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## Validation of a reduced Spanish version of the Index of Spouse Abuse<sup>1</sup>

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ABSTRACT. With the purpose of examining the reliability and validity of the Spanish version of the Index of Spouse Abuse (ISA), this scale was applied to 813 Peruvian women, along with the Double Standard Scale, the Rape Supportive Attitude Scale, and the Symptom Checklist-90 Revised (SLC-90-R). Participants were distributed into three different samples: women in the general population (n = 300), women who had not reported abuse (n = 300) and women who had reported abuse (n = 213). After testing seven different factor structures of the ISA through con  $\Box$ matory factor analysis, this instrumental study proposes a 19-item abbreviated version clustered into two subscales (Nonphysical abuse and Physical abuse) with excellent indices of internal consistency reliability (.93 and .89, respectively). Scores on both subscales showed signi  $\Box$  and positive correlations with the double standard scale, rape supportive attitudes, and psychopathological dimensions of the SCL90-R. Likewise, scores on the ISA showed that women with a lower educational level and less skilled jobs are subject to more partner abuse. Cut-off point scores for detecting both physical and nonphysical partner abuse are proposed.

KEYWORDS. Index of Spouse Abuse. Partner violence. Reliability. Validity. Instrumental study.

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RESUMEN. Con el objetivo de examinar la □abilidad y validez de la versi⊡n en espa⊡ol del Index of Spouse Abuse (ISA), se aplic□ ⊑ste, junto a la Double Standard Scale, la Rape Supportive Attitude Scale y el Cuestionario de 90 S⊡tomas SCL-90-R, a 813 mujeres peruanas distribuidas en tres muestras diferentes: poblaci□n general (n = 300), mujeres que no hab ⊡an denunciado abuso (n = 300) y mujeres que hab⊡an denunciado abuso (n = 213). Despu⊡s de poner a prueba mediante an □isis factorial con⊡rmatorio siete estructuras factoriales distintas del ISA, este estudio instrumental propone una versi⊡n reducida de 19 ⊡ems agrupados en dos subescalas (Abuso no fisico y Abuso fisico), que obtienen excelentes coe⊡cientes de ⊡abilidad de consistencia interna (0,93 y 0,89, respectivamente). La puntuaci□n de ambas subescalas correlaciona en sentido positivo con doble moral sexual, actitud favorable hacia la violaci□n y las dimensiones psicopatol□gicas del SCL-90-R. A simismo, las puntuaciones en el ISA ponen de mani⊡esto que las mujeres con menor nivel cultural y ocupaciones laborales menos cuali□cadas sufren m⊡a abuso dentro de la pareja. Se proponen puntos de corte en las puntuaciones para detectar tanto el abuso no fisico, como el fisico en el contexto de las relaciones de pareja.

PALABRAS CLAVE. Index of Spouse Abuse. Violencia de pareja. Fiabilidad. Validez. Estudio instrumental.

The Index of Spouse Abuse (ISA; Hudson and McIntosh, 1981) is one of the self-report scales that has been used the most over the last few decades to assess partner abuse. It has been applied in many countries, such as Germany (Nyberg, Hartman, Stieglitz, and Riecher-Rossler, 2008), Brazil (Sierra, Costa, and Santos-Iglesias, in press), Canada (Fry and Barker, 2002), China (Tang, 1998), El Salvador (Sierra, Ortega, Santos, and Guti 🗗 rrez, 2007; Sierra, Santos-Iglesias, and GutiTrez-Quintanilla, 2010), Spain (Cliceres, 2002; Cliceres and Cliceres, 2006; Plazaola-Castalo, Ruiz-Plirez, Escriba-Aguir, Jim Inez-Martin, and Hern Indez-Torres, 2009; Torres et al., 2010), the United States (Chen, Rovi, Vega, Jacobs, and Johnson, 2005; Paranjape, Heron, and Kaslow, 2006), Japan (Kataoka, Yaju, Eto, and Horiuchi, 2005), and Mexico (Castro, Garca, Ruiz, and Peek-Asa, 2006). The ISA has been used to assess the intensity of partner abuse suffered by women in the general population (Plazaola et al., 2009; Sierra et al., 2007, 2010; Sierra, Ortega, Guti Trez-Quintanilla, Berm Idez, and Buela-Casal, 2009) but also in speci c groups such as incarcerated women (Eliason, Taylor, and Arndt, 2005) or pregnant women (Kataoka et al., 2005; McFarlane et al., 1998). It has also been used on various occasions to validate other partner abuse self-report scales (Castro et al., 2006; Chen et al., 2005; Ernst, Weiss, Cham, Hall, and Nick, 2004; Nyberg et al., 2008; Weiss, Ernst, Cham, and Nick, 2003).

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Despite the frequent use of the ISA, it is striking that the validations and psychometric studies performed in various cultural contexts and with different types of samples have not shown a solid and consistent factor structure. In the original study, an exploratory factor analysis (EFA) performed by Hudson and McIntosh (1981) on a sample of 398 students isolated two factors: Physical abuse (11 items: 3, 4, 7, 13, 17, 22, 23, 24, 27, 28, and 30) and Nonphysical abuse (19 items: 1, 2, 5, 6, 8, 9, 10, 11, 12, 14, 15, 16, 18, 19, 20, 21, 25, 26, and 29). The internal consistency reliability of these subscales was .90 and .91, respectively. The factor structure found in the original study has not been replicated in any subsequent studies. In fact, a new EFA of the ISA performed by Campbell, Campbell, King, Parker, and Ryan (1994) on a sample of 504 African-American women showed a three-factor structure explaining 62% of the variance: Nonphysical abuse (17 items: 1, 2, 3, 5, 8, 9, 10, 11, 12, 14, 15, 22, 25, 26, 27, 28, and 29), Controlling behaviors (6 items: 6, 16, 18, 19, 20, and 21), and Physical abuse (7 items: 4, 7, 13, 17, 23, 24, and 30). The most signi cant feature of this new structure was that the four items that originally fell within the physical abuse scale moved to the nonphysical abuse scale and six items of the original nonphysical abuse scale formed the new factor, which clustered items referring to extreme control and isolation of the victim. Later, a con Trmatory factor analysis (CFA) performed by Tang (1998) revealed that the original structure of the ISA proposed by Hudson and McIntosh did not show good It in a sample of 370 students. In the same study, a subsequent exploratory factor analysis eliminating the items with the poorest psychometric qualities led to a reduced version of 19 items clustered into two factors that showed good It with CFA: Nonphysical abuse (12 items: 1, 2, 5, 10, 12, 14, 19, 22, 25, 26, 28, and 29; □= .91) and Physical abuse (7 items: 4, 7, 13, 17, 21, 24, and 30;  $\Box$  = .79). Cook, Conrad, Bender, and Kaslow (2003) criticized the lack of conceptual clarity of the dimensions nonphysical abuse and physical abuse included in the ISA and tested three theoretical models in a sample of 583 African-American women with CFA: the two-factor original structure of Hudson and McIntosh (1981), the three-factor structure of Campbell et al. (1994), and another three-factor structure (Nonphysical abuse, Physical abuse, and Controlling behaviors) after eliminating eight items (4 and 21, because they did not represent the complexity of sexual abuse, and 3, 16, 17, 18, 19 and 24, because of their low factor loadings). The third model showed the best It, thus leading to the following item distribution: Nonphy-

sical abuse (11 items: 1, 8, 9, 11, 13, 14, 15, 22, 26, 27, and 29), Controlling behaviors (7 items: 2, 5, 6, 10, 12, 20, and 25), and Physical abuse (4 items: 7, 23, 28, and 30). More recently, Sierra et al. (in press) tested the four structural models described (Hudson and McIntosh, Campbell et al., Tang, and Cook et al.) in a sample of 800 women from Northeastern Brazil using CFA. The two-factor structure proposed by Tang (1991) (RMSEA = .021) showed the best  $\Box$ .

Only recently has there been an interest in analyzing the factor structure of the Spanish version of the Index of Spouse Abuse. Sierra et al. (2007) performed an exploratory factor analysis of the ISA on a sample of 300 Salvadorian women in the general population. The analysis isolated the two original factors and explained 62.87% of the total variance. However, eight items changed dimensions compared to the original proposal by Hudson and McIntosh (1981) and were therefore eliminated, leading to a reduced version of 22 items clustered into the factors: Nonphysical abuse (14 items: 2, 5, 6, 8, 10, 11, 12, 14, 16, 19, 20, 21, and 25;  $\Box$  = .95) and Physical abuse (8 items: 3, 7, 13, 17, 23, 24, 27, and 28;  $\Box$  = .88). More recently, Plazaola-Casta  $\Box$  et al. (2009) performed an EFA on a sample of 390 Spanish women attending health centers and isolated the two original factors. They found changes in four items, whose location changed compared to the original proposal. The structure resulting from this study was the following: Nonphysical abuse (22 items: 1, 2, 3, 5, 6, 8, 9, 10, 11, 12, 14, 15, 16, 17, 19, 20, 21, 23, 26, 27, 28, and 29;  $\Box$  = .94) and Physical abuse (8 items: 4, 7, 13, 18, 22, 24, 25, and 30;  $\Box$  = .85). Torres et al. (2010) showed poor  $\Box$ t of the original structure by Hudson and McIntosh (1981) in a sample of Spanish women (223 nonvictims of abuse and 182 victims of abuse). They performed an EFA that proposed a two-dimensional structure of the scale with the following item distribution: Nonphysical abuse (23 items: 1, 2, 4, 5, 6, 8, 9, 10, 11, 12, 14, 15, 16, 18, 19, 20, 21, 22, 25, 26, 27, 28, and 29; □= .98) and Physical abuse (7 items: 3, 7, 13, 17, 23, 24, and 30; □=.88). Finally, Sierra, Santos-Iglesias et al. (2010) used CFA to test the factor structure models of Hudson and McIntosh (1981), Campbell et al. (1994), Tang (1998), Cook et al. (2003), and Sierra et al. (2007) on a sample of 600 Salvadorian women. Similarly to the study with Brazilian women (Sierra et al., in press), they concluded that the 19-item two-dimensional structure proposed by Tang showed the best It (RMSEA = .029).

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In short, studies differ in the factor structure of the ISA, its number of items and their ascription to the various dimensions found. One of the possible reasons for the lack of robustness of the structure is the diversity and heterogeneity of the samples used in the various validations, since they have been composed of female university students (Hudson and McIntosh, 1981; Tang, 1998), women from the general population (Plazaola-Casta⊂o et al., 2009; Sierra et al., 2007, 2010; Sierra et al., in press), and abused women (Torres et al., 2010). Considering this diversity of results, it may be necessary to adapt the ISA to speci⊂c populations, as proposed by Torres et al. (2010).

In women, the experience of partner abuse is usually associated to a signi Cant decline in mental health (Diez Ulla et al., 2009; Ellsberg, Jansen, Heise, Watts, and Garcia-Moreno, 2008; Fletcher, 2010; Ludermir, Schraiber, D!Oliveira, Fran a-Junior, and Jansen, 2008; Santos-Iglesias and Sierra, 2009; Walton-Moos, Manganello, Frye, and Campbell, 2005), a decline in self-esteem (Amor, Echebur a, Corral, Zubizarreta, and Sarasua, 2002; Matud, 2004; Santos-Iglesias and Sierra, 2010; Sierra, Ortega et al., 2007; Valor-Segura, ExpEsito, and Moya, 2009), and occasionally to serious psychopathological disorders such as post-traumatic stress disorder (Coker, Weston, Creson, Justice, and Blakeney, 2005; Sarasua, Zubizarreta, Echebur La, and Corral, 2007; Scott-Tilley, Milton, and Sandel, 2010), depression (Amor et al., 2002; Kelly, 2010; Sarasua et al., 2007), or anxiety disorders (Loxton, Scho Leld, and Hussain, 2006). Moreover, previous studies have shown that the intensity of partner abuse suffered by women correlates positively with male chauvinist attitudes and rape supportive attitudes (Sierra et al., 2009), and the sexual double standard can explain the physical and nonphysical abuse endured (Sierra, Santos-Iglesias et al., 2010).

The experience of sexual abuse has been related to various sociodemographic variables, such as educational level and occupation. In fact, low educational level and joblessness or having an unpaid job have been associated to the experience of abuse (Amor et al., 2002; Amor, Echebur a, and Loinaz, 2009; Boy and Kulczycki, 2008; Echebur a, Fern indez-Montalvo, and Corral, 2008; Sierra et al., 2009). However, it should be noted that such variables were not considered as relevant risk factors of victimization in the meta-analysis performed by Stith, Smith, Penn, Ward, and Tritt (2004).

Therefore, considering the disparity of results regarding the factor structure of the ISA, the purpose of the present instrumental study (Carretero-

Dios and PIrez, 2007; Montero and LeIn, 2007) was to use conIrmatory factor analysis to test the seven factor structures described above: three structures with 30 items clustered into two factors (Hudson and McIntosh, 1981; Plazaola-Casta to et al., 2009; Torres et al., 2010), one structure with 30 items distributed into three factors (Campbell et al., 1994), one structure with 22 items clustered into three factors (Cook et al., 2003), one structure with 22 items distributed into two factors (Sierra et al., 2007), and one structure with 19 items distributed into two factors (Tang, 1998). After Inding the structure with the best It, the aim was to analyze the items and the internal consistency reliability. Another goal was to obtain evidence of the validity of the measures. On the basis of the previous studies mentioned above, the Irst hypothesis was that the ISA scores would correlate positively with the psychopathological dimensions assessed with the Symptom Checklist-90-R (SCL-90-R), with the sexual double standard and with rape supportive attitude. The second hypothesis was that women with the lowest educational level and unskilled jobs would score higher on the ISA. An additional objective was to propose cut-off scores to detect the presence of partner abuse.

#### Method

#### Participants

Convenience non-probability sampling was used to select 813 Peruvian women from the Province of Cuzco (Peru) distributed into three different samples. The  $\Box$ rst sample was composed of 300 women in the general population aged between 18 and 57 years (mean = 31.50; SD = 8.20). The second sample was composed of 300 women aged between 19 and 64 years (mean = 30.41; SD = 7.96) who had never reported partner abuse. The third sample was composed of 213 women aged between 18 and 63 years (mean = 35.28; SD = 10.14) who had reported their partner for abuse. Table 1 shows the sociodemographic features of the total sample and the three subsamples, revealing differences in age (F<sub>2,810</sub> = 20.77; p < .001), type of relationship ( $\Box_4$  = 39.55; N = 807; p < .001), educational level ( $\Box_4$  = 119.70; N = 807; p < .001), and occupation ( $\Box_6$  = 162.78; N = 809; p < .001). Women who reported abuse were older tan those in the other groups; most of them lived with their partner (76.10%), very few had higher education (18.80%) and most of them were homemakers (60.60%).

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	Total sample	□ omen in the general population	□ omen □ho did not report abuse	□ omen □ho reported a buse	
	$N(\Box)$	n (□)	n (□)	n (□)	
Type of relationship			and the second		
Living with partner	241 (29.90)	87 (29.60)	117 (39)	37 (17.40)	
Not living with partner	499 (61.40)	170 (57.80)	167 (55.70)	162 (76.10)	
Separated or in process	67 (8.30)	37 (12.60)	16 (5.30)	14 (6.60)	
Educational level	100 A 10	Constant and a second second	and the second		
Primary Education	149 (18.30)	44 (14.7)	36 (12)	69 (32.40)	
Secondary Education	254 (31.20)	66 (22)	84 (28)	104 (48.80)	
Higher Education	410 (50.40)	190 (63.30)	180 (60)	40 (18.80)	
Occupation					
Student	142 (17.60)	73 (24.70)	34 (11.30)	35 (16.40)	
Homemaker	253 (31.30)	69 (23.30)	55 (18.30)	129 (60.6)	
Job not requiring higher					
education	166 (20.50)	56 (18.90)	75 (25)	35 (16.40)	
Job requiring higher					
education	248 (30,70)	98 (33.10)	136 (45.30)	14(6.60)	

TABLE 1. Sociodemographic features of the women.

Instruments

- Sociodemographic questionnaire collecting information on the sociodemographic features of the women assessed.
- Index of Spouse Abuse (ISA; Hudson and McIntosh, 1981). The 30item Spanish version published by C crees (2002) was used. It assesses the frequency of behaviors reclecting partner abuse (nonphysical abuse and physical abuse). Items are responded on a Likert scale from 1 (never) to 5 (most of the time). Its psychometric properties are described in the introduction of the present paper.
- Double Standard Scale (DSS; Caron, Davis, Halteman, and Stickle, 1993). The Peruvian version developed by Sierra, Monge, Santos-Iglesias, Rodr guez, and Aparicio (2010) was used. It is composed of 9 items that are responded on a 5-point Likert scale from 1 (totally disagree) to 5 (totally agree) and assess the degree of acceptance of the traditional sexual double standard. Its internal consistency reliability is .79, a similar value to that found in the present sample.
- Rape Supportive Atittude Scale (RSAS; Lottes, 1991). The Peruvian version developed by Sierra, Monge et al. (2010) was used. It is composed of 20 items that are responded on a 5-point Likert scale from 1 (highly agree) to 5 (highly disagree). It assesses attitudes supporting men!s use of violence against women in the context of sexual relations. Its internal consistency reliability is .87; in the present sample, a Cronbach!s alpha coef cient of .88 was obtained.

Symptom Checklist-90-R (SCL-90-R; Derogatis, 2002). It includes 90 symptoms whose pain intensity is rated on a scale from 0 (total lack of discomfort related to the symptom) to 4 (maximum discomfort) and provides nine symptomatic dimensions of psychopathology and three global indices of discomfort. As regards reliability, its internal consistency ranges between .81 and .90 and one week test-retest reliability ranges between .78 and .90. In the present study, the nine symptomatic dimensions and the Global Severity Index (GSI) were taken into account. Internal consistency reliability coef □cients obtained for the different dimensions in this study sample were the following: Somatization (□=.89), Obsessive-Compulsive (□=.88), Interpersonal Sensitivity (□=.87), Depression (□=.91), Anxiety (□=.89), Hostility (□=.84), Phobic Anxiety (□=.86), Paranoia Ideation (□=.82), and Psychoticism (□=.90).

#### Procedure

The sample was recruited in the Province of Cuzco (Peru) for nine months individually or through women!s associations and support centers they attended. Women who had reported abuse were recruited in public institutions that deal with cases of family violence, mainly the prosecutor!s of □ce in charge of family issues. Participants were assessed individually or in small groups by three specially trained examiners. They all received the same instructions to take part in the study and perform the various trials. Participation was voluntary and participants were ensured that their answers would be anonymous and con □dential. Verbal informed consent was obtained from all participants before starting the trials.

#### Data analysis

Con Trmatory factor analysis (CFA) was performed with LISREL 8.51 software (J Treskog and S Trbom, 2001). A maximum likelihood estimation method was used due to the large sample size (Batista Foguet and Coenders, 2000). Several indices (Tanaka, 1993) were used to assess the T of the models proposed: the chi-square (C<sup>2</sup>), the chi-square/degrees of freedom ratio (C<sup>2</sup>/df), the Goodness of Fit Index, (GFI), the Adjusted Goodness of Fit Index (AGFI), the Non-Normed Fit Index (NNFI) by Tucker and Lewis (1973), and the Root Mean Square Error of Approximation (RMSEA). Values lower than 2 in the C<sup>2</sup>/df ratio (Kline, 1998), greater than or equal to .85

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in the GFI and AGFI (JEreskog and SErborn, 1993), or equal to or greater than .90 in the NNFI (Brown and Cudeck, 1993) are considered to be indicators of good It. In the RMSEA, values between .05 and .08 are considered to show good It. After con Irming the structure of the scale, the pschometric properties of its items were analyzed, as well as their internal consistency reliability (Cronbach!s alpha). Convergent validity tests were also obtained by correlating the scores of the ISA with those of the DSS, RSAS, and SCL-90-R. The differences in abuse depending on educational level and occupation were analyzed with a one-factor ANOVA. The validity of the ISA to detect abuse was analyzed using women who had reported abuse as cases and women who had not reported abuse as controls. The receiver operating characteristics (ROC) curve was obtained, and the area below the curve was calculated with a 95% condence interval. Optimal cut-off points were determined to separate cases from controls. Sensitivity and speci city were calculated with 95% con dence intervals, using the Wilson method without continuity correction (Newcombe, 1998).

#### Results

Con Trmatory factor analysis (CFA)

Table 2 shows the  $\Box$ t indices of the CFA. The model composed of 19 items clustered into two oblique factors (Tang, 1998) showed the best  $\Box$ . Fit is considered good despite the fact that some indicators are below acceptable levels, given that the RMSEA is the best indicator of global  $\Box$ t (Marsh, Balla, and Hau, 1996). Modi  $\Box$ cation indices suggested a relationship between item 25 [Est $\Box$ siempre dando  $\Box$ rdenes (My partner orders me around)] and 26 [Me dice cosas que no se pueden aguantar (My partner has no respect for me feelings)] (see Figure 1).

TABLE 2. Overall It indices for the different factor models proposed.

Model		df	af	GFI	AGFI	NNFI	RMSEA
Two-factor oblique (30 items) <sup>a</sup>	573.73***	404	1.41	.68	.63	.79	.024
Three-factor oblique (30 items)b	546.72***	402	1.35	.69	.64	.80	.023
Two-factor obligue (19 items) <sup>C</sup>	177.49 n.s.	150	1.18	.80	.75	.85	.016
Three-factor oblique (22 items)d	339.63***	206	1.64	.75	.69	.83	.022
Two-factor oblique (22 items)e	280.71***	208	1.34	.75	.70	.82	.022
Two-factor oblique (30 items)f	578.48***	404	1.43	.67	.63	.79	.025
Two-factor oblique (30 items)g	542.74***	376	1.44	.68	.63	.79	.025

Notes. n.s.: p > .05, \*\*\* p < .001; \*structural model by Hudson and McIntosh (1981); \*structural model by Campbell et al. (1994); \*structural model by Tang (1998); \*structural model by Cook et al. (2003); \*structural model by Sierra et al. (2007); \*structural model by Plazaola-CastaLb et al. (2009); \*structural model by Torres et al. (2010).



FIGURE 1. Path diagram of the factor structure of the Index of Spouse Abuse according to Tang!s model (1998).

Reliability

Table 3 shows the psychometric properties of the items of the subscales Nonphysical abuse and Physical abuse. The Nonphysical abuse scale had an internal consistency reliability (Cronbach!s alpha coef cient) equal to .93. All response means were below the theoretical midpoint (2) and standard deviations were greater than one in all cases. Corrected item-total correlations were greater than .30 (Nunnally and Bernstein, 1995). The lowest of such correlations was .55 (item 14). Moreover, each response option was chosen at least once in all items. The Physical abuse scale had an internal consistency reliability equal to .89. Similarly to the Nonphysical abuse scale

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le, the means were below the theoretical midpoint and standard deviations were greater than one. Corrected item-total correlations were greater than .30. The lowest of such correlations was .65 (item 13). Likewise, all the response options were chosen at least once in all items.

TABLE 3. Mean (M), standard deviations (SD), corrected item-scale correlations (r), and Cronbach!s alpha if item ( ) of the subscales Nonphysical abuse and Physical abuse is eliminated.

Subscalelitems		SD	r	
Nonphysical abuse				
1. Me humilla (My partner belittles me)	1.33	1.29	.67	.92
<ol> <li>Me exige que obedezca a sus caprichos (My partner demands obedience to his whims)</li> </ol>	1.44	1.25	.70	.92
5. Se enfada mucho si no hago lo que quiere cuando I quiere (My partner becomes very upset if dinner, housework or laundry is not done when he thinks it should be)	1.59	1.33	.68	.92
<ol> <li>Se cree que soy su esclava (My partner acts like I am his personal servant)</li> </ol>	1.17	1.36	.77	.92
<ol> <li>Se enfada mucho si me muestr o en desacuer do con sus puntos de vista (My partner becomes very angry if I disagree with his point of view)</li> </ol>	1.38	1.34	.69	.92
14. No me presta dinero (My partner is stingy in giving me enough money to run our home)	1.27	1.39	.55	.93
19. No es amable conmigo (My partner is not a kind person)	1.48	1.35	.67	.92
22. Me grita continuamente (My partner screams and yells at me)	1.46	1.38	.71	.92
25. Est siempre dando Irdenes (My partner orders me around)	1.55	1.40	.72	.92
26. Me dice cosas que no se pueden aguantar (My partner has no respect for my feelings)	1.50	1.37	.75	.92
28. Le tengo miedo (My partner frightens me)	1.31	1.40	.73	.92
29. Me trata como si fuera basura (My partner treats me like a dunce)	1.19	1.41	.74	.92
Physical abuse				
<ol> <li>Me fuerza a hacer actos sexuales que no me gustan (My partner makes me perform sex acts that I do not enjoy or like)</li> </ol>	1.18	1.33	.70	.87
7. Me golpea o ara 🗅 (My partner punches me with his fists)	1.12	1.30	.73	.87
<ol> <li>Me amenaza con un arma o cuchillo (My partner threatens me with a weapon)</li> </ol>	.83	1.21	.65	.88
<ol> <li>Me ha llegado a golpear tan fuerte que llegu □a necesitar asistencia m dica (My partner beats me so badly that I must seek medical help)</li> </ol>	1.06	1.33	.70	.87
21. Me exige relaciones sexuales, aunque est□cansada (My partner demands sex whether I want it or not)	1.33	1.36	.69	.88
24. Se vuelve agresivo cuando bebe (My partner becomes abusive when he drinks)	1.34	1.40	.68	.88
30. Act⊡a como si fuera a matarme (My partner acts like he would like to kill me)	1.15	1.42	.70	.87

Convergent validity

Convergent validity tests showed statistically signi cant positive correlations between the scales Nonphysical abuse and Physical abuse and the DSS, RSAS, the global score of the SCL-90-R (GSI), and its various subscales (see Table 4).

TABLE $\Box$ Pearson!s correlations between the scores of the ISA, DS	S,
RSAS, and SCL-90-R.	

Scales Subescales	Nonphysical abuse	Physical abuse
DSS	.44***	.39***
RSAS	.53***	.47***
SCL-90-R GSI	.76***	.78***
SCL-90-R Somatization	.64***	.64***
SCL-90-R Obsessive-Compulsive	.66***	.67***
SCL-90-R Interpersonal Sensitivity	.68***	.71***
SCL-90-R Depression	.69***	.69***
SCL-90-R Anxiety	.71***	.75***
SCL-90-R Hostility	.66***	.67***
SCL-90-R Phobic Anxiety	.69***	.75***
SCL-90-R Paranoid Ideation	.70***	.70***
SCL-90-R Psychoticism	.69***	.74***

\*\*\* p <.001

Differences in abuse depending on educational level and occupation

The ANOVA showed differences in nonphysical abuse depending on educational level (F  $_{2,723} = 75.20$ ; p < .001) and occupation (F  $_{3,719} = 46.20$ ; p < .001) (see Table 5). According to the Scheffe test, women with higher education suffer less nonphysical abuse than those with only primary education (p < .001) or secondary education (p < .001). Homemakers are more abused than students (p < .001), women with unskilled jobs working outside the home (p < .01), and women with skilled jobs (p < .001); the latter report less abuse than students (p < .001) and women with unskilled jobs (p < .001).

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As regards physical abuse, differences were also found depending on educational level ( $F_{2,725} = 92.94$ ; p < .001) and occupation ( $F_{3,720} = 44.76$ ; p < .001) (see Table 5). Women with higher education suffer less physical abuse than those with only primary education (p < .001) or secondary education (p < .001); homemakers suffer more physical abuse than students (p < .001), women with unskilled jobs (p < .001), and women with skilled jobs (p < .001); the latter report less abuse than students (p < .001) and women with unskilled jobs (p < .001).

TABLE 

Differences in nonphysical and physical abuse depending on educational level and occupation.

Dariables		M	SD	F
Nonphysical abuse				
Educational level	Primary Education $(n = 102)$	23.82	11.26	75.20***
	Secondary Education $(n = 234)$	20.86	11.83	
	Higher Education $(n = 390)$	11.75	10.69	
Occupation	Student (n = 130)	16.07	12.34	46.20***
	Homemaker $(n = 205)$	22.65	11.52	
	Unskilled worker $(n = 150)$	18.02	12.34	
	Skilled worker ( $n = 238$ )	10.23	9.44	
Physical abuse				
Educational level	Primary Education $(n = 105)$	12.61	7.06	92.94***
	Secondary Education $(n = 229)$	10.75	7.37	
	Higher Education $(n = 394)$	4.83	5.80	
Occupation	Student (n = 128)	7.96	7.63	44.76***
	Homemaker $(n = 204)$	11.65	7.41	
	Unskilled worker $(n = 148)$	8.37	7.27	
	Skilled worker $(n = 244)$	4.30	5.03	

\*\*\* p < .001

Cut-off points to identify partner abuse

ROC curves were calculated to establish cut-off points in both subscales of the ISA considering the sample of women who had never reported abuse (controls) and women who had reported abuse (cases). The area below the curve was .92 (95% CI: .90-.95) in the Nonphysical abuse subscale and .93 (95% CI: .91-.95) in the Physical abuse subscale, which indicates good validity to detect both types of abuse. For nonphysical abuse, the optimal cut-off

point is 13 (N = 189 cases vs. N = 291 controls), with a sensitivity of 98.90% (95% CI 96.20-99.70) and a speci city of 72.20% (95% CC 66.80-77). For physical abuse, the optimal cut-off point is 8 (N = 190 cases vs. N = 297 controls), with a sensitivity of 87.40% (95% CI 81.9-91.4) and a speci city of 82.50% (95% CI 77.80-86.40).



FIGURE 2. Receiver operating characteristic (ROC) curves of nonphysical abuse and physical abuse.

#### Discussion

The various psychometric studies exploring the factor structure of the ISA do not agree on the number of factors and their item distribution. For this reason, the present study used con Irmatory factor analysis to test seven factor structures proposed in the previous literature: three structures with 30 items distributed into two factors (Hudson and McIntosh, 1981; Plazaola-Casta to et al., 2009; Torres et al., 2010), one with 30 items clustered into three factors (Campbell et al., 1994), one with 22 items clustered into three factors (Sierra et al., 2003), one with 19 items clustered into two factors (Tang, 1998). The latter model of 19 items distributed into two subscales (Nonphy-

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sical abuse: 12 items; and Physical abuse: 7 items) obtained the best  $\Box$ , with an excellent internal consistency reliability (Cronbach!s alpha) in both dimensions: .93 and .89, respectively. Such values are above those shown in the original study by Tang (1998). Characteristic features of nonphysical abuse such as humiliation, demands, anger, lack of kindness or yelling are re  $\Box$ ected in items such as Se cree que soy su esclava (My partner acts like I am his personal servant) or Me dice cosas que no se pueden aguantar (My partner has no respect for my feelings). The dimension of physical abuse clusters items that refer to the use of force, beating, threats or unwanted sexual intercourse, such as Me golpea o ara  $\Box$ a (My partner punches me with his  $\Box$ sts) or Me fuerza a hacer actos sexuales que no me gustan (My partner makes me perform sex acts that I do not enjoy or like).

This reduced two-dimensional version of the ISA, originally proposed by Tang (1998) in a study performed with Chinese women, also shows a better  $\Box$  than other factor structures in Salvadorian women (Sierra, Santos-Iglesias et al., 2010) and Brazilian women (Sierra et al., in press). This, combined to its good  $\Box$  in the Peruvian women of this study, clearly re  $\Box$ ects its consistency across several cultures. The reliability of both subscales was also high, both in Salvadorian and Brazilian samples. This is very important, given that the studies carried out to date suggested that the factor structure of the ISA depended on the sample used, which led to considering the need to adapt it to speci $\Box$ c populations (Torres et al., 2010).

The validity indicators obtained for the measures of this reduced version of the ISA were satisfactory. As expected, both subscales Nonphysical abuse and Physical abuse showed moderated positive correlations with the sexual double standard and rape supportive attitude, which are both considered male chauvinist sexual attitudes (Sierra, Rojas, Ortega, and Mart<sup>III</sup> Ortiz, 2007). This shows that the presence of these attitudes is associated with the experience of partner abuse, as had already been proven in previous studies (Sierra et al., in press; Sierra, Santos-Iglesias et al., 2010). This highlights the need for programs aimed at preventing and treating partner violence to in Luence this kind of sexual attitudes, since they can represent a risk factor for women (Echebur and Fern Indez-Montalvo, 2009; Echebur a, Sarasua, Zubizarreta, and de Corral, 2009; Ortega, SInchez, Ortega-Rivera, Nocentini, and Menesini, 2010; Sierra, Santos-Iglesias et al., 2010). Moreover, both types of abuse showed high correlations with the various psychopathological dimensions of the SCL-90-R, which con Irms the hypothesis of the study. The mental health of women abused by their partners is known to suffer a very signi cant decline (Diez Ulla et al., 2009; Ellsberg et al., 2008; Fletcher, 2010; Ludermir et al., 2008; Walton-Moos et al., 2005). The results obtained in the present study suggest that abused women experience a high level of anxiety and have a depressive emotional status, paranoid thoughts, difculties in their interpersonal relations, and somatic complaints.

Educational level and occupation are variables that have been associated to the experience of partner abuse (Amor et al., 2002; Boy and Kulczcki, 2008; Echebur a et al., 2008; Echebur a, Sarasua, Zubizarreta, Amor, and de Corral, 2010; Echebur a et al., 2009; Sierra et al., in press). Consequently, the present study hypothesized that women with a low educational level and unskilled occupations would score higher in nonphysical abuse and physical abuse. As expected, results show that women with higher education and/or jobs that require this type of studies suffer less abuse than the rest of women, and that homemakers experience the highest level of abuse.

Finally, cut-off points were established for both subscales in order to detect the presence of physical and nonphysical partner abuse. Scores of 13 in nonphysical abuse and 8 in physical abuse as cut-off points reach optimal values of sensitivity and speci city. A comparison between these values and those proposed by Tang (1998) shows that scores are similar in physical abuse. Yet, Tang proposes a much higher score in nonphysical abuse (25). This may be due to the small size of the samples of Chinese women (31 abused women and 41 non-abused women) used in Tang!s study; another possibility is that the scores of the Peruvian women in the present study may be in citenced by social desirability. However, even if this were true, both subscales would be affected, not only the nonphysical scale.

In summary, it can be stated that this reduced Spanish version of the ISA (see Appendix) is valid and reliable and has shown consistency and reliability in samples from different cultures. The cut-off points set as 13 and 8 will make it possible to detect the existence of nonphysical and physical partner abuse, respectively. Therefore, this self-report scale is easy to apply and will be useful in both research and clinical practice.

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MI PAREJA	Nunca	Rara mente	Ocasionalmente	Con frecuencia	Casi siempre
1. Me humilla (NP)	0	1	2	3	4
2. Me exige que obedezca a sus caprichos (NP)	0	1	2	3	4
3. Me fuerza a hacer actos sexuales que no me gustan (P)	0	1	2	3	4
4. Se enfada mucho si no hago lo que quiere cuando 🛙 quiere (NP)	0	1	2	3	4
5. Me golpea o ara 🗅 (P)	0	1	2	3	4
6. Cree que soy su esclava (NP)	0	1	2	3	4
7. Se enfada mucho si memuestro en desacuerdo con sus puntos de vista (NP)	0	1	2	3	4
8. Me amenaza con un arma o cuchillo (P)	0	1	2	3	- 4
9. No me presta dinero (NP)	0	1	2	3	4
10. Me ha llegado a golpear tan fuerte que llegu⊡a necesitar asistencia m⊡dica (P)	0	1	2	3	4
11. No es amable commigo (NP)	0	1	2	3	4
12. Me exige relaciones sexuales, aunque est⊟cansada (P)	0	1	2	3	4
13. Me grita continuamente (NP)	0	1	2	3	- 4
14. Se vuelve agresivo cuando bebe (P)	0	1	2	3	4
15. Est⊟siempre dando ⊡rdenes (NP)	0	1	2	3	4
16. Me dice cosas que no se pueden aguantar (NP)	0	1	2	3	4
17. Le tengo miedo (NP)	0	1	2	3	4
18. Me trata como si fuera basura (NP)	0	1	2	3	4
19. Act 🗈 como si fuera a matarme (P)	0	1	2	3	4

# APPENDI []. Reduced Spanish version of the Index of Spouse Abuse (Hudson and McIntosh, 1981).

Note. NP: Nonphysical abuse; P: physical abuse.