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Psychometric evidence of the URICA-DV Change Assessment Scale in Peruvian women attending a Women's Emergency Center

Evidencias psicométricas de la Escala de Evaluación del Cambio URICA-DV en mujeres peruanas que asisten a un Centro de Emergencia Mujer

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Abstract

Given the issue of intimate partner violence, there is a need for valid and reliable instruments. Therefore, the psychometric properties of the URICA-DV Scale, based on the Transtheoretical Model of Change, were analyzed. The study included 183 Peruvian women attending a Women's Emergency Center (CEM), selected through non-probability convenience sampling. Regarding the results, a confirmatory factor analysis yielded adequate fit indices (χ^2/df = 1.78, CFI = .97, TLI = .97, RMSEA = .053, SRMR = .06). Furthermore, the item analysis showed acceptable corrected item-total correlations for most items. As for internal consistency, the scale demonstrated reliability ranging from acceptable to excellent. Overall, the results support that the URICA-DV Scale is a suitable instrument for assessing the change process in women exposed to situations of violence.

Keywords: intimate partner violence, assessment, attitude change, women.

Resumen

Ante la problemática de la violencia de pareja, existe la necesidad de contar con instrumentos válidos y confiables. Por tanto, se analizaron las propiedades psicométricas de la Escala URICA-DV, basada en el Modelo Transteórico del Cambio. El estudio contó con 183 mujeres peruanas asistentes a un CEM, seleccionadas mediante muestreo no probabilístico por conveniencia. En cuanto a los resultados se obtuvo un AFC con índices de ajuste (χ^2/gl = 1.78, CFI = .97, TLI = .97, RMSEA = .053, SRMR = .06). Por otro lado, el análisis de ítems mostró correlaciones ítem-test corregidas aceptables en casi todos los ítems. En cuanto a la consistencia interna, presenta una confiabilidad de aceptable a excelente. En conjunto, los resultados respaldan que la Escala URICA-DV es un instrumento adecuado para evaluar el proceso de cambio en mujeres expuestas a situaciones de violencia.

Palabras clave: Violencia de pareja, evaluación, cambio de actitud, mujeres.

INTRODUCTION

Intimate partner violence refers to any act or behavior that involves physical, psychological, or sexual harm, perpetrated within an intimate relationship, and which is generally directed against women. Beyond its individual impact, intimate partner violence against women represents a significant challenge to public health and is one of the most serious expressions of rights violations worldwide. This form of violence not only directly affects women, but also has repercussions on their immediate environment, including children, family members, and friends, and its consequences manifest themselves in various dimensions: physical, psychological, economic, and social (Osorio *et al.*, 2016).

Therefore, the World Health Organization (WHO, 2024) reports that, globally, 1 of every 3 women has experienced both physical and sexual violence from their partner or ex-partner; likewise, approximately 27% of women between the ages of 15 and 49 report having suffered some type of violence within their relationship. In Latin America and the Caribbean, approximately 4,050 women were victims of femicide, with one death reported every two hours. The highest rates were in Honduras, the Dominican Republic, El Salvador, Uruguay, and Peru (Economic Commission for Latin America and the Caribbean [ECLAC], 2023). On the other hand, in Peru, during 2022, 55.7% of women suffered violence at the hands of their partners; in that same year, 147 femicides were reported in Lima, Cuzco, and Arequipa. Furthermore, in 2023, 175,528 reports of domestic violence were filed at police stations in Lima, with sexual violence being the most prevalent (National Institute of Statistics and Informatics [INEI], 2023).

For this reason, instruments prior to the URICA-DV scale are recognized. They address the assessment of change in contexts of intimate partner violence. An example of this is the study by Ospina *et al.* (2006), who developed a scale for identifying stages of behavioral change in women in violent intimate relationships. Another example is the revised home safety instrument, validated by Begun *et al.* (2008), which assesses individuals' willingness to change the situation of intimate partner violence. However, there are still significant gaps in terms of specific tools for accurately measuring this problem. This represents a knowledge gap. In this regard, it is essential to have valid and reliable instruments that allow for the assessment of personal change in the context of intimate partner violence and, at the same time, contribute to emotional regulation (Zamora *et al.*, 2012; Puente-Martínez *et al.*, 2022).

For the reasons mentioned above, it is essential to highlight that various studies have addressed the process of change experienced by women who live or have lived in situations of violence at the hands of their partners. This process is highly individualized, as each woman follows a unique path to healing after suffering emotional or physical harm, or a combination of both (Puente-Martínez *et al.*, 2024). This journey is often characterized by fluctuating dynamics, alternating between moments of progress and stages of regression, in a constant emotional roller coaster (Chang *et al.*, 2006). Furthermore, many women are unable to escape the cycle of violence due to internal factors such as low self-esteem, fear, or the hope that the situation will improve and an "ideal" reality will be achieved. Added to this are external factors such as the influence of the social environment and the responses of institutions to cases of violence. Therefore, change represents a complex path, with certain predefined stages (Reisenhofer & Taft, 2013).

That is why, in order to understand the stages of change in women caught up in the cycle of violence, this study is based on the Transtheoretical Model of Change (TMC) developed by Prochaska & DiClemente (1983), which describes how women subjected to acts of violence by their intimate partners go through progressive stages in recognizing the abuse and making decisions to leave the relationship. The change occurs in five stages: precontemplation (the woman does not recognize the violence), contemplation (she identifies it but does not act), preparation (she considers options for change), action (she makes concrete decisions), and maintenance (she consolidates the change and prevents relapse). It should be emphasized that the process depends on emotional, cognitive, and social factors, and varies for each woman depending on her motivation and the support she receives.

It is essential to note that since the creation of the URICA-DV scale by Levesque et al. (2000), there has been little prior research on

this instrument. However, there is a study by Maza and Rodríguez (2024) who evaluated the psychometric properties of the URICA scale in a sample of 274 Peruvian women, aged between 20 and 44, all with a history of intimate partner violence linked to male-dominated dynamics. The analyses carried out yielded a Cronbach's alpha reliability coefficient of .63, a value that indicates moderate internal consistency. In addition, exploratory factor analysis (EFA) yielded a KMO sample adequacy index of .693, and the result obtained in the Bartlett's sphericity test was statistically significant ($p < .001$), indicating only that exploratory factor analysis is feasible. However, there is an absence of criteria such as percentage of variance explained, Kaiser's criterion, distribution of items by rotated components, factor loadings, and rotation method used.

Likewise, due to the scarcity of instrumental studies of the URICA-DV scale, other instruments that measure the process of change are presented, such as Hu *et al.* (2024), who conducted a study whose purpose was to validate the Psychotherapy Change Motivation Scale (PCMS). To this end, two samples selected through non-probabilistic convenience sampling were used. The first sample consisted of 178 participants and was used to analyze the items and perform the exploratory factor analysis (EFA). The second sample included 180 individuals and was used to perform confirmatory factor analysis (CFA) and to assess the validity and reliability of the instrument. The results showed adequate internal consistency, with a Cronbach's alpha coefficient of .796. The EFA explained 58.36% of the total variance, while the CFA showed a model with adequate fit indices ($X^2/df = 1.69$; RMSEA = .06; GFI = .88; CFI = .92; IFI = .92; TLI = .90). Taken together, these findings support the validity and reliability of the PCMS, allowing for its use in clinical settings.

Due to the aforementioned reasons, the main objective of this study is to analyze the psychometric evidence of the URICA-DV Change Assessment Scale in Peruvian women who attend a Women's Emergency Center (CEM). To this end, the internal structure was evaluated, an item analysis was performed, and its reliability was corroborated.

METHOD

Design

This study corresponds to an instrumental design, whose purpose is to analyze the psychometric evidence of a scale in order to obtain meaningful information that will be useful for future research (Ato *et al.*, 2013).

Participants

This study involved 183 women aged 18 and older (M = 30.5; SD = 6.95) who attended the Women's Emergency Center (CEM) in the district of San Juan de Lurigancho, Lima. The participants reported having been victims of violence within their intimate partner relationships and were selected through non-probabilistic convenience sampling, given their accessibility and willingness to answer questions and review the informed consent form (Ñaupas et al., 2018). The study included adult women residing in the district of San Juan de Lurigancho who were attending the CEM for the first time, who were or had been in a relationship, and who had suffered some form of violence, whether physical, psychological, financial, or sexual. On the other hand, women who attend the CEM for reasons unrelated to intimate partner violence or who had already attended before the start of this study were excluded.

In terms of sociodemographic characteristics, 36.1% were aged 35 or older, 35% were between 25 and 34, and 29% were between 18 and 24. Regarding marital status, 68.3% were cohabiting, 19.7% were married, and 12% were separated. In terms of educational attainment, 67.8% had completed secondary school or were enrolled in higher education, while 32.2% had not completed secondary school. Finally, in terms of relationship duration, 53% had been in a relationship for more than five years, compared to 47% who had been in a relationship for between one and five years.

Instruments

Change Assessment Scale – University of Rhode Island – URICA, developed in 1983 by McConnaughy and colleagues; it consists of 32 items and is answered on a five-point Likert scale. It is based on the Transtheoretical Model of Change, which assesses a person's willingness to modify problematic behavior (Prochaska & DiClemente, 1983). In terms of results, it had a reliability greater than .77 in its subscales and .79 for the total scale (McConnaughy et al., 1983).

The URICA-DV scale was created from the URICA scale, developed by Levesque et al. (2000), with the aim of analyzing the stages of change in 258 men involved in violent contexts within intimate relationships and were undergoing treatment in Rhode Island, USA. The scale has 20 items with 4 factors, and each item responds to a five-point Likert scale ranging from "strongly disagree" to "strongly agree." In terms of results, an alpha coefficient reliability (α = .81) was obtained; for the internal consistency analysis using CFA, the model (χ^2/gl = 1.58; CFI = .93; NNFI = .92) was obtained, which is very suitable for measuring stages of change in relation to intimate partner violence.

Procedure

The data collection was carried out solely by the person responsible for this study, in accordance with the schedules established by the Women's Emergency Center (CEM). This process took longer than expected, extending from six months to eight months. The identification of cases was carried out by the person responsible for admissions at the CEM, who assessed whether the previously established inclusion criteria were met. Once the participants had been identified, they were given detailed information about the study and its purpose, and then presented with the informed consent form, in accordance with ethical research principles. The information collected was then organized using Microsoft Excel and exported to the Jamovi statistical software.

Data analysis

The statistical analyses were performed using the Jamovi 2.3.26 software. First, the polychoric correlation matrix was calculated using the Seolmatrix add-on, given that the items are ordinal in nature (Gadermann *et al.*, 2012; Jöreskog, 1994). For the analysis of the items, the criterion was that the item-test values should be higher than .30 (Kline, 1994) and that the asymmetry and kurtosis values should remain between +- 1.50 (Del Rey *et al.*, 2017; Meneses et al., 2013) as indicative of an acceptable distribution. For validity based on internal structure, the Sem add-on was used to perform a confirmatory factor analysis (CFA) using the ULS estimator, recommended for ordinal data and small samples (Flora & Curran, 2004; Viladrich et al., 2017). In addition, the following indices were used to verify the model fit (x^2/gl, CFI, TLI, RMSEA, SRMR). Finally, reliability was corroborated using the Omega coefficient (McDonald, 1999), considering magnitudes between .70 and .90 (Trizano, 2017).

Ethical considerations

The study was approved by the Institutional Research Ethics Committee (CIEI) of Universidad Peruana Cayetano Heredia (code SIDISI 102296). It should be emphasized that it was conducted in accordance with the principles governing research, such as autonomy, non-maleficence, beneficence, and justice. The participants were informed of the purpose of the study and participated voluntarily, signing an informed consent form. They were also assured that the information provided would be treated with strict confidentiality and used only for academic purposes (Jara, 2012).

Table 1

Correlation matrix among items

	fc1	fc2	fc3	fc4	fc5	fc6	fc7	fc8	fc9	fc10	fc11	fc12	fc13	fc14	fc15	fc16	fc17	fc18	fc19	fc20
fc1	1.00																			
fc2	.42	1.00																		
fc3	.50	.46	1.00																	
fc4	.47	.32	.44	1.00																
fc5	.46	.44	.33	.43	1.00															
fc6	-.24	-.21	-.30	-.30	-.37	1.00														
fc7	-.25	-.16	-.20	-.40	-.34	.57	1.00													
fc8	-.35	-.37	-.27	-.29	-.50	.61	.48	1.00												
fc9	-.28	-.38	-.34	-.25	-.26	.70	.31	.81	1.00											
fc10	-.18	-.29	-.25	-.30	-.29	.56	.32	.72	.78	1.00										
fc11	-.35	-.44	-.43	-.38	-.35	.53	.31	.40	.52	.60	1.00									
fc12	-.47	-.35	-.57	-.37	-.46	.51	.32	.53	.49	.42	.74	1.00								
fc13	-.34	-.39	-.48	-.48	-.46	.38	.28	.41	.47	.45	.74	.78	1.00							
fc14	-.49	-.44	-.46	-.32	-.43	.32	.22	.34	.49	.39	.65	.69	.81	1.00						
fc15	-.01	.00	-.12	-.15	-.09	.16	.09	.04	.14	.16	.25	.14	.31	.42	1.00					
fc16	.05	.06	.03	.06	.04	.11	.11	-.13	.02	-.05	.09	.01	-.01	.07	.37	1.00				
fc17	.14	.13	.18	.12	-.02	.13	.08	-.07	-.01	.01	.08	.03	.13	.12	.44	.76	1.00			
fc18	.21	.10	.25	.20	.14	-.01	.03	-.03	-.03	.04	-.03	-.07	.01	.11	.29	.59	.72	1.00		
fc19	.23	.06	.29	.20	.02	.03	.08	-.11	-.02	.02	.02	-.13	-.03	.05	.29	.64	.78	.88	1.00	
fc20	.25	.10	.28	.29	.08	.02	.04	-.13	-.11	-.07	-.10	-.23	-.20	-.11	.19	.60	.65	.82	.84	1.00

Table 1 shows the Pearson's Rho correlation matrix among the items of the URICA-DV Scale, applied to Peruvian women at a Women's Emergency Center. Items fc1 to fc5 show moderate positive correlations (r = .32 to .50), suggesting a possible common dimension. Items fc6 to fc14 are negatively related to the previous ones, but positively and strongly related to each other (r up to .81), indicating internal consistency within this group. Finally, items fc15 to fc20 also show moderate to high positive correlations (r = .29 to .88), especially between fc18, fc19, and fc20 (r > .80). (Hair *et al.*, 2019).

Table 2
Analysis of the scale items

Dimension	items	Mean	SD	Asymmetry	Kurtosis	Item-test
Pre-contemplation	fc1	1.86	.69	1.11	3.23	.51
	fc2	2.00	.82	1.22	1.83	.43
	fc3	2.38	1.12	.44	-1.05	.50
	fc4	2.18	.89	.88	.39	.44
	fc5	1.97	.78	1.30	2.46	.44
Contemplation	fc6	3.93	.85	-1.21	1.68	.61
	fc7	4.09	.71	-1.23	3.22	.37
	fc8	4.02	.70	-1.29	3.47	.67
	fc9	3.85	.82	-1.26	2.20	.66
	fc10	3.93	.70	-1.37	3.89	.63
Action	fc11	3.66	.93	-.73	.31	.68
	fc12	3.72	.84	-1.06	.94	.64
	fc13	3.51	.95	-.57	-.36	.75
	fc14	3.54	.98	-.65	-.47	.72
	fc15	3.43	1.16	-.75	-.52	.25
Maintenance	fc16	2.88	1.28	.02	-1.28	.63
	fc17	3.06	1.30	-.37	-1.30	.77
	fc18	3.04	1.25	-.44	-1.24	.79
	fc19	2.97	1.26	-.27	-1.34	.87
		2.88	1.27	-.22	-1.40	.81

Table 2 shows the analysis of the items on the URICA-DV Scale, grouped according to the theoretical dimensions of the Transtheoretical Model. The means, standard deviations, asymmetry, kurtosis, and corrected item-test correlations are reported.

In pre-contemplation (fc1 to fc5), the means are low (1.86 to 2.38), with positive asymmetry and acceptable item-test correlations (0.43 to 0.51). In Contemplation (fc6 to fc10), the means are high (3.85 to 4.09) and the asymmetry is negative. The item-test correlations are adequate. In the Action dimension (fc11 to fc15), the means range from 3.43 to 3.72, with acceptable correlations (up to 0.75), except for fc15 (0.25), which has low discriminatory power. Finally, in Maintenance (fc16 to fc20), the means are intermediate (2.88 to 3.06), with high item-test correlations (0.63 to 0.87), with fc19 and fc20 standing out (Kline, 1994; Domínguez, 2017).

Table 3

Assessment of the internal structure of URICA-DV

Model	x2/gl	CFI	TLI	RMSEA	SRMR
Correlated 4-factor model	1.78	.97	.97	.053	.06

Table 3 presents the fit indices from the confirmatory factor analysis (CFA) of the four-factor correlated theoretical model of the URICA-DV Scale, applied to Peruvian women who are users of a CEM (Center for Women's Emotion). This model, based on the original proposal by Prochaska and DiClemente, includes the dimensions of Pre-contemplation, Contemplation, Action, and Maintenance. The results show a good fit for the model ($\chi^2/df = 1.78$, CFI = .97, TLI = .97, RMSEA = .053, SRMR = .06). In summary, these findings support the adequate internal structure of the scale (Flora & Curran, 2004).

Table 4

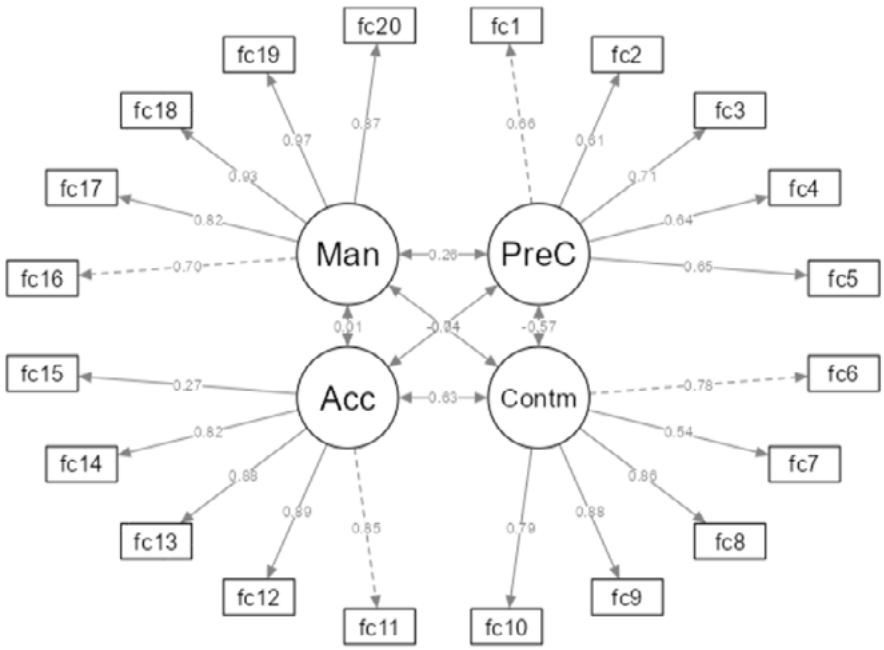
Factor loadings

Dimensions	items	β
Pre-contemplation	fc1	.66
	fc2	.61
	fc3	.71
	fc4	.64
	fc5	.65
Contemplation	fc6	.78
	fc7	.54
	fc8	.86
	fc9	.88
	fc10	.79
Action	fc11	.85
	fc12	.89
	fc13	.88
	fc14	.82
		.27
Maintenance	fc16	.70
	fc17	.82
	fc18	.93
	fc19	.97
		.87

Table 4 shows the factor loadings for each dimension of the theoretical model. In general, the items have high loadings (β > .60). The dimensions of Contemplation, Action, and Maintenance stand out for their high loadings, especially Maintenance (β = .70 to .97). Only item fc15 in the Action dimension shows a low loading (.27), suggesting a weak relationship with its factor. In summary, the results support a good representation of the construct (Flora & Curran, 2004).

Figure 1

Pathway diagram of the Change Assessment Scale



Note: PreC = Pre-Contemplation, Contm = Contemplation, Acc = Action, Man = Maintenance

Table 5

Scale Reliability Statistics

	McDonald's omega
Pre-Contemplation	.71
Contemplation	.81
Action	.84
Maintenance	.91

Table 5 shows McDonald's Omega coefficient for the four dimensions of the URICA-DV scale. All values indicate adequate internal consistency. These results show acceptable to excellent reliability (Trizano, 2017).

DISCUSSION

The main objective of this study was to analyze the psychometric properties of the URICA-DV Change Assessment Scale in Peruvian women attending the CEM. The results showed that the four-factor model presented adequate fit indices (χ^2/df = 1.78, CFI = .97, TLI = .97, RMSEA = .053, SRMR = .06), supporting the theoretical model proposed by Prochaska and DiClemente (1983). These values fall within the ranges considered indicative of a good model fit, as suggested by Flora and Curran (2004). Furthermore, these findings were superior to those reported by Maza and Rodríguez (2024), who observed lower fit indices. In contrast, Hu et al. (2024) also obtained satisfactory fit indices in their confirmatory model (RMSEA = .06; CFI = .92; TLI = .90).

On the other hand, in the present study, factor loadings ranged from .27 to .97, which confirms, for the most part, an adequate association between the items and their respective factors. This is consistent with the criteria proposed by Meneses et al. (2013), who point out that loadings above .40 are indicative of a strong relationship between the item and the construct being evaluated.

Regarding correlations among items, significant relationships were observed among all items, which supports Prochaska and DiClemente's (1983) MTC. In this regard, Meneses et al. (2013) indicate that an adequate correlation matrix among items is a necessary condition for performing factor analyses, in addition to reinforcing the internal validity of the instrument. In agreement, Classical Test Theory (CTT) states that correlations among items must be high enough to demonstrate that they measure the same latent construct, without reaching levels that indicate redundancy (Muñiz, 2018).

Regarding item analysis, the means (M) ranged from 1.86 to 4.09, showing variability in responses. The distributions showed slight asymmetry and kurtosis. Item-test correlations ranged from .25 to .87, with most items exceeding the threshold of .30 recommended by Prieto and Delgado (2010). This finding coincides with that reported by Meneses et al. (2013), who warn that items with low discriminatory power should be revised or reformulated, as they can introduce measurement error. In line with this, the CTT maintains that low values in these correlations would indicate that the item does not contribute significantly to the measurement of the general construct, as could be the case with item 15, which may require reformulation (Nunnally & Bernstein, 1995; Muñiz, 2010).

In the reliability analyses, adequate McDonald's omega coefficients were obtained in all dimensions, with values between ω = .71 and ω = .91. These results exceed those reported by Maza and Rodríguez (2024), who found an overall Cronbach's alpha of .63. For their part, Hu et al. (2024) reported adequate Cronbach's alpha coefficients (α = .796). It should be noted that, according to Prieto and Delgado (2010), McDonald's omega coefficient is a more appropriate measure of reliability. Similarly, Tornimbeni et al. (2008) also support its use in psychometric studies.

It should be noted that this study has limitations, such as the sample restriction to a single care center in Lima. Furthermore, no standardized external criteria (such as violence or coping scales) were applied to assess the convergent validity of the instrument. Therefore, it is recommended that future studies expand the sample to different regions of the country and apply invariance models, as well as comparisons with clinically validated instruments.

Finally, the results confirm that the URICA-DV scale is a psychometrically sound tool for assessing the stages of change in women victims of intimate partner violence.

CONCLUSIONS

In summary, the results of the study show that the URICA-DV Scale has adequate psychometric properties in Peruvian women who attend a Women's Emergency Center. The four-factor model showed a good fit, and the factor loadings confirmed the internal consistency of the instrument. It also has adequate internal consistency for the dimensions, supporting its usefulness for assessing the process of change in contexts of intimate partner violence.

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Author roles:

LGT: Conceptualization, Data preservation, Research, Drafting.

JFR: Conceptualization, Data preservation, Research, Drafting.

DRC: Conceptualization, Data preservation, Research, Drafting.

DYL: Research, Methodology, Formal analysis, Software, Supervision, Validation, Drafting, Review and editing.

JFQ: Methodology, Supervision, Validation, Review and editing.

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