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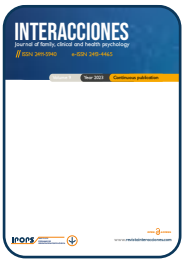

ORIGINAL ARTICLE

Psychometric properties of the Stress Coping Scale Brief-COPE 28 in a Peruvian population

Propiedades psicométricas de la Escala de Afrontamiento al Estrés Brief-COPE 28 en una población peruana

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ABSTRACT

Background: The highly stressful events we are currently experiencing require great cognitive and emotional effort and affect the mental health of the population. In this sense, coping with stress provides evidence of how people use their resources to cope with or avoid stressful events, which requires validated and reliable instruments to measure accurately. **Objective:** To determine the psychometric properties of reliability and validity of the BRIEF COPE 28, Spanish version. **Method:** The design used was instrumental; 530 people participated, 60% men and 40% women, between 18 and 60 years old, from different regions of Peru, selected by non-probability convenience sampling. **Results:** It is evident that the alpha coefficient of coping styles ranges from α ordinal = 0.74 to 0.82; while in strategies it was between α ordinal = 0.59 to 0.90. In terms of internal structure, the four-factor model obtained a good fit SB-χ^2/gl=1.836; CFI=0.92; TLI=0.90, SRMS=0.09 and RMSEA=0.10. A good fit was found with the ten coping strategies model SB-χ^2/gl=1.902; CFI=0.96; TLI=0.95, SRMS=0.056, RMSEA=0.069. **Conclusion:** COPE 28 has good internal consistency; and the model with the four coping styles is inconclusive, while the model with ten strategies has adequate goodness of fit.

Keywords: Coping Behaviours, Coping Skills, Coping, coping strategies, coping styles, stress, psychometric properties.

RESUMEN

Introducción: Los acontecimientos altamente estresantes que vivimos actualmente demandan gran esfuerzo cognitivo y emocional y afectan la salud mental de la población; en este sentido el afrontamiento al estrés proporciona evidencia de cómo las personas recurren a sus recursos para afrontar o evadir los eventos estresantes, lo cual necesita de instrumentos validados y confiables para medirlo con precisión. **Objetivo:** Determinar las propiedades psicométricas de confiabilidad y validez del BRIEF COPE 28, versión española. **Método:** El diseño usado fue instrumental; participaron 530 personas, 60% varones y 40% mujeres, entre 18 y 60 años, de distintas regiones del Perú, seleccionadas con el muestreo no probabilístico por conveniencia. **Resultados:** Se evidencia que el coeficiente alfa de los estilos de afrontamiento oscila entre α ordinal=0.74 a 0.82; mientras que en las estrategias fue entre α ordinal=0.59 a 0.90. En cuanto a la estructura interna, el modelo de cuatro factores obtuvo buen ajuste de bondad SB-χ^2/gl=1.836; CFI=0.92; TLI=0.90, SRMS=0.09 y RMSEA=0.10. Asimismo, se encontró buen ajuste con el modelo de 10 estrategias de afrontamiento SB-χ^2/gl=1.902; CFI=0.96; TLI=0.95, SRMS=0.056, RMSEA=0.069. **Conclusión:** El COPE 28 tiene buena consistencia interna; y

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que el modelo con los cuatro estilos de afrontamiento no es concluyente; mientras el modelo con 10 estrategias tiene adecuado ajuste de bondad.

Palabras claves: Comportamientos de afrontamiento, habilidades de afrontamiento, Afrontamiento, estrategias de afrontamiento, estilos de afrontamiento, propiedades psicométricas.

BACKGROUND

Currently, there are highly stressful events that generate mental health problems in the world and national population, related to a high incidence of stress, anxiety, depression, decreased optimism (Santos et al., 2022), negative psychological impact (Brooks et al., 2020) and overflow in the capacity to respond to stress (Guillén-Díaz et al., 2021).

In complex situations of such magnitude, coping with stress provides evidence of how people act to a stressful event. Here it can be highlighted that some coping strategies cushion the negative effect of stressors, while others lead to avoiding them; but all this depends on the perceived control of the event (Dijkstra & Homan, 2016).

In a more functional sense, coping with stress acts as a stabilizing factor because it facilitates adequate personal adjustment to a stressful situation (Morán et al., 2010), also allows the adaptation of cognitive schemes and regulates the perception of the stressor threat that alters the adequate coping (Mate et al., 2016).

From a cognitive approach, coping with stress refers to the efforts made by the person to manage the demands of adaptation when interacting with their context (Lazarus, 2006) and tries to prevent or reduce the threats, damage and anguish generated by stress (Carver & Connor-Smith, 2010). In this sense, stress arises from the person-context interaction, in addition to being classified as changing all the time. Now, when these experiences of stress arise, the person performs a primary evaluation where a set of values, beliefs and cognitive filters influence; while in the secondary evaluation he makes available his personal resources to face the event; both forms of evaluation determine the actual damage or loss generated by stress (Folkman, 2010).

These two evaluative forms are synthesized in responses to stress focused on the problem and emotion (Lazarus & Folkman, 1984). In the first, the object of study is in the planned resolution of the problem, while in the second it is intended to regulate the emotion with negative impact, using evasive strategies such as distancing, the search for emotional support and flight-avoidance (Folkman, 2010).

While some forms of stress response have allowed adaptive coping towards stressors; others, on the other hand, have received criticism in the scientific literature because they have always associated negative emotions as those that drive coping; however, to correct these shortcomings, the new conceptions develop a third style focused on meaning and positive emotions, which help restore and maintain problem- and emotion-centred coping in the long term (Folkman, 2008).

On the other hand, different positions have emerged that relate coping as something situational (Lazarus, 2006). This theoretical position served to design different measuring instruments; however, the psychometric inconsistencies reported in initial studies led to the inclusion of dispositional coping to give greater consistency to the construct (Carver et al., 1989).

Thus, the COPE 28 Brief scale measures stress coping in its situational or dispositional version, maintaining its orientation of state and trait (Carver & Connor-Smith, 2010) In this regard, several studies that used the scale reported significant psychometric inconsistencies, since the evidence of validity throws several factors and low reliability (Solberg et al., 2022).

In the Spanish version, the critical point was located in the reliability of the factors, but that after the second-order factor analysis, 4 factors were found that explain 52.9% of the variance and an improvement in reliability 0.71 to 0.80 (Morán et al., 2010); however, in a Portuguese sample, the factors reported were 14, similar to the original structure, whose goodness indices are appropriate and factorial loads greater than 0.40 (Nunes et al., 2021).

Studies using populations with health problems, cultural characteristics or evolutionary stages also found discrepancies in internal structure. For example, in French patients and caregivers, 4 factors were evidenced with adequate adjustment of goodness RMSEA=0.047; CFI=0.923 and RMSEA=0.031; CFI=0.938 (Baumstarck et al., 2017); in people with liver transplantation, 6 factors were found (Amoyal et al., 2016); in breast cancer survivors, the 14-factor model showed the best fit (Rand et al., 2019) and in (Amoyal et al., 2016; Tang et al., 2021).

On the other hand, in people with aggressiveness, the 4-factor model yielded adequate adjustments of kindness (Cramer et al., 2020); while in other cultures a three-factor model was found with adequate adjustment indices GFI = 0.924; TLI=0.904; RMSEA=0.039 and good reliability 0.84, 0.75 and 0.81 (Alghamdi, 2020).

Regarding the Latin American context, a study with Argentine older adults reported that the model with the best fit was two factors CFI = 0.937; TLI=0.908; RMSEA=0.091) and a reliability of 0.81 (Richard's et al., 2021). On the contrary, Chilean adaptation found structure of 14 factors with expected goodness indices and good internal consistency (García et al., 2018). As for Peru, no psychometric studies of COPE 28 have been reported, but in the version of 52 items itself (Cassaretto Bardales & Chau Perez-Aranibar, 2016).

As can be seen in various studies, the scale has different factorial structures. This is due to the limitations of methodological nature, as well as practical functionality such as, for example, having been adapted exclusively in specific samples and with university students; also, to the validations in their dispositional version, use it in a dichotomous response modality, have a disparate number of items in each scale and for presenting some items with negative charge (Cano et al., 2007; Guillén-

Díaz-Barriga et al., 2021)

These limitations and the gaps in studies in the Peruvian context led us to analyse the psychometric evidence of the COPE 28 scale in a Peruvian population. In this sense, the study is justified because it provided relevant background on the internal structure of the instrument, so as to strengthen the theory of coping with stress and confirm factors of the scale in the Peruvian context. It also provides an instrument with psychometric properties of validity and reliability for other researchers to use in different contexts of our country.

The objective was to determine the psychometric evidence of reliability and validity of the BRIEF COPE 28 scale in a Peruvian population.

METHODS

Design

From a quantitative approach, an instrumental design was used because it analysed the psychometric properties (Ato et al., 2013) COPE-28 scale Spanish version (Morán et al., 2010).

Participants

The initial calculation of the sample was performed using the Sample Size Calculator web (Arifin, 2023) and the criterion of CFI = 0.95 and RSMEA= 0.05 was considered, together with the 28 items and four factors of the instrument, significance level 0.05 and a statistical power of 80% (Kim, 2005). For this reason, to obtain a CFI=0.95 requires a minimum sample of 289 people; similarly, to obtain an RSMEA=0.05 a minimum of 97 participants is needed. In this line, the selection of the sample was carried out using an intentional non-probabilistic procedure (Echevarría, 2016) snowball technique (Baltar & Gorjup, 2012) which 530 people participated, 60% men and 40% women, of which 76.4% have higher education, 20% secondary education and the rest primary studies. Regarding the origin, 59.4% reside in Metropolitan Lima, 21% in Piura and the remaining 20% in other regions such as Cajamarca and La Libertad; Ages range from 18 to 65 years. The inclusion criteria considered men and women who voluntarily agreed to participate in the study and who have physical and mental health conditions preserved at the time of answering the questionnaires. People who did not agree to participate in the study and those who did not fill out the questionnaire were excluded.

Instruments

COPE-28 was used (Morán et al., 2010) composed of 28 items, divided into 14 strategies and four styles: cognitive coping, social support, coping blockage and spiritual. It has a Likert-type ordinal measurement with four response options 1 = "I never do this" and 4 = "I always do". Regarding the psychometric properties of the Chilean adaptation of COPE, 28, an internal structure of 14 factors was found, whose reliability ranged from 0.53 to 0.82 (García et al., 2018).

Procedure

To collect data, Google forms were used to systematize the questions. The dissemination of the instruments was done through the social networks Facebook, WhatsApp and emails, in addition participants were invited to disseminate the link with their contacts and obtain greater participation. The data collection period was made between January and August 2022, and from this a database was obtained that was exported to Software SPSS, 26, SPSS AMOS 28, Jamovi and R study.

Statistical analysis

To establish the statistical power in the analysis, an initial sample was established through the Sample Size Calculator (web). The criteria that were established were a CFI = 0.95 and an RSMEA = 0.05, in addition to $p<0.05$, a statistical power of 80%, all the items and factors of COPE 28. The result of this calculation yielded a minimum sample that was needed to carry out the statistical analysis. Regarding internal consistency, a descriptive analysis of each item was performed, as well as the 14 strategies and 4 coping styles, taking into account the measures of central tendency and the correlation item test; finally, evidence of reliability was obtained through the alpha and ordinal alpha coefficient. Subsequently, confirmatory factor analysis was performed to find evidence of validity of COPE 28 through SPSS Software, version 26, SPSS AMOS 28 and R Studio version 4.2.2, using the statistical packages Psych, 4.2.3, Lavaan 0.6-16, SemPlot 4.2.3 and SemTools 0.5-6. A first analysis was to find the multivariate normality of the items, and since the assumption of normality was transgressed, the WLSMV estimates were used. In coping styles, two models were tested to obtain the greatest goodness adjustment, while in coping strategies four models were tested, considering the following indices CFI = >0.90; TLI= >0.90; SRMR= <0.08; RMSEA= <0.05 (Brown, 2015). On the other hand, to analyse the correlation of the items, a polychoric matrix was used because the instrument has an ordinal response form (Domínguez, 2014), whose maximum correlation value between dimensions was 0.643 and to maintain the items with good factorial loads in the models, criterion >0.30 was established.

Ethical aspects

The study was conducted as part of the scientific writing course for the Masters in Clinical and Health Psychology at the Universidad Nacional Mayor de San Marcos. The research should have gone through the Ethics Committee; however, at the time the study was carried out, the Faculty of Psychology did not have this committee to review it. The research is a very low-risk study for the participants. We also used informed consent, which included the ethical principles of confidentiality, beneficence and nonmaleficence, and data protection (American Psychological Association [APA], 2017). In addition, all participants voluntarily accepted and signed the informed consent, which included the purpose, potential risks, and other information relevant to the study.

RESULTS

In a first analysis, it can be verified that the item-test correlations range between 0.223 and 0.508; $p<0.05$, considered acceptable. Likewise, the internal consistency of the items yields an alpha coefficient higher than $\alpha=0.80$, indicating good reliability (Furr, 2011; Reidl-Martínez, 2013) (Table 1).

Regarding the internal consistency of the COPE 28 BRIEF by dimensions, it is observed that, in coping styles, the ordinal alpha coefficient of the cognitive style is α ordinal = 0.82, social support α ordinal = 0.81, blocking coping α ordinal = 0.74 and spiritual coping α ordinal =0.75. In the same line, the internal consistency of coping strategies shows that the lowest value is found in Self-distraction α ordinal = 0.58, while the highest value in the use of substances α ordinal = 0.93. These internal consistency values are acceptable as they meet the established criteria and the instrument is reliable (Furr, 2011; Reidl-Martínez, 2013). It can also be evidenced that the correlations of coping styles yield values above r=0.440, and in coping strategies higher than r=0.234, which are statistically significant p<0.05 (Table 2).

The first model retains the 4 styles of the original version adapted to Spanish, whose adjustment indexes do not comply with the established (Table 3). For this reason, items 3, 4, 5, 7, 8, 11, 12, 13, 19, 21 and 26 (Table 4) with low factor loads <0.30 were eliminated and a second model was tested, which retains the 4 styles, but with 17 items. It was found that the goodness adjustment indices SB-χ^2/gl=1.836; CFI=0.92; TLI=0.90 are within the established to be considered a good fit of the model; however, SRMS=0.09 and RMSEA=0.10 have values higher than allowed (Brown, 2015); these indicators are influenced by the amount of the sample, but demonstrate that the tested model is inconclusive (Table 3).

On the other hand, in the evidence of validity of coping strategies, 4 models were tested. The first model was performed with the 14 factors of the original version, which showed adjustment rates below the established, which led to the purification of the strategies of acceptance, denial, self-incrimination and relief (Table 5) that had factorial loads <0.30. Subsequently, three other models were tested, which show good goodness adjustments; however, the fourth model consists of 10 strategies with adequate fit indices SB-χ^2/gl=1.902; CFI=0.96; TLI=0.95, SRMS=0.056 and RMSEA=0.069 and meet the statistical criteria (Brown, 2015) to determine that BRIEF COPE 28 presents acceptable psychometric properties (Table 3).

Table 1. Analysis of the internal consistency of COPE items 28.

	M	SD
P1	2,24	0,703
P2	2,78	0,735
P3	2,82	0,716
P4	2,6	0,764
P5	1,84	0,827
P6	2,72	0,744
P7	1,96	0,785
P8	2,15	0,777
P9	2,22	0,717
P10	2,78	0,725
P11	1,69	0,746
P12	1,84	0,702
P13	1,74	0,735
P14	2,42	0,757
P15	1,41	0,704
P16	2,26	0,929
P17	2,2	0,73
P18	2,66	0,725
P19	1,78	0,721
P20	2,67	0,838
P21	2,45	0,747
P22	2,36	0,725
P23	2,06	0,701
P24	1,38	0,681
P25	1,54	0,676
P26	2,61	0,698
P27	1,91	0,771
P28	2,27	0,695

Note. M=Mean, SD=standard deviation; r=correlation α=Alpha coefficient.

DISCUSION

The objective of this study was to determine the psychometric evidence of reliability and validity of BRIEF COPE 28, Spanish version (Morán et al., 2010) in a Peruvian population. The results of the internal consistency analysis show item-test correlations superior to 0.223 and acceptable reliability values in cognitive style, social support, blocking coping and spiritual. Likewise, it was reported that in 8 coping strategies, the ordinal alpha ranges from 0.72 to 0.93 (Furr, 2011; Reidl-Martínez, 2013), while the lowest values were evidenced in self-distraction and planning.

These results are similar to studies that reported alpha coefficients greater than 0.80 for coping styles (Cramer et al., 2020). Regarding coping strategies, some studies reported similar reliability values between 0.71 and 0.82 (Baumstarck et al., 2017), 0.64 (Amoyal et al., 2016), 0.57 (Baumstarck et al., 2017) and 0.93 (Tang et al., 2021). It is also consistent with low scores for distraction (α=0.43) and high scores for substance use (α=0.88) (Nunes et al., 2021). On the other hand, similarities were found in item-test correlations greater than 0.20 (Amoyal et al., 2016), between 0.20 and 0.63 (Tang et al., 2021) and between 0.30 and 0.80 (Morán et al., 2010).

Regarding the evidence of validity, the model with the greatest adjustment of goodness was that of 17 items with the four coping styles, whose indices of χ^2=1.836; CFI=0.92; TLI=0.90 were adequate; however, the parsimony adjustments SRMS=0.09

Table 2. Reliability of COPE 28 coping styles and strategies.

	COPE 28	M	SD	r	$\alpha_{ordinal}$
Coping styles	Cognitive	13,37	2,69	0,633	0,82
	Social support	8,94	2,19	0,678	0,81
	Blockade	10,44	2,69	0,44	0,74
	Spiritual	4,93	1,54	0,583	0,75
Coping strategies	Active	5,56	1,29	0,564	0,79
	Planning	5,23	1,4	0,318	0,61
	Positive reinterpretation	5,09	1,28	0,616	0,72
	Emotional support	4,42	1,25	0,62	0,72
	Social support	4,52	1,18	0,64	0,67
	Self-distraction	4,96	1,22	0,5	0,58
	Disconnection	3,23	1,21	0,234	0,72
	Substance use	2,79	1,31	0,315	0,93
	Humour	3,74	1,27	0,26	0,69
	Religion	4,93	1,54	0,583	0,75

Note. α= alpha coefficient; ordinal α= ordinal alpha coefficient.

Table 3. Confirmatory factor analysis of the coping styles and strategies of COPE 28.

Model	SB-χ^2/gl	CFI	TLI	SRMR	RMSEA
4 styles (28 items)	2,237	0,80	0,78	0,118	0,100
4 styles (17 items)	1,836	0,92	0,90	0,099	0,101
14 strategies (28 items)	2,237	0,92	0,88	0,069	0,074
13 strategies (26 Items)	2,161	0,94	0,91	0,063	0,070
12 strategies (24 Items)	2,076	0,95	0,92	0,06	0,068
10 strategies (20 items)	1,902	0,96	0,95	0,056	0,069

Note. Relative Chi-square (2/gl); comparative adjustment index (CFI); Tucker-Lewis index (TLI); Standardized Residual Mean Square Root (SRMR); Mean square error of approximation (RMSEA).

Table 4. Items eliminated in the analysis of the four styles.

Styles	Original items	Deleted items	Final version
Cognitive	2, 3, 6, 10, 14, 18, 21, 26	3, 21, 26	2, 6, 10, 14, 18
Social support	1,9,17, 28	None	1, 9, 17, 28
Blockade	13, 5, 4, 22, 8, 27, 11, 25, 12, 23, 15, 24, 7, 19	4, 5, 7, 8, 11, 13, 19, 23	12, 15, 22, 24, 25, 27
Spiritual	16, 20	None	16, 20

Note: Model with 4 styles and 17 items.

and RMSEA=0.10 present values higher than the established statistical criterion (Brown, 2015). This indicates that the model of 17 items only has adjustment in relative Chi-square and in the comparative indices, which coincide with what was found in systematic studies since it reaffirms the inconsistency of the internal structure, especially in the number of factors extracted and the fit of the models (Solberg et al., 2022).

On the other hand, some studies have also reported the presence of four factors with good adjustment in the RMSEA = 0.047 and CFI = 0.923 (Baumstarck et al., 2017); the same was found in an exploratory factor analysis, whose four factors explain 52% of the variance (Morán et al., 2010). However, it differs from studies that reported a three-factor structure GFI=0.924; TLI=0.904; RMSEA=0.039 (Alghamdi, 2020); similarly, it disagrees with the four-factor adjustment indices CFI=0.089; RMSEA=0.108; SMRM=0.078 reported in aggressive people (Cramer et al., 2020), and with all three factors found in a sample of Chinese children (Tang et al., 2021).

Regarding the coping strategies, the fourth model, consisting of ten strategies, was found to have an optimal-fit-index χ^2=1,902; CFI=0.96; TLI=0.95; SRMS=0.056, RMSEA=0.069 (Brown, 2015), but the second and third models with 13 and 12 strategies were also found to have a good fit (see Table 3). The result found differs from the internal structure of 14 strategies in the Portuguese sample χ2=1.06; CFI=0.99; RMSEA=0.02 (Nunes et al., 2021), in the Chilean adaptation (García et al., 2018) and in the sample of breast cancer survivors (Rand et al., 2019). It also differs from the internal structure of 8 factors CFI = 0.937; TLI=0.908; RMSEA=0.091 (Richard's et al., 2021) and from the internal structure of 6 factors (Amoyal et al., 2016).

With what it is reported in this research and other cited studies, it is found that the internal structure of COPE 28 has important variations in terms of the original (Carver et al., 1989); these variations are explained due to the context and characteristics of the studied samples (Solberg et al., 2022) but it should be noted that the four coping styles maintain its structure, reflecting the theoretical consistency of the instrument.

On the other hand, the methodological implications extracted allow evaluating the instrument from a dispositional and situational perspective to improve the internal structure of COPE 28 (Carver & Connor-Smith, 2010) since coping styles present less adjustment and require more robust methodologies. However, in general terms, the results obtained from COPE 28 show adequate psychometric properties that can be contrasted with other studies.

Limitations

Regarding limitations, the selection of the sample was carried out with a non-probabilistic method, which interferes to generalize results; in addition, the sample size had an important influence on the fit of the reported models. On the other hand, the collection technique used is prone to biases that can influence the results. For this reason, other studies suggest increasing the sample size and better characterizing it to achieve better heterogeneity. It is also suggested to use the instrument in different contexts and populations to further improve internal consistency.

CONCLUSION

In conclusion, the Spanish version of BRIEF Cope 28 presents adequate evidence of validity and reliability. Regarding coping styles, the four-style model obtains good comparative fit, but not in the parsimony index, so the results are not yet conclusive. On the other hand, the model of 10 factors or coping strategies has optimal adjustment rates, which allows us to affirm that COPE 28 has adequate validity.

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Table 5. Strategies that make up each of the models of confirmatory factor analysis.

Model 1 (14 strategies)	Items	Model 2 (13 strategies)	Items	Model 3 (12 strategies)	Items	Model 4 (10 strategies)	Items
Active coping	2,10	Active coping	2,10	Active coping	2,10	Active coping	2,10
Planning	6,26	Planning	6,26	Planning	6,26	Planning	6,26
Positive reassessment	14, 18	Positive reassessment	14, 18	Positive reassessment	14, 18	Positive reassessment	14, 18
Acceptance	3, 21	-	-	-	-	-	-
Emotional support	9,17	Emotional support	9,17	Emotional support	9,17	Emotional support	9,17
Social support	1, 28	Social support	1, 28	Social support	1, 28	Social support	1, 28
Negation	3,5	Negation	3,5	-	-	-	-
Self-distraction	4,22	Self-distraction	4,22	Self-distraction	4,22	Self-distraction	4,22
Self-incrimination.	8,27	Self-incrimination.	8,27	Self-incrimination.	8,27	-	-
Disconnection	11,25	Disconnection	11,25	Disconnection	11,25	Disconnection	11,25
Relief	12,23	Relief	12,23	Relief	12,23	-	-
Substance use	15,24	Substance use	15,24	Substance use	15,24	Substance use	15,24
Humour	7,19	Humour	7,19	Humour	7,19	Humour	7,19
Religion	16,20	Religion	16,20	Religion	16,20	Religion	16,20

Note: The four models with their coping strategies.

AUTHORS' CONTRIBUTION

Neicer Joel Delgado Requejo: Introduction, methods, processing, statistical analysis, results, APA style.
Julio Cesar Castillo Ramos: Methodology and discussion.
Lourdes Carolina Cerda Sánchez: results, discussion and spell checking.

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CONFLICTO DE INTERESES

The authors declare that there were no conflicts of interest in the collection of data, analysis of information, or writing of the manuscript.

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REVIEW PROCESS

This study has been reviewed by external peers in double-blind mode. The editor in charge was David Villarreal-Zegarra The review process is included as supplementary material 1.

DATA AVAILABILITY STATEMENT

The database in SPSS and R Studio are attached as supplementary material 2 and 3.

DISCLAIMER

The authors are responsible for all statements made in this article.

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