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Revista Latinoamericana de Psicología

ORIGINAL

Validity of the Satisfaction with Life Scale in Colombia and factorial equivalence with Spanish data

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Abstract   The Satisfaction with Life Scale (SWLS) is a widely used, 5-item, 7-point Likert-type scale that measures life satisfaction. The current study aims to explore the validity of the SWLS in Colombia and its factorial equivalence with Spanish samples. The SWLS was administered to a total of 1,587 Colombian participants, including a sample of undergraduates, a sample from the general population, and a clinical sample. The internal consistency across the different samples was good (overall alpha of .89). The one-factor model found in the original scale showed a very good fit in the overall Colombian sample (RMSEA = .052, 90% CI [.034, .073]; CFI = .99; NNFI = .99). SWLS scores are significantly related to measures of valued living, emotional symptoms, negative thoughts, experiential avoidance, and cognitive fusion. The clinical sample's mean score on the SWLS was significantly lower than the scores of the nonclinical samples. Three additional Spanish samples (*N* = 1057) were obtained to analyze the factorial equivalence of the SWLS in Colombia and Spain. Metric and scalar invariance were observed between countries and between Colombian males and females. In conclusion, the SWLS showed good psychometric properties in Colombia and factorial equivalence with Spanish samples.

Validez de la Escala de Satisfacción con la Vida en Colombia y equivalencia factorial con datos españoles

Resumen   La Escala de Satisfacción con la Vida (SWLS) es una escala ampliamente utilizada para medir satisfacción vital. Consta de 5 ítems que se responden en una escala tipo Likert de 7 puntos. El objetivo de este artículo es explorar la validez del SWLS en Colombia y la equivalencia factorial con muestras españolas. Se administró el SWLS a 1587 participantes colombianos, incluyendo una muestra de universitarios, una de población general y una muestra clínica. La consistencia interna a través de muestras fue buena (alfa global de .89). El modelo unifactorial encontrado en la escala original mostró muy buen ajuste en las muestras colombianas (RMSEA = .052, 90% CI [.034, .073]; CFI = .99; NNFI = .99). Las puntuaciones del SWLS estuvieron relacionadas significativamente con

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medidas de vida valiosa, síntomas emocionales, pensamientos negativos, evitación experiencial y fusión cognitiva. La puntuación promedio de la muestra clínica fue significativamente menor que las de las muestras no clínicas. Se obtuvieron tres muestras españolas (*N* = 1057) para analizar la equivalencia factorial del SWLS en Colombia y España. Se observó invarianza métrica y escalar entre países y entre género en Colombia. En conclusión, la SWLS mostró buenas propiedades psicométricas en Colombia y equivalencia factorial con muestras españolas.

In 1948, the World Health Organization (WHO) defined health not only as the absence of illness but the presence of physical, mental, and social wellbeing. Quality of life subsequently experienced an increased level of interest, especially from the 1980s (Testa & Simonson, 1996). Accordingly, psychiatric and psychological therapies gradually incorporated and recognized this construct as a relevant outcome (e.g., Beck, 2005; Lehman, 1983).

One line of research developed in the 1980s was designing scales providing measures of quality of life. One of these scales was the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). Life satisfaction has been conceptualized as a subjective global assessment of an individual's quality of life based on the comparison between the individual's current state and his/her standard of what is desirable (Diener, 1984). The SWLS is a 5-item, 7-point, Likert-type scale (7 = *strongly agree*; 1 = *strongly disagree*) that has shown good psychometric properties and a one-factor structure both in the original version and in the many translations (Jang et al., 2017). The SWLS' psychometric properties have also been explored with a wide range of samples, including adolescents, the elderly, patients suffering from health problems, etc. (Emerson, Guhn, & Gaderman, 2017). Measurement invariance has also been found across gender within the same culture in several studies (e.g., Emerson et al., 2017; Jovanović, 2016; Zanon, Bardagi, Layous, & Hutz, 2013). SWLS scores have shown to positively correlate with health variables and negatively correlate with emotional symptoms, negative thoughts, and coping strategies such as experiential avoidance (Bond et al., 2011) and cognitive fusion (Gillanders et al., 2014). The scores on the SWLS have also predicted suicide attempts (e.g., Koivumaa-Honkanen et al., 2001).

There are several Spanish translations of the SWLS (e.g., Atienza, Pons, Balaguer, & García-Merita, 2000; Mañas, Salvador, Boada, González, & Agulló, 2007). Overall, the Spanish translations of the SWLS have shown good psychometric properties and a one-factor structure. The SWLS has been used in Colombia in several studies. For instance, Arango-Lasprilla et al. (2010) used the SWLS to analyze life satisfaction for caregivers of individuals suffering from spinal cord injuries. They found a high rate of life dissatisfaction and poor quality of life. In other research, Wills-Herrera, Islam, and Hamilton (2009) compared life satisfaction in three different cities: Bogotá (Colombia), Belo Horizonte (Brazil), and Toronto (Canada). This study found statistically significant differences in life satisfaction for the cities and correlations with demographic variables. However, none of these studies reported the psychometric properties of the SWLS in Colombia, and it has not been formally validated in Colombia. This makes it difficult to conduct studies on life satisfaction in Colombia with proper scientific guarantees.

The SWLS has also been commonly used to compare life satisfaction among countries. However, life satisfaction has different meanings across cultures, which might affect how people interpret the SWLS items and respond to them. If that were the case, the scores on the SWLS across countries could not be compared due to the lack of measurement invariance. As noted by Jang et al. (2017), analysis of the SWLS measurement invariance across countries has been scarce. In their study, which was the most complete evaluation of factorial equivalence across countries, metric invariance held across 26 countries, but scalar invariance did not. Similar results were found in the review conducted by Emerson et al. (2017) in which only one of the 11 studies supported scalar invariance across cultures. To our knowledge, no studies have explored the measurement invariance between Colombia and other countries, which might be related to the fact that there is not a validated translation of the SWLS in this country.

In conclusion, the unknown psychometric properties of the SWLS in Colombia and factorial equivalence among Spanish-speaking countries makes conducting cross-cultural studies difficult. Accordingly, this study aimed to analyze the validity of the SWLS in Colombia and the factorial equivalence with Spanish samples. Firstly, a small pilot study confirmed that the items included in the translation of the SWLS by Atienza et al. (2000) were understood by Colombian participants. Secondly, the SWLS was administered to a total of 1,587 Colombian participants, including a sample of undergraduates (*N* = 762), a sample from the general population (*N* = 724), and a clinical sample (*N* = 101). Thirdly, three additional Spanish samples that included a total of 1,057 participants were obtained to analyze the factorial equivalence of the SWLS in Colombia and Spain. We expected that the SWLS would show a good internal consistency and a one-factor structure in Colombian samples. Additionally, we expected to find measurement invariance across gender for the Colombian samples. Lastly, according to previous research (e.g., Bond et al., 2011; Gillanders et al., 2014), we expected to find positive correlations between the SWLS and measures of valued living, and negative correlations for measures of emotional symptoms, negative thoughts, experiential avoidance, and cognitive fusion.

Method

Participants

Sample 1. This sample consisted of 762 undergraduates (age range 18-63, *M* = 21.16, *SD* = 3.76) from seven universities in Bogotá. Forty-six percent of the sample was studying

psychology. The other studies included law, engineering, philosophy, communication, business, medicine, and theology. Sixty-two percent were women. Of the overall sample, 26% of participants had received psychological or psychiatric treatment at some time, but only 4.3% were currently in treatment. Also, 2.9% of participants were taking psychotropic medication.

Sample 2. The sample consisted of 724 participants (74.4% females) whose ages ranged between 18 and 88 (*M* = 26.11, *SD* = 8.93). The participants' relative level of education was: 17.8% primary studies (i.e., compulsory education) or mid-level study (i.e., high school or vocational training), 63.8% were undergraduates or college graduates, and 18.4% were currently studying or had a postgraduate degree. They responded to an anonymous Internet survey distributed through social media. All participants were Colombian. Forty-five percent reported having received psychological or psychiatric treatment at some time, but only 8.4% were currently in treatment. Also, 5.4% of participants reported using psychotropic medication.

Sample 3. This consisted of 101 patients (52 women) with an age range between 18 and 67 (*M* = 32.22, *SD* = 12.09). Of these patients, 67.3% suffered from an emotional disorder and 32.7% from a sexual disorder. All participants were being treated in a private psychological consultation center in Bogotá. Only 5% of the participants reported that they were taking psychotropic medication.

Sample 4. This sample consisted of 235 undergraduates (62.6% females, age range 18-61, *M* = 27.95, *SD* = 10.55) from three universities in Spain. Twenty-seven percent of the sample was studying psychology. The other studies included physics, speech therapy, and law (63% female). Of the overall sample, 17.4% of participants had received psychological or psychiatric treatment at some time, but only 3.4% were currently in treatment. Also, 3.8% of participants were taking psychotropic medication.

Sample 5. The sample consisted of 731 participants (78.1% females) with ages ranging between 18 and 89 (*M* = 35.09, *SD* = 11.72). The participants' relative level of education was: 34.7% primary studies (i.e., compulsory education) or mid-level study (i.e., high school or vocational training), 42% were undergraduates or college graduates, and 23.3% were currently studying or had a postgraduate degree. They responded to an anonymous Internet survey distributed through social media. All participants were Spaniards. Forty-four percent reported having received psychological or psychiatric treatment at some time, but only 13.1% were currently in treatment. Also, 12.2% of participants reported using psychotropic medication.

Sample 6. This included 91 patients (54 women) with ages ranging between 18 and 63 (*M* = 39.45, *SD* = 13.04). Most of the patients were suffering from an emotional disorder (76.9%). All participants were being treated in a private psychological consultation center in Spain. Thirty-six percent of the participants reported that they were taking psychotropic medication.

Instruments

Satisfaction with Life Survey (SWLS; Diener et al., 1985; Spanish translation by Atienza et al., 2000). The SWLS is a 5-item, 7-point Likert-type scale (7 = *strongly agree*; 1 = *strongly disagree*) that measures self-perceived well-being. Examples of items are "I am satisfied with my life" and "In most ways, my life is close to my ideal". The SWLS has good psychometric properties and convergent validity in samples from Spain.

Valuing Questionnaire (VQ; Smout, Davies, Burns, & Christie, 2014; Spanish translation by Ruiz et al., 2019, submitted). The VQ is a 10-item, 7-point Likert (6 = *completely true*; 0 = *not at all true*), self-report instrument designed to assess general valued living over the last week. The VQ has two subscales: Progress (i.e., enactment of values, including clear awareness of what is personally important and perseverance) and Obstruction (i.e., disruption of valued living due to avoidance of unwanted experience and distraction from values). The Spanish version has shown good psychometric properties. In this study, the subscale Progress showed alphas of .81, .85, and .88, respectively, for Samples 1 to 3, whereas the alphas for Obstruction were .78, .84, and .86.

Depression, Anxiety, and Stress Scales – 21 (DASS-21; Antony, Bieling, Cox, Enns, & Swinson, 1998). The DASS-21 is a 21-item, 4-point Likert-type scale (3 = *applied to me very much, or most of the time*; 0 = *did not apply to me at all*) consisting of sentences describing negative emotional states. It contains three subscales (Depression, Anxiety, and Stress) and has shown good internal consistency and convergent and discriminant validity. The DASS-21 has shown good psychometric properties in Colombia (Ruiz, García-Martín, Suárez-Falcón, & Odriozola-González, 2017). In this study, the alphas for Depression were .86, .87, .91 for Samples 1 to 3; for Anxiety, they were .80, .80, .85; and, for Stress, they were .80, .83, .88.

General Health Questionnaire – 12 (GHQ-12; Goldberg & Williams, 1988). The GHQ-12 is a 12-item, 4-point Likert-type scale that is frequently used as a screening tool for psychological disorders. Respondents are asked to indicate the degree to which they have recently experienced a range of common symptoms of distress; higher scores reflect greater levels of psychological distress. The GHQ-12 has shown excellent psychometric properties in Colombia (Ruiz, García-Beltrán, & Suárez-Falcón, 2017). In this study, the GHQ-12 alphas were .88, .91, .90 for Samples 1 to 3.

Automatic Thoughts Questionnaire - 8 (ATQ-8; Netemeyer et al., 2002). The ATQ-8 is the result of reducing the ATQ (Hollon & Kendall, 1980) to only eight items while maintaining the same instructions and Likert-type scale. The ATQ-8 is a measure of the frequency of negative automatic thoughts experienced during the past week. It consists of eight negative thoughts that are rated on a 5-point Likert-type scale (5 = *all the time*; 1 = *not at all*). It has shown good psychometric properties in Colombian samples (.89 mean Cronbach's alpha; Ruiz, Suárez-Falcón, & Riaño-Hernández, 2017) and a one-factor structure. In this study, the alphas of the ATQ-8 for Samples 1 to 3 were .85, .91, and .88, respectively.

Acceptance and Action Questionnaire – II (AAQ-II; Bond et al., 2011). The AAQ-II is a 7-item, 7-point Likert-type scale (7 = *always true*; 1 = *never true*) that measures general experiential avoidance or psychological inflexibility. The items reflect unwillingness to experience unwanted emotions and thoughts and the inability to be in the present moment and behave according to value-directed actions when

experiencing unwanted psychological events. The Spanish translation by Ruiz et al. (2016) showed good psychometric properties and a one-factor structure in Colombian samples. In this study, the alphas of the AAQ-II for Samples 1 to 3 were .88, .91, and .90, respectively.

Cognitive Fusion Questionnaire (Gillanders et al., 2014). The CFQ is a 7-item, 7-point Likert-type scale (7 = *always true*; 1 = *never true*) consisting of sentences describing instances of cognitive fusion. This scale has been validated in English for a wide variety of clinical and nonclinical populations. The Spanish translation has shown similar psychometric properties (overall alpha of .92) and factor structure to the original version in Colombia (Ruiz, Suárez-Falcón, Riaño-Hernández, & Gillanders, 2017). In this study, the alphas of the CFQ for Samples 1 to 3 were .89, .93, and .93, respectively.

Procedure

A small pilot study was conducted to explore whether the SWLS items were understandable by Colombian participants. Specifically, ten Colombian undergraduates were asked to rate item clarity. The undergraduates rated the items as highly understandable, so none were changed.

In Samples 1 and 4, the questionnaire package was administered in the participants' classrooms at the beginning of a regular class. Participants from Samples 2 and 5 responded to an anonymous Internet survey distributed through social media (e.g., institutional webpages, Facebook, etc.). Lastly, participants from Samples 3 and 6 answered the questionnaires during one of the clinical assessment interviews at the beginning of a treatment session in the presence of their therapist. All samples were taken between 2015 and 2016.

Participants in Samples 1, 3, 4, and 6 provided written informed consent, whereas participants in Samples 2 and 5 provided informed consent by accepting the conditions described on the computer screen. Participants were then given a questionnaire packet. Participants in Samples 1 and 3 (i.e., Colombian samples) responded to the SWLS, VQ, DASS-21, GHQ-12, ATQ-8, AAQ-II, and CFQ. Participants in Sample 2 responded to all questionnaires except the GHQ-12. Participants in Samples 4 to 6 (i.e., Spanish samples) responded to the same questionnaires, but only the results in the SWLS will be analyzed in this study in order to test measurement invariance with Colombian samples. Upon completion of the study, participants were debriefed about the aims of the study and thanked for their participation. No incentives were provided for participation.

Data analysis

Prior to conducting factor analyses, data from all samples were examined to search for missing values, which were imputed using the LISREL© (version 8.71, Jöreskog & Sörbom, 1999) matching response pattern. This software was used to conduct the confirmatory factor analyses (CFA). In this imputation method, the value to be substituted for the missing value of a single case is obtained from another case (or cases) that have a similar response pattern to the remaining items of the SWLS. Only one value was missing.

Because the SWLS uses a Likert-type scale measured on an ordinal scale, a weighted least squares (WLS) estimation method using polychoric correlations was used when conducting the CFA. The WLS method is recommended for large samples with fewer than 20 items, just like the current study (Jöreskog & Sörbom, 1996). First, we conducted a CFA for each of the Colombian samples. We computed the chi-square test and the following goodness of fit indexes for the one-factor model: (a) the root mean square error of approximation (RMSEA); (b) the comparative fit index (CFI); and (c) the non-normed fit index (NNFI). According to Hu and Bentler (1999), RMSEA values below .08 represent an acceptable fit, and values below .05 represent a very good fit to the data. With respect to the CFI and NNFI, values above .90 indicate acceptable-fitting models, and any value above .95 represents a good fit to the data.

Additional CFA were performed to test for metric and scalar invariances across Colombian samples, gender in Colombian samples, and countries (Colombia and Spain) following Jöreskog (2005) and Millsap and Yun-Tein (2004). In other words, we analyzed whether the item factor loadings and items intercepts are invariant in the abovementioned groups. In so doing, the relative fits of three increasingly restrictive models were compared: the multiple-group baseline model, the metric invariance model, and the scalar invariance model. The multiple-group baseline model allowed the five unstandardized factor loadings to vary across the Colombian and Spanish samples and across men and women (configural invariance). The metric invariance model, which was nested within the multiple-group baseline model, placed equality constraints (i.e., invariance) on those loadings across groups (weak invariance). Lastly, the scalar invariance model, which was nested within the metric invariances model, is tested by constraining the factor loadings and the items intercepts to be the same across groups (strong invariance). Equality constraints were not placed on estimates of the factor variances because these are known to vary across groups even when the indicators measure the same construct in a similar manner (Kline, 2005). For the model comparison, the RMSEA, CFI, and NNFI indices between nested models were compared. The more constrained model was selected (i.e., second model versus first model, and third model versus second model) if the following criteria suggested by Cheung and Rensvold (2002) and Chen (2007) were met: (a) the difference in RMSEA (ΔRMSEA) was lower than .01; (b) the differences in CFI (ΔCFI) and NNFI (ΔNNFI) were equal to or greater than -.01.

Coefficient alphas and McDonald's omega were computed providing percentile bootstrap 95% confidence intervals (CI) to explore the internal consistency of the SWLS in Samples 1 to 3 and the overall Colombian sample. In order to calculate these coefficients, the MBESS package in R was used (Kelley & Lai, 2012; Kelley & Pornprasertmanit, 2016). The remaining statistical analyses were performed using SPSS 19©. Corrected item-total correlations were obtained to identify items that should be removed because of low discrimination item index (i.e., values below .20). Descriptive data were also calculated, and gender differences in SWLS scores were explored by computing independent sample t-tests and providing Cohen's d when finding statistically significant results. To examine criterion validity, scores on the SWLS were compared between participants in Sample 1 and 2 (nonclinical participants) and participants in Sample 3 (clinical participants). Pearson correlations between the SWLS and other scales were calculated to assess convergent construct validity.

Results

Descriptive data and psychometric quality of the items

Table 1 shows the original SWLS items, their translation into Spanish, the descriptive data and corrected item-total correlations for each Colombian sample. All items showed good discrimination, and the corrected item-total correlations ranged from .60 to .75 in Sample 1, from .66 to .83 in Sample 2, and from .59 to .78 in Sample 3.

Table 2 shows that the SWLS' coefficient alpha ranged from .85 (Samples 1 and 3) to .89 (Sample 2) for the Colombian samples, and there was an overall alpha of .89. The coefficient omega values were very similar across samples and had an overall omega of .87. There were no differences between men and women for the SWLS scores in Sample 1 ($t(752) = .82$, $p = .41$) and Sample 3 ($t(99) = 1.11$, $p = .27$), but there were differences in Sample 2 that favored women. These differences were, however, small (men: $M = 21.84$, $SD = 6.85$; women: $M = 23.09$, $SD = 6.93$; $t(708) = -2.07$, $p = .039$, $d = 0.18$, 95% CI[0.009, 0.353]) (see below that measurement invariance was demonstrated across gender in Colombia, which permits mean scores across gender to be compared).

Validity evidence based on internal structure

Dimensionality

The fit of the one factor model in Samples 1 and 2 was adequate and scores on the goodness-of-fit were very good (Sample 1: $\chi^2(5) = 18.42$, $p < .01$; RMSEA = .059, 90% CI [.032, .090], CFI = .98, NNFI = .99; Sample 2: $\chi^2(5) = 14.94$, $p < .01$; RMSEA = .053, 90% CI [.040, .070], CFI = .99, NNFI = .99). The fit of the one-factor model in Sample 3 was not as good ($\chi^2(5) = 9.50$, $p < .01$; RMSEA = .095, 90% CI [.00, .18], CFI = .97, NNFI = .99) because of a higher RMSEA value. This seems to be related to the artificially large value of the RMSEA in small samples (Kenny, Kaniskan, & McCoach, 2015).

The overall fit of the one-factor model in the Colombian samples was adequate, and scores on the goodness-of-fit indexes were very good: $\chi^2(5) = 26.18$, $p < .01$; RMSEA = .052, 90% CI [.034, .073], CFI = .99, NNFI = .99. Figure 1 depicts the results of the standardized solution of the one-factor model in the overall Colombian sample.

Measurement invariance

Table 3 shows the results of the metric and scalar invariance analyses. Parameter invariance was supported at both the metric and scalar levels across Colombian samples (Samples 1 to 3), for Colombian men and women, and countries (Colombia and Spain) because changes in RMSEA, CFI, and NNFI were lower than .01.

Validity evidence based on relationships with other variables

The SWLS showed correlations with all the other assessed constructs in theoretically coherent ways (see Table 4).

Table 1　Item Description, Corrected Item-Total Correlations, and Descriptive Data For Each Colombian Sample

Item number and description	Corrected item-total correlation			M (SD)		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3
1. En la mayoría de los aspectos, mi vida es como quiero que sea [In most ways, my life is close to my ideal].	.65	.76	.73	4.71 (1.69)	4.39 (1.59)	4.07 (1.69)
2. Hasta ahora he conseguido de la vida las cosas que considero importantes [So far I have gotten the important things I want in life].	.66	.76	.59	5.11 (1.67)	4.69 (1.59)	4.35 (1.99)
3. Estoy satisfecho con mi vida [I am satisfied with my life].	.75	.83	.78	5.30 (1.71)	4.72 (1.71)	3.97 (1.99)
4. Si pudiera vivir mi vida otra vez, la repetiría tal y como ha sido [If I could live my life over, I would change almost nothing].	.60	.66	.62	4.29 (2.04)	3.88 (1.89)	3.40 (2.03)
5. Las circunstancias de mi vida son buenas [The conditions in my life are excellent].	.66	.68	.62	5.46 (1.62)	5.10 (1.53)	4.47 (1.89)

Table 2　Alpha and Omega Coefficients, 95% Confidence Intervals, and Descriptive Data across Colombian Samples and the Overall Sample

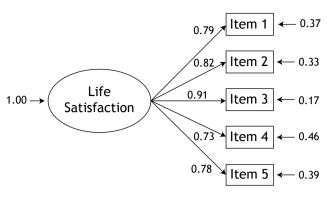|	Sample 1: Undergraduates (N = 762)	Sample 2: General population online (N = 724)	Sample 3: Clinical (N = 101)	Overall Sample (N =1587)
Alpha 95% CI	.85 [.83, .87]	.89 [.88, .90]	.85 [.80, .89]	.89 [.88 .90]
Omega 95% CI	.85 [.83, .87]	.89 [.88, .91]	.86 [.79, .90]	.87 [.86 .88]
Mean score (SD)	24.87 (6.93)	22.76 (6.95)	20.26 (7.62)	23.38 (7.46)

Figure 1. Results of the confirmatory factor analysis conducted with the overall Colombian sample to analyze the fit of a one-factor model.

Specifically, the SWLS showed strong positive correlations with progress in values and negative correlations with obstruction in values, emotional symptoms as measured by the DASS-21, frequency of negative thoughts, experiential avoidance, and cognitive fusion.

Means and standard deviations of the SWLS score for each Colombian sample can be seen in Table 2. Participants' mean score in the clinical sample (Sample 3) was lower than those of participants in Sample 1 ($t(855) = 5.77$, $p < .001$, $d = 0.66$, 95% CI[0.45, 0.87]) and Sample 2 ($t(823) = 3.24$, $p = .001$, $d = 0.36$, 95% CI[0.15, 0.56]).

Discussion

The SWLS is one of the most used instruments to measure life satisfaction. There are several Spanish translations of the SWLS, but little evidence has been collected about the validity of the SWLS in Colombia. The current study aimed to advance this by testing the Spanish version of the SWLS, which was translated by Atienza et al. (2000), in Colombia, and then compare the factorial equivalence with Spanish samples. The SWLS was administered to three

Colombian samples that had a total of 1,587 participants (a sample of undergraduates, a sample from the general population, and a clinical sample) as well as to three similar Spanish samples ($N = 1057$).

The SWLS showed excellent internal consistency (overall alpha of .89) and the one-factor model showed a very good fit to the data. Measurement invariance on both metric and scalar levels was obtained across countries and gender. This indicates that the SWLS is measuring the same construct for participants from Colombia and Spain and between Colombian men and women.

The SWLS showed convergent validity in Colombian samples in view of the strong positive correlations found with the VQ-Progress and the negative correlations with emotional symptoms, frequency of negative thoughts, experiential avoidance, and cognitive fusion. These results are coherent with previous research (e.g., Bond et al., 2011; Gillanders et al., 2014). Additionally, the SWLS showed criterion validity because the mean score of clinical participants was lower than mean scores in Samples 1 and 2.

It is worthwhile mentioning several of this study's limitations. Firstly, no systematic information was obtained concerning the diagnosis of clinical participants. Secondly, some aspects relating to the validity of the SWLS have not been analyzed in the current study (e.g., sensitivity to treatment effects, etc.). Thirdly, the percentage of women was significantly higher than the percentage of men in the composition of the samples although this limitation is reduced by measuring invariance across gender. Lastly, the mean age of Sample 2 was relatively low. This might be a consequence of young people's higher Internet and social media use in Colombia.

One important finding of this study is the SWLS' factorial equivalence that was found for Colombian and Spanish samples. To our best knowledge, this has not been evaluated in previous studies with regard to the SWLS. Proofs of measurement invariance across samples from different countries are important because the SWLS is an instrument that is typically used to assess and compare life satisfaction across different countries. However, in the absence

Table 3   Results of the Metric and Scalar Invariance Analyses Across Samples in Colombia, Gender in Colombia, and Across Colombian and Spanish Samples

Model	RMSEA	ΔRMSEA	CFI	ΔCFI	NNFI	ΔNNFI
Measurement invariance across samples in Colombia						
MG Baseline model	.0597		.993		.987	
Metric invariance	.0554	.0043	.991	-.002	.989	-.002
Scalar invariance	.0572	-.002	.988	-.003	.988	-.001
Measurement invariance across gender in Colombia						
MG Baseline model	.0598		.993		.987	
Metric invariance	.0609	-.0011	.990	-.003	.986	-.001
Scalar invariance	.0557	.0052	.990	.000	.988	.002
Measurement invariance across Colombia and Spain						
MG Baseline model	.0395		.998		.996	
Metric invariance	.0441	.0046	.996	-.002	.995	-.001
Scalar invariance	.0486	.0045	.995	-.001	.994	.001

Table 4 Pearson Correlations between the SWLS Scores and Other Relevant Self-Report Measures in Each of the Colombian Samples

Measure	S	r with SWLS
VQ – Progress	1	.49*
	2	.64*
	3	.56*
VQ – Obstruction	1	-.27*
	2	-.50*
	3	-.47*
DASS-21 – Depression	1	-.41*
	2	-.57*
	3	-.52*
DASS-21 – Anxiety	1	-.27*
	2	-.40*
	3	-.45*
DASS-21 – Stress	1	-.26*
	2	-.44*
	3	-.49*
GHQ-12	1	-.43*
	3	-.37*
ATQ-8 (frequency of negative thoughts)	1	-.44*
	2	-.60*
	3	-.54*
AAQ-II (experiential avoidance)	1	-.42*
	2	-.57*
	3	-.57*
CFQ (cognitive fusion)	1	-.36*
	2	-.52*
	3	-.51*

Note. AAQ-II: Acceptance and Action Questionnaire – II; ATQ-8: Automatic Thoughts Questionnaire – 8; DASS-21: Depression, Anxiety, and Stress Scales – 21; S: Sample, SWLS: Satisfaction with Life Scale. *$p < .001$.

of data supporting the factorial equivalence of the SWLS, comparing the scores across countries is not methodologically justified. In this sense, the current study is one of the few studies that has found scalar invariance across two different cultures (Emerson et al., 2017). Additionally, this study also provides evidence regarding the factorial equivalence of the SWLS across gender (e.g., Emerson et al., 2017; Jovanović, 2016; Zanon et al., 2014), which has been shown more frequently in the conducted studies.

In conclusion, the Spanish translation of the SWLS by Atienza et al. (2000) can be used to measure life satisfaction in Colombia. The factorial equivalence found between Colombian and Spanish samples methodologically justify the comparison of the SWLS scores across these countries.

These findings facilitate the incorporation of measures of life satisfaction in clinical studies conducted in Colombia.

Compliance with Ethical Standards

All authors declare that they have no conflict of interest.

All procedures performed in studies involving human participants were undertaken in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent was obtained from all individual participants included in the study.

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