</i> | 10.04 | 0.66 | <0.001 |
| | | | | $F^2 = 0.03$ | | | | |
| | | | | $F(5, 2,505) = 14.46, p < 0.001$ | | | | |
| | | | | | $F^2 = 0.05$ | | | |
| | | | | | $F(6, 2,504) = 22.88, p < 0.001$ | | | |

since it shows that the model is successful in identifying the effect that different types of Internet use have on subjective well-being, especially considering that all the models were statistically significant.

In the three models constructed, the simple mediation analysis results indicated that only if the intensity of Internet use is expressed as problematic does it have a negative effect on subjective well-being. On the contrary, when Internet use is not associated with problematic use, the effect is positive and even greater than the simple effect (without mediation) between these two variables. In other words, high intensity of use does not mean that it is necessarily problematic, but rather that they are phenomena that act independently. In simple words, when the PUIS effect is isolated, the relationship between the different types of use of Internet and PWI is

positive, namely, as the use of the Internet increases, subjective well-being increases. Nevertheless, in those cases that present problematic use high enough, this makes a negative effect on the subjective well-being. This is one of the main findings of the present research.

Regarding hypothesis 2, specifically, the effect on subjective well-being is different according to the type of Internet use, it was possible to corroborate that, by isolating the magnitude of the effect of problematic use, the different types of use studied make a significant contribution to the variance explained by the respective model, but their magnitudes are different. Thus, social and recreational use represent 1.59 and 1.72% of the variance explained in their respective models, but, in the case of educational use, the variance explained by this rises to 3.44%.

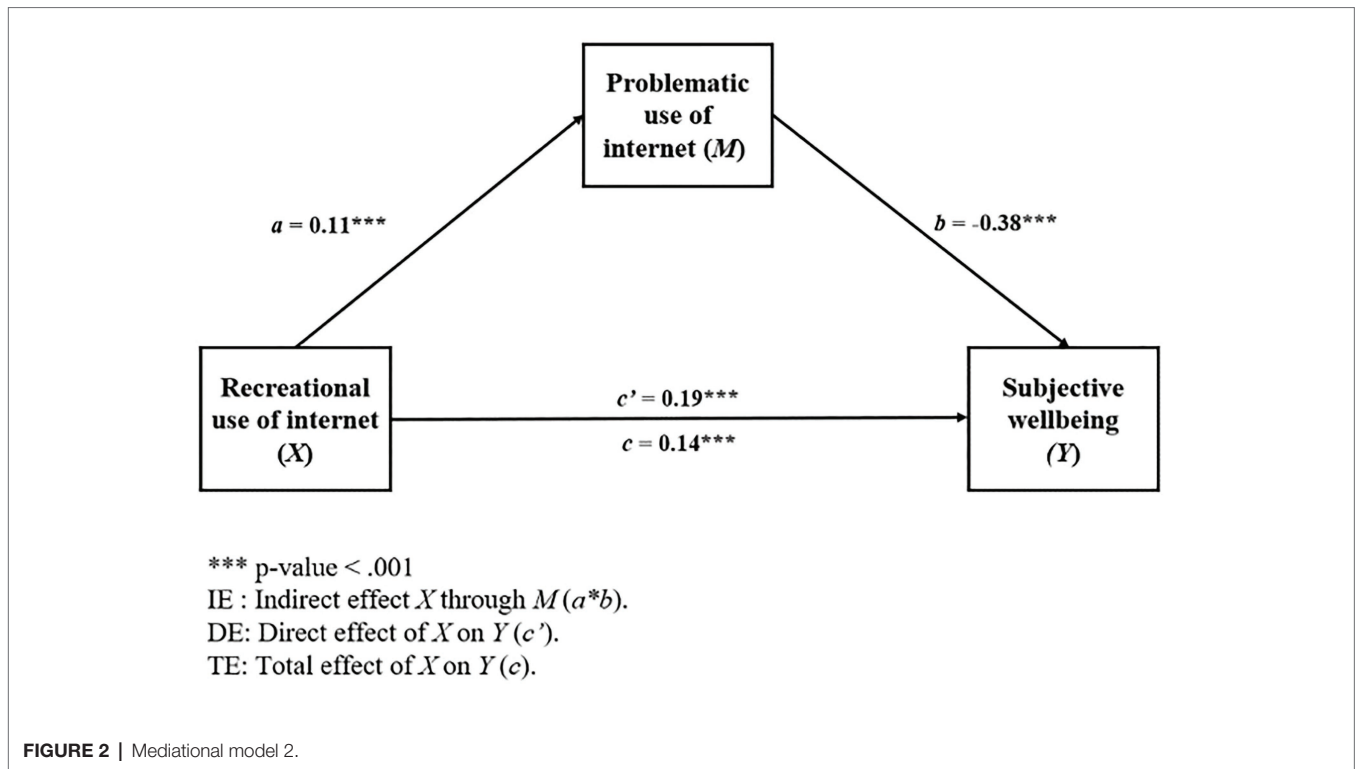


FIGURE 2 | Mediation model 2.

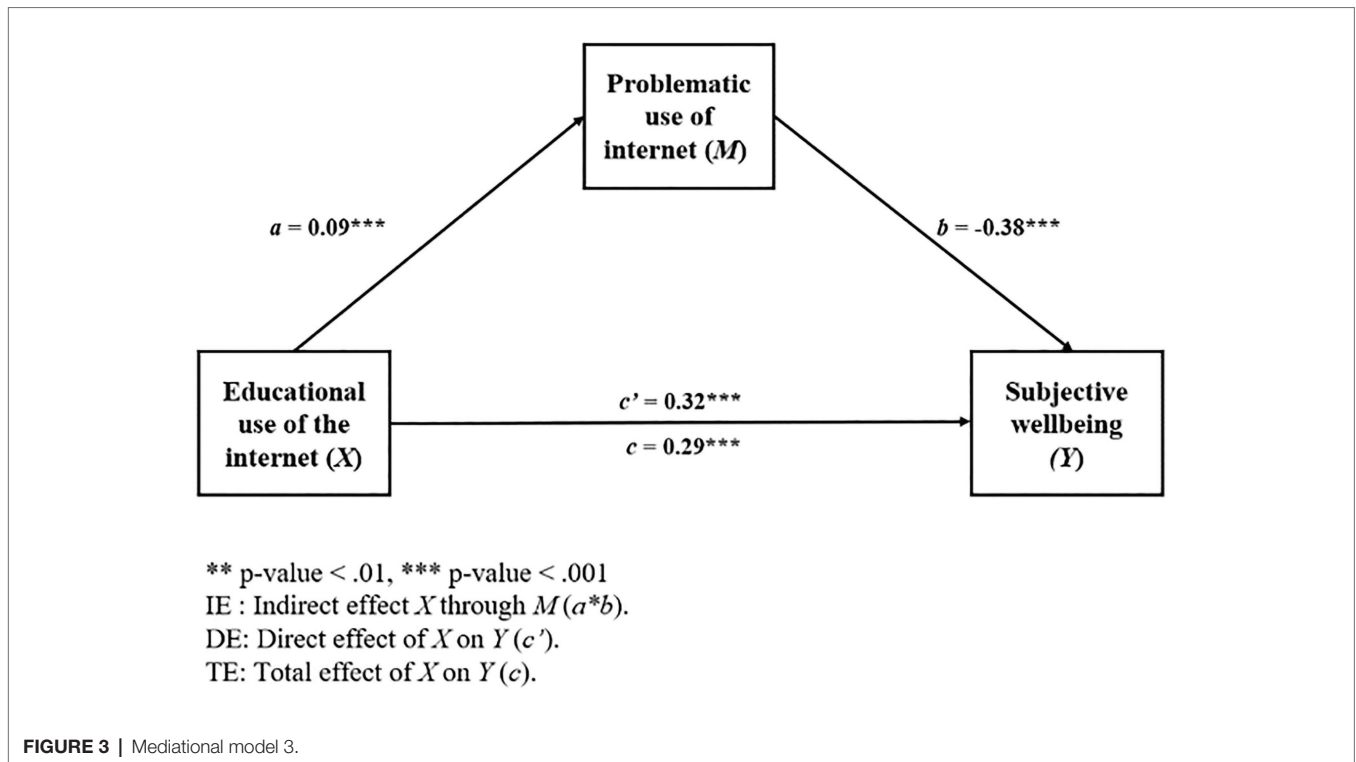
TABLE 8 | Linear regression analysis for mediational Model 3.

| | | Consequent | | | | | | |
|-------------------------------------|-------|---------------------------------|------|---------------------------------|----------------------------------|--------|------|--------|
| | | M (Problematic use of Internet) | | | Y (Subjective well-being) | | | |
| Antecedent | | Coeff. | SE | p | | Coeff. | SE | p |
| X (Educational use of the Internet) | a | 0.09 | 0.02 | <0.001 | c' | 0.29 | 0.04 | <0.001 |
| M (Problematic use of Internet) | | - | - | - | b | -0.38 | 0.04 | <0.001 |
| Sex | | 0.06 | 0.03 | 0.08 | | 0.35 | 0.07 | <0.001 |
| Age | | 0.00 | 0.02 | 0.98 | | -0.15 | 0.04 | <0.001 |
| Socioeconomic status | | 0.07 | 0.06 | 0.29 | | -0.24 | 0.13 | 0.08 |
| Cohort | | 0.02 | 0.04 | 0.66 | | 0.03 | 0.08 | 0.75 |
| Constant | i_M | 1.51 | 0.30 | <0.001 | i_Y | 9.82 | 0.65 | <0.001 |
| | | | | $R^2 = 0.01$ | | | | |
| | | | | $F(5, 2,505) = 6.32, p < 0.001$ | | | | |
| | | | | | $R^2 = 0.07$ | | | |
| | | | | | $F(6, 2,504) = 29.15, p < 0.001$ | | | |

Therefore, the evidence collected allows us to sustain that the intense use of the Internet, whether for social, recreational, and, especially, educational purposes, as long as it is not problematic, has a positive effect on students' subjective well-being. The latter complements previous research that detected that, by separating the intensity of Internet use for educational purposes from those for general purposes, the relationship with academic performance is positive (Kim et al., 2017). In addition, it allows to reaffirm the proposition that technology is not neutral (Zhao et al., 2004; Delvenne and Parotte, 2019) and that its different types of use have, in turn, different impacts on the lives of people.

Until now, the major limitations of recent research are that it concentrates mainly on Internet access of schoolchildren in developed countries and that it focuses mainly on the social

application they give to it (Odgers, 2016; Beyens et al., 2020; George et al., 2020; Luo and Hancock, 2020; Mylonopoulos and Theoharakis, 2020; Walsh et al., 2020). Meanwhile, it seems to neglect Internet recreational use (Przybylski and Weinstein, 2017), and it virtually ignores the influence that the educational use of it could have on the well-being of students. In this sense, the relevance of the findings provided by this study lies in the fact that they allow for discussion that, in order to investigate in depth the effect that the intensity of Internet use can have on the subjective well-being of schoolchildren, first, the mediating effect exerted by the problematic use of the Internet must be taken into account, second, that not all types of use have the same impact on subjective well-being, and, third, that since digital development is not distributed equitably in the world (Hilbert, 2016; Third et al., 2017),



it is crucial to critically evaluate the approaches that omit the existence of the digital divide when investigating the possible consequences of Internet use.

Although there is consensus in the specialized discussion (Ivie et al., 2020; Kardefelt-Winther et al., 2020; Young et al., 2020) that the different apparently contradictory results reflect that the phenomenon has not yet been sufficiently studied (Przybylski and Weinstein, 2017; Orben and Przybylski, 2019; Young et al., 2020), it is necessary to consider that there are sociocultural, technological, and economic differences at country level that are not being taken into account (Diener et al., 2018) in the study of the relationship between digital technologies and subjective well-being. This first-world bias could be one of the multiple causes that explain the difficulty of obtaining conclusions that can be generalized to broader realities, especially to less economically and digitally developed regions (Laugasson et al., 2016; Donoso et al., 2021).

One of the main limitations of this study is that, given that the cases come from the beneficiaries of a focused public policy, the sample shows a slight prevalence of students belonging to the lowest SESs, which may not be adjusted to what happens in high-income groups. Contexts with high segregated school systems like the one of Chile (González and Fernández-Vergara, 2019; Bellei et al., 2020), where private schools have only students with high SES, and public schools the opposite, are to be studied in further research. Another limitation is that the use of self-report in schoolchildren should always be taken with caution, as it might limit the accuracy of the data. It is to be noted that the type and frequency of Internet use were obtained through this modality for this research. Moreover, this work

did not consider dependence, compulsiveness, or any other psychological problems that may be related to the study variables. Finally, it is worth mentioning, due to the cross-sectional design of the study, that these results should not be considered as a causal relationship.

Finally, considering that the first- and second-generation digital divide continues to be substantial in developing countries and that programs for the direct delivery of technological equipment to schoolchildren continue to exist in these regions (UNICEF, 2017; Cabello et al., 2018), it is important that future research monitors the possible effects that these projects may have not only on subjective well-being, the sense of belonging and social integration of schoolchildren, but also on the rest of the family group and the educational community, given that, in many cases, access to these devices and their connectivity possibilities constitute the first approach to the digital world, especially in the lower-income population. Therefore, it is essential to highlight the role that technology can have in education not only in its potential contribution to obtaining better learning results but also in its contribution to the opening of various opportunities for growth, integration, and belonging to which children and adolescents should have access to as part of their development process. Last but not least, given that this type of initiative represents a very significant expense, both from public budget as well as donations from the technology industry, we suggest observing the results from a broader perspective with the aim of diversifying the approach used to evaluate the social impact of these efforts and to deepen scientific research on the matter.

In conclusion, although the discussion about the problematic use of technology, particularly the Internet, is still in progress, the results of this study provide inputs that allow advancing toward a more comprehensive understanding of the differentiated effects than the type or purpose of use have on the subjective well-being of adolescents. Likewise, the findings of this research allow us to affirm that intense use, but which does not qualify as problematic, not only does not have a negative effect on subjective well-being, but on the contrary, has a positive one. In other words, distinguishing the purposes of use of digital technologies is vital to draw more precise conclusions in the study of subjective well-being.

DATA AVAILABILITY STATEMENT

The data analyzed in this study is subject to the following licenses/restrictions: Dataset is only available upon request, due to the policy of the Ministry of Education of Chile. Requests to access these datasets should be directed to Centro de Estudios Mineduc, estudios@mineduc.cl.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Enlaces, Education and Technology Center, Ministry

of Education of Chile. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

GD contributed to the investigation, data curation, formal analysis, and writing the original draft. FC contributed to the conceptualization, formal analysis, writing, review, and editing. AR contributed to the methodology, formal analysis, writing, review, and editing. CC contributed to the writing, review, editing, and translation. All authors contributed to the article and approved the submitted version.

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Social Sharing of Emotions and Communal Appraisal as Mediators Between the Intensity of Trauma and Social Well-Being in People Affected by the 27F, 2010 Earthquake in the Biobío Region, Chile

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The psychosocial impacts of natural disasters are associated with the triggering of negative and positive responses in the affected population; also, such effects are expressed in an individual and collective sphere. This can be seen in several reactions and behaviors that can vary from the development of individual disorders to impacts on interpersonal relationships, cohesion, communication, and participation of the affected communities, among others. The present work addressed the psychosocial impacts of the consequences of natural disasters considering individual effects via the impact of trauma and community effects, through the perception of social well-being, the valuation of the community and the social exchange of emotions. The aim of this study was to assess the relationship between individual reactions (i.e., intensity of trauma) and the evaluation of social and collective circumstances (i.e., social well-being) after the earthquake of 27F 2010 in Chile, through collective-type intervention variables not used in previous studies (i.e., social sharing of emotions and community appraisal). For this purpose, a descriptive, *ex post facto* correlational and cross-sectional methodology was carried on, with the participation of 487 people affected by the 2010 earthquake, 331 women (68%) and 156 men (32%), between 18 and 58 years old ($M = 21.09$; $SD = 5.45$), from the provinces of Ñuble and Biobío, VIII region, Chile. The measurement was carried out 4 years after the earthquake and the results show that greater individual than collective involvements were found, mainly in the coastal zone of the region. The mediation analysis showed that the relationship between the intensity of the trauma and social well-being occurs through a route that considers social sharing of emotions and community appraisal. These results indicate that the overcoming of individual affectations to achieve social well-being occurs when in the immediate post-disaster phases the affected communities activate shared emotional and cognitive processes, which allow them to jointly face subsequent threats and abrupt changes.

Keywords: earthquake, trauma, social sharing of emotions, community appraisals, social well-being

INTRODUCTION

From the vulnerability approach (Cardona, 2001; Caviedes, 2015) the Latin American context, and specifically the Chilean context, presents an accumulation of weaknesses that can be grouped into different physical, economic, social or educational dimensions, which go beyond its geographical conditions (Ayala and Olcina, 2002; Blaikie et al., 2006; Rojas and Martínez, 2012). Romero and Romero (2015) identify that the effects of natural disasters depend largely on political-ecological factors that lead to their repercussions not being experienced in the same way throughout society, with the most vulnerable and socially excluded segments being the most affected, economically and territorially. Hewitt (1996) illustrates how the social structure constitutes a determining factor when considering the consequences of a natural disaster, pointing out that, in the evidence found, the distribution and amount of human losses in natural disasters is directly related to the socioeconomic condition of the affected people.

In recent decades, the condition of vulnerability in Chile has been aggravated by factors such as rapid urban growth and environmental damage, which has led to a decrease in the quality of life of the population, devastation of the country's natural resources, a deterioration of natural landscapes and an impact on the national culture (Cardona, 2001; Instituto Nacional de Derechos Humanos, 2018).

Traditionally, the study of the consequences of natural disasters was from the clinical setting, fundamentally, from the evidence of impacts such as the diagnosis of post-traumatic stress disorder (PTSD) (Ayala and de Paúl Ochotorena, 2004; Friedman et al., 2007; Zhang et al., 2018) which does not consider mental health as a state of well-being that explores the perception of individuals of their own capacities and their potential contribution to the community (World Health Organization, 2013). This vision of trauma and disasters has had several detractors (Creamer, 2000; Cova et al., 2011; Crespo and Gómez, 2012) who question the definition of what constitutes a traumatic event (Brewin et al., 2009; Crespo and Gómez, 2012) because the clinical criteria presents a restrictive perspective on the impacts when it comes to accounting for more complex phenomena such as political violence or disasters which, in other words, refers to the lack of consideration of the context in these events (Blanco et al., 2016; Bennett et al., 2019). This has led to an overestimation of the diagnosis of PTSD and the assessment of the population in need for clinical intervention, along with an underestimation of the broader impact that these events present in communities (Bonanno et al., 2010). Moreover, the effects or consequences of disasters would be related to the social scenario in which they arise (Cova and Rincón, 2010).

In the face of these limitations, two key elements emerge to understand the effects of disasters studies: first, disasters can also elicit positive responses or effects, being a source of new learning or personal growth (Tedeschi and Calhoun, 1996; Bonanno, 2004; Vera et al., 2006) and second, that disasters cause impacts on communities, characterized by a weakened access to social support, impairment in interpersonal relationships and a decrease in the sense of community

(Bonanno et al., 2010), disarticulating the social fabric, cohesion and participation, while affecting the leadership of community actors (Barrales et al., 2013).

Leiva-Bianchi et al. (2018) conducted a meta-analysis of the psychosocial impact of disasters considering war and catastrophe events, which precisely considered the effects on the individual, family and social environment of the populations affected by an event. These authors conclude that it is possible to understand the impact of these events through two independent axes: one, related to the "negative effects" (post-traumatic stress, stress, depression, anxiety, substance abuse, hate responses, disruptive behavior, and general psychopathology) and, the other one related to the "positive effects" (coping, post-traumatic growth, social support, emotional well-being and positive emotions). A second axis is related to "protection versus exposure" in which it is identified that at the end of protection there would be a maximum of resources such as social support or community participation to cope with the events, while at the end of exposure to the event these resources would be minimal or non-existent.

A relevant aspect is that traumas have a social nature, that they arise and are maintained in a context (Martín-Baró, 2003) in which, according to Blanco et al. (2016) it is of interest to place oneself in the previous situations (pre-traumatic situation), in the immediate impacts on people (destruction of beliefs about oneself) and in the community impacts (community destruction). Complementarily, there are studies that explain looting behaviors such as those identified in the 2010 Chile earthquake, based on the country's pre-disaster conditions like social inequality and the predominance of a consumer society (Grandón et al., 2014). Other studies included the one where Mandavia and Bonanno (2018) investigate the effects of environmental stressors, identifying that disasters such as those produced by hurricanes and a subsequent economic crisis will generate a high impact on the mental health of the exposed community. Accordingly, one way to prepare communities and reduce their vulnerability to disasters is constituted by strategies that promote community participation and the prevention of the loss of psychosocial resources (Smith and Freedy, 2000). These strategies constitute an essential element in reducing levels of social vulnerability and would enable communities to access social and governmental resources to cope with these events. The evidence in natural disasters confirms that people who perceive social support and present a willingness to community organization have greater social cohesion, lower indicators of individual disorders (Figueroa et al., 2010), better indicators of well-being and post-traumatic growth (Villagrán et al., 2014; Włodarczyk et al., 2016a,b).

Complementary to these findings, the approach to positive and adaptive aspects in individuals and communities implies considering the study of well-being as an essential component of health, as proposed by the World Health Organization (2003). Blanco and Díaz (2005) state that well-being includes social needs, problems and collective aspirations, in addition to support and social relationships which, in turn, are associated with the set of resources derived from the network of interpersonal relationships in which an individual and his community are inserted (Putnam, 2000; Keyes and Shapiro, 2004). In this

regard, Keyes (1998) proposes the notion of social well-being that integrates social and cultural elements that promote mental health, in which social contact, interpersonal relationships, roots, community contacts and social participation would increase well-being in the communities. On the one hand, relationships have been found between social well-being and variables of different kinds such as life satisfaction, psychological well-being, resilience or personality styles (Zubieta and Delfino, 2010; Alzugaray et al., 2018). On the other hand, social well-being is associated with a sense of community (Tempier et al., 2012), specifically, where this sense of community would act as a predictor of social well-being (Albanesi et al., 2007). Kaniasty (2012) in a longitudinal study 1 year after a flood, found that participation in altruistic communities was associated with better interpersonal and community relationships and, conversely, dissatisfaction in such relationships predicted lower levels of well-being. Therefore, exposure to disasters mobilizes different individual and collective resources that contribute to later well-being, as found in the 2010 Chile earthquake (García et al., 2014; Villagrán et al., 2014; Włodarczyk et al., 2016a,b, 2017).

In the Chilean context, the study of disasters has increased since the 2010 earthquake, and has combined research on clinical and community variables. In the first case, several studies evaluated PTSD, either in children and adolescents (Rincón et al., 2014), just in adolescents (Díaz et al., 2012) and in adults (Leiva-Bianchi, 2011). From the studies cited, it should be noted that, although PTSD was indeed found between 6 and 30%, the highest percentage of the population did not meet criteria for mental health pathology in the reviewed contexts. In contrast, other studies in Chile have considered the negative and positive community impacts of the earthquake: a qualitative research on people living in temporary camps found an increase in the sense of belonging in those affected who rebuilt their homes in the same place, however, they also reported increases in the levels of conflict and violence in the community (Grandón et al., 2016). In addition, Rojas et al. (2014) evaluated coastal communities in the Biobío region affected by the 2010 earthquake and tsunami, finding a decrease in household income, increased insecurity of the population and a slow reconstruction process. Evidence of well-being in the context of the 2010 earthquake has been found to be associated with communal growth and adaptive coping strategies (Leiva-Bianchi et al., 2012; Villagrán et al., 2014; Włodarczyk et al., 2016b, 2017).

In this regard, early results have addressed the communal aspects that arise in disaster-affected communities, specifically through communal coping. This coping occurs when one or more individuals perceive a stressor as “our problem” and activate a shared or collaborative coping process: this involves a shared assessment of stress and a shared action orientation to manage stress in a group or community (Lyons et al., 1998). Thus, coping has been found to occur when there is a shared collective experience, which also involves a shared assessment of the stressful event, as well as a shared communication about stress and, finally, a mobilization in people to act collectively (Lyons et al., 1998; Leprince et al., 2018; Rentscher, 2019). In this way, a shared process is emphasized that leads to a communal confrontation, which makes possible better possibilities to deal with the impacts of the natural disaster (Villagrán et al., 2014;

Włodarczyk et al., 2016a,b; García and Włodarczyk, 2018). In this context of shared coping, two key concepts emerge to understand how it occurs: the communal appraisal associated with the shared valuation of the experience of stress, which has been addressed in the studies by Lazarus and Folkman, and the social sharing of emotions raised by Bernard Rimé.

The notion of appraisal identifies a cognitive process in which an individual explores and assesses whether and how his environment is favorable to his or her well-being (Lazarus, 1966; Folkman et al., 1986). In particular, the appraisal presents a preponderant role in people’s evaluation before experiencing emotions and implies an adaptation to changing situations of the environment, which represents a subjective evaluation of the goals, objectives and the capacity of coping (Schmidt et al., 2010).

In this sense, it is of interest when the situations of the environment affect a group of people and the assessment they can make as a whole, especially when dealing with high intensity events that challenge individual resources (Villagrán et al., 2014). Although there are studies that have raised the notion of reappraisal as a communal coping strategy (Włodarczyk et al., 2016a,b), here we consider communal appraisal as the entire collective evaluation that is made of the emotions in the face of events that equally affect a group. Hence, through the communal appraisal, the cognitive work of assessment is prevented from being solely individual, which could be directed to less adaptive forms, such as rumination (Weiss and Berger, 2010), which could impact on people’s basic beliefs (Janoff-Bulman, 1992), or be oriented toward cognitive avoidance behaviors or desires for a magical change in the problem (Villagrán et al., 2014).

On the other hand, the social sharing of emotions has been identified as the translation of an emotional experience into a socially shared language (Rimé et al., 1998; Rimé, 2009), which would allow the reconstruction of people’s beliefs through the transmission of shared feelings and which promotes the construction of a collective emotional atmosphere (Páez et al., 2007). At this point, living an emotional experience implies the need to share it with others, especially one of high intensity (Martínez Sánchez, 2011). In a disaster context, this has been identified more as a coping phase (Páez et al., 2001), rather than as an exchange that promotes wider social effects related to social structure, social norms or interpersonal relationships, among others (Rimé et al., 2020).

STUDY APPROACH

This study addresses the context of the earthquake and tsunami of February 27, 2010 (27F) in Chile, which generated multiple social, cultural, political and economic impacts at the country level (CEPAL, 2010). Many individuals and families, especially in coastal areas, lost family members and material goods, along with the emergence of a sense of vulnerability, lack of protection and insecurity, because of the measures and actions of the Chilean State that presented deficiencies in relation to the basic organization of the supply of essential inputs and products to address the emergency and provide public safety (Letelier, 2010). Based on this, it is interesting to see how, after an initial stage of alarm at a later stage, people generate shared actions oriented

at seeking meaning and understanding (Zech and Rimé, 2005) through verbal interaction that provokes a common evaluation of events (Von Scheve and Ismer, 2013), through the social sharing of emotions and community assessment. Although there is evidence from studies on the psychosocial impacts of 27F (e.g., García et al., 2016; Leiva-Bianchi et al., 2018), it has not been explored whether a shared assessment favored better levels of adaptation and social well-being.

Another aspect of interest relates to exploring the persistent individual and collective affectations in the context of threats and abrupt changes after the earthquake, given that a characteristic of the 27F earthquake was the scarce institutional preparation to face critical situations. Specifically, difficulties arose in territorial security, in the information provided by the authorities that was not clear, and in the limitations in the supply of basic services such as food, water and electricity (Torres-Méndez et al., 2018). Thus, it is expected that the inhabitants of the coastal area of the Biobío region (i.e., Concepción) will be more intensely affected, and will also be exposed to other phenomena such as the tsunami, in comparison to inland areas (i.e., Ñuble).

Thus, the purpose is to evaluate the relationship between individual reactions (i.e., intensity of the trauma) and the assessment of social circumstances after an earthquake (i.e., social well-being) through collective-type intervening variables not used in previous studies in 27F, such as the social sharing of emotions and the communal appraisal. This aim will provide further insight into the conditions immediately following a disaster and their possible impact on a positive evaluation of social functioning.

METHODOLOGY

Participants

The methodology used corresponded to a descriptive, *ex post facto* correlational and cross-sectional research design. The participants corresponded to 491 people affected by the 2010 earthquake, 331 women (68%) and 156 men (32%), between 18 and 58 years old ($M = 21.09$; $SD = 5.45$), from the provinces of Ñuble (32.4%) Concepción (63.3%) and Arauco (4.3%), Biobío region, Chile. The measurements were applied 4 years after the earthquake.

Instruments

Trauma Intensity (IT) (Włodarczyk et al., 2016a)

The emotional impact of the traumatic episode was assessed using three items: (A) "In general, how stressful or traumatic was the earthquake situation for you?" (B) "How intense was the experience for you?" (C) "To what extent did it cause you anxiety?" The response scale ranged from 1 (not at all) to 7 (a lot). A single factor was obtained through an exploratory factor analysis (EFA). The reliability of this scale was excellent ($\alpha = 0.87$).

Communal Appraisal (CA)

The communal evaluation of emotions in the face of the earthquake was evaluated through five items: (a) "Did the group perceive that their discomfort decreased?" (b) "Did the group

understand the situation of displacement?" (c) "Did the group control or resolve the situations?" (d) "Did the group manage relationships?" (e) "Did the group maintain or improve its image?" The response scale ranged from 1 (not at all) to 7 (a lot). A single factor was obtained by an EFA. Reliability for the scale was $\alpha = 0.82$.

Social Sharing of Emotions (SSE) (Rimé, 2005)

It was evaluated by four questions about the frequency and the need to talk about the collective traumatic situations and impacts associated with the earthquake. E.g., "How frequently have you spoken about the events of 27F during the last week?" "How frequently have you heard people talk about the events of 27F during the last week?" The response options range from 1 (Nothing) to 4 (Much). The reliability of the scale was $\alpha = 0.81$.

Social Well-Being

Social Well-Being Scale (SWB) (Keyes, 1998, adapted by Blanco and Díaz, 2004). A total of 15 items from the short Spanish version of Social Well-Being Scale (Bobowik et al., 2015) composed by five dimensions: social integration (e.g., "You feel like you're an important part of your community"), social acceptance (e.g., "You believe that people are kind"), social contribution (e.g., "You think you have something valuable to give to the world"), social actualization (e.g., "You see society as continually evolving"), and social coherence (e.g., "The world is too complex for you"). The response range is from 1 (totally disagree) to 5 (totally agree). The reliability obtained for this scale was $\alpha = 0.88$.

Procedure and Data Analysis

This work was developed ensuring the fulfillment of the ethical principles of investigation on a national and international level. The participants were contacted directly, the purpose of the study was explained to them, the anonymous and confidential nature of their responses, and the possibility of withdrawing from the study at any time if they so wished. The participants were given the contacts of the primary care health centers (Centros de Salud Familiar, CESFAM) in the areas where they lived, where mental health staff contacts were available. This was in case they needed psychological counseling after participating in the study. Two versions of the questionnaire were created: an online version in which the questions were sent via e-mail to the participants, who answered voluntarily for 2 months. The paper version was answered mainly by the participants from the province of Ñuble. In both cases, the questionnaire consisted, first, of an informed consent and then contained a section where they had to fill in the socio-demographic data. Then came the items referring to the earthquake situation and the subsequent reactions, thoughts and actions, both individually and collectively. Subsequently, participants were asked to answer about trauma intensity, CA, SSE, and SBW.

A mediational analysis was carried out, using the macro PROCESS for SPSS, specifically model 6 (Hayes and Preacher, 2013), to contrast that social sharing of emotions and communal appraisal are mediating factors between the intensity of trauma

and social well-being. In order to estimate the mediation model, a number of 10,000 bootstrap samples.

RESULTS

Frequency of Losses and Level of Personal and Community Involvement

In relation to the frequency of various losses associated with the earthquake, human losses (13.1%), family crisis (9.9%), and economic losses (57.6%) were found. An index of individual affectation was constructed in relation to different impacts (e.g., changes in work activity, perception of dangers, changes in income) and an index of communal affectation (e.g., material damage in the neighborhood, presence of looting behaviors in the neighborhood, among others), which showed a low, medium and high level of affectation. Significant differences are evidenced in a greater affectation in women than in men, both in the individual affectation ($\chi^2 = 8.01, p < 0.05$) and in the communal one ($\chi^2 = 5.59, p = 0.061$). There are also significant differences in communal involvement by zones, being greater in the province of Concepción compared to Ñuble ($\chi^2 = 42.23, p < 0.01$).

Correlates of the Individual and Communal Affectation With the Variables Under Study

To observe the relationship between individual and communal affectation with the variables under study, the correlations established a significant relationship between TI, CA, and SES with individual and communal involvement. However, there was

TABLE 1 | Correlations between TI, SSE, CA and SBW with personal and community involvement.

| Variables under study | Personal involvement | Community involvement |
|-----------------------|----------------------|-----------------------|
| TI | 0.64** | 0.30** |
| SSE | 0.35** | 0.20** |
| CA | 0.13* | 0.09* |
| SBW | 0.08 | 0.07 |
| Social integration | 0.11* | 0.059 |
| Social acceptance | 0.10* | 0.15** |
| Social contribution | 0.12** | 0.10* |
| Social actualization | 0.08 | 0.02 |
| Social coherence | -0.15** | -0.10* |

* $p < 0.05$; ** $p < 0.01$.

no significant relationship between SWB and individual and collective affectation, but rather with some of its dimensions, specifically, acceptance, contribution and social coherence (see **Table 1**).

Association Between Individual-Collective Involvement and SWB

The association between individual and collective affectation according to the province of origin (i.e., Concepción and Ñuble) with social well-being was examined, considering that the province of Concepción also experienced a tsunami. The participants were divided by the median into high versus low individual and collective affectation. An ANOVA of 2 (province

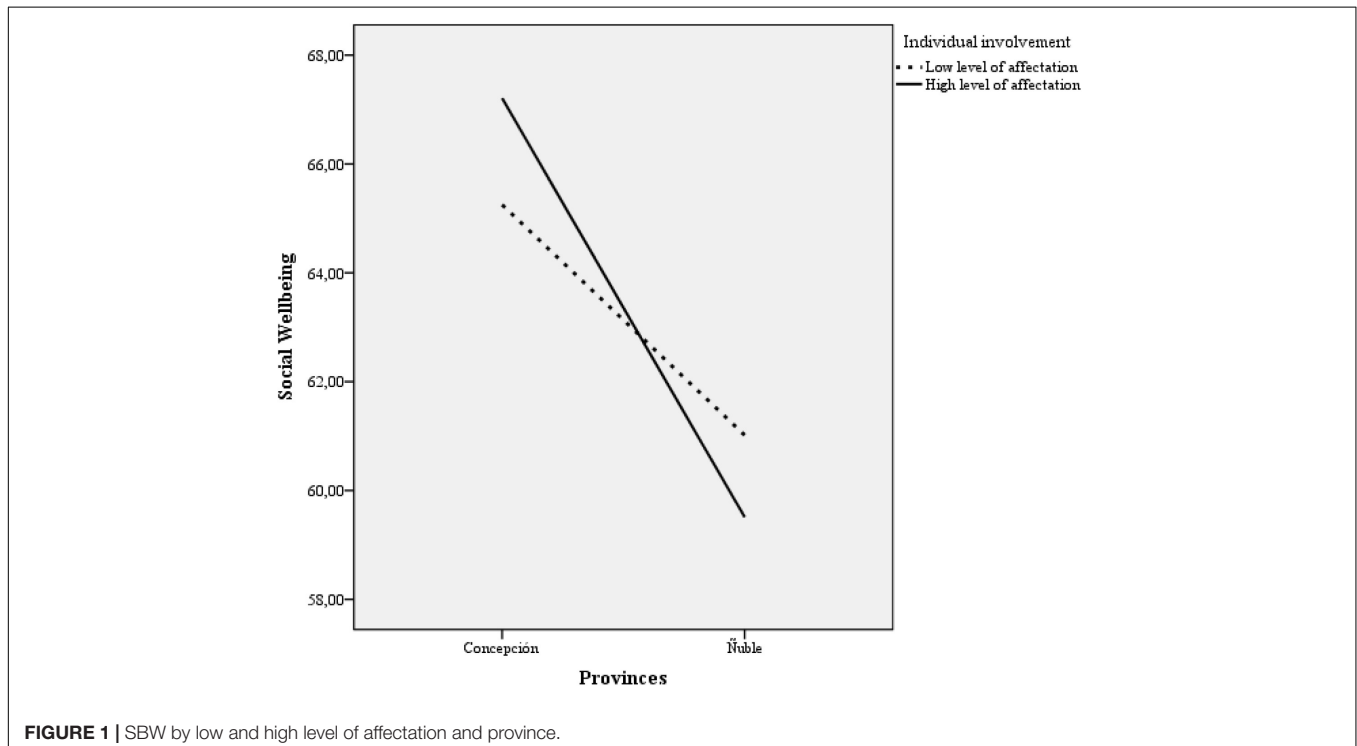


FIGURE 1 | SBW by low and high level of affectation and province.

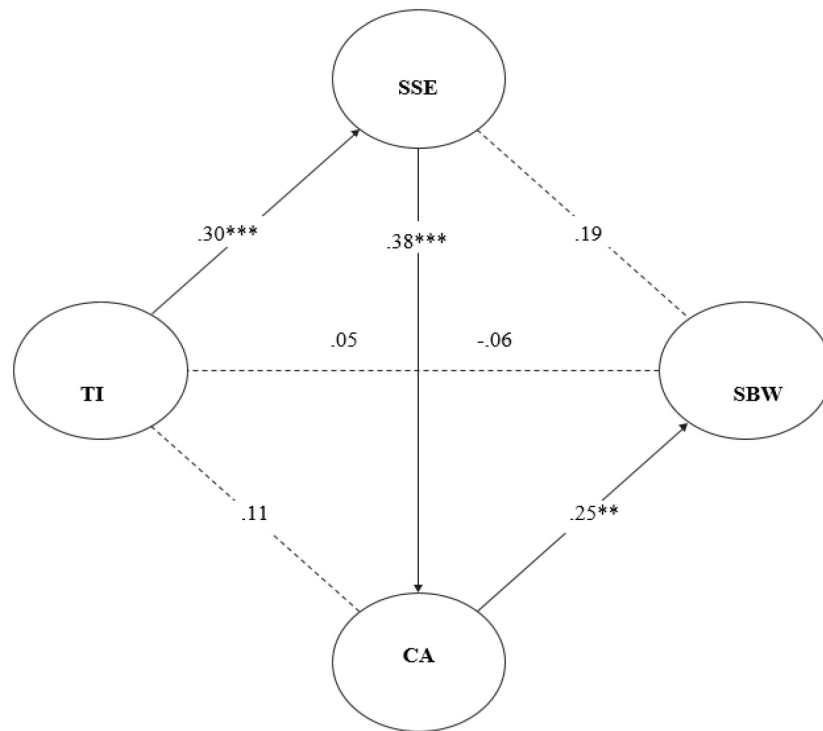


FIGURE 2 | Relationship between TI and SBW mediated by SSE and CA.

of origin) \times 2 (low and high affectation) was carried out using the SWB as a dependent variable. An interaction effect was found between the province of origin and individual affectation, $F(1) = 3.96, p < 0.05$, showing that in the province of Ñuble those who presented greater affectation associated with the earthquake reported less SW. However, in the province of Concepción, the opposite effect was observed: the participants with the highest affectation reported the highest SW. In relation to community involvement, no significant results were found (see **Figure 1**).

Intensity of Trauma, Social Sharing, Communal Appraisal, and Social Well-Being

A multiple mediation model was estimated to test the hypothesis of the relationship between trauma intensity and participation well-being through mediating variables of social sharing of emotions and communal appraisal (see **Figure 2**). The results confirm that there is no significant effect between the intensity of trauma and social well-being ($B = -0.06, t = -0.69, p > 0.05$). The direct effect of social sharing of emotions was significant with the intensity of the trauma ($B = 0.30, SE = 0.03, t = 8.92, p = 0.000, 95\% \text{ CI } [0.23, 0.36]$) and not with social well-being ($B = 0.19, SE = 0.12, t = 0.53, p = 0.12, 95\% \text{ CI } [-0.05, 0.43]$). Meanwhile, the direct effect of communal appraisal was not significant with the intensity of the trauma ($B = 0.11, SE = 0.06, t = 1.73, p = 0.08, 95\% \text{ CI } [-0.01, 0.23]$) and it was significant with social well-being ($B = 0.25, SE = 0.06, t = 3.71, p = 0.0002, 95\% \text{ CI } [0.12, 0.39]$). From the effects of the mediating variables, the non-significance between the intensity of the trauma and social well-being is

maintained ($B = 0.05, SE = 0.08, t = 0.57, p > 0.05, 95\% \text{ CI } [-0.12, 0.22]$). Regarding the bootstrapping test of indirect effects, the indirect effect that the mediator of communal appraisal contemplates is identified as significant ($B = 0.04, \text{Boot SE} = 0.01, 95\% \text{ CI } [0.01, 0.08]$).

CONCLUSION

Based on the evidence that increased community action is a protective factor for mental health in the face of traumatic events (Gallagher et al., 2019), the study addressed how individuals and groups use community resources when dealing with the impacts of a natural disaster and, in this case, one of the most devastating earthquakes such as Chile's 27F in 2010. The findings presented here support that people develop such resources as they experience the impacts and potential risks they face as a community, which are expressed in shared emotions and evaluations.

In this case, it is demonstrated that the intensity of trauma as an individual response experienced to the impact of the earthquake has a greater effect on the subsequent perception of social well-being through the processes of social sharing of emotions and communal appraisal. Although such processes have been specifically identified as collective coping strategies (Krum and Bandeira, 2008; Páez et al., 2013; Palacios and Barrios, 2013; Villagrán et al., 2014; Włodarczyk et al., 2016a,b), it is proposed that they acquire relevance in different post-disaster phases and not only as a set of strategies involving different adaptive and maladaptive responses. On the contrary, according to the

results of the multiple mediation model, the social expression of emotions and the communal appraisal would form a route so that the individual reactions could be projected later on in a social well-being. Together, the SSE and CA conform processes that would operate immediately, without waiting for the deployment of other strategies of collective confrontation. On the one hand, these processes would activate community organizing actions to address the demands of the disaster (e.g., rescue actions, provision of basic services, search for food; Pérez-Sales, 2004; Internacional Federation of Red Cross and Red Crescent Societies, 2008; Comité Permanente entre Organismos, 2009). On the other hand, the organization would make it possible to address other dangers commonly associated with natural disasters, to avoid looting or provide security actions in the face of rumors of threats from other groups (Quarantelli, 2008; Sanzana, 2010). Many of these actions would be activated in the face of difficulties in effectively coordinating government actions in natural disaster contexts (Bouckaert et al., 2010).

Although there is evidence affirming that sharing with others represents a negative experience that leads to the development of symptoms and/or disorders (Seery et al., 2008), the social sharing of emotions in a natural disaster context possess a different interpretation: the way people share their experience of distress and fear can, in itself, sustain their impact. According to Rimé (2009) sharing favors the recognition and communication of emotions in a context where they would not be judged or misunderstood and, on the contrary, would provide group cohesion, the strengthening of social bonds and would reveal the resistance of a community (Rimé et al., 2020).

In another sense, cognitive theories of emotion have suggested that they are not related to the event that gives rise to them, but rather to a cognitive assessment (Lazarus and Folkman, 1984). In this sense, appraisal involves not only evaluating an event, but also people's behaviors, thoughts, or feelings (Manstead and Fischer, 2001). Hence, the latter assessment will guide us in the realization of our own evaluation of emotional events and, in a social context, the appraisal may occur when other people's emotions trigger or modify our assessment of what is happening (Parkinson and Simons, 2009). At this point, the notion of the "communal or shared" implied by SSE and CA is relevant, as the findings show that the journey occurs when emotions are shared in an equally communal context of threat, strengthening social bonds, but that this process, by itself, does not lead to a resolution of the situations (Rimé et al., 2020). At this stage, an equally communal assessment (or what has been identified as a social appraisal) that would value aspects shared with others that can be expressed in a social identity (Tajfel et al., 1979) that would facilitate the identification of tasks and actions to be shared (Parkinson, 2019) to address such threats would operate. These results also provide guidance on the actions that can be achieved later in such a way that they facilitate the deployment of adaptive collective coping strategies that make it possible to adjust to the needs that arise in other post-disaster phases. There is abundant evidence that collective coping promotes better individual and collective responses to the demands of a disaster, however, its full deployment will take time and if the security, economic, political or psychosocial

conditions are not in place, it may lead to unexpected or maladaptive responses.

Among the limitations of the study, it is reported that the evaluation that is carried out 4 years after the event that could generate responses associated with possible effects or memory biases after this time of the earthquake. Some findings suggest that, in the face of events such as violence, information from the environment could be positively analyzed to protect personal image (Bilbao et al., 2011). In addition, it is found that the Chilean population has a permanent exposure to the effects of earthquakes that have occurred after 27F (see Torres-Méndez et al., 2018) which could reduce the perception of damage and strengthen a positive social functioning. It may be more pertinent to conduct a longitudinal study that considers the medium- and long-term effects of experiences of this type.

Another aspect to highlight is the tendency to promote an irrefutable reading of the forms of organization and collective coping of the experiences associated with the earthquake, in line with informed findings (Villagrán et al., 2014; Włodarczyk et al., 2016a,b). However, it would be of interest in future studies to consider the negative impacts of living a collective traumatic experience, for example, through the notion of psychosocial trauma formulated by Martín-Baró (1990) which accounts for the impact or "social wounding" from collective events such as violence. This would favor the expansion of the findings and exploring collective dynamics of distrust or resistance to change that persist. The vision of psychosocial trauma has been expanded to address scenarios such as the environmental damage caused by oil extraction in Ecuador (Sanandres and Otálora, 2015), the psychosocial effects on indigenous communities by the installation of dams in Mexico (Jiménez, 2014), and the impact of massive railroad accidents in Uruguay (Loarche, 2015), so it would be interesting to apply it to disaster contexts.

Despite this, it is worth considering that collective actions that could be developed among friends, family, neighbors and community members would encourage adaptive coping strategies at an immediate later stage, but do not necessarily entail medium- to long-term strategic actions aimed at disaster prevention and/or recovery (Sandoval et al., 2018). This limitation is associated with the wide variety of structural factors underlying risk, which cannot be driven by community actions (Maskrey, 2011). At this point, it is expected that State support will not only be oriented toward mitigating the effects of a disaster, but will also make it possible for reconstruction to consider community resources that make active participation possible (Krause et al., 2009; Caviedes, 2015).

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and

institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

CR-V: data analysis, text writing, and translation. LV: data analysis and text writing. CA: text writing, translation, and formatting. FC: text writing and translation. JM: data collection

and formatting. All authors contributed to the article and approved the submitted version.

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A Bifactor Model of Subjective Well-Being at Personal, Community, and Country Levels: A Case With Three Latin-American Countries

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Improving citizens' subjective well-being (SWB) has become an increasingly visible policy goal across industrialized countries. Although an increasing number of studies have investigated SWB at the individual level, little is known about subjective evaluation at social levels, such as the community and national levels. While the relationships between these levels have been analyzed in previous research, these assessments, which are part of the same unique construct of SWB, are under-investigated. The purpose of this study was to examine the dimensionality and reliability of a single measure of SWB, which contained individual, community, and national levels across three Latin-American countries (Argentina, Chile, and Venezuela), using a bifactor model analysis. Findings showed that the bifactor model exhibited a good fit to the data for the three countries. However, invariance testing between countries was not fully supported because of each item's specific contribution to both specific and general constructs. The analyses of each country showed that the SWB construct was in a gray area between unidimensionality and multidimensionality; some factors contributed more to the general factor and others to the specific level, depending on the country. These findings call for integrating more distant levels (community and country levels) into the understanding of SWB at the individual level, as they contribute not only to an overall construct, but they make unique contributions to SWB, which must be considered in public policy making.

Keywords: subjective well-being, country, community, bifactor model, measurement

INTRODUCTION

Well-being has become a core concern in contemporary societies and has become an important issue in public policy across the globe (Easterlin, 2013; Frijters et al., 2020). In this regard, well-being is considered a good reflection of a given society's development and thus an appropriate way to evaluate the society (Diener et al., 2009); well-being has been showed to be related to several socially desirable outcomes, such as lower prevalence of mental illness (Lyubomirsky et al., 2005; Pressman and Cohen, 2005; Howell et al., 2007; Davidson et al., 2010; Kushlev et al., 2020), better mental health (Keyes, 2006; Sin and Lyubomirsky, 2009; Werner-Seidler et al., 2013; Germani et al., 2020), higher life expectancy (Diener and Chan, 2011; Zaninotto and Steptoe, 2019; Potter et al., 2020), higher educational attainment (Nickerson et al., 2011; Bücker et al., 2018), increased

creativity (Dolan and Metcalfe, 2012), higher work productivity (Oishi, 2012; Bryson et al., 2017), a tendency toward prosocial behavior (Aknin et al., 2011; Helliwell et al., 2018; Su et al., 2019), and predictive capabilities toward depressive states and skills to deal with stressful life events (Lucas, 2007; Luhmann et al., 2012).

The increasing relevance of well-being to the public interest and public policy is reflected in the increase in research (Diener, 2013), with the increase of both theoretical and methodological proposals. The majority of empirical and theoretical advancement has been focused on the subjective well-being (SWB), which pertains to people's emotional and cognitive evaluations, both positive and negative, of how they perceive their own lives (Ryan and Deci, 2001; Diener et al., 2003; Wills, 2009). SWB is composed of (a) an emotional component, which includes experienced positive and negative emotions (Davern et al., 2007), and (b) a cognitive component known as satisfaction with life (Diener and Suh, 1997; Pavot and Diener, 2008), considered a global individuals' assessment of their own life conditions' quality (Seligson et al., 2003).

Importantly, the previous research has mainly focused on the individual level of well-being, ignoring issues at broader social levels. In order to overcome these limitations, the need for more comprehensive approaches to SWB has been emphasized (Ryan and Deci, 2001; Gallagher et al., 2009; Serban-Oprea et al., 2019). In addition, different measures have been proposed, aiming to include additional complementary measures to capture the social aspects of SWB (Cummins, 2014). For example, additions of community- (Forjaz et al., 2010; Kim and Lee, 2013) and national-level (Morrison et al., 2011) SWB have been proposed to better account for the complex nature of well-being. According to the social-ecological approach (Bronfenbrenner, 1992), SWB at the individual, community, and national levels can be interpreted as the result of the interaction between individual meso- and macro-systems. Consequently, interactions with the place (i.e., community/neighborhood) and the country of residence may influence the individual SWB and vice versa.

While the individual SWB corresponds to the first level of deconstruction of life as a whole (Diener, 1994), emphasizing the meaning and self-realization when a person is fully functioning (Renn et al., 2008), the community SWB and national SWB included new relevant elements. On the one hand, the community SWB underscores the satisfaction with the local place of residence, including its broad range of economic, social, environmental, cultural, and governance conditions. On the other hand, the national SWB responds to a distal level of deconstruction, considering different societal conditions that may affect our lives (Morrison et al., 2011). Those recent constructs enable researchers to holistically understand the impact of community and country on individuals' SWB (Forjaz et al., 2010; Dronavalli and Thompson, 2015; McCrea et al., 2016; Atkinson et al., 2020).

The Present Study

Different studies have analyzed the factor structures of different SWB scales from multiple theoretical perspectives in diverse contexts, populations, and languages, mainly using correlated-factor or higher-order models (i.e., Arthaud-Day et al., 2005; Tian et al., 2015; Nima et al., 2020). However, these models are limited

in exploring complex constructs, such as SWB, presenting only a unidimensional or a multidimensional structure. In recent years, the development of the bifactors models has afforded analyses in which a group of items and their correlations are explained by a general factor that includes the shared variance of all or by a group of factors where the variance is partitioned (Rodriguez et al., 2016). Bifactor models are mainly used in psychopathology (e.g., Hammer and Toland, 2017; Zanon et al., 2020) but scarcer in the field of SWB (cf. Chen et al., 2006, 2013; Jovanović, 2015). To our knowledge, research has not tested the different levels of deconstruction of the SWB construct in a single model. Equally important is to identify different sources of variance of SWB.

To address these gaps, the present study examined the dimensionality and the reliability of a single measure of SWB, which contain individual, community, and national levels across three Latin-American countries' samples. In addition, the study examined whether the specific factors were associated only with the general measure of SWB rather than the particular factor. To do this, both general and specific factors were estimated simultaneously in the bifactor models. The main strength of the bifactor models is that they estimate the relation between latent variables, and they allow to measure a single common latent factor and control the variance that arises due to additional common factors (Reise et al., 2010). **Figure 1** displays the conceptual model of the general measure of SWB.

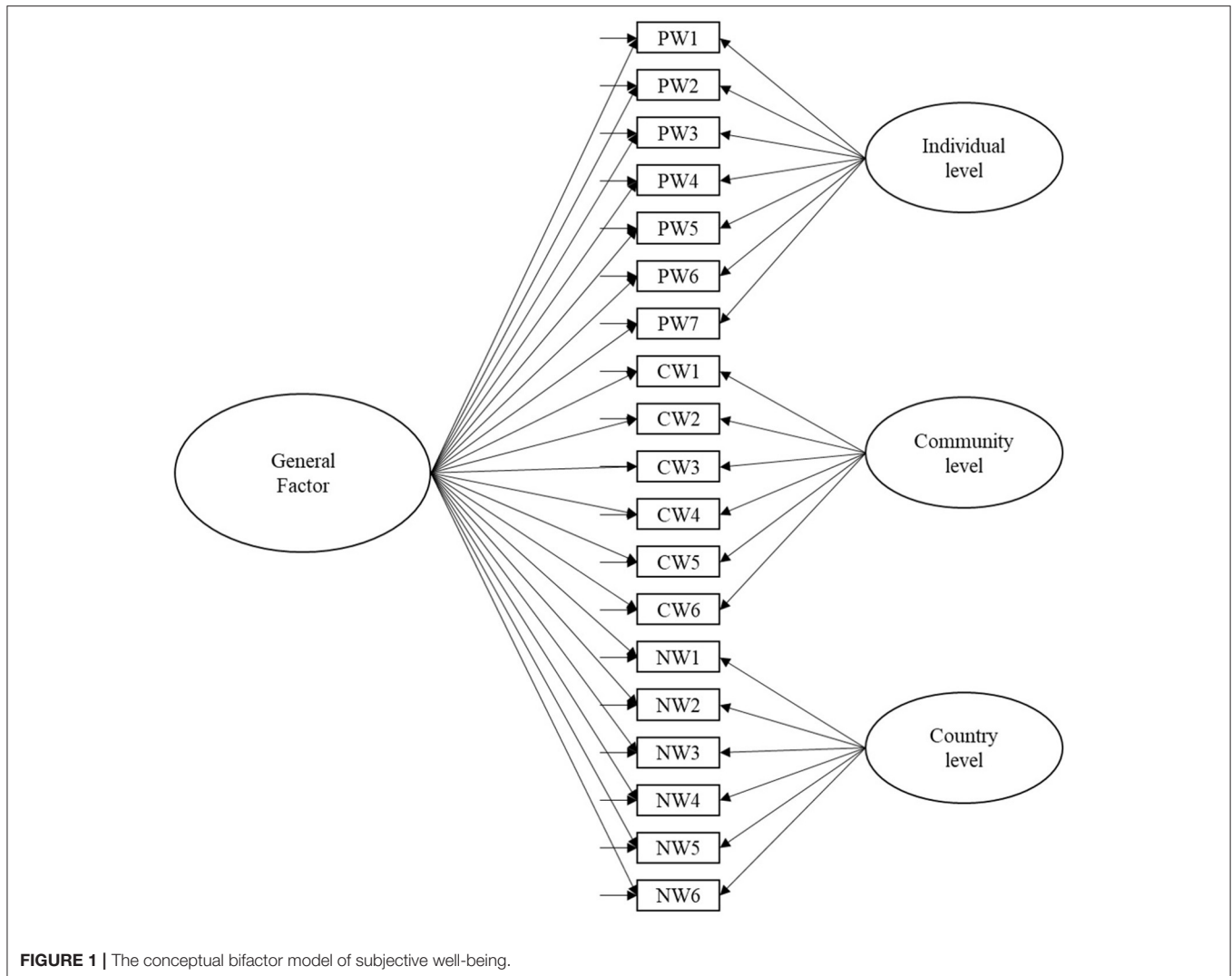
METHODS

Participants

The present study included a convenience sample of 2,616 adults from three main cities of Argentina, Chile, and Venezuela. The Argentinean sample (38.1%) consisted of 998 participants (46.2% females) from Buenos Aires, whose age ranged from 18 to 86 years ($M = 34.72$; $SD = 13.26$). About 58.2% of the sample completed their secondary education, while the remaining 41.8% indicated having completed or incomplete higher education. In terms of socio-economic background, participants were close to the middle-point of a scale measuring subjective socioeconomic status, ranging from 1 (lower status) to 5 (higher status) ($M = 2.85$, $SD = 0.7$, 62.6% in the midpoint).

The Chilean sample (38.2%) included 1,000 participants (55% females) from Santiago, with an age range of 18–85 years ($M = 37.3$; $SD = 15.57$). About 55.3% of the sample completed secondary education, while the remaining 44.7% had completed or incomplete higher education. In terms of socioeconomic background, the participants were close to the middle point of a scale, measuring subjective socioeconomic status ranging from 1 to 5 ($M = 2.85$, $SD = 0.9$, 52.5% in the midpoint).

Finally, the Venezuelan sample consisted of 618 participants (60.2% females) from Maracay, and their ages ranged from 18 to 89 years old ($M = 43.46$; $SD = 15.97$). About 58.5% of the sample had completed secondary education, while 41.5% reported an incomplete or completed higher education level. In terms of socioeconomic background, the participants were close to the middle-point of a scale, measuring subjective socioeconomic status, ranging from 1 to 5 ($M = 2.92$, $SD = 1.58$, 37.2% in the midpoint).



Variables and Instruments

Personal Well-Being Index for Adults (PWI-A)

This scale was developed by the International Wellbeing Group (2013) by drawing on the Comprehensive Quality of Life Scale ComQoL (Cummins, 1997). It measures SWB in seven life domains: standard of living, personal health, achievement in life, personal relationships, personal safety, community connectedness, and future security. Lau et al. (2005) argued out that the scale captures the first-level deconstruction of life as a whole satisfaction and is broad enough to apply to several adult populations. It was adapted and validated in Chile by Oyanedel et al. (2015) with good reliability indicators ($N = 400$; $\alpha = 0.84$). The reliability for the samples in the current study was acceptable as well (Argentina: $\alpha = 0.89$; Chile: $\alpha = 0.82$; Venezuela: $\alpha = 0.80$).

Community Well-Being Index (CWI)

It is an adaptation of the *National Well-being Index* (NWI) as a community-level measure of SWB. Developed by

Forjaz et al. (2010), originally in Spanish, the scale contains six items, assessing satisfaction with the community's living conditions: economic situation, state of the environment, social conditions, community government, security, and business. The internal consistency for this scale for the current study was 0.89 for Chile and 0.90 for Argentina and Venezuela.

National Well-Being Index (NWI)

It is a six-item scale that measures satisfaction with living conditions in a country. Developed by Cummins et al. (2003) and translated to Spanish by Rodriguez-Blazquez et al. (2010), it taps into satisfaction with the country's economic situation, state of the environment, social conditions, community government, security, and business. We observed good reliability coefficients in all samples, ranging from 0.87 for Chile and 0.94 for Venezuela.

For the three instruments, each item is scored on an 11-point Likert scale (from 0 = "Not satisfied at all" to 10 = "Completely satisfied").

Procedure

We collected the data in the three countries between 2018 and 2019. We reached the participants, through interviewers previously trained, at their households. In each main city, we followed a multistage random sampling procedure to recruit participants. First, we randomly selected blocks in each city. Second, within every block, we randomly selected at least 50% of houses. To reduce potential selection biases, we did not select the houses next to each other in the same block, selecting only the odd-numbered houses, starting from the northeast corner of the block. Finally, in every selected house, the interviewer asked the householder to participate in the study. If he/she was not present at the time of the visit, we revisited the householder at another time that he voluntarily indicated.

Prior to data collection, we had trained the interviewers through classroom training, where we introduced them to the survey, methods for selecting houses for each block, and for registration of the surveys conducted. As a control method, we voluntarily asked for the telephone number of the head of the household, and then we later selected a random subsample of the participants and contacted them to confirm the application of the survey and some sociodemographic data.

Our intention was not to collect representative samples from each country; consequently, convenience sampling was conducted in the three countries to investigate SWB at three levels, that is, personal, community, and country levels.

Analytic Strategy

The data were analyzed, using Mplus 7.3 (Muthén and Muthén, 2012). Missing values were treated as pairwise missing, assuming missing is MAR or MCAR (Lei and Shiverdecker, 2019).

To evaluate the best factor structure for a general measure of SWB, we tested four different models *via* confirmatory factor analysis (CFA) for the total sample. First, in a *unidimensional* model, all 19 items were loaded to a single latent factor. Second, a *three-factor* model was tested in which each item was set to a load in its specific first-order factor (PWI-A, CWI, NWI), and correlations between these factors were tested. Third, a *second-order* model was examined. In this model, a higher-order structure was set to predict the specific factors (or measures). Finally, a *bifactor* model specified that each item would load into a general common factor (SWB) as well as its specific factors (PWI-A, CWI, NWI). The general factor arguably represented a broad central construct, and group factors represented SWB's particular subdomains (Rodríguez et al., 2016). All factors were set orthogonal to each other, meaning they were not allowed to correlate (Hammer and Toland, 2017).

The models were estimated, using the robust Maximum Likelihood (MLR) estimation method. Goodness of a fit was calculated, including Satorra-Bentler chi-square ($SB\chi^2$), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). A $CFI \geq 0.95$ and RMSEA and SRMR ≤ 0.05 were considered a very good fit (see Hu and Bentler, 1999; Batista-Foguet and Coenders, 2012; Arbuckle, 2014). Only the models that achieved an adequate fit were improved *via* modification indices.

We tested the measurement invariance of the structural model that showed a good fit between the three countries at three levels: *configural* (same items loading onto the same latent variables), *metric* (factor loading constrained), and *scalar* (factor loadings, intercepts, and factor means constrained) (Meredith, 1993). As a sign of invariance, a non-significant change in χ^2 was used (Millsap and Olivera-Aguilar, 2012), or a change in the CFI ($\Delta CFI < 0.010$ (Cheung and Rensvold, 2002; Chen, 2007; Millsap, 2012) was supplemented by $\Delta RMSEA < 0.015$ (Putnick and Bornstein, 2016). This is an incremental measure; more and more constraints are added to the model to test to what level they are comparable to each other.

If PWI-A, CWI, and NWI conformed to a bifactor structure, this would indicate that SWB might be evaluated as both unidimensional and multidimensional measurement model (Chen et al., 2006). Hence, it is essential to know how much composite items' variances are attributed to the general factor or the specific factors and how much their internal consistency scores are inflated for that reason (Zanon et al., 2020). Ancillary bifactor indices are required to estimate the model-based reliability of general or subscale scores and the dimensionality of the instrument (Rodríguez et al., 2016). *Coefficient omega* (ω) estimates the proportion of total score variance attributable to all sources of common variance. *Coefficient omega hierarchical* (ω_H) estimates the proportion of total score variance attributed to a single general factor, after accounting for specific factors as measurement errors. *Coefficient omega hierarchical subscale* (ω_S) is an extension of the previous one (i.e., ω_H), and it reflects the proportion of variance in the composite specific factor, after controlling for the variance due to the general factor. A high $\omega_H (>0.75)$ would indicate a presence of a single general factor, supporting the use of the raw total score. At the same time, a high ω_S reflects the predominance of the specific factor as a source of variance. *Proportion of reliable variance* (PRV) to general and group factors refers to the reliable variance accounted for by that factor (Hammer and Toland, 2017). Finally, *explained common variance* (ECV) is an index of unidimensionality, and it indicates the proportion of common variance across items explained by the general factor (Zanon et al., 2020).

Ethics Statement

This study was carried out following the recommendations of the National Agency of Science and Technology of Chile with written informed consent from all the participants. The protocol was approved by the ethics committee of University Andres Bello.

RESULTS

Table 1 presents descriptive statistics and Cronbach's alpha coefficients for all measures for each country sample. All internal consistency estimates (α) were higher than 0.80 in all cases. Even though it was not possible to meaningfully compare scores between the countries, the results showed that Chile presented the highest global scores for all scales. At the same time, Venezuela showed lower scores for CWI and NWI and Argentina in PWI-A. Also, skewness and kurtosis of all scales and their

TABLE 1 | Descriptive statistics and differences between countries.

| | Cronbach's α | | | M (SD) | | |
|-------|---------------------|-------|-----------|-------------|-------------|-------------|
| | Argentina | Chile | Venezuela | Argentina | Chile | Venezuela |
| PWI-A | 0.899 | 0.820 | 0.807 | 6.76 (1.42) | 7.47 (1.54) | 6.95 (1.90) |
| CWI | 0.895 | 0.891 | 0.898 | 5.11 (1.55) | 5.66 (1.91) | 3.81 (2.46) |
| NWI | 0.894 | 0.869 | 0.942 | 4.59 (1.50) | 4.99 (1.81) | 1.88 (2.40) |

PWI-A, personal well-being index for adults. CWI, community well-being index. NWI, national well-being index. All differences between countries were statistically significant ($p < 0.001$).

items did not show problematic values for normality, according to Kline (2015).

In order to test the structure of the different measures of SWB, including the three scales, a series of CFAs were tested, considering four competing measurement models: unidimensional, three-factor, second-order, and bifactor models. As shown in **Table 2**, the unidimensional, the three-correlated factors, and the second-order models yielded poor fitting for the total sample. On the other hand, the bifactor model showed an acceptable fit to the data. An evaluation of the modification indexes suggested that its fit should improve by releasing the correlation between some items: For PWI-A, item 5 “How safe you feel” and item 7 “Future security,” and item 7 with item 6 “Feeling part of the community”; and for NWI: item 3 “National social conditions” and item 2 “State of the environment of the country.” The refined bifactor model resulted in a better fit to data for the total sample. These results may suggest that the bifactor model best represents the structure of a general measure of SWB.

Consequently, we examined the measurement invariance of the bifactor model across the countries, using hierarchically and increasingly restrictive models: configural, metric, and scalar (**Table 3**). Evidence for measurement invariance is necessary before scores as single observations or higher construct can be meaningfully compared across groups. Configural invariance was established for the bifactor model structure (CFI = 0.936, RMSEA = 0.055). Then, by restricting the factor loadings to be equal across the countries, we tested the metric model. Although it presented an acceptable fit, the $SB\chi^2$ difference between the metric and the configural model was significant ($p < 0.001$), and ΔCFI was >0.010 , both suggesting that metric invariance was not supported. These results show that factor loadings are not equivalent across the countries.

Considering these results, the bifactor model was calculated for each country, as well as its ancillary indices. **Table 4** presents standardized factor loadings, sources of variance in SWB, and reliability estimates for all general and three specific factors. For the total sample bifactor model, CWI and NWI items had strong loadings (>0.594) on the general factor, while PWI-A items had lower factor loadings, ranging from 0.187 to 0.429. Considering the model-based reliability, omega coefficients showed that 94.9% of the total score variance was due to all common factors, general and specifics, and 83.2–93.8% of the subscale score variance was due to general and that specific factor. Omega hierarchical coefficients showed a predominance of the general factor over the specific factors, where 72.9% of the variance could be attributed

exclusively to the general factor. On the other hand, the analysis of omega hierarchical subscale coefficients indicated that PWI-A also exhibited a high value ($\omega_S = 0.654$), unlike CWI ($\omega_S = 0.240$) and NWI ($\omega_S = 0.388$). PRV inspection showed the same result: PWI-A can be analyzed both as part of the general factor (PRV = 76.9%) and as a specific factor (PRV = 78.7%). Analysis for the model-based dimensionality—ECV—did not reach the benchmark to consider SWB as essentially unidimensional (ECV = 55.4%). These results support the idea that, for the total sample, the SWB construct can be treated in a unidimensional and a multidimensional way since neither of them predominates.

The bifactor model in Argentina's sample showed a good fit to the data ($SB\chi^2 = 617.163$, $df = 130$, $p < 0.001$, CFI = 0.931, RMSEA = 0.061, 90% C.I. [0.057, 0.066], SRMR = 0.047). The factor loadings of the model suggest that they mainly loaded higher toward the specific factors than the general factor: six out of seven items of PWI-A, all items of CWI, and four out of six items of NWI. The overall model reliability was high ($\omega = 0.938$), which means that 93.8% of total score variance could be attributed to all common factors. Nevertheless, the omega hierarchical for the total score was lower than the total sample ($\omega_H = 0.578$), indicating that a less variance could be attributed to the general factor after controlling for all specific factors. Similar values were obtained for the omega subscale coefficients but higher than the previous one, except for NWI ($\omega_S = 0.518$). When we added the PRV to this analysis, only 61.5% accounted for the general factor but higher values to specific factors of PWI-A (PRV = 66.7%) and CWI (PRV = 71.1%). These results may suggest that the SWB construct for Argentina is in a gray area between a broader general factor and narrower specific factors. When the ECV was considered for dimensionality, all values were below 0.70, supporting this conclusion.

In the case of Chile as well, the bifactor model showed an acceptable fit to the data ($SB\chi^2 = 577.645$, $df = 130$, $p < 0.001$, CFI = 0.923, RMSEA = 0.059, 90% C.I. [0.054, 0.064], SRMR = 0.042), but it presented different patterns in terms of factor loadings. In this case, PWI-A and NWI (four out of six items) tended to load higher in their specific factors than the general factor; however, this was not the case for CWI whose factor loadings were high, ranging between 0.646 and 0.767. The omega reliability coefficients were adequate for both the general ($\omega = 0.921$) and specific factors (0.793 to 0.901). The omega hierarchical coefficient showed that 69.6% of the total score variance could be attributed to the general factor after controlling for all specific factors. In contrast, the omega subscale

TABLE 2 | Summary of fit indices for structural models of SWB for the total sample.

| Model | SB χ^2 | df | CFI | RMSEA [90% CI] | SRMR |
|---------------------------|-------------|-----|-------|---------------------|-------|
| Single-factor model | 7299.332*** | 152 | 0.606 | 0.134 [0.131–0.137] | 0.141 |
| Three-factor model | 1998.090*** | 149 | 0.898 | 0.069 [0.066–0.072] | 0.058 |
| Second-order factor model | 1998.096*** | 149 | 0.898 | 0.069 [0.066–0.072] | 0.058 |
| Bifactor model | 1470.486*** | 133 | 0.926 | 0.062 [0.059–0.065] | 0.047 |
| Bifactor model + CE | 801.937*** | 130 | 0.963 | 0.045 [0.042–0.048] | 0.031 |

*** $p < 0.001$. CE, correlated errors.

TABLE 3 | Multigroup confirmatory factor analysis of the bifactor model of SWB.

| | | SB χ^2 (df) | CFI | RMSEA | Δ SB χ^2 (df) | Δ CFI | Δ RMSEA | p (SB χ^2) |
|---|------------|---------------------|-------|-------|------------------------------|--------------|----------------|------------------|
| 1 | Configural | 1546.897*** (390) | 0.936 | 0.055 | – | – | – | – |
| 2 | Metric | 1906.216*** (458) | 0.919 | 0.058 | 359.319 (68) | –0.017 | 0.003 | 0.000 |
| 3 | Scalar | 2287.367*** (488) | 0.900 | 0.063 | 381.151 (30) | –0.019 | 0.005 | 0.000 |

*** $p < 0.001$.

TABLE 4 | Standardized factor loadings, construct reliability, and sources of variance for the bifactor model of SWB.

| | Total sample | | | | Argentina | | | | Chile | | | | Venezuela | | | |
|--------------|--------------|--------|--------|--------|-----------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|--------|--------|
| | Gen | PWI-A | CWI | NWI | Gen | PWI-A | CWI | NWI | Gen | PWI-A | CWI | NWI | Gen | PWI-A | CWI | NWI |
| PW1 | 0.284* | 0.631* | | | 0.317* | 0.595* | | | 0.316* | 0.683* | | | 0.187* | 0.602* | | |
| PW2 | 0.143* | 0.583* | | | 0.359* | 0.639* | | | 0.196* | 0.548* | | | 0.150* | 0.488* | | |
| PW3 | 0.260* | 0.747* | | | 0.360* | 0.765* | | | 0.235* | 0.712* | | | 0.313* | 0.715* | | |
| PW4 | 0.187* | 0.673* | | | 0.389* | 0.731* | | | 0.197* | 0.611* | | | 0.183* | 0.589* | | |
| PW5 | 0.429* | 0.475* | | | 0.481* | 0.514* | | | 0.322* | 0.445* | | | 0.494* | 0.417* | | |
| PW6 | 0.294* | 0.481* | | | 0.483* | 0.545* | | | 0.303* | 0.373* | | | 0.415* | 0.393* | | |
| PW7 | 0.424* | 0.435* | | | 0.559* | 0.445* | | | 0.325* | 0.377* | | | 0.498* | 0.348* | | |
| CW1 | 0.661* | | 0.445* | | 0.481* | | 0.635* | | 0.686* | | 0.415* | | 0.577* | | 0.450* | |
| CW2 | 0.603* | | 0.612* | | 0.529* | | 0.664* | | 0.658* | | 0.566* | | 0.600* | | 0.626* | |
| CW3 | 0.594* | | 0.693* | | 0.373* | | 0.801* | | 0.682* | | 0.533* | | 0.634* | | 0.678* | |
| CW4 | 0.691* | | 0.361* | | 0.269* | | 0.762* | | 0.671* | | 0.247 | | 0.746* | | 0.260* | |
| CW5 | 0.784* | | 0.137* | | 0.405* | | 0.547* | | 0.646* | | 0.118 | | 0.784* | | 0.074 | |
| CW6 | 0.746* | | 0.228* | | 0.447* | | 0.452* | | 0.767* | | 0.196* | | 0.771* | | 0.085 | |
| NW1 | 0.678* | | | 0.568* | 0.469* | | | 0.683* | 0.527* | | | 0.559* | 0.574* | | | 0.673* |
| NW2 | 0.614* | | | 0.488* | 0.697* | | | 0.379* | 0.483* | | | 0.591* | 0.597* | | | 0.480* |
| NW3 | 0.608* | | | 0.638* | 0.531* | | | 0.661* | 0.450* | | | 0.658* | 0.583* | | | 0.702* |
| NW4 | 0.595* | | | 0.651* | 0.408* | | | 0.748* | 0.459* | | | 0.595* | 0.545* | | | 0.747* |
| NW5 | 0.692* | | | 0.459* | 0.440* | | | 0.588* | 0.503* | | | 0.391* | 0.645* | | | 0.520* |
| NW6 | 0.681* | | | 0.446* | 0.513* | | | 0.407* | 0.583* | | | 0.369* | 0.617* | | | 0.542* |
| $\omega =$ | 0.949 | 0.832 | 0.920 | 0.938 | 0.938 | 0.896 | 0.901 | 0.905 | 0.921 | 0.793 | 0.901 | 0.872 | 0.944 | 0.803 | 0.915 | 0.942 |
| $\omega_H =$ | 0.729 | 0.091 | 0.043 | 0.085 | 0.578 | 0.143 | 0.117 | 0.101 | 0.696 | 0.103 | 0.039 | 0.084 | 0.734 | 0.082 | 0.039 | 0.089 |
| $\omega_S =$ | – | 0.654 | 0.240 | 0.388 | – | 0.597 | 0.641 | 0.518 | – | 0.625 | 0.181 | 0.458 | – | 0.551 | 0.199 | 0.482 |
| PRV (%) | 76.9 | 78.7 | 26.1 | 41.3 | 61.5 | 66.7 | 71.1 | 57.3 | 75.5 | 78.9 | 20.1 | 52.5 | 77.8 | 68.7 | 21.7 | 51.2 |
| ECV (%) | 55.4 | 17.1 | 10.6 | 17.8 | 34.7 | 25.9 | 22.4 | 20.0 | 53.2 | 19.8 | 9.9 | 18.1 | 55.1 | 16.2 | 11.4 | 18.7 |

PWI-A, personal well-being index for adults; CWI, community well-being index; NWI, national well-being index.

*Significant standardized factor loadings ($p < 0.05$). ω , omega coefficient; ω_H , omega hierarchical coefficient; ω_S , omega subscale coefficient; PRV, proportion of reliable variance; ECV, proportion of explained common variance.

coefficients indicated less proportion of subscale score variance, explained by factors controlling the general factor (PWI-A: $\omega_S = 0.625$, CWI: $\omega_S = 0.181$, NWI: $\omega_S = 0.458$). Considering

the PRV indicators, we could observe that both the proportions of reliable variance of the general factor (PRV = 75.5%) and the PWI-A (78.9%) were higher than the cutoff point of 0.75,

indicating that this factor could be explained in both ways. Also, dimensionality analyses showed that ECV only reached 53.2% for the general factor, supporting both unidimensionality and multidimensionality of SWB.

Finally, in the Venezuela's sample, we also observed a good fit of the bifactor model to the data ($SB\chi^2 = 340.068$, $df = 130$, $p < 0.001$, $CFI = 0.958$, $RMSEA = 0.051$, 90% C.I. [0.045, 0.058], $SRMR = 0.036$). Regarding the factor loadings for the model, four out of seven items of PWI-A and three out of six items of NWI loaded higher in their specific factors. Reliability measures by the omega coefficient were good for general ($\omega = 0.944$) and specific factors (0.942 to 0.803). The omega hierarchical coefficient showed a clear predominance of the general factor ($\omega_H = 0.734$) over the specific factors according to the omega subscale (PWI-A: $\omega_S = 0.551$, CWI: $\omega_S = 0.199$, NWI: $\omega_S = 0.482$). This means that 73.4% of the total score variance could be attributed to the general factor after accounting for all specific factors. However, PRV showed 77.8% of reliable variance due to the general factor independent of the specific factors, and 68.7% due to PWI-A independent of the general factor. These results indicate a predominantly unidimensional structure of SWB. ECV showed that 55.1% of the common variance across items was explained by the general factor. Although these values do not necessarily imply a unidimensionality of SWB, they are supportive of this conclusion.

DISCUSSION

The main objective of this study was to evaluate the SWB structural model, considering the individual (PWI-A), community (CWI), and national (NWI) levels as factors, as a more comprehensive measure. Overall, the results support that SWB is better analyzed as a complex construct, considering different sources of information at different levels (Bronfenbrenner, 1992; Gallagher et al., 2009; Jovanović, 2015). Four models were tested to know the relationship between the three scales or factors and determine which one best summarized its factor structure. The single-factor, three-factor, or second-order models showed a poor fit to the data. However, the bifactor model showed a good fit, which was further improved after including some error covariances. These modifications were theory driven (e.g., Oyanedel et al., 2015) and supported by the data through modification indices, guided by the authors' criteria. For instance, PWI-A item 5 "*How safe you feel*" ("*Cuánseguro/a tesientes*") and PWI-A item 7 "*Future security*" ("*Tu seguridad futura*") have a similar translation in the Spanish version. It makes sense that the two items were closely related.

We examined measurement invariance only for the bifactor model across the three countries because it was the only model that showed a good fit to the data. This model showed an acceptable fit for the configural invariance across the countries, but it did not provide enough evidence for metric or scalar invariance. This implies that the factor structures may be equivalent, but not their factor loadings or their latent means; thus, no meaningful comparisons across the countries could be made. These findings are supported by previous cross-cultural

studies that found that PWI is not invariant across countries, only reaching partial metric/scalar invariance (Zemojtel-Piotrowska et al., 2016) or had been modified from its original structure. Considering cross-cultural differences (e.g., how items are understood) is pivotal when analyzing these results (Jovanović et al., 2018).

The above suggests that there are differences in the notion of SWB or its components, which highlights the importance of country-specific models. The results for bifactor models across countries, in general, showed that SWB was in a gray area between unidimensionality and multidimensionality but with different nuances. In Argentina's results, most of the factor loadings were observed on specific factors. However, more than half of the reliable variance was accounted for by the general factor and the specific factors. Chile's case was different: All PWI-A items presented higher factor loadings on the specific factor—most of the NWI and none of the CWI. The proportion of reliable variance was high in the general factor and PWI-A specific factors. ECV indicated that the proportion of explained common variance could suggest a mostly unidimensional structure. In Venezuela's case, most of the factor loadings were on the general factor, but the proportion of reliable variance was high in general and PWI-A specific factors. These results may suggest a structure of personal well-being that can be attributed to both the general factor and its specific factors.

Cross-cultural differences can be explained basing on the ecological model (Bronfenbrenner, 1992): As far as the personal well-being is the closest level of well-being, it immediately affects the individual's perception of his/her own life. The perception of the well-being of the community and the country, being a mesosystem and a macro-system, respectively, indirectly affects the SWB. It is important to recall that, at these levels, the source of well-being is not placed in an individual.

In comparison with individual SWB, the national level SWB has received less attention, despite its relevance in modern countries (Eker and Ilmola-Sheppard, 2020). While SWB research has focused on its effects on individual- and societal-level explanations, a mixed approach, linking both perspectives—a subjective approach to institutional assessment and a societal approach to SWB—has not yet been fully developed. An essential part of the public policies that seek to reduce inequality and promote mental health is to legislate for people's well-being (Jenkins, 2003). The current challenge modern nations face is to integrate the dimension of people's subjectivity as a transcendental axis in the political scenario (Kroll and Delhey, 2013). This is because it has become clear that those preferably external indicators—mainly economic—on which national and global progress has traditionally been based have important limitations on knowing how satisfied people are with their lives (Unanue, 2017). Therefore, the current study explores to rethink human development, considering integral SWB, which assumes both the dimension of personal SWB—people's satisfaction with their own lives—and that of SWB with society—an evaluation made by the people of the society in which they live.

At the social level, the impact of Latin American countries' different sociopolitical realities in recent years has had a differential impact on each nation and individual. To this

end, one of the strengths of the current study is that it considers samples from three different countries. Latin America is experiencing a period of discontent with democracy since the past years, which is reflected in democratic disaffection, a lack of trust in institutions, and questioning of forms of government, among others (Sanahuja, 2019). In fact, this dissatisfaction can be observed on each of the scales' scores across the three countries—consistently, the lowest scores were observed at the national level, followed by the community level—finally, the personal level with values above the theoretical mean of the scale. In addition, the lowest scores were observed in Venezuela—the country that for several years has been experiencing a severe social, economic, and political crisis, resulting in generalized unrest and subsequent massive migration, mainly to other Latin American countries, a phenomenon associated with a feeling of constant lack of protection (Gandini et al., 2020).

Additionally, the current research also highlights the necessity of considering the SWB from a multilevel approach. To be able to precisely understand and measure the complexity of the SWB is determinant for future intervention proposals and, in turn, to reach the global agenda well-being goals.

Limitations and Future Directions

The study comes with a few limitations. First, the use of non-representative samples from each country makes it unlikely that results can be generalized; we tried to obtain a heterogeneous and random sample, but, since people choose whether to participate, this could imply analyzing the results with caution. However, it does provide indicators of SWB at different levels. Second, the non-invariance between countries makes it irrelevant to conduct group comparisons. Future studies should carry out restrictions and semi-partial models to analyze where the differences in SWB measures are. Third, the bifactor analysis shows that there are indicators of well-being that are common and others that are specific; however, this type of analysis allowed us to learn more about which ones contribute specifically as domains and which ones contribute to a general construct for each country, developing specific models for each sample. Future research should investigate which factors are common and which are not in order to discern between the global part of well-being and the specific parts. It is also necessary to include some control

variables as socioeconomic status or gender in the structural models, as these have been shown to be relevant aspects to SWB.

DATA AVAILABILITY STATEMENT

The datasets generated during and/or analyzed during the current study are not publicly available because this is an ongoing investigation that ends in 2022 and not all available analyses have been completed. However, datasets may be available from the corresponding author on reasonable request.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by University Andrés Bello. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

JT-V: led the research, data analyses, results, discussion, and drafted the manuscript. JJ-B: co-led the research, the data analyses, the interpretation of the data, and drafted and commented on the manuscript. JO: data collection, review of the literature, and the final version of the manuscript. MS: review of the literature and references. All authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.641641/full#supplementary-material>

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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