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Development and validity evidence of the Two-Dimensional Sexual Sensation Seeking Scale

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Abstract Sexually transmitted infections (STIs), mainly HIV/AIDS, are acquired through risky sexual behaviors that have been associated with sexual sensation seeking. The purpose of this work is development a new scale for the assessment of sexual sensations seeking, with evidence of validity based on internal structure and relationship to other measures, for use in young people and adults in a Latin American context. An instrumental study was performed, with time-space sampling of students from the two Chilean cities with the highest rates of HIV. Final scale has 9 items to evaluate two dimensions: (1) sexual emotions seeking and (2) tendency to sexual boredom. The identified structure provides good levels of reliability and presents validity evidence, based on the internal structure of the test, using CFA and ESEM. Two-dimensional sexual sensation seeking scale evidence proper psychometric properties to evaluate the seeking for sexual sensations in equivalents samples.

Desarrollo y evidencia de validez de la Escala Bidimensional de Búsqueda de Sensaciones Sexuales

Resumen Las infecciones de transmisión sexual (ITS), principalmente el VIH/SIDA, son adquiridas a través de comportamientos sexuales de riesgo que se han asociado con la búsqueda de sensaciones sexuales. El propósito de este trabajo es desarrollar un nuevo instrumento de medida para evaluar la búsqueda de sensaciones sexuales en jóvenes y adultos en Latinoamérica. Se realizó un estudio instrumental, con un muestreo espacio-temporal en estudiantes de las dos ciudades chilenas con mayores índices de VIH. La escala final contiene 9 ítems para evaluar dos dimensiones: (1) búsqueda de emociones sexuales y (2) tendencia al aburrimiento sexual. La estructura identificada proporciona niveles adecuados de confiabilidad y presenta evidencia de validez, basada en la estructura interna del test, utilizando AFC y ESEM. La Escala Bidimensional de Búsqueda de Sensaciones Sexuales evidencia propiedades psicométricas adecuadas para evaluar la búsqueda de sensaciones sexuales en muestras equivalentes.

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Sexually transmitted infections (STIs), principally human immunodeficiency virus and acquired immunodeficiency syndrome (HIV/AIDS), are considered chronic worldwide health problems. They affect thousands of men, women, and children through serious issues such as acute disability, infertility, and even death (World Health Organization, 2016). In addition, these pathologies, impact people's quality of life, increasing the probability of developing depression and anxiety (Salazar Campos & Valencia Ortiz, 2018) as well other psychological issues associated with perceived threats about the future and life projects (Moodley, Staunton, de Roubaix, & Cotton, 2016).

These consequences are worrying, especially considering that 37.9 million people have been diagnosed with HIV/AIDS worldwide, and that 100,000 new cases were registered in Latin America in 2018, a 7% increase compared to 2010. The countries with the largest increases in incidence between 2010 and 2018 are Chile (34%), Bolivia (22%), Brazil (21%), and Costa Rica (21%) (Joint United Nations Program on HIV/AIDS, 2019). In Chile, the number of confirmed infections progressively increased to a total of 71,000 cases between 1984 and 2018. There was an incidence of 0.27 per 1,000 in 2018 for inhabitants who were mainly concentrated in the first two regions of the extreme north of Chile (Cáceres-Burton, 2019; Joint United Nations Program on HIV/AIDS, 2019).

Most people, infected with HIV, are young (i.e., between 18 and 35 years old), who have a higher frequency of sexual risk behaviours (SRBs) (Barrera-Herrera & Vinet 2017; Cáceres & Pino, 2018). This was the focus group for the epidemiological research (Joint United Nations Program on HIV/AIDS, 2019).

STIs, especially HIV/AIDS, are mainly transmitted through SRBs (e.g., sexual activity with multiple partners, inappropriate use of protective barriers, and sexual activity under the influence of alcohol or drugs), which increase both the probability of acquiring STIs and unwanted pregnancies (Ferrer-Urbina et al., 2018). Therefore, the prevention of STIs and/or HIV/AIDS requires these behaviours to be identified and explained (Orcasita, Uribe, Castellanos, & Gutiérrez, 2012).

As part of this context, research has focused on identifying variables to increase the understanding of the SRBs, and several personality traits stand out (Allen & Walter, 2018; Fernández et al., 2013; Teva, Bermúdez, Ramiro, & Buela-Casal, 2012; Wang et al., 2020). Personality traits have shown consistent relationships with SRBs, principally factors such as sensation seeking and sexual sensation seeking (Charnigo et al., 2013; Danko, Buzwell, & Earle, 2016; Heidinger, Gorgens, & Morgenstern, 2015; Xu, Zheng, Liu, & Zheng, 2016), which could be a better predictor, compared to general personality factors, because they are closer to the behaviour of interest (Anglim & Grant, 2014; Anglim & O'Connor, 2019; Ashton, Paunonen, & Lee, 2014; Paunonen, Haddock, Forsterling, & Keinonen, 2003).

Zuckerman (1971) defines sensation seeking as the tendency to seek new, varied, and complex experiences and sensations, involving physical and social risks, to simply enjoy such experiences. This is measured by the Sensation Seeking Scale, which is designed to assess four dimensions (thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility) (Zuckerman, 1971). Since this approach has a broad scope, it is a weak predictor when constrained to more specific domains such as sexuality (Anglim & Grant, 2014; Anglim & O'Connor, 2019;

Ashton, Paunonen, & Lee, 2014; Paunonen et al., 2003). For that reason, Kalichman et al. (1994) designed the Sexual Sensations Seeking Scale.

The Sexual Sensations Seeking Scale is a one-dimensional scale designed to assess sensation seeking in sexual domains; it can be defined as seeking sexually novel experiences to obtain the optimal sexual arousal. This scale has been used in a wide variety of research, evidencing consistent relationships with SRBs (Burri, 2017; Gullette, Booth, Wright, Montgomery, & Stewart, 2014). The original version comprises nine items (e.g., "The physical sensations are the most important thing about having sex" or "I am interested in trying out new sexual experiences") and shows evidence of validity based on the relationship with other variables (convergent and discriminant) and reliability reports ($\alpha > .75$). In a later revision, Kalichman and Rompa (1995) decided to modify the scale in order to increase the internal coherence by discarding two items (e.g., "I have made promises I did not mean to keep to get a person to have sex with me" and "I have felt curious about having anal intercourse without a condom") and adding four new items that included physical aspects not previously considered (e.g., "The physical sensations are the most important thing about having sex", "I enjoy the sensation of intercourse without a condom", "My sexual partners probably think I am a "risk taker"", and "When it comes to sex, physical attraction is more important to me than how well I know the person").

The 11-item original version has been applied to samples of men who have sex with men (Kalichman & Rompa 1995) and heterosexual undergraduate students (Gaither & Sellbom, 2003). This scale has also been adapted and validated for use in Spain, specifically for adolescents (Ballester-Arnal, Ruiz-Palomino, Espada-Sánchez, Morell-Mengual, & Gil-Llario, 2018; Teva & Bermúdez, 2008), young undergraduate students (Santos-Iglesias, Moyano, Castro, Granados, & Sierra, 2018), and gay, lesbian, and bisexual people (Gil-Llario, Morell-Mengual, Giménez-García, Salmerón-Sánchez, & Ballester-Arnal, 2018), as well as Mexican married or cohabiting adults (de la Rubia, 2018) and Portuguese adults (Pechorro et al., 2015). Although this scale, with its respective validations studies in other contexts, has reported proper psychometric properties, the original one-factor dimensionality of the scale has been discussed in most studies. We have noted the presence of a second factor, characterized by the physical sensation of attraction and formed by different sets of items that depend on the validation study. These different proposals for the factorial structure of the instrument show a difficulty in interpreting the scores; furthermore, they do not completely represent Zuckerman's (1971) theoretical background since Kalichman and Rompa's (1995) revised instrument, in both its one- and two-dimensional versions, did not consider important dimensions such as susceptibility to boredom.

In this context, the available measuring instruments have presented an unstable structure and restricted the multidimensionality offered by the original general proposal (Zuckerman, 1971). Therefore, given the limitations in the available studies and considering that the development of measurement instruments in a specific culture may present greater advantages over linguistic adjustments (Cohen, Gafni, & Hanani, 2007), as well as the need to provide evidence of reliability and validity specific to each culture (Vázquez, 2014), the purpose of this work is to develop a new scale for the assessment of sexual sensations

seeking, with evidence of validity based on internal structure and relationship to other measures, for use in young people and adults in a Latin American context, which allows an adequate understanding of the observed scores and, consequently, provide ethical guarantees to support the conclusions and decisions, derivates from the measurement process (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014). In order to promote the development of research and intervention related to HIV/AIDS prevention in at-risk populations.

Scale development

For the test build, we used the Muñiz and Fonseca-Pedrero (2019) guideline. First, we reviewed the available definitions of the sensation seeking construct, and we chose Zuckerman (1971) and Kalichman et al. (1994) for the theoretical background regarding the sexual domains. This was operationalized as "the seeking of novel sexual emotions that imply adequate levels of arousal and that are in a opposite direction to repetitive and/or conventional sexual practices". Excluding the dimensions closest to the concept of impulsivity (Márquez, Cavalcante Souza, Paramio Leiva, Zayas García, & Guil Bozal, 2017), we initially suggested a new proposal containing three specific dimensions to evaluate sexual sensation seeking through (1) novel sexual emotion seeking, defined as the need to explore different emotions/sensations through novel sexual practices, which implies adequate levels of sexual excitement for each person; (2) risky sexual emotion seeking, defined as the seeking of intense emotions/sensations, through risky sexual practices; and (3) a tendency for sexual boredom, defined as the aversion to repetitive and/or conventional sexual practices.

Based on these definitions, we wrote 60 items, which were evaluated by expert judges and contrasted in a pilot study with a small sample of young undergraduate students (n = 110). The details of the final phases of the test building process, including the psychometric properties and the final version of the test, are reported in the method and results section.

Method

Design and participants

This study has a cross-sectional and instrumental design (Ato, López, & Benavente, 2013).

We used a time-space sampling, which has proved to be useful in studies on topics related to sexual risk behaviours (Semaan, 2010). The final sample was 770 young people and adults from public universities in the main cities in the far north of Chile: Arica (n = 426) and Iquique (n = 344). 87.9% (N = 677) claimed be heterosexual, 82.5% (n = 635) claimed to have had sex in the last two years, and 60.3% (n = 464) claimed to currently have at least one sexual partner. In Arica, 305 (71.6%) were women and 117 (27.5%) men, with a mean age of 22.2 years (SD = 3.57); in Iquique, 202 (58.7%) were woman and 139 (40.4%) men, with a mean age of 21.1 years (SD = 2.81).

Instruments

We used a two-dimensional sexual sensation seeking scale (2-SSS). This was initially designed to assess three dimensions, but it the final version assesses two dimensions: (1) Sexual Emotion Seeking, and (2) Tendency for Sexual Boredom. The scoring system is a Likert scale of four ordered categories (1 "Strongly disagree" - 4 "Strongly agree") about attitudinal statements.

Initially, 60 items were created (20 for risky sexual emotions seeking, 20 for novel sexual emotion seeking, and 20 for tendency to sexual boredom), which were evaluated by three expert judges (one judge experienced in psychometry and two professional health judges) who individually scored each of the items in relation to grammatical suitability (clarity and coherence) and their representativeness to the sexual sensation seeking construct. Both grammatical suitability and representation were assigned a score of "1, 0, or -1", where "1" meant grammatical suitability and adequate representation of the item in the construct. The means of the scores given by the judges were calculated and all those items with averages less than or equal to 0 were eliminated. The expert judges suggested keeping 36 items, with which we developed an online pilot application for samples of university students (n = 110). Then, the scale was debugged iteratively based on the analysis and reliability of the items (i.e. those items with values lower than .30 in the corrected homogeneity coefficient were eliminated and which presented low internal consistency $\omega < .80$ or $\alpha < .70$; Cho & Kim, 2015). Finally, we applied a 27-item version for this study (see supplementary materials). The final version and its psychometric evidences are reported in the results section.

We used a scale of risk behaviours (Ferrer-Urbina, et al., 2018): a 12-item scale designed to assess three dimensions of sexually risky behaviours, (1) sexual activity with multiple partners (items = 4); (2) inadequate or insufficient use of protective measures (items = 4); and (3) sexual activity under the influence of alcohol or drugs (items = 4). The scoring system is a four-point Likert scale (0 "never" - 3 "always") about behavioural statements and only includes behaviour reported in the last two years. The scale showed evidence of validity based on internal structure and adequate reliability ($\omega > .80$) (Ferrer-Urbina et al., 2018).

Procedure

This research was approved by the Scientific Ethics Committee at Universidad de Tarapacá.

Eight fourth- and fifth-year psychology students were trained to provide instructions, answer participants' questions, and apply written questionnaires in two cities: Arica and Iquique. Surveyors contacted study subjects in recreational areas (e.g., reading areas, indoor courtyards, libraries, etc.) in higher education institutions. Participants were explained the objectives of the study and they were invited to provide immediate answers. We had previously gained informed consent, which detailed the research objectives, participant's rights, anonymity, and confidentiality. Anonymity was safeguarded by anonymous return in a sealed envelope, and no personal identification was required. The response procedure lasted less than 15 minutes, and no reward was involved.

Statistical analysis

To establish evidence of validity based on the internal structure of the scale, we used exploratory structural equation modelling (ESEM) with TARGET rotation (Asparouhouv

& Muthén, 2009) and a robust weighted least squares estimation method (WLSMV), which is robust with non-normal discrete variables (Asparouhouv & Muthén, 2007). In addition, we employed second order confirmatory factor analysis (CFA), using a WLSMV estimation method to assess the plausibility of the integration of scale dimensions. The analyses were carried out using the polychoric correlations matrix, which is adequate for the treatment of ordinal variables (Barendse, Oort, & Timmerman, 2015). We assessed the general fit of the model following the cut point recommendation proposed by Schreiber (2017) in the following indicators: Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Mean Quadratic Approach Error (RMSEA) (e.g., CFI > .95; TLI > .95; RMSEA <. 06). The ESEM and CFA analyses were performed on the same sample since both have the same purpose: to confirm the factorial structure of the instrument. We estimated reliability for each dimension through Cronbach's alpha and McDonald's hierarchical omega coefficients. To assess the stability of the scale for subjects of a different gender, we performed metric and scalar invariance tests; there were decreases in CFI under .005 and increases in RMSEA under .010 as evidence of invariance (Chen, 2007). Finally, we established evidence of validity based on the relationship with other variables, using a structural equation model of the relationship between the scale dimensions and the dimensions of the Scale of Risk Behaviours (Ferrer-Urbina et al., 2018), which used the WLSMV estimation method and the polychoric correlations matrix. All the analyses were carried out using the Jamovi (9.0) and Mplus (8.0) statistical software.

Results

Table 1 shows the fit indicators of three ESEM measurement models, an (M1) original version (three dimensions with 26 items), a (M2) middle debugged version (two dimensions with 15 items), and a (M3) final debugged version (two dimensions with 9 items). Additionally, M3 was tested in a second order CFA version (M4).

According to the most common fit criteria in the specialized literature (CFI > .95; TLI >.95; RMSEA <.06: Schreiber, 2017), the original model (M1) is not an explanation enough for the observed covariations matrix. For this, we proceeded to review the initial factorial structure since the factors *risky sexual emotions seeking* and *novel sexual emotion seeking* presented a considerable number of items with strong

cross-loadings. Therefore, some items were eliminated, and both factors were combined in a new dimension (M2) called sexual emotions seeking. This assumed an improvement in the explanation of the observed covariations matrix, albeit below the expected standards (e.g., CFI > .95; TLI > .95; RMSEA > .050: Schreiber, 2017). Subsequently, the M2 was debugged by considering three criteria: (1) selection of strong factorial loads (λ > .50); (2) removing redundant items; and (3) removing items with strong cross-loadings (> .30).

The final debugged scale has nine items divided into two dimensions: Sexual Emotion Seeking (four items) and Tendency for Sexual Boredom (five items). The fit statistics (Table 1), both comparative (e.g., CFI; TLI) and absolute (e.g., x2/gl; RMSEA), suggest that the debugged ESEM (M3) and Second Order CFA (M4) models are good population representations of the observed relationships. Factor loadings, factor covariances, and reliability estimates for each dimension are presented in Table 2.

The factorial loadings show adequate representations for each factor (λ > .50), and they have low levels of cross-loadings ($\lambda \leq$ .30). Structural relationships between sexual emotion seeking and tendency to sexual boredom are high (r > .50; Cohen, 1988). Reliability estimates are adequate, or at least sufficient (α > .70; Cho & Kim, 2015), depending on whether McDonald's hierarchical Omega or Cronbach's Alpha is used.

Table 3 shows the results of the invariance tests for the final version of the scale (M4) for men and women. The CFI and RMSEA deltas show considerable fit changes in the metric or scalar model compared to the configuration model, indicating that the equivalence between factor loadings and factor intercepts does not have the same meaning between groups. It can, therefore, be assumed that factor loadings and factor intercepts do not behave equivalently between groups.

Finally, table 4 shows the relationships between the latent dimensions of the Spanish-speaking scale of sexual sensation seeking and scale of risk behaviours. The proposed model has adequate fit (CFI =.973; TLI =.968; RMSEA =.038). According to the observed relationships, Sexual Emotion Seeking has medium (>.30; Cohen, 1988) and large (>.50; Cohen, 1988) direct effects on risky sexual behaviours. This proves to be statistically different from 0 in the population, while Tendency for Sexual Boredom also has large direct effects (>.50; Cohen, 1988) on risky sexual behaviours, with exception of the relationship between TSB and IUPB, which is small and non-statistically significant.

Table 1   Global fit of measurements models

| Model | N Par | χ^2 | df | p | CFI | TLI | RMSEA | RMSEA CI 90% | |
								Low	Upp
M1	153	1145.768	250	.000	.938	.920	.066	.063	.070
M2	74	485.427	76	.000	.945	.914	.082	.075	.089
M3	44	63.276	19	.000	.986	.974	.054	.039	.068
M4	37	70.981	26	.000	.986	.981	.046	.034	.059

Note: M1 = ESEM with 27 items and 3 dimensions; M2 = ESEM with 15 items and 2 dimensions; M3 = ESEM with 9 items and 2 dimensions; M4 = second order confirmatory factor analysis with 9 items. N° Par = number of parameters; x2 = chi-square; df = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation. CI = confidence interval; Low = lower; Upp = upper.

Table 2   Standardized factorial loadings, factorial covariations and reliability coefficients (Cronbach´s Alfa and McDonald´s omega) for each dimension

Original item in Spanish for Chilean sample (untested translation for understanding purposes only)	SES	TSB
Sexual Emotion Seeking (SES)		
Me gustaría tener encuentros sexuales casuales/ocasionales con desconocidos(as). (I would like to have casual/occasional strangers (as) sexual encounters.)	**.790****	.005
Me gustaría usar alguna(s) droga(s) para sentir cosas nuevas durante el sexo. (I would like to use some drug (s) to feel new things during sex.)	**.659****	.121
Me gustaría practicar juegos de sometimiento o dominación con mis parejas sexuales. (I would like to practice subjection or domination games with my sexual partners.)	**.882****	-.027
Me gustaría tener relaciones sexuales alocadas e impulsivas. (I would like to have wild and impulsive sex.)	**.614****	-.009
Tendency to sexual boredom (TSB)		
Me aburriría limitarme a solo una pareja sexual. (It would bore me to limit myself to just on sexual partner.)	.053	**.801****
Necesito cambiar de pareja para sentirme complacido sexualmente. (I need to change partners to feel sexually pleased.)	-.081	**.773****
Me gustaría realizar mis fantasías sexuales junto a mi pareja. (I would like to realize my sexual fantasies together with my partner.)	-.131	**.710****
Me disgusta cuando mi pareja no desea tener sexo (I dislike it when my partner does not want to have sex.)	-.022	**.799****
Me aburriría tener relaciones sexuales todos los días. (I would be bored having sex every day.)	.224	**.631****
Factorial covariations		
ESEM debugged (M3)	.703**	
Reliability estimators		
Alpha (α)	.702	.702
Omega (ω)	.708	.721

Note: Factorial Loading >.4 are bolded; **p < .01; *p < .05. SES = Sexual emotion seeking; TSB = Tendency to sexual boredom.

Discussion

The purpose of this study was to develop a multidimensional scale to assess sexual sensation seeking to be used in young people and adults. The statistical fit of the final model (M3), the size of the factorial loadings, and the absence of meaningful cross-loadings, allow the model's structure to be supported. The evidence is valid, based on the internal structure for the proper interpretation of the dimensional scores. Additionally, reliability coefficient estimations allow us to support the fact that each dimension has an adequate internal consistency level, which minimizes measurement errors.

In terms of the validity evidence based on the relation with other variables, the relationships between the dimensions of the Two-Dimensional Sexual Sensation Seeking Scale and the Scale of Risk Behaviours are as expected, according to the specialized literature (Burri, 2017, Gaither & Sellbom, 2003; Gullette et al., 2014). The only exception is the relationship between the dimensions of Tendency for Sexual Boredom and inadequate use of protective barriers, which is small and not statistically significant.

Table 3   Measurement invariance testing

	N par	x^2	DF	P	CFI	RMSEA	Δ_{x2}	Δ_{DF}	$P_{\Delta x2}$	Δ_{CFI}	Δ_{RMSEA}
Configural	56	203.84	52	.000	.898	.085	---	---	---	---	---
Metric	49	252.76	59	.000	.870	.090	48.913	7	.000	.028	-.005
Scalar	42	276.19	66	.000	.859	.089	72.438	14	.000	.039	-.001

Note: $\chi 2$: chi-square; gl: degrees of freedom; p: significance; $\Delta\chi 2$: change in chi-square; Δgl: change in degrees of freedom; Δp: change in significance.

Table 4 *Standardized relationships between latent dimensions of the two-dimensional scale of sexual sensation seeking and scale of risk behaviors*

	SAMP	IUPB	SAIAD
Sexual emotion seeking	.333**	.735**	.305**
Tendency to sexual boredom	.577**	.152	.510**

Note: **p < .01; *p < .05. SAMP = sexual activity with multiple partners; IUPB = inappropriate use of protective barriers; SAIAD = sexual activity under the influence of alcohol or drugs.

The proper statistical fit of the second-order model (M4) and observed factorial covariations in ESEM model (M3) allow us to use the Two Dimensional Sexual Sensation-Seeking Scale in both its two-dimensional and one-dimensional form: this measuring instrument is able to reflect the sexual sensation seeking construct through specific dimensions (Sexual Emotion Seeking and Tendency for Sexual Boredom) that represent most of Zuckerman's theoretical background (1971) in a unidimensional way that represents Kalichman et al.'s (1994) initial proposal. Although, the two-dimensional model reported in this study and the models presented in the validation studies carried out by Santos-Iglesias et al. (2018), Ballester-Arnal et al. (2018) and Gil-Llario et al. (2018) address seeking novel experiences and have adequate psychometric properties, they differ through the substantial content of the second dimension. The validation studies identify this as the sensation of physical aspects. This dimension contains items (e.g., "I enjoy the sensation produced by sexual relations without a condom") that could correspond to another construct such as risky sexual behaviour, which may not be expressing the true values of the associations between these two different constructs.

According to invariance standards suggested by Chen (2007), it is not possible to support metric and scalar invariance of the measurements between genders. Caution should therefore be exercised in interpreting levels of sexual sensation seeking when making comparisons between men and women. Although this result is contrary to the findings in the sexual sensations seeking scale, validation studies have shown complete or partial invariance by gender in the adult Mexican population and the Spanish population of adolescents and gay, lesbian or bisexual persons (Ballester-Arnal et al., 2018; Gil-Llario et al., 2018; de la Rubia, 2018). This is consistent with the previous validation study by Santos-Iglesias et al. (2018) on Spanish adults. This discrepancy could be related to cultural and social aspects, which influence men's and women's behaviour. Multiple studies show that heterosexual men manifest higher levels of sexual sensation seeking than heterosexual women (Burri, 2017; Flanders, Arakawa, & Cardozo, 2013; Gaither & Sellbom, 2003; Martín, 2017). This result holds when heterosexual men are compared with homosexual men (Gil-Llario, Morell-Mengual, Ballester-Arnal, Giménez-García, & Castro-Calvo, 2015). Based on the theory of social roles (Chrisler & McCreary, 2010), certain sexual behaviours are accepted for one gender and rejected for the other. This is because each gender faces a different socialization: women are characterized by greater affection and expressiveness (Pascoal, Lopes, & Rosa, 2019), while men are characterized by the achievements and instrumentalization of the sexual act (Vanwesenbeeck, 2013).

The main restrictions of this study correspond to the size and representativeness of the sample; therefore, it is important to make new psychometric studies using this scale to increase the capacity of its generation, mainly for higher risk populations (adolescents, people with substance use disorders, men who have sex with men, sex workers, etc.). In order to obtain additional evidence of validity and representativeness, we recommend applying this instrument in health, medical, and educational contexts. Including this scale in an assessment protocol in health services or educational establishments will make it possible to evaluate the need for the application of specific psychological techniques, such as self-control or training to identify risky behaviour. Furthermore, the information provided by this measurement instrument could also be useful to identify groups of subjects that require targeted preventive interventions. Consequently, designing current interventions and strategies that promote sexual health among young people and young adults will be complemented and improved.

Finally, despite the limitations, the present scale not only constitutes a new brief instrument developed with contemporary psychometric techniques, but it also establishes an updated proposal to evaluate sexual sensation seeking as a specific aspect of the personality, which shows evidence about its effects on risky sexual behaviours SRBs (Allen & Walter, 2018; Burri, 2017; Gullette et al., 2014; Fernández et al., 2013; Teva et al., 2012; Wang et al., 2020).

Conclusions

The final version (nine items) of the Two-Dimensional Sexual Sensation Seeking Scale (2-SSS) shows evidence of reliability and validity based on the internal structure of the test and on the convergence with other measures. Initial evidence suggests that the current scale constitutes an alternative to assess sexual sensation seeking; in addition, it can be used to develop research on the psychological factors involved in sexual behaviours.

Acknowledgments

Conflict of Interest

The authors of this article declare no conflict of interest.

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