Psychometric properties and factorial invariance of the satisfaction with life scale in Latino immigrants in Chile, Spain, and United States.

Propiedades psicométricas e Invarianza factorial de la escala de Satisfacción con la Vida en inmigrantes latinos en Chile, España y EEUU.

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Abstract:

Background: Satisfaction with Life Scale (SWLS) is the most widely used instrument to assess subjective well-being in different populations. Aim: The purpose of the present investigation was to evaluate the psychometric properties and the factorial invariance of the SWLS in Latino immigrants living in Chile, Spain, and the United States. Method: A total of 662 participants over the age of 18 and who have lived in the host country for more than a year participated. Results: The results provide evidence of good internal consistency through Cronbach's alpha and McDonald's omega. Also, there is evidence for the unifactorial structure of the instrument through confirmatory factor analysis and its invariance at the configural, metric, and scalar. Conclusions: It is concluded that SWLS is an invariant and reliable measure to study life satisfaction in Latino immigrants in western countries.

Keywords: cross-cultural comparison; migration policy; factor structure.

Resumen:

Antecedentes: La escala de Satisfacción con la Vida (SWLS) es el instrumento más utilizado para evaluar el bienestar subjetivo en distintas poblaciones. Objetivo: El propósito de la presente investigación fue evaluar las propiedades psicométricas y la invarianza factorial de la SWLS en inmigrantes latinos que viven en Chile, España y EEUU. Método: Participaron un total de 662 inmigrantes latinos mayores de 18 años y que llevan más de un año viviendo en el país de acogida. Resultados: Los resultados entregan evidencia de una buena consistencia interna a través del alfa de Cronbach y el omega de McDonald, también se provee soporte a la estructura unifactorial del instrumento mediante un análisis factorial confirmatorio y finalmente se prueba que la escala es invariante a nivel configural, métrico y escalar. Conclusión: Se concluye que la SWLS es una medida invariante y fiable para estudiar la satisfacción con la vida en inmigrantes latinos en países occidentales.

Palabras clave: comparación transcultural; política migratoria; estructura factorial.

Introducción

Life satisfaction (LS) is understood as the evaluation that a person makes about how satisfied he is in general with his life (Diener, 2000). In recent years, it has also been understood that LS is an important indicator of the quality of life, being used as a predictor of adaption levels of people who has new living conditions (Olsson et al., 2017). The main characteristic of this construct is that people have different ways of feeling satisfied with their life. While for someone satisfaction may be related to raising a family, having a good job, traveling with friends, or having good health, for other people, life satisfaction may be migrating from their native country and settling in another country to start their life again (Berrios-Riquelme et al., 2019).

The instrument that has been widely used worldwide to measure this construct is the Satisfaction with Life Scale (SWLS; Diener et al., 1985). Unlike other scales that evaluate the same construct, this measure allows people to value the different aspects of their life, examining their expectations versus their achievements from their point of view (Bagherzadeh et. al., 2018). The findings in the different areas of research on LS have led this measure to be considered within the essential criteria to support the development of care policies for the population (Diener et al., 2013) and for assessing the change and progress of a person in society (Schutte et al., 2019). In this sense, immigrants are the group with the highest recognition in the area in the last ten years, given that the scale has been used to assess their well-being and develop public policies in their favor (Knies et al., 2016). Consequently, different international organizations have explained the positive effects of LS for immigrants, which are linked to better coping with the psychosocial tensions they suffer in the host society (Helliwell et al., 2018) and the development of coping strategies in the face of an adverse integration process (International Organization of Migration, 2013). It has been verified that high levels of LS have positive implications in the process of rooting (Berrios-Riquelme et. al., 2019), in their mental health (Neto, 1995), sense of belonging (Amit & Bar-Lev, 2015; Phinney et al., 2001) and is also related to their cultural intelligence and work commitment (Le et al., 2018), self-esteem (Murillo & Molero, 2012), as well as the quantity and quality of the support networks they would have in the host society (Arpino & de Valk, 2018).

Regarding its psychometric properties, the internal consistency of the scale in studies with immigrants in different countries ranges from .75 to .88 (Calvo et al., 2017; García-Cid et al., 2017; Neto, 2001; Moreno-Jiménez & Hidalgo, 2011; Murillo & Molero, 2012). Regarding its internal structure in studies with the immigrant population, there is scarce evidence that a stable unidimensional structure has been demonstrated (Berrios-Riquelme et al., 2019). Consequently, over the last seven years, research has been added to evaluate the factorial invariance of the scale with the immigrant population. Ponizovsky et al. (2013) evaluated the invariance of three groups of immigrants with a Soviet past who settled in Israel, showing that the scale is invariant at the configural, metric, and scalar levels. Nesterko et al. (2018) had

similar results when studying SWLS with Jewish immigrants who settled in Germany and Israel, finding measures of invariance at the configural, metric, scalar, and residual levels.

Although the SWLS findings are consistent in immigrants, it is evident that it is an incipient area and that it is in its takeoff stage regarding the analysis of invariance measures with this population. In this sense, one of the immigrant groups that have been scarcely addressed in the subject of the Latin American region (Berríos-Riquelme et al., 2019).

Latino immigration and life satisfaction

According to Castles (2018), migration from Latin America is one of the largest in the world, finding its causes in the different social, economic, and political problems that have occurred in the region during the last fifty years and that have led to people moving to other countries to escape poverty, crime, and insecurity. Currently, the USA and Spain have the largest Latino immigrant diasporas in the world (McAuliffe & Ruhs, 2017). For its part, Chile is one of the countries of the Organization for Economic Co-operation and Development (OECD) that has seen its foreign population increase rapidly in recent years and where the majority of these people have a Latino origin (OECD, 2019).

Chile has an important migratory history from its origins, but from 1990 to this day, a strong immigration process has been experienced with a Latino component due to the stability projected by the country in the international sphere (Canales, 2019). In this way, in the last 10 years, the immigrant population increased by 440% in Chile, where 91% of these people come from another country in Latin America (Instituto Nacional de Estadísticas [INE] and Departamento de Extranjería y Migración, 2020). The proximity, cultural similarity, language, and ease of entry to the territory stand out among the factors that have led to the increase in this regional migration. However, the immigration law dates from 1975, and currently, no immigration policy fosters the integration of these people (Berríos-Riquelme, 2021a; Pavez-Soto & Colomés, 2018). Despite the diversity of studies in the area, there is still no evidence of research evaluating the LS of this population in Chile.

In **Spain**, the Latin American conglomerate began to make a presence in the 1990s, but it increased exponentially at the beginning of the 21st century (García et al., 2009). Subsequently, Latin American migratory flows were complicated towards Spain by the social, economic, and political crisis that has affected that country since 2008, which caused immigration to decrease and, at the same time, led thousands of these people to return to their respective countries or who are looking for a new destination to continue their migration project (Martínez-Bujan, 2019; Parella et al., 2019). Despite this, the Latino conglomerate continues to be an important group, currently reaching 46% of non-community immigration in the Iberian country (INE, 2019). In this sense, high Latino immigration has been determined by

sharing the same language and by the historical ties that unite these two geographical areas (Hierro, 2016). Different studies have shown that LS is an important factor in the insertion process of immigrants in this country (Berrios-Riquelme et al., 2019; Cabañero et al., 2004).

In the **United States**, Latino immigration began in large numbers starting in 1942 with people who came from Mexico through the "Bracero" program, later followed by Cuban immigration in the 1960s. Then the migration pattern was perpetuated by the American dream, where immigrants from all Latin America came intending to improve their quality of life (Castles et al., 2014). Currently, Latino immigrants in the USA are 60 million people, reaching 18% of the total population of that country (Pew Research Center, 2017). Latino immigration is a large group and heterogeneous concerning their nationalities and because of their contributions to the cultural landscape, language, economic activity and the acculturation strategies they adopt to insert themselves socially (Grey & Hall-Clark, 2015; Valente & Berry, 2016). Regarding LS, there is evidence that immigrants with higher satisfaction are more likely to nationalize and stay in the country (Massey & Redstone, 2006). There is also evidence that high satisfaction with life is directly associated with low discriminatory experiences and a high level of social support (Calvo et al., 2017).

The Present Study

SWLS is a scale that has shown good psychometric properties in the immigrant population; however, so far, there is no evidence that its factorial invariance has been studied with Latin American immigrants in three countries. In this way, it is pertinent to carry out a cross-cultural investigation that analyzes the psychometric properties and the factorial invariance of the scale in countries that have high Latino immigration. If the invariance is shown, it will be transcendental to compare the scores of the three countries; this would provide cross-cultural validity and would allow the study of its relationship with other psychosocial variables in future studies.

The rationale for choosing Chile, Spain, and the USA is that they have similar characteristics, such as a high proportion of Latin American immigration, have histories of integration and rejection of immigrants, as well as a social, political, and economic context that is averse to this conglomerate and a national population that shows a high level of prejudice towards the foreign population.

The study has the following premises: a) there is scarce evidence of the properties of the SWLS with Latino immigrants; b) the scale presents scarce evidence of its unifactorial structure with the Latino immigrant population; c) few studies have addressed the factorial invariance of the SWLS with immigrants, and so far, none of them have been with the Latino population. Thus, based on theory and previous research, the objectives of this research are 1) To examine the

psychometric properties of SWLS in Latino immigrants in Chile, Spain, and the USA; 2) Test the factorial invariance of the SWLS in Latino immigrants in Chile, Spain, and the USA; 3) Analyze the differences between the SWLS scores of the participants in the three countries studied.

Method

A non-probability sample was used for convenience. The total sample is made up of 662 participants. The sample of immigrants in Chile has 237 people with an average age of 35.36 years (SD = 10.39), where 77 are men (32.5%), and 160 women (67.5%). The sample of immigrants residing in Spain is made up of 242 participants who reached a mean age of 37.05 years (SD = 11.48), being 80 men (33.1%) and 162 women (66.9%). The US sample is made up of 183 immigrants who had a mean age of 31.08 years (SD = 11.62), distributed among 85 men (46.4%), and 97 women (53%).

Instrument

The study had two sections. The first included questions on sociodemographic variables to identify the sample: sex and age. The second section included the SWLS (Diener et al., 1985), a scale that measures LS in a general and one-dimensional way. It is made up of 5 items that have response options ranging from Totally Disagree (1) to Totally Agree (7). The total score of the scale is obtained by adding all the items in the same direction. Participants determine the elements to consider in their satisfaction with life, a judgment presented as a stable phenomenon that allows people to evaluate in a general way the elements that are important for their quality of life according to their criteria (Diener, 1984). The scale contains only five items and is designed to give people their general judgment or assessment of the satisfaction with their lives.

When reviewing the literature of the versions of the scales validated in Spanish, it was decided to carry out our translation since the most used versions in this language did not meet the criteria established by the research team to work with the immigrant population. Among the main problems detected, it stands out that some of these versions were adapted for specific populations and others had score levels different from those indicated by the authors; at the same time, one also had reverse items, which is not recommended for working with the immigrant population (Berríos-Riquelme, 2017). For example, the version by Atienza et al. (2000) was developed to work with adolescents in Spain, and the team did not find the translation of items 1, 2, 4, and 5 appropriate. In the version of Cabañero et al. (2004), used in a study with pregnant women in Spain, the team analyzed that item 5 did not correctly express the sentence's meaning. It is also possible to point out the study by Moreno-Jiménez & Hidalgo (2011) with immigrant women employed in Spain, where the back translation led the researchers to decide to eliminate the item from their analysis. Along with the above, the version of Atienza et al. (2000) and that of Cabañero et.al. (2004) have a scoring system ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with the original version ranging from 1

(strongly disagree) to 7 (strongly agree). The preceding becomes relevant when considering that the author of the scale proposed seven reference ranges to classify the level of SL according to the score obtained: 5-9 (*extremely dissatisfied*), 10-14 (*dissatisfied*), 15-19 (*slightly dissatisfied*), 20 (*neither satisfied nor dissatisfied*), 21-25 (*slightly satisfied*), 26-30 (*satisfied*) and 31-35 (*extremely satisfied*) (Pavot & Diener, 1993).

The team translated the scale with two psychologists, a migration expert and a bilingual English and Spanish-speaking psychologist based on this foundation. First, the psychologists and the migration expert made the literal translation of the scale, which was reviewed by the bilingual psychologist, who made no modifications. Subsequently, the cognitive interview technique (Smith-Castro & Molina, 2011) was applied with 14 Latin American immigrants in Spain, who gave their opinion on the wording of the items. Only two changes were introduced according to the participants' appreciation. The first modification was made in item 1, where it was necessary to modify the final part of the sentence to understand the expression better "...my life is close to my ideal", so the modification was made, remaining as "...my life is close to my aspirations or ideal of life". The second modification was made to item 5 because people were not clear on how to interpret "So far I have gotten the important things I want in life"; in their explanation, they related the item to get the material things they want in life and which, according to them, will be achieved once completed their migration project successfully. This interpretation is why they understood this item as a fact to be achieved in the future. Thus, and considering that the scale evaluates satisfaction with life at the present moment, the team proceeded to edit the literal translation of the item to give it meaning in the present and give it a subjective perspective: "So far, I have achieved the things that are important to me in life." The team analyzed together that the changes made did not alter the meaning of the items, so the pilot was continued with 11 Latino immigrants in Spain, who indicated that they had no doubts about the items. With the modified questionnaire version, the same procedure was carried out with 8 Latin American immigrants in Chile and 5 in the USA, where we not detected comprehension problems in the participants.

Procedure

This research is part of a cross-cultural study between Chile, Spain, and the USA, which sought to observe the subjective well-being of Latino American immigrants and their relationship with other psychosocial variables. Participation in the study was voluntary, and participants' anonymity was assured by assigning a numerical alpha code to each questionnaire. The questionnaires were self-administered and completed in the form of paper and pencil in different immigrant associations in Chile and Spain, while in the USA, they were completed during class hours at a university in California. This study was carried out according to the stipulated in the Declaration of Helsinki for research with human subjects (World Medical Association, 2013). The samples of immigrants residing in Chile and Spain did not receive financial compensation for their participation, but the sample obtained in California received

US $ 2 for the transfer. The inclusion criteria in the three countries were the same: a) immigrant of Latin origin, b) living in the country for more than a year, and c) being of age.

Data analysis

The scale's statistical analysis was focused on the following aspects. First, descriptive statistics and internal consistency were analyzed, as estimated from Cronbach's alpha (Cronbach, 1951) and McDonald's Omega (McDonald, 1999). For the first, we will consider an acceptable level if the value reached is .7 or higher (Nunnally & Bernstein, 1994), while for the second, we will follow the criteria of Netemeyer et al. (2003), which, for constructs with between 5 and 8 items, consider the level of .8 as a cut-off point.

Secondly, the validity evidence based on the internal structure was evaluated by performing a Confirmatory Factor Analysis (CFA) with the data of the three groups included in this study. Attention was paid to the results obtained in the chi-square test and to the following indices to evaluate the fit: *root mean square error of approximation* (RMSEA), *comparative fit index* (CFI), and *Tucker-Lewis index* (TLI). In the case of the CFI and TLI indices, we consider that the result is positive when values equal to or greater than .95 are obtained (Hu & Bentler, 1999). For RMSEA, values equal to or less than .06 will indicate excellent fit (Hu & Bentler, 1999); and values equal or less than .08 will indicate a good fit for the evaluated model (Fan & Sivo, 2005). It is necessary to consider that this last indicator, with small degrees of freedom, often falsely indicates a poor-fitting (Kenny et al., 2015).

Third, the evaluation of factorial invariance has been carried out progressively following four steps (Putnick & Bornstein, 2016; Byrne, 2008). In the first step, the *configural invariance* is evaluated to check the model's fit without restrictions among the samples considered. Next, the *metric invariance* is examined and checked if the fit is still good when, additionally to the equivalence of the model between the groups, the factor loadings are equalized. In the third step, the evaluation of *scalar invariance* is addressed; for this, keeping the conditions imposed in the two previous steps, intercepts are also restricted. The analysis was completed by checking fit indices in the *residual invariance* level. In the latter case, a new condition is added, restricting the errors' variances and covariances.

In order to evaluate the differences between the compared models, both chi-square statistic and information provided by RMSEA have been considered. In the first one, we will assume there is invariance if the result is not statistically significant (Satorra & Bentler 2010), while in the case of RMSEA, we will expect a change lower than .015 when comparing both models (Chen, 2007).

Finally, to analyze the differences by country, one-way ANOVA was applied. To explain the effect size, we used the proportion of variance explained by eta squared ($\eta2$), where $\eta2 = .01$

is small effect size, η2 = .06 is medium effect size, and η2 = .14 it is a large effect size (Cohen, 1988). Subsequently, considering the number of pairs of means to compare, the type I error rate adjustment was used using the Bonferroni test to assess whether there are statistically significant differences by group pairs. The values were analyzed using Cohen's *d* (Cohen et al., 2003), where *d* = 0.2 is a small value, d = 0.5 is a medium size effect, and *d* = 0.8 is a significant size effect.

We used the SPSS V.25 software to build the database and make descriptive statistics. Subsequently, the models were evaluated by confirmatory factor analysis, estimated from the covariance structure, using the robust maximum likelihood estimation with robust standard errors procedure – MLM (Satorra & Bentler, 1994), based on the lavaan (Rosseel, 2012) and semtools (Jorgensen et al., 2018), developed in the R program environment (R Core Team, 2017). The database and the syntax used for the analyzes are freely accessible (Berríos–Riquelme, 2021b).

Results

Objective 1. *To examine the psychometric properties of the Life Satisfaction Scale by country.*

Firstly, asymmetry and kurtosis by country were analyzed, finding all values within the normality criterion (–3 to 3 for asymmetry and –10 to 10 for kurtosis) according to the values suggested by Kline (2011). Table 1 shows the mean and standard deviation of the five SWLS items for the three samples studied. The item that obtained the lowest score in the three samples refers to living conditions: "The conditions of my life are excellent" (Item 2). The highest scores for Chile and Spain were in the item: "I am satisfied with my life" (Item 3), while for the USA sample, it was: "So far, I have achieved the things that are important to me in the life" (Item 4).

Table 1: *SWLS: Items, Means, Standard Deviations, and Loadings by Country*

SWLS ITEM	CHILE			SPAIN			USA		
	M	SD	Loadings	M	SD	Loadings	M	SD	Loadings
1- *In most ways my life is close to my ideal.* (En la mayoría de las cosas, mi vida está cerca de mis aspiraciones o ideal de vida).	4.93	1.46	.65	4.73	1.54	.65	5.15	1.52	.75
2- *The conditions of my life are excellent.* (Las condiciones de mi vida son excelentes).	4.88	2.04	.80	4.70	1.44	.80	4.91	1.58	.73
3- *I am satisfied with my life.* (Estoy satisfecho con mi vida).	5.24	1.65	.78	5.07	1.52	.78	5.43	1.51	.91
4- *So far I have gotten the important things I want in life.* (Hasta el momento, he conseguido las cosas que para mí son importantes en la vida).	5.09	1.56	.71	5.02	1.50	.71	5.51	1.43	.78
5- *If I could live my life over, I would change almost nothing.* (Si pudiese Volver a vivir, no cambiaría casi nada de mi vida).	4.89	1.77	.44	4.92	1.76	.44	5.24	1.77	.58

The psychometric properties of the scale were subsequently evaluated. Regarding the average score obtained by country, Latinos living in the USA are considered satisfied with their lives, while Latinos living in Chile and Spain are slightly satisfied with their lives. Concerning internal consistency, it presents good values according to the studied indices. The details can be seen in Table 2.

Table 2: *Statistics Descriptive and Internal Consistence by Country.*

Country	M	SD	Min	Max	ω	α	α 95% CI
Latinos in Chile	24.98	5.97	8	35	.813	.800	.757, .838
Latinos in Spain	24.42	6.18	8	35	.856	.849	.817, 878
Latinos in USA	26.23	6.26	7	35	.867	.858	.822, .888

Note. M=median; SD=standard deviation; Min=minimum; Max=maximum; α=Cronbach's; ω=McDonald's; CI=confidence interval.

Continuing with the psychometric analysis of the scale by country, following the theory and previous research, a confirmatory factor analysis (CFA) was performed for each sample. Good overall fit and statistically significant factor loads were observed in the three samples (p <.001). The detail of the data is shown in Table 3.

Table 3: *Confirmatory Factor Analysis of the SWLS by Country.*

Country	X^2	df	p	CFI	TLI	SRMR	RMSEA	RMSEA 90% CI Low	Upp
Latinos in Chile	10.57	5	.061	.979	.959	.049	.068	.027	.109
Latinos in Spain	14.04	5	.015	.974	.959	.040	.087	.047	.129
Latinos in USA	6.39	5	.270	.994	.989	.031	.039	.000	.098

Note. X^2: chi square; df= degrees of freedom; p = significance; CFI=comparative adjustment index; TLI=Tucker-Lewis index; SRMR=standardized root mean-square; RMSEA=root mean square error of approximation; CI=confidence interval; Low=lower; Upp=upper

Objective 2. *Assess the invariance of the SWLS in Latino immigrants residing in Chile, Spain, and the USA.*

The evaluation of the results of the invariance or equivalence between the three samples (Tables 4, 5, and 6) allows us to assume that the scale is invariant at the scalar level in the groups studied. Particularly, when the invariance at the residual level is analyzed, it is observed that the results are not adequate in the analysis between Latinos in the USA vs. Latinos in Chile,

but it is adequate in the rest. In this sense, it is necessary to point out that the residual invariance is not a requirement when comparing mean scores since the residuals are not part of the factor loads (Vandenberg & Lance, 2000). In this way, it is concluded that the scale is invariant, showing that the construct has the same meaning in all the samples. Therefore, the means obtained in the latent variable between the three groups considered can be compared.

Table 4: *Invariance Results (Latinos in Chile – Latinos in Spain).*

Invariance	X² Scalling correction factor	Scaled ΔX²	Δdf	p	RMSEA 90% CI	TLI	CFI	ΔRMSEA
Configural	1.91	–	–	–	.078 (.049 – .106)	.954	.977	–
Metric	1.77	6.20	4	.185	.072 (.046 – .098)	.961	.972	–.006
Scalar	1.59	2.76	4	.599	.066 (.041 – .090)	.967	.971	–.006
Residual	1.65	4.91	5	.428	.057 (.033 – .079)	.975	.972	–.009

Note. Configural: No restrictions. Metric: Loadings fixed. Scalar: Loadings and intercepts fixed. Residual: Loadings, intercepts and residuals fixed.

Table 5: *Invariance Results (Latinos in the USA – Latinos in Spain).*

Invariance	X² Scalling correction factor	Scaled ΔX²	Δdf	p	RMSEA 90% CI	TLI	CFI	ΔRMSEA
Configural	1.74	–	–	–	.071 (.037 – .103)	.964	.982	–
Metric	1.65	1.73	4	.785	.056 (.020 – .086)	.978	.984	–.015
Scalar	1.51	5.05	5	.282	.053 (.019 – .082)	.980	.982	–.003
Residual	1.54	7.69	5	.174	.052 (.023 – .078)	.980	.977	–.001

Note. Configural: No restrictions. Metric: Loadings fixed. Scalar: Loadings and intercepts fixed. Residual: Loadings, intercepts and residuals fixed.

Table 6: *Invariance Results (Latinos in the USA – Latinos in Chile).*

Invariance	X² Scalling correction factor	Scaled ΔX²	Δdf	p	RMSEA 90% CI	TLI	CFI	ΔRMSEA
Configural	1.90	–	–	–	.059 (.021 – .092)	.972	.986	–
Metric	1.79	3.69	4	.450	.050 (.009 – .081)	.979	.985	–.009
Scalar	1.61	7.90	4	.096	.053 (.020 – .081)	.977	.979	.003
Residual	1.63	15.85	5	.007	.067 (.044 – .090)	.963	.957	.014

Note. Configural: No restrictions. Metric: Loadings fixed. Scalar: Loadings and intercepts fixed. Residual: Loadings, intercepts and residuals fixed.

Objective 3. *To analyze the differences between the SWLS scores of the participants in the three countries studied.*

In order to meet this objective, a one-way ANOVA was carried out to evaluate the differences between the means of the samples from the three countries concerning their scores on the life satisfaction scale. The analysis indicates that there are statistically significant differences between the three countries in the degree of their satisfaction with life that the participants manifest (F (2, 655) =4.63, p < .01, η^2 = .01). Specifically, it is observed that the greatest satisfaction with life is found in Latinos residing in the USA (mean = 26.24, DT = 6.27, n = 183), followed by those residing in Chile (mean = 24.98, DT = 5.97, n = 236) and finally by those found in Spain (mean = 24.42, DT = 6.18, n = 239). Applying the Bonferroni adjustment, the analysis of the differences between pairs of means indicates that only the difference between Latinos residing in the USA and Spain is statistically significant (p = .008, d =0.29). The difference between Latinos residing in the USA and Chile is not statistically significant (p = .114, d = 0.21), nor between Latinos living in Chile with respect to those residing in Spain (p = .970, d = 0.09). Regarding the size of the standardized mean difference effect (Cohen's d), it is observed that its magnitude is small when it comes to comparisons between Latinos residing in the USA regarding those found in Chile and Spain. The magnitude of the standardized mean difference between Latinos residing in Chile and Spain is not relevant. In short, Latinos residing in the USA show a greater degree of satisfaction with life, and, although their scores do not differ statistically significantly from those residing in Chile, it is observed that the standardized difference between their means is of medium size, presenting a similar value when compared to Latinos residing in Spain. Furthermore, it is verified that the difference in the degree of satisfaction with life between Latinos residing in Chile and those residing in Spain is not statistically significant, and the magnitude of the said difference is not relevant.

Discussion

This research aimed to analyze the psychometric properties and factorial invariance of the SWLS in Latino immigrants in Chile, Spain, and the USA. The present study contributes to the literature on Latino immigration and subjective well-being, providing valid evidence of the scale in three western countries, explicitly providing evidence of its internal consistency, factor structure, and factorial invariance.

According to the first objective, the results show that this version of the SWLS presents good psychometric properties for studying Latino immigration in the three countries analyzed. Its internal consistency obtained values according to those found in previous studies carried out with Latino immigrants in Spain and the USA (Calvo et al., 2017; Moreno-Jiménez & Hidalgo, 2011). The factorial structure of the scale was demonstrated through a CFA in each sample (per country) as a previous step to the invariance analysis. The results obtained had much

goodness-of-fit, and the results are similar to those obtained by Berrios-Riquelme et al. (2019) with Latino immigrants in Spain.

Regarding the second objective, the findings provide support for the configural invariance, indicating that the latent factor is similar in Latinos in the three countries studied. In this way, Latinos living in Chile, Spain, and the USA, conceptualize LS similarly with a one-dimensional structure. Obtaining the invariance at the metric level allows us to assume that the construct studied is the same in Latino immigrants in the three countries; that is, the participants of the three samples attribute the same meaning to the SWLS. Scalar invariance was also obtained, making it possible to compare the latent means. Regarding not having obtained the invariance at a residual level, it should be mentioned that it is very complicated by the restrictions imposed. These findings are similar to the results obtained by Ponizovsky et al. (2013), who evidenced invariance at the configural, metric level, and scalar with immigrants with a Soviet past in Israel. Despite this, comparisons can be made due to the levels of invariance obtained previously, specifically to that achieved at the metric level, since the factor loadings are not affected at subsequent levels of invariance. Furthermore, it is not relevant that the sources of error are equivalent between populations when invariance tests are performed, what matters is that the proportion of the factor in each item is equivalent (metric invariance) and that in the same way it is latent variability (scalar invariance); both types of invariance were found in the present study. Considering these results, in the present study, the SWLS would be free of cultural bias and would be equivalent to studying life satisfaction in Latin American immigrants residing in Chile, Spain, and the USA.

Regarding the third objective, the results show that Latino immigrants living in the USA have higher average scores on life satisfaction than those living in Chile and Spain; nevertheless, this difference is small. These results are following the latest World Happiness Report (WHR), which detailed happiness levels in 156 countries, finding that the happiest people are in the USA (# 18), followed by those in Chile (# 25) and then those in Spain (36) (Helliwell et al., 2018). Only statistically significant differences were found between Latino immigrants residing in the USA and Spain with a small effect size. When analyzing the scores by country, it should be considered that the SWLS evaluates, in general, the satisfaction that a person has and that the circumstances of life determine it in the context where they are inserted. In this sense, the differences in integration policies and an adverse socioeconomic context are probably the most reliable evidence of how Latino immigrants value their satisfaction with life. For example, the USA has better anti-discrimination policies towards immigrants than Spain, as well as better policies to access nationality, health, and education (Migrant Integration Policy Index, 2015). In the same line, if Chile is compared with the USA, it is possible to appreciate the significant difference in policies aimed at this population, where South American country does not have an integration policy towards this conglomerate, and neither does it have legislation that protects them from the discrimination they suffer (Thayer, 2016). In turn, regardless that Spain has clear integration policies towards the immigrant conglomerate in contrast to Chile,

the effect of the economic crisis has reduced the quality of life of these people due to the harmfulness of their intergroup relations with the national population due to the effects of the crisis (Berrios-Riquelme et al., 2018). As Heizmann and Böhnke (2019) point out, the differences in migration policies and the rights implied in them will impact immigrants' welfare.

Despite the good results of the study, some weaknesses and limitations need to be mentioned. The first is the incidental sample carried out in the three countries and the transectional design, which means that the generalization of these results should be made with caution. Another aspect is that this study has not considered other variables that could allow us perform analysis to determine other evidences of validity. Thirdly, it is worth mentioning that there is no reference to the immigrants' regular or irregular migration status and level of education. Regarding the latter, it should be considered that the sample in the U.S. is made of university students exclusively, so their immigration status and education level could have affected their level of life satisfaction. Another aspect is that the immigrant population tends to respond with a certain degree of social desirability, which is difficult to control for the contexts in which the questionnaires are applied. Despite these limitations, it is necessary to highlight how difficult it is to access this sample type, because usually the immigrants prefer do not participate due are afraid to give their data and because the must invest valuable time in completing the questionnaires.

Regarding the study's strengths, it is worth mentioning that the samples from each country were obtained in the same year, which is important for the results to be placed in the same historical context. Another aspect to highlight is that it is the first study that includes factorial invariance with Latino immigrants in three countries. In this way, the good results allow laying the foundations for its replication and evaluating the construct in different societies. For example, a longitudinal study could be conducted; it would also be desirable for the research to increase its regional borders to evaluate the measure of the invariance of the SWLS in Latino immigrants living in Asian or African countries, who have languages, customs, and political systems different from those of western countries. Another axis to study would be LS before and after migration to find out how it varies or to compare if LS improves or worsens compared to people who remain in the society of origin. It would also be important to consider the reason for emigration since reasons based on the economic situation are related to less satisfaction with life than people who emigrate for other reasons. Considering these issues, there is a need to continue this line of research to corroborate the reality of Latino immigrants in different countries.

The psychometric properties and factor structure of the SWLS suggest that it is a reliable unifactorial measure to study subjective well-being in Latino immigrants in Chile, Spain, and the USA. Persisting in this line of research will be preponderant, given that immigrants move to other countries to improve their living conditions and those of their family, aspects that affect their subjective well-being and, therefore, an important indicator of LS. Continuing this line will

be favorable to elaborate evidence-based policies and interventions that promote the subjective well-being of the immigrant population.

Conclusions and study contributions

It is possible to conclude that the present study contributes to the existing literature in three ways. First, the results indicate that reading and understanding the items is possible for Latino immigrants regardless of the context in which they are inserted. Second, in agreement with previous studies, the evidence of internal consistency and unifactorial structure is provided. Third, these SWLS findings are the first with a Latino immigrant population in western countries and suggest that the instrument is valid and reliable to measure LS. These results allow cross-cultural comparisons to better explain the subjective well-being of these people according to the prevailing context and to understand the related factors present in their daily life in the host society.

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