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Evaluation of The Internal Structure and Factorial Invariance of the SCS-SF Self-Compassion Scale in Peruvians and Mexicans

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Abstract

The purpose of this study was to examine the validity, reliability and factorial consistency of the SCS-SF self-compassion scale in university students from Peru and Mexico. A sample of 378 Peruvian and 431 Mexican participants, aged between 18 and 27 years, was collected. A statistical analysis of the items was carried out, confirming that the 6-factor factorial model showed the best fit indices. In addition, significant correlations were found between self-compassion, resilience and life satisfaction, supporting criterion validity. Configural, metric, scalar and residual invariance between the samples from both countries was demonstrated. In conclusion, it was determined that the SCS-SF scale presents satisfactory levels of reliability, validity and equivalence for its application in university students in both Peru and Mexico.

Keywords: *Validation, Invariance, Self-Compassion, University Students, Psychometric Analysis.*

INTRODUCTION

It is no surprise to know that university students are under a lot of pressure and their mental health could be at risk due to common problems such as depression or anxiety, and even panic attacks are one of the most common problems affecting their academic performance (Andrews & Wilding, 2004; Oswalt et al., 2018). In 2012, it was reported that the second most known cause of death in young people aged 15-29 is suicide (World Health Organization, 2014). In both Peru and Mexico, this population represents approximately 25% of the total population, and most of them are university students of this age, taking into account that in Peru there are 1,457,140 university students and in Mexico 3,943,544, being a considerable population that goes through this stage (Instituto nacional de estadística y geografía, 2015; Instituto nacional de estadística e informática, 2018).

Desde el primer año de la universidad, los estudiantes ya experimentan dificultades cognitivo-afectivas, además de niveles altos de estrés, agotamiento y depresión contribuyendo a tener malas calificaciones, abuso de sustancias y llegar al suicidio (Dyrbye et al., 2005; Conley et al., 2014). The American College Health Association (2017) mentioned in its study with American college students that, out of a group of 63,497 students, 20.6% had a previous diagnosis of anxiety, 16% of depression and 9.9% had had, at least once, a panic attack; it warns that these problems are among the most common in college students across the country, generalising the problem, it could be affecting millions of students (Gallagher, 2015). This problem also seriously affects the Latin American population, for example, in Mexico, Chile and Peru where there are many cases of chronic fatigue, anxiety and anguish, in addition to a lack of appetite or its excess, and having as a primary cause, the overload of tasks and the reduced time to do them. The high academic, financial and social demands on

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university students are a negative factor that indirectly affects their mental health (Marín, 2015; Castillo et al., 2016; Chau and Vilela, 2017). In a study conducted in Peru, it was found that there is a significant association between suicidal ideation and depression, taking into account that most of those who had depression rates were accompanied by frequent negative thoughts about their life (Astocondor et al., 2019).

As a consequence of the tough university phase, many studies on self-compassion have shown that a high level of self-compassion is linked to a high level of emotional resilience, better self-acceptance, better decision-making, higher levels of positive emotions, lower presence of negative emotions, adequate level of self-esteem and a good level of life satisfaction, being key for optimal personal growth and for managing the pressure of the stressors that come with being a university student (Woo, 2013; Neff, 2015; Fong & Loi, 2016; Araya-Véliz et al., 2017; Ardela-Cabrera & Olivas, 2019).

A conceptual, philosophical and historical review of the word compassion is necessary to understand what exactly it is. Starting from etymology, this term is derived from the Aramaic word from biblical times 'racham', meaning 'to love, to pity, and to be merciful' (Burnell, 2009). For the English, since the 14th century the word compassion derives from the Latin *com* (together with) and *pati* (suffer with), it is understood as suffering with someone, in the case of self-pity, suffering with oneself (Von Dietze and Orb, 2000).

Drawing from various religious doctrines, in Christianity it served to teach believers to be compassionate towards others, while for Islam, it represents the true spirit of faith by being sensitive to the needs of others, and for Buddhism, true compassion is universal in scope and is practised altruistically (Burnell, 2009). This term was defined by the Royal Spanish Academy (2001) as "a feeling of commiseration and pity towards those who suffer hardship or misfortune" (p. 408), under this Western view, self-pity is the capacity to love and have mercy on someone when they suffer, being similar to the general concept of compassion (Neff, 2003b).

From a historical perspective, Buddhist philosophy spread in the West as a result of high migration to Asian countries in search of new knowledge, and also because many Tibetan monks established Buddhist centres in large Western cities in the mid-20th century (Simon, 2006). This new point of view changed everything, certain concepts such as self-compassion came to be seen from a deeper perspective, in the words of Dalai Lama (2002), "compassion is of little use if it remains only an idea and does not become an attitude towards others that imprints its imprint on all our thoughts and actions" (p. 40).

Self-compassion is a construct that comes from Buddhist psychology, however, it has attracted great interest from researchers from various parts of the world due to its close link to mental health and has thus been included in contemporary psychology (Neff and Germer, 2013). According to Buddhism, compassion means being open to one's own suffering so that one can understand the suffering of others and oneself in order to alleviate it (Neff, 2009). To better understand the concept, it should be taken into account that for Buddhism there was ayoity, which means that there is no separate self, therefore, when talking about compassion, one was not only talking about feeling compassion for others, but also for oneself (Araya and Moncada, 2016). Supporting this, Hanh (2009) mentions that in Buddhist psychology "There is no separate self that can live by itself, you cannot exist without your parents, your ancestors, food, water, air, land" (p.7). Therefore, when Hanh (1994) mentioned that compassion is based on understanding others in order to alleviate other people's suffering, he was also talking about understanding oneself and alleviating oneself by avoiding anger, so that one can accept oneself as one is.

The first appearances of the term self-compassion in the West are thanks to Salzberg (1995), who mentions that self-compassion is an important element for the practice of mindfulness. Subsequently, Kristin Neff appeared, who is the most relevant researcher on the study of self-compassion, motivated by her fondness for searching for a concept that does not have narcissism or egocentrism as a negative point, as is the case of self-esteem, and based on Buddhist psychology to explain self-compassion as the ability to be understanding with ourselves, being open to our own suffering, without the need to criticise ourselves negatively, understanding that we suffer just like everyone else (Neff, 2012).

For Neff (2003a), self-compassion has three components that, although different, are closely related to each other. The first is self-kindness and is applied through kindness and understanding towards oneself, avoiding

self-judgment. The second component, common humanity, is to understand our experiences as part of the common human experience, avoiding isolation. The third component is mindfulness, which involves seeing things with discernment as a means to greater awareness and perception of the present (Shapiro et al., 2005), and in relation to self-compassion, as a balanced state of awareness bringing us closer to reality, so that emotions are more easily accepted as they arise, avoiding over-identification, understood as the immersion in emotions that makes it difficult to overcome the present experience (Neff, 2003b).

The most relevant reference is Raes et al. (2011), who created the short version of the Self-Compassion Scale created by Neff (2003a), taking 2 items for each of the 6 factors. The Spanish adaptation was carried out by García-Campayo et al. (2014) affirming the same factorial model. Adaptations were made in several countries, the original factor structure was confirmed in the Slovenian adaptation by Uršič et al. (2019) and the Swedish adaptation by Bratt and Fagerström (2020) but the study conducted in Portugal by Castilho et al. (2015) proposed a model based on two second-order factors distributed, in one the positive dimensions and in the other the negative ones in non-clinical and clinical population. In the Chinese adaptation by Meng et al. (2019) the AFC shows that the best factor model is one based on 3 factors and the number of items was reduced from 12 to 10. In conclusion, it is recommended to take into account several factor models when conducting the CFA.

Therefore, the general objective is to analyse the psychometric evidence of the Short Version of the Self-Compassion Scale in Peruvian and Mexican university students, 2020.

METHOD

Design

The present study is of an instrumental nature, as it aims to analyse the psychometric evidence of a measurement instrument (Ato et al., 2013).

Participants

We worked with a group of 809 university students, specifically 431 Mexican and 378 Peruvian students, between 18 and 27 years of age. In the Mexican sample, 75% were women, and in the Peruvian sample 73% were women.

Instruments

Self-compassion scale short version originally developed by Raes et al. (2011), and translated into Spanish by García-Campayo et al. (2014). Typification is based on taking the overall average of responses on a total basis, and per dimension, i.e., averages of 1-2.5 means low self-compassion, 2.5-3.5 indicates moderate and 3.5-5 indicates high. In relation to reliability, the total score was .85, and the dimensions ranged from .71 to .77; in relation to validity, the AFC confirmed that the best factor structure is the six-factor structure, which had a sufficiently good fit index (RMSEA = .07, CFI = .94, GFI = .91, SRMR = .05).

Regarding validity evidence related to other variables, Soler et al.'s (2015) 10-item Resilience Scale and Martinez's (2004) 5-item Life Satisfaction Scale were used.

Data Analysis

Microsoft Excel 2016 was used to create the database containing the responses collected during the pilot test. All items were checked for comprehensibility by expert judges. Subsequently, the previously obtained data were exported to IBM SPSS 25 to carry out item analysis and Exploratory Factor Analysis (EFA) using Factor 10.10 (Lloret et al., 2017). A Confirmatory Factor Analysis (CFA) was also carried out with the R Studio program to verify the adequacy of the original factor model (Byrne, 2004). Internal consistency was assessed using Cronbach's alpha, omega and ordinal alpha coefficients.

In the second phase of the study, a larger sample was used and content-based validity evidence was assessed using Aiken's V technique, which involved expert judgement (Escurra, 1988). Subsequently, the SCS-SF scale items were examined using IBM SPSS 25 in the Peruvian and Mexican samples. Descriptive statistical

techniques such as response rate, arithmetic mean, standard deviation, Fisher's skewness coefficient, Fisher's kurtosis coefficient, corrected homogeneity index, communality and discrimination index by the extreme group method were used. To investigate evidence of validity based on internal structure, exploratory and confirmatory factor analyses were conducted using Factor 10.10 and R Studio (Herrero, 2010). In addition, Pearson's correlation coefficient was calculated to verify relationships between the scale and other theoretically related variables. Interpretation norms for the use of the Self-Compassion Scale were established using percentile ranks (Valderrama, 2011). Reliability evidence was also assessed using the omega coefficient (Viladrich et al., 2017). Finally, an invariance analysis was conducted to verify psychometric equivalence using R Studio (Avello and Seisdedo, 2018).

RESULTS

Analysis of Item Metrics

Skewness and kurtosis show that univariate normality is respected, since the values are not greater than 1.5 being positive or negative (Pérez & Medrano, 2010). Homogeneity should be greater than .30, which is met in most of the items indicating that the items correlate adequately with each other (Shieh Wu, 2014). In relation to communality, all items meet the minimum condition of being greater than .40, indicating that each item contributes a lot of value to what is to be measured by dimension (Lloret et al., 2017). Finally, the discrimination index must be < .005, which is met for all items, meaning that all items are differentiated from one another (see Table 1).

Table 1 ***Statistical analyses and factor loadings of SCS-SF items in Peruvian and Mexican samples.***

		Items	M	DE	g^1	g^2	IHC	h^2	AFE	
									F1	F2
Peru	AA	A2	3.7	0.9	-0.5	0.1	0.5	0.5		0.55
		A6	3.4	1.2	-0.4	-0.7	0.52	0.54		0.50
	HC	A5	3.6	1.1	-0.5	-0.2	0.37	0.59		0.46
		A10	2.8	1.1	0	-0.8	0.21	0.59		0.44
	CP	A3	3.7	1	-0.4	-0.4	0.52	0.65		0.58
		A7	3.6	1	-0.4	-0.3	0.49	0.6		0.60
	AJ	A11	3	1.2	0	-0.9	0.46	0.66	0.53	
		A12	2.6	1.2	0.2	-0.7	0.63	0.59	0.67	
	AM	A4	2.6	1.3	0.3	-1.2	0.51	0.51	0.59	
		A8	3.1	1.3	-0.1	-1.1	0.69	0.66	0.87	
	YES	A1	3.1	1.1	-0.1	-0.8	0.58	0.51	0.70	
		A9	2.7	1.3	0.3	-1	0.7	0.66	0.79	
Mexico	AA	A2	3.6	1.1	-0.4	-0.4	0.48	0.5		0.63
		A6	3.2	1.3	-0.2	-1.1	0.49	0.48		0.55
	HC	A5	3.6	1.2	-0.6	-0.5	0.4	0.55		0.60
		A10	2.8	1.1	0	-0.8	0.25	0.36		0.38
	CP	A3	3.6	1.2	-0.5	-0.6	0.42	0.57		0.50
		A7	3.5	1.1	-0.3	-0.6	0.47	0.59		0.56
	AJ	A11	3.2	1.2	-0.2	-0.7	0.37	0.63	0.46	
		A12	2.8	1.2	0.2	-0.8	0.56	0.56	0.60	
	AM	A4	2.8	1.4	0.2	-1.3	0.46	0.44	0.56	
		A8	3.4	1.3	-0.4	-1	0.57	0.55	0.74	
	YES	A1	3.5	1.1	-0.4	-0.6	0.57	0.55	0.69	
		A9	3.1	1.3	-0.1	-1.2	0.64	0.62	0.79	

Note: M: Mean; SD: Standard deviation; g1: Fisher's skewness coefficient; g2: Fisher's kurtosis coefficient; IHC: Corrected homogeneity index; h2: Commonality; EFA: Exploratory factor analysis.

Evidence of Content-Based Validity of the SCS-SF

An Aiken V coefficient of 0.98 was obtained, indicating that the agreement among the 5 expert judges consulted was 98%. This result suggests evidence of content validity, as the value exceeds the 80% threshold, confirming that each item is reasonable, able to discriminate between different levels of self-pity, justified, clear and feasible (Escurra, 1988).

Validity Evidence Based on Internal Structure

A Confirmatory Factor Analysis (CFA) was conducted on both samples using the 6-factor model originally proposed by Raes et al. (2011), employing the weighted least squares (WLS) estimation method with a polychoric matrix. This choice was based on previous recommendations given the nature of the Likert-type scale and the sufficiency of the sample to avoid methodological flaws (Flora & Curran, 2004; DiStefano & Morgan, 2014; Lloret et al., 2017). An adequate model fit was observed in the Peruvian ($\chi2/gl = 2.814$, CFI = .96; SRMR = .07; RMSEA = .06) and Mexican ($\chi2/gl = 2.420$, CFI = .96; SRMR = .04; RMSEA = .05) samples. To assess this fit, CFI, RMSEA and SRMR were mainly considered, as they are less susceptible to sample size (Littlewood and Bernal, 2014). Regarding the absolute fit measures, it was found that the model met acceptable criteria, with SRMR and RMSEA values below .08. In addition, the $\chi2/gl$ value also remained within acceptable levels, being less than 3. Regarding the comparative fit measures, it was observed that the model achieved a satisfactory CFI score, exceeding the threshold of .95, as recommended (Escobedo et al., 2016). Finally, it was found that the model with the Mexican sample showed acceptable factor loadings, with values ranging between .41 and .93, while in the Peruvian sample, these loadings ranged between .42 and .89 (Field, 2013).

Previous studies indicate the existence of multiple models that could provide a more complete explanation of the variable depending on the country or population studied. Therefore, an Exploratory Factor Analysis (EFA) was conducted in order to explore whether there is an alternative model that better fits the data and to compare it with previously proposed models. A KMO value above .70 was observed for both countries, Peru and Mexico, together with adequate significance in Bartlett's test of sphericity ($p < .005$), suggesting that it is appropriate to perform the EFA on both samples (Lloret et al., 2017).

We chose to use the diagonal weighted least squares (DWLS) method with Oblimin rotation in the exploratory factor analysis (EFA). This choice was based on the recommendation to avoid the excessive use of the classical Varimax method in research of this type (Lloret et al., 2017). It was also considered appropriate to use a polychoric correlation matrix (PCC), given the nature of the Likert-type scale and the sufficiently large sample size. Furthermore, the choice of the DWLS method was justified, as this would be the most appropriate in combination with the PCC matrix (Freiberg et al., 2013).

The two factors with eigenvalues greater than one explained 54% and 48% of the variance in the Peruvian and Mexican sample, respectively, which was considered adequate as it exceeded the recommended 40% threshold (Morales, 2006). Although this solution did not match the initial factor structure, it did fit better with a two-factor factor solution, as described in previous studies (López et al., 2015; Costa et al., 2016). The first factor explained three negative dimensions, while the second factor explained the remaining three dimensions, supporting the theory that three dimensions assess Self-Compassion and the other three dimensions assess Uncompassion (Halamová et al., 2018). However, this solution did not fit the original 6-factor model or the single-factor model proposed by the authors of the Self-Compassion Scale (see Table 1).

Table 2 ***Fit indices of the confirmatory factor models of the SCS-SF in both samples***

		X /gl²	IFC	RMSEA	SRMR	WMRM
Mexico	Model 1	7.43	.79	.12	.178	1.95
	Model 2	3.66	.92	.08	.07	1.19
	Model 3	2.42	.96	.05	.05	0.69
Peru	Model 1	6.42	.87	.12	.19	1.79
	Model 2	3.31	.95	.08	.10	1.29
	Model 3	2.81	.97	.07	.07	0.83

Note: Peru=378, Mexico=431

Based on the above, several CFAs were conducted to confirm the evidence of factorial validity of the SCS-SF based on three different models. The first model was based on the union of all items around a single latent factor, the second model was based on two second-order factors previously found by the AFE. The third model was structured on the basis of six correlated factors as the scale was originally made. A better fit index could be evidenced in the third model. The WRMR should be close to zero and serves to compare models as on this occasion (Burga-León and Escurra-Mayaute, 2017) (see table 2 and 3).

Table 3 ***Factor loadings of the SCS-SF models 3 in both samples***

Country	Dimension	Item	β	Country	Dimension	Item	β
Peru Model 3	AA	A2	0.71	Mexico Model 3	AA	A2	0.63
		A6	0.68			A6	0.64
	HC	A5	0.82		HC	A5	0.64
		A10	0.42			A10	0.41
	CP	A3	0.81		CP	A3	0.67
		A7	0.69			A7	0.77
	AJ	A11	0.65		AJ	A11	0.59
		A12	0.89			A12	0.93
	AM	A4	0.64		AM	A4	0.61
		A8	0.82			A8	0.7
	YES	A1	0.700		YES	A1	0.72
		A9	0.77			A9	0.79

Evidence Of Validity in Relation To Other Variables

A positive Pearson correlation is observed with life satisfaction and resilience, representing that, if a person has a high level of self-compassion, it is also likely that the person feels satisfied about his or her life and exhibits resilient behaviours in the face of adversity (Neff, 2015; Pastorelli and Gargurevich, 2018).

Reliability Indices

The evidence of reliability of the SCS-SF is acceptable with the exception of the dimension of shared humanity, because although the most accepted reliability value would be greater than .70, authors also mention that in the psychological field, values greater than .50 are sufficient (Nunnally, 1978) (see table 4).

Table 4 ***Evidence of reliability by the internal consistency method of the SCS-SF by country***

Country	Omega	AA	HC	CP	AJ	AM	YES	Total	Positive (AA, HC, CP)	Negative (AJ, AM, SI)
Mexico	Ω	.51	.39	.44	.44	.60	.71	.87	.71	.81
Peru	Ω	.44	.33	.51	.53	.70	.72	.88	.69	.85

Note: Peru=378; Mexico=431

Evidence Of Factorial Invariance

Table 5 ***Fit indices of the factorial invariance analysis for the SCS-SF by country and gender***

By country (*n=809*)	X^2	Δ X^2	*gl*	Δ *gl*	*p*	IFC	Δ IFC	RMSEA	Δ RMSEA
Configural	151.8	...	78	...	...	0.97	...	0.04	...
Factor loadings	158.4	6.64	84	6	***	0.09	0.00	0.04	0.00
Intercepts	169.5	11.06	90	6	***	0.97	0.00	0.04	0.00
Waste	197.2	27.69	102	12	***	0.96	0.00	0.04	0.00
Latent averages	229.8	32.64	108	6	***	0.95	0.01	0.05	0.00
By sex (*n=809*)	X^2	Δ X^2	*gl*	Δ *gl*	*p*	IFC	Δ IFC	RMSEA	Δ RMSEA

Configural	134.6	...	78	...	...	0.98	...	0.04	...
Factor loadings	141.3	6.64	84	6	***	0.98	0.00	0.04	0.00
Intercepts	169.4	28.15	90	6	***	0.97	0.00	0.05	0.00
Waste	174.1	4.67	102	12	***	0.97	0.00	0.04	0.00
Latent averages	212.3	38.19	108	6	***	0.96	0.01	0.05	0.00

Note: Δ X^2 = variation in test X^2 , ⊿ *gl* = variation in degrees of freedom, Δ CFI = variation in CFI, Δ RMSEA = variation in RMSEA. *** The probability value is statistically significant ($p < .001$).

Table 5 shows that the changes in CFI (Δ CFI < 0.01) and RMSEA (Δ RMSEA < 0.015) are minimal at all levels of configuration, factor loadings, intercepts and residuals. Although these values are close to accepted thresholds, they are not fully compliant in terms of latent means (Chen, 2007). However, these findings support the factorial equivalence of the SCS-SF at four levels. Thus, evidence of invariance by country and gender was found, indicating that the scores of this instrument have the same meaning in different groups and that comparisons between them would be valid and reliable (Messick, 1995).

DISCUSSION

The main objective of the study was to evaluate the internal consistency, validity and fairness of the Self-Compassion Scale SCS-SF in university students in Peru and Mexico. This was done with the idea that the development of self-compassion could improve academic performance and foster the adoption of resilient behaviours among university students, as has been suggested in previous studies (Fong & Loi, 2016; Araya-Véliz et al., 2017).

Content validity was assessed using expert judgement, and no items were recommended for deletion, as all items proved to be reasonable, able to discriminate between different levels of self-pity, justifiable, clear and feasible. All items obtained an Aiken V score above .80 and significance values above .05 (Escurra, 1988). It is relevant to note that no item was suggested for deletion, indicating that all of them contribute significantly to the measurement of the construct of self-compassion. Furthermore, it is mentioned that the items are clear, justifiable and feasible, suggesting that they are understandable to respondents and can be answered appropriately.

In both the Peruvian (n = 378) and Mexican (n = 431) samples, the items of the self-pity scale show adequate functioning in all its metrics, indicating that these items are sufficiently "clean" to run analyses that assess the internal structure and stability of the instrument under study (Ferrando & Anguiano-Carrasco, 2010).

A Confirmatory Factor Analysis (CFA) was carried out in order to reproduce the original model proposed by the author Raes et al. (2011). The fit indices obtained were acceptable in both Peruvian ($\chi 2/gl = 2.814$, CFI = .96; SRMR = .07; RMSEA = .06) and Mexican university students ($\chi 2/gl = 2.420$, CFI = .96; SRMR = .04; RMSEA = .05), which coincides with that established by the original author of the scale and its adaptation to Spanish (Raes et al., 2011; García-Campayo, et al., 2014). This result has also been replicated in previous studies conducted in Slovenia and Sweden (Uršič et al., 2019; Bratt and Fagerström, 2020).

Given that there are several models to explain the construct under study, it was decided to conduct an exploratory factor analysis using a polychoric matrix and the diagonal weighted least squares method with Oblimin rotation. This approach has been supported by previous research (Bratt and Fagerström, 2020; Freiberg et al., 2013; Lloret et al., 2017). After conducting the analysis, two factors were identified in both samples, which is in line with the factor structure proposed in a previous study in Slovakia. According to this structure, the first factor represents the positive dimensions of self-compassion, while the second factor represents the negative dimensions of incompassion (Halamová et al., 2018). This result is also consistent with the findings of an exploratory factor analysis conducted in a study conducted in Peru using the long version of the SCS Self-Compassion Scale and with the exploratory factor analysis in a preliminary study (Ardela-Cabrera & Olivas, 2019).

Several Confirmatory Factor Analyses (CFA) were conducted and the optimal factor model was found to be the 6-factor model in the university population. Although the fit indices of the two-factor model (self-compassion and self-judgment) were satisfactory, they did not reach acceptable levels in the Peruvian ($\chi 2/gl =$

3.309, CFI = .953; SRMR = .100; RMSEA = .078) and Mexican ($\chi 2/gl$ = 3.663, CFI = .924; SRMR = .070; RMSEA = .079) samples. Therefore, it is not recommended to use the 2-dimensional model that encompasses self-compassion and self-judgement as a way of relating to oneself. Although this model has also been replicated in other studies, such as Phillips and Ferguson (2013) and Lopez et al. (2015).

To investigate the validity evidence of the SCS-SF Self-Compassion Scale in relation to other variables, resilience and life satisfaction were considered. The theoretical basis established by Neff (2015) argues that self-compassion leads to benefits such as emotional resilience, while Woo (2013) highlights its role as a regulator of academic burnout and promoter of psychological health in university students. These links have been corroborated in previous studies, including in secondary education contexts (Ardela-Cabrera and Olivas, 2019). The present research ratifies this hypothesis by demonstrating a significant and robust correlation between each of these variables in both Peruvian and Mexican university students.

Test-retest reliability is demonstrated by reaching satisfactory levels of agreement with the total set of items, with omega values of .80 and .84 for Mexican and Peruvian participants, respectively. The different dimensions of the SCS-SF Self-Compassion Scale show adequate omega levels, with the exception of the shared humanity dimension, which shows a similar pattern in both samples. It is important to highlight that this study represents the first time that the omega coefficient is used in relation to the SCS-SF, which adds a novel element to the analysis of the reliability of this scale (Viladrich et al., 2017).

Measurement invariance analysis, carried out considering country of origin and gender, has allowed us to demonstrate the equivalence of the SCS-SF Self-Compassion Scale between Peruvian and Mexican university students. These findings indicate that both Peruvian and Mexican participants, regardless of gender, interpret and respond to the instrument in a similar way. This implies that the items measure the same underlying variable of self-compassion uniformly in both groups, as proposed by Brown (2015). In other words, it is suggested that the items assess self-compassion consistently among Peruvian and Mexican university students, regardless of gender. These results, supported by satisfactory reliability, validity and fairness indices, provide a solid basis for controlling for this variable and offering support to university students facing the demands of a demanding academic life (Araya, 2016).

CONCLUSIONS

Initial evidence of validity, reliability and fairness was found that justifies the use of the SCS-SF in research or programmes that seek to favour the level of self-compassion in university students. However, more studies are needed to propose normative data in a larger sample of Peruvian and Mexican university students, to test the invariance by age and to relate the variable to neuroticism, rumination and depressive factors, in order to contrast or confirm the hypothesis that would explain self-compassion and self-judgment as second-order factors, which will allow future studies and a better psychoeducational intervention.

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