Sexual Functioning in Spanish and Portuguese Young Adults: Initial Validation of the Arizona Sexual Experience Scale

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SEXUAL FUNCTIONING IN YOUNG ADULTS

Abstract

Objectives: We conducted an initial validation of the Arizona Sexual Experience Scale (ASEX) and examined the sexual function of Spanish and Portuguese young adults. **Methods:** Participants were 523 Spanish and 595 Portuguese heterosexual young adults who completed a background questionnaire, the ASEX, and measures of sexual sensation seeking, excitation and inhibition. **Results:** The ASEX showed good reliability and validity. Participants reported good sexual function. The most prevalent difficulties in men were related to desire and orgasm, and to orgasm and satisfaction in women. **Conclusions:** Sexual health programs for adolescents should incorporate sexual function given its importance in their sexual life.

Keywords: Sexual functioning, Sexual difficulties, Young adults, Validation, Arizona Sexual Experience Scale

Sexual Functioning in Spanish and Portuguese Young Adults

Sexual functioning is an important component of sexual health that relates to interpersonal relationships, sexual well-being and quality of life (Lauman, Paik, & Rosen, 1999; World Health Organization, 2010). This has led to growing interest in the study of sexual functioning and problems associated with sexual dysfunction (DeRogatis, 2008; World Health Organization, 2002). Studies to date show a high prevalence of sexual problems and dysfunctions in general population (Simons & Carey, 2001). Laumann et al. (1999) found that sexual problems affected 31% of men and 43% of women, also finding that women reported higher prevalence of sexual dysfunctions than men did. Among men, the most prevalent problems were premature ejaculation, erectile problems and problems related to orgasm, whereas among women, the most frequent were lack of interest, inability to achieve orgasm, and sexual pain (Casas Aranda et al., 2007; Farmer & Meston, 2007; Gomes & Nobre, 2014; Laumann et al., 1999; Mercer et al., 2003; Peixoto & Nobre, 2015). While some other variables that are related to sexual health, such as sexual risk behaviors and STIs, have been the focus of research in adolescents and young adults for decades, the study of sexual function in this population has received very little attention (O´Sullivan, Brotto, Byers, Majerovich, & Wuest, 2014; O´Sullivan & Majerovich, 2008). In a study conducted in Canada (Fisher & Boroditsky, 2000) with women between 18 and 29 years, 33% of the participants reported lack of sexual desire, 22% had experienced sexual pain, and 31% had trouble reaching orgasm. O'Sullivan and Majerovich (2008), in a study conducted with men and women between 17 and 21 years, found that 32.6% of men or more and 61.4% of women or more had experienced at least one sexual difficulty in their lives. However, the authors found that chronic sexual difficulties were very rare and overall sexual function was positive. In this study, 48.7% of men had had problems maintaining an

erection, 43.6% had suffered premature ejaculation, and 32.6% reported sexual pain during intercourse. Among the women, 86.7% had had difficulty achieving orgasm, 81.2% had lost interest in sex, and 75.8% had experienced lubrication problems. Recently, O'Sullivan et al. (2014), using a sample of adolescents from 16 to 21 years, found that 51.1% of the adolescents who participated in their study had suffered sexual problems. The most common problems in women were low sexual interest (26-43%), inability to reach orgasm (18-41%), and low arousal (16-38%), and in men, premature ejaculation (12-31%), erectile problems (13-28%), and low sexual interest (13-28%). Overall, these findings suggest high prevalence of sexual difficulties in adolescents and young adults and also a great variability in the results from different studies. The results found in studies with adolescents and young adults are somewhat similar to those obtained with general population. Based on this some authors have suggested that the first sexual experiences can set the basis for adult sexual functioning (Koch, 1988; O´Sullivan & Majerovich, 2008), justifying the study of sexual functioning in adolescence and young adulthood as a way to prevent and manage sexual problems in adulthood.

To date, the study of sexual function in adolescents and young adults is still sparse and most research has been conducted in Canada and the United States. In Spain and Portugal there is very little research examining sexual functioning. Most of the research that exists has focused on only one area of sexual functioning, such as sexual satisfaction or sexual desire, and has examined some aspects other than its prevalence (Carrobles, Gámez-Guadix, & Almendros, 2011; Santos-Iglesias, Calvillo, & Sierra, 2013). Other studies have focused on the study of sexual functioning but have used samples from the general population without examining adolescents and young adults in particular (Casas Aranda et al., 2007; Gomes & Nobre, 2014;

Martín-Morales et al., 2001; Peixoto & Nobre, 2015; Sierra, Vallejo-Medina, Santos-Iglesias, & Lameiras Fernández, 2012; Teles et al., 2008).

Arizona Sexual Experience Scale

Sexuality research conducted in Spain and Portugal has faced another difficulty, that is the scarcity of available instruments to assess sexual functioning. Of the large number of instruments that have been developed for the assessment of sexual function in English-speaking contexts, only a few of them are available in Spanish and Portuguese language. Some of the existing ones are long and intrusive (Pechorro, Diniz, Almeida, & Vieira, 2009; Bobes et al., 2000); were designed to specifically assess sexual function in either men or women (IIEF; Quinta Gomes & Nobre, 2012); or have been validated or used only in clinical samples (Ávila Escribano, Pérez Madruga, Olazábal Ulacia, & López Fidalgo, 2004; García-Portilla et al., 2011; Vallejo-Medina & Sierra, 2012).

McGahuey et al. (2000) developed the Arizona Sexual Experience Scale (ASEX) as a valid, reliable, short, easy-to-use, nonintrusive and with clinical utility. The ASEX is composed of five items that assess five basic areas of sexual functioning in men and women regardless of their sexual orientation: desire, arousal, erection/vaginal lubrication, ability to reach orgasm, and satisfaction with orgasm. The male and female versions differ on the third question. Items are rated on a scale with six response options, ranging from 1 (*hyperfunction*) to 6 (*hypofunction*). Both item and global scores can be interpreted, with higher scores indicating greater sexual dysfunction. McGahuey et al. (2000) proposed that a global score greater than or equal to 19, a score greater than or equal to 5 on any item, or any three items with a score greater than or equal to 4, were indicative of sexual dysfunction.

The ASEX has some appropriate characteristics for a scale developed to assess sexual dysfunction (DeRogatis, 2008; Meston & DeRogatis, 2002). Previous studies have shown adequate values of internal consistency reliability (α = .90) and test-retest reliability (*r* = .80 - .89). It has shown sensitivity and specificity to discriminate sexually functional and dysfunctional individuals (McGahuey et al., 2000). The scale has been subsequently validated in different countries (e.g., France, China, Turkey, Brazil, Tunisia) and with different clinical samples (e.g., anxiety, depression, schizophrenia, Parkinson, kidney patients; Briki et al., 2014; Byerly, Nakonezny, Fisher, Magourik, & Rush, 2006; Jitkritsadakul, Jagota, & Bhidayasiri, 2014; Lin, Juang, Wen, Liu, & Hung, 2012; Nakhli et al., 2014; Nunes et al., 2014; Soykan, 2004), showing its utility regardless of cultural differences or medical conditions.

The Present Study

The present study had two objectives. The first goal was to conduct an initial validation of the Spanish and Portuguese translations of the Arizona Sexual Experience Scale. For this purpose, we translated the ASEX into Spanish and Portuguese (see Method for description of translation) and we examined the psychometric properties of each version separately. First, we examined construct validity through an exploratory factor analysis, and we also examined whether the male and female versions were equivalent across country by testing measurement invariance. Then, we analyzed the scale's internal consistency (Cronbach's alpha) and item properties (i.e., mean, standard deviation, and item-total corrected correlation). In order to determine concurrent validity, the relationship between the ASEX scores and a series of associated constructs was examined. To determine divergent validity, we examined the correlation of the scale with constructs that are not associated with sexual functioning. Finally, using ROC curves, we examined discriminant validity by analyzing the ability of the scale to

differentiate people who had suffered some sexual difficulties from those who had not. We made the following predictions:

H1: Better sexual functioning would be related to higher *sexual excitation* (Bancroft, Graham, Janssen, & Sanders, 2009), higher *sexual sensation seeking* (Johnson, Phelps, & Cottler, 2004), and to lower *sexual inhibition due to the threat of performance failure* (Bancroft et al., 2009).

H2: Sexual functioning and *sexual inhibition due to the threat of performance consequences* would be weakly or not significantly correlated (Bancroft et al., 2009)

The second goal of this study was to examine sexual functioning in male and female young adults in Spain and Portugal. We predicted that:

H3: Women in Spain and Portugal would report poorer sexual function than men (Laumann et al., 1999).

Methods

Participants and Procedure

Participants were recruited from a mid-size university in Spain and a large-size university in Portugal through a non-random sampling procedure using each university e-mail distribution list for students. Each student registered on these distribution lists received an e-mail with the purpose of the study, the inclusion criteria (i.e., being a university student at the time of the study, ages ranging from 18 to 26 years old), contact information of the principal investigator, and the link to an online survey. Only those participants who gave their informed consent could access the survey. After completing the survey, they indicated whether they would like to receive summary results of the study, and whether they would like to enter a raffle to win an iPad mini™. Those who responded affirmatively to either question gave their name and an e-mail address,

which were stored on a separate, secure database. These studies were approved by the regional Ethics Review Board for Clinical Research in Spain and the university Ethics Board of the Psychology School in Portugal.

The final Spanish sample was composed of 520 heterosexual participants (26.20% men). All participants ranged in age from 18 to 26 years and most of them were in a current romantic relationship. Most participants had had vaginal sexual intercourse and around 20% of participants reported anal sexual intercourse. Sample descriptive statistics for men and women can be found in Table 1. The Portuguese sample consisted of 587 heterosexual young adults (27.40% men). All participants' ages ranged from 18 to 26 years old and the majority was in a current romantic relationship. Most participants had engaged in vaginal intercourse and around 30% had engaged in anal intercourse. Three participants from Spain and eight from Portugal were deleted because they did not have any sexual experience by the time of the study. Descriptive statistics can be found in Table 1. T-test comparisons revealed that men were older, had shorter romantic relationships, were older than women when they had their first vaginal sexual contact, and had a greater number of vaginal sexual partners than women. Comparison of the Spanish and Portuguese samples showed that more Portuguese students had had vaginal and anal sexual relationships than Spanish. Also, Portuguese students were younger, had a greater number of anal sexual partners, and were younger than Spanish when they had their first anal sexual contact.

Measures

Background questionnaire. Used to gather information about gender, age, sexual orientation, relationship status, and relationship length.

Sexual history. We asked participants whether they had engaged in vaginal sexual contacts with penetration, age of first vaginal sexual contact with penetration, and number of vaginal sexual partners. Parallel questions were used to examine anal sexual experience. Participants also reported whether they had experienced any sexual difficulty in their lifetime.

Arizona Sexual Experience Scale (McGahuey et al., 2000). The scale has been described in the Introduction. Participants responded on a scale from 1 (*hyperfunction*) to 6 (*hypofunction*). Because the ASEX do not assess sexual pain, we added another item (i.e., "How strong is your pain in your genitals (your sexual parts) during your sexual activity/intercourse?"). This item was responded using the same response scale from 1 (*No pain at all*) to 6 (*Extremely strong*). However, this item was only used for descriptive purposes and was not included as part of the scale validation.

Sexual Excitation/Sexual Inhibition Scales – Short Form (Carpenter, Janssen, Graham, Vorst, & Wicherts, 2011). The Spanish (Moyano & Sierra, 2014) validation and the Portuguese (Quinta Gomes, Janssen, Pinto-Gouveia, & Nobre, 2016) translation were used in this study. Composed of 14 items to assess sexual excitation (SES), sexual inhibition due to the threat of performance failure (SIS1), and sexual inhibition due to the threat of performance consequences (SIS2). Participants responded on a Likert-type scale ranging from 1 (*Strongly agree*) to 4 (*Strongly disagree*). After reversing items' scores, higher scores indicated greater sexual excitation and inhibition. The scale has good reliability and adequate validity (Carpenter et al., 2011; Moyano & Sierra, 2014; Quinta Gomes et al., 2016). In this study, Cronbach's alpha values in Spain were .79 (SES), .70 (SIS1), and .58 (SIS2) for men, and .80, .72, and .67 for women, respectively. In Portugal, values were .67, .68, and .54 for men, and .72, .58, and .61 for women.

Sexual Sensation Seeking Scale (Kalichman, 2011). The Spanish (Teva & Bermúdez, 2008) and Portuguese (Santos Pechorro et al., 2015) validations were used. It is composed of 10 items to assess sexual sensation seeking on a Likert scale ranging from 1 (*Not at all like me*) to 4 (*Very much like me*). Higher scores indicated greater sexual sensation seeking. Authors reported appropriate validity and reliability (Kalichman, 2011; Santos Pechorro et al., 2015; Teva & Bermúdez, 2008). In the present study, Cronbach's alpha values were .64 for men and .73 for women in Spain, and .57 for men and .55 for women in Portugal.

Development of the Spanish and Portuguese Version of the ASEX

The English version of the ASEX (McGahuey et al., 2000) was translated into Spanish by an expert in sexuality research using a forward translation procedure. Both the translated and the original version were given to a bilingual expert in translating psychological and sexological manuscripts to assure the correspondence between the two versions. Then the Spanish translation was sent to two experts in psychological assessment and sexuality research to identify and suggest changes to items that were not clear and understandable. Changes were made when both experts suggested the same modification. No changes were made in this phase of the study. Finally, the resulting version was given to 10 individuals with characteristics similar to the final sample. They were given the same task as experts in psychological assessment and sexuality research. An 80% of agreement was required to make further changes to the items. No changes were made in this phase either (see Appendix). The same procedure was used for the Portuguese translation.

Results

Arizona Sexual Experiences Scale

Exploratory Factor Analysis

Parallel analysis suggested the extraction of one factor. In Spain, results for the men showed a single factor solution that explained 48.37% of the variance (eigenvalue = 2.42). All factor loadings were greater than .60. For the women, a single factor solution explained 48.26% of the variance (eigenvalue = 2.41) with factor loadings greater than .63. In Portugal, results for the men showed a single factor solution that explained 46.85% of the variance (eigenvalue = 2.34). All factor loadings were greater than .53. For the Portuguese women, a single factor solution explained 50.69% of the variance (eigenvalue = 2.53) and all factor loadings were greater than .67 (see Table 2).

Factorial Invariance

Factorial invariance across country was tested separately for the male and female version of the ASEX with Mplus 7.0 and using a robust maximum likelihood estimator. Four models were assessed: (a) configural invariance constrained the number of factors and the pattern of free and fixed loadings across both groups; (b) weak invariance tested equality of factor loadings across groups; (c) strong invariance tested equality of intercepts for both groups; and (d) strict invariance assumed that residual variances for all items were equal across groups (Dimitrov, 2010; Wang & Wang, 2012). Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values above .90 and Root Mean Square Error of Approximation (RMSEA) under .08 were indicators of good fit (Hu & Bentler, 1999; Wang & Wang, 2012). Additionally, to assess the fit of nested models, we examined the scaled chi-square difference test (Satorra & Bentler, 2010) and changes in CFI values. According to Cheung and Rensvold (2002) a decrease in CFI $\leq$ .01 is a good indicator of measurement invariance.

The results for men showed configural, weak invariance, and partial strong invariance (item 1 was set free to vary across countries). Strict invariance did not hold across country and

the modification indices did not suggest to free any of the residual variances. The results for women showed configural invariance, partial weak invariance (item 2), and partial strong invariance (item 1) (see Table 3). Similar to the male version, strict invariance was not reached.

Item Analysis and Reliability

In Spain, item analysis for men showed mean responses slightly below the theoretical midpoint of the scale and standard deviations below 1.0, which indicates fairly good sexual functioning in all areas, and the items were below desirable levels of discrimination. Corrected item-total correlations were over .25 (Nunnally & Bernstein, 1994), and Cronbach's alpha for the overall scale was .73 (see Table 4). For women, all items showed a mean slightly under the theoretical midpoint of the scale, except for the orgasm item. Standard deviations were below 1.0, except for the orgasm and satisfaction items. All corrected item-total correlations were greater than .25 (Nunnally & Bernstein, 1994), and Cronbach's alpha was .73. In Portugal, item analysis for men showed mean responses below the midpoint of the scale and standard deviations under 1.0, indicating good sexual functioning. Corrected item-total correlations were greater than .25 (Nunnally & Bernstein, 1994), and Cronbach's alpha for the overall scale was .71. In Portuguese women, item means were closer to the midpoint of the scale and standard deviations close or over 1.0, which indicates an average sexual function and items with good discrimination. All corrected item-total correlations were over .25, and Cronbach's alpha was .75 (see Table 4).

Validity

Zero-order correlations were used to examine our concurrent and divergent validity hypotheses. As predicted we found better sexual functioning to be related to higher sexual excitation, lower sexual inhibition due to the threat of performance failure, and greater sexual

sensation seeking both in men and women (H1). On the other hand, as expected, we found that sexual functioning was not correlated or weakly associated with sexual inhibition due to the threat of performance consequences in Spain (H2). Similar results were found in Portugal, except for the relationship between sexual function and sexual inhibition due to the threat of performance consequences, that was statistically significant in both men and women in Portugal (see Table 5).

With respect to discriminant validity of the ASEX, we performed ROC analysis. The criterion standard was whether or not participants reported that they had suffered any sexual difficulty in the past. In Spain, the area under the curve was statistically significant (AUC = .76 ± .05, $p < .001$). A cut-off score of 15 discriminated those who had experienced some sexual difficulty in the past with a sensitivity of .64 and specificity of .80. In Portugal the area under the curve was also significant (AUC = .73 ± .03, $p < .001$). A cut-off score of 15 discriminated those who had experienced some sexual difficulty in the past with a sensitivity of .67 and specificity of .72. A binary logistic regression was used to predict the dependent variable (i.e., having experienced or not a sexual difficulty in the past) from the ASEX score. In Spain, a significant model ($\chi^2 = 25.67$, $p < .001$) correctly classified 72.3% of the sample. The results showed a significant model in Portugal ($\chi^2 = 25.67$, $p < .001$) that correctly classified a 69.7% of the sample. These results indicate that in both samples the ASEX scores could well discriminate participants who had reported some sexual complaint in the past from those who had not.

Sexual Functioning in Male and Female Young Adults

Table 6 shows the score distributions for the different areas of sexual function in Spanish men and women, as well as the percentage of participants that could be classified as having sexual dysfunctions according to McGahuey et al. (2000) criteria. Men showed a good sexual

function overall, however, 7.30% of men could be classified as sexually dysfunctional. The most prevalent sexual problem among Spanish men was their ability to reach an orgasm and the least prevalent one was their level of sexual satisfaction. Overall, women showed poorer sexual function than men. A total of 18.40% of women were classified as having sexual dysfunction. The most problematic area for women was their ability to reach an orgasm and the least frequent was their lubrication. A mixed MANOVA was used to compare each of the areas of sexual function (except erection and lubrication) between men and women. The areas of sexual function were treated as within-subjects factor and gender as a between-subjects factor. Results showed a significant effect for the areas of sexual function, F (4, 477) = 110.35, $p < .001$, $\eta_p^2 = .48$; gender, F (1, 480) = 62.97, $p < .001$, $\eta_p^2 = .12$; and the interaction of area and gender, F (4, 477) = 6.17, $p < .001$, $\eta_p^2 = .05$. All areas of sexual function differed significantly among them ($p < .001$) except for desire and arousal. Follow-up of the interaction effect showed that women scored significantly higher than men in all areas of sexual function ($p < .001$). For men, all areas were significantly different among them ($p < .001$) except for desire and arousal and desire and orgasm. For the women, all areas were significantly different ($p < .001$) except for desire and arousal.

Men in Portugal showed an overall good function, however 4.90% could be classified as having sexual dysfunction. The most problematic area of sexual function was their sexual interest and the least frequent was their ability to reach an orgasm and their sexual satisfaction (see Table 7). Of the 384 women in Portugal, 28.70% were classified as sexually dysfunctional. The most frequent sexual problem was their ability to reach an orgasm and the least frequent was their sexual interest. Same analysis was conducted to compare the areas of sexual function and gender effects. Results showed a significant effect for the areas of sexual function, F (4, 566) =

102.98, $p < .001$, $\eta_p^2 = .42$; gender, F (1, 569) = 80.83, $p < .001$, $\eta_p^2 = .12$; and the interaction of area and gender, F (4, 566) = 9.12, $p < .001$, $\eta_p^2 = .06$. All areas of sexual function differed significantly among them ($p < .001$) except for desire and satisfaction. Follow-up of the interaction effect showed that women scored significantly higher than men in all areas of sexual function ($p < .001$). For the men, all areas of sexual function were significantly different ($p < .001$) except for desire and satisfaction, and arousal and orgasm. For the women, all areas were significantly different ($p < .001$) except for desire and satisfaction only.

Discussion

This study presents the psychometric properties of the first Spanish and Portuguese adaptation of the Arizona Sexual Experience Scale (McGahuey et al., 2000). The scale shows good reliability and validity in general. Additionally, the sexual functioning of Spanish and Portuguese young adults was examined. Results show that participants have overall adequate levels of sexual functioning, although sexual difficulties are reported frequently.

The exploratory factor analysis of the ASEX showed a univariate structure with good reliability in both men and women in Spain and Portugal. The Spanish and Portuguese male and female versions of the ASEX were not completely equivalent. Differences were found in the factor loadings and the intercepts of items 2 and 1, respectively. These could indicate that these items might have different meanings across the two groups and suggest that comparisons based on these items and the factor cannot be made (Gregorich, 2006). Reliability values were lower than those found in previous studies (Briki et al., 2014; Byerly et al., 2006; Jitkritsadakul et al., 2014; Lin et al., 2012; McGahuey et al., 2000; Nakhli et al., 2014; Nunes et al., 2014; Soykan, 2004). These differences could be explained by the use of clinical samples in previous studies. Clinical populations generally score higher in the ASEX and have more than one area of sexual

functioning affected (McGahuey et al., 2000), making the scores of the different items to be more consistent among them. We found that the ASEX could discriminate between participants who had experienced at least one sexual difficulty in the past. However, this does not mean that the Spanish and Portuguese validations can be used as clinical tools for detecting sexual dysfunction already. Future studies should examine their discriminant validity with clinical populations in order to establish clinically significant cut-off scores.

The validity results support the proposed hypotheses (Bancroft et al., 2009; Johnson et al., 2004) for the majority of cases. We expected that sexual function would be weakly or not correlated to sexual inhibition due to threat of performance consequences (SIS2), however we found this association to be significant and moderate in Portugal. Past research indicates that SIS2 could measure a tendency to respond with inhibited sexual function when a threat is present (Janssen & Bancroft, 2007). It might be that the context in which sex occurs for young adults (e.g., lack of sexual experience and sexual education, social pressure to engage in sex; García, Cañadas-De la Fuente, González-Jiménez, Fernández-Castillo, & García-García, 2011; O´Sullivan et al., 2014; O´Sullivan & Majerovich, 2008; van de Bongardt, Reitz, Sandfort, & Dekovic, 2015; Veiga, Teixeira, Martins, & Meliço-Silvestre, 2006) might be perceived as threatening and therefore affects their sexual function. Additionally, a previous study conducted in Portugal has shown that men with erectile dysfunction scored significantly higher on both SIS1 and SIS2 compared to sexually healthy controls (Quinta Gomes, Janssen, Gamesan, & Nobre, 2016). More research is needed to examine the contextual and cultural factors and predictors that affect Spanish and Portuguese young adults' sexual function. Based on these results, we could say that the ASEX provides a fast, simple, and fairly nonintrusive appraisal of the sexual functioning of individuals (McGahuey et al., 2000), meeting most of the US Food and

Drug Administration standards for scales assessing sexual functioning (DeRogatis, 2008). This adaptation, in particular, provides a valid and reliable instrument that can be used in Spain and Portugal and in Spanish and Portuguese-speaking contexts.

The results obtained from the analysis of sexual functioning allow us to draw several conclusions. First, a high percentage of participants show adequate sexual functioning in all the different areas. This allows us to conclude that this sample of university students have levels of sexual function that are appropriate for a young and healthy population. Actually, our results reveal lower rates of sexual difficulties than other studies using young adults from universities (O´Sullivan & Majerovich, 2008) or the general population (Laumann et al., 1999). Second, while sexual functioning is generally positive, there is still a percentage of young adults – between 0.60 and 3.10% of the men and between 1.10 and 22.50% of the women- who report having severe problems in at least one area of sexual functioning (O´Sullivan & Majerovich, 2008). Furthermore, the percentage of participants that are classified has having a sexual dysfunction using the criteria from McGahuey et al. (2000) ranges from 4.90% in Portuguese men to 28.70% in Portuguese women, indicating that despite of the overall good sexual function, sexual dysfunction can have a significant presence in younger adults. However, the percentage of participants reporting sexual difficulties in this study is lower than the percentage found previously in the general population and in other studies with adolescents and young adults (Farmer & Meston, 2007; Fisher & Boroditsky, 2000; Laumann et al., 1999; O´Sullivan et al., 2014; O´Sullivan & Majerovich, 2008; Peixoto & Nobre, 2015). This could be explained by the age difference between the general population and our sample. Older adults have higher rates of biological and psychological problems and unhealthy lifestyles that adversely impact their sexual functioning (Breslin, Karmakar, Smith, Etches, & Mustard, 2007). Differences could also be

explained by the short time frame used to assess sexual functioning in this study (i.e., one week), decreasing the likelihood of participants suffering from sexual problems. Finally, the results also show that women have poorer sexual functioning than men across all different areas (Farmer & Meston, 2007; Fisher & Boroditsky, 2000; Laumann et al., 1999; O´Sullivan & Majerovich, 2008). These differences could be due to biological, psychological, and/or social causes (O´Sullivan et al., 2014; Westheimer & Lopater, 2004). Future studies should examine the reasons for these differences. As found in previous studies (Gomes & Nobre, 2014; Laumann et al., 1999; O´Sullivan et al., 2014; O´Sullivan & Majerovich, 2008; Peixoto & Nobre, 2015; Simons & Carey, 2001), our work shows that the most common problems for women are difficulty achieving orgasm and a lack of satisfaction with orgasms. For men, the most frequent problems were difficulty achieving orgasm and a lack of sexual desire, which is inconsistent with previous studies which indicate that the most frequent problems for men were premature ejaculation and a lack of sexual desire (Laumann et al., 1999; O´Sullivan et al., 2014; O´Sullivan & Majerovich, 2008; Simons & Carey, 2001). However, the ASEX does not distinguish between premature ejaculation and delayed ejaculation, making it difficult to compare our results with previous studies.

Although this study introduces relevant and novel results about the sexual functioning of young adults in Spain and Portugal, these results must be interpreted with caution. First, although this first validation of the ASEX has appropriate psychometric properties, it does not examine areas of sexual functioning, such as premature and delayed ejaculation (American Psychiatric Association, 2013; Peixoto & Nobre, 2014). Future studies need to document other sources of reliability (i.e., test-retest) and validity, such as discriminant validity using clinical samples and construct validity using other scales to assess sexual function. The sample is composed only of

heterosexual young adults and mostly women, which limits the generalizability of the results. Finally, some of the measures used for validation purposes showed low reliability, which could have impacted the results of this study.

Overall, this study fills some gaps in the literature on sexual functioning in Spain and Portugal by providing some relevant data on the sexual problems and dysfunction of young adults. Additionally, it validates a scale for the assessment of sexual functioning in Spanish and Portuguese-speaking contexts. The results show that in spite of the adequate sexual functioning in young adults overall, they also experience some problems in sexual functioning and, therefore, it is a topic of research that needs more attention. Knowledge about the adolescents' and young adults' sexual functioning as well as early detection of sexual problems and dysfunctions is essential to promote a healthy sexual lifestyle. These results can be used to inform the development of sexual health education programs, in which sexual function is frequently neglected.

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Appendix

ASEX Portugal

Para cada um dos seguintes itens indica o teu nível **GLOBAL** durante a **ÚLTIMA SEMANA**, incluindo **HOJE**.

1.- Quão forte (intenso) é o teu desejo sexual?

1	2	3	4	5	6
Extremamente forte (intenso)	Muito forte (intenso)	Algo forte (intenso)	Algo débil	Muito débil	Nenhum desejo sexual

2.- Com que facilidade consegues excitar-te sexualmente?

1	2	3	4	5	6
Extremamente fácil	Muito fácil	Algo fácil	Algo difícil	Muito difícil	Nunca me excito

3.- **(SÓ PARA HOMENS)** Com que facilidade consegues atingir e manter uma erecção?

1	2	3	4	5	6
Extremamente fácil	Muito fácil	Algo fácil	Algo difícil	Muito difícil	Nunca

4.- **(SÓ PARA MULHERES)** Com que facilidade a tua vagina fica molhada (lubrificada) durante as relações sexuais?

1	2	3	4	5	6
Extremamente fácil	Muito fácil	Algo fácil	Algo difícil	Muito difícil	Nunca

5.- Com que facilidade consegues atingir um orgasmo?

1	2	3	4	5	6
Extremamente fácil	Muito fácil	Algo fácil	Algo difícil	Muito difícil	Nunca consigo atingir orgasmo

6.- Quão satisfatórios são os teus orgasmos?

1	2	3	4	5	6
Extremamente satisfatórios	Muito satisfatórios	Algo satisfatórios	Algo insatisfatórios	Muito insatisfatórios	Não consigo atingir orgasmos

ASEX Spain

Para cada uno de los siguientes ítems indica tu nivel **GLOBAL** durante la **ÚLTIMA SEMANA**, incluyendo **HOY**.

1.- ¿Cómo de fuerte (intenso) es tu deseo sexual?

1	2	3	4	5	6
Extremadamente fuerte (intenso)	Muy fuerte (intenso)	Algo fuerte (intenso)	Algo débil	Muy débil	Ningún deseo sexual

2.- ¿Con qué facilidad logras excitarte sexualmente?

1	2	3	4	5	6
Extremadamente fácil	Muy fácil	Algo fácil	Algo difícil	Muy difícil	Nunca me excito

3.- **(SOLO PARA HOMBRES)** ¿Con qué facilidad puedes conseguir y mantener una erección?

1	2	3	4	5	6
Extremadamente fácil	Muy fácil	Algo fácil	Algo difícil	Muy difícil	Nunca

4.- **(SOLO PARA MUJERES)** ¿Con qué facilidad se humedece (lubrica) tu vagina durante las relaciones sexuales?

1	2	3	4	5	6
Extremadamente fácil	Muy fácil	Algo fácil	Algo difícil	Muy difícil	Nunca

5.- ¿Con qué facilidad puedes lograr un orgasmo?

1	2	3	4	5	6
Extremadamente fácil	Muy fácil	Algo fácil	Algo difícil	Muy difícil	Nunca consigo un orgasmo

6.- ¿Cómo de satisfactorios son tus orgasmos?

1	2	3	4	5	6
Extremadamente satisfactorios	Muy satisfactorios	Algo satisfactorios	Algo insatisfactorios	Muy insatisfactorios	No puedo conseguir orgasmos

Table 1

Sociodemographic characteristics of the Spanish and Portuguese samples

Variable	Spain				Portugal				Gender	Country
	Men		Women		Men		Women			
	M / %	*SD*	*M* / %	*SD*	*M* / %	*SD*	*M* / %	*SD*	F/χ^2	F/χ^2
Age	21.97	2.13	21.48	2.11	21.27	2.23	20.71	2.06	12.99***	26.12***
Romantic relationship (Yes)	64.90%		66.90%		64.00%		67.40%		0.73	.01
Length (years)	2.41	1.82	3.00	2.00	2.49	1.71	2.82	1.86	6.97**	0.07
Vaginal sexual contact (Yes)	93.30%		93.90%		92.50%		89.40%		0.52	4.47*
Age of first contact	17.54	1.73	17.07	1.66	17.38	2.01	17.15	1.77	7.60**	0.12
Number of partners	4.43	5.06	3.91	4.17	3.59	4.53	2.36	2.23	10.53**	19.84***
Anal sexual contact (Yes)	19.40%		22.20%		34.20%		26.50%		0.99	7.39**
Age of first contact	19.73	2.44	19.47	2.15	19.04	2.20	18.88	2.07	0.49	4.56*
Number of partners	1.27	0.53	1.48	2.08	1.80	1.51	1.21	0.57	0.98	0.48

** $p < .05$, ** $p < .01$, *** $p < .001$

Table 2

Exploratory factor analysis of the ASEX in men and women in Spain and Portugal

	Spain		Portugal	
	Men	Women	Men	Women
Items	Loading	Loading	Loading	Loading
1. How strong is your sex drive?	.74	.68	.78	.72
2. How easily are you sexually aroused (turned on)?	.75	.76	.81	.73
3. Can you easily get and keep an erection? (Men only)	.72		.71	
3. How easily does your vagina become moist during sex? (Women only)		.63		.67
4. How easily can you reach an orgasm?	.64	.74	.53	.73
5. Are your orgasms satisfying?	.60	.66	.54	.72

Table 3

Testing for factorial invariance of the ASEX across countries for men and women

Model	χ^2	df	$\Delta\chi^2$	Δdf	CFI	ΔCFI	TLI	RMSEA
Men								
Configural	19.75*	9			.955		.901	.09
Weak	21.52	13	1.41	4	.965	+ .01	.946	.06
Strong	46.12***	18	23.76***	5	.883	- .082	.870	.07
Partial strong[b]	25.33	17	4.04	4	.965	.000	.959	.06
Strict	38.91*	22	13.50*	5	.930	- .035	.936	.12
Women								
Configural	17.71*	7			.988		.967	.06
Weak	36.39***	11	18.64***	4	.973	-.015	.950	.07
Partial weak[a]	22.36*	10	4.51	3	.987	-.001	.973	.05
Strong	95.84***	15	70.19***	5	.913	-.074	.884	.11
Partial strong[b]	33.85**	14	11.34*	4	.979	-.008	.969	.06
Strict	82.62***	19	53.10***	5	.931	-.048	.928	.09

Note: *N* Spain = 131 men, 384 women. *N* Portugal = 158 men, 426 women. [a]The factor loading of item 2 was set free to vary across groups. [b]The intercept of item 1 was set free to vary across groups.

* $p < .05$, ** $p < .01$; *** $p < .001$.

Table 4

Item analysis for men and women in Spain and Portugal

	Spain						Portugal					
	Men			Women			Men			Women		
Items	M	SD	Corrected item-total correlation	M	SD	Corrected item-total correlation	M	SD	Corrected item-total correlation	M	SD	Corrected item-total correlation
Interest	2.46	0.84	.53	2.84	0.80	.46	2.07	1.01	.56	2.52	0.92	.50
Arousal	2.42	0.76	.55	2.87	0.78	.54	2.44	0.83	.62	2.95	0.85	.52
Erection	2.08	0.84	.52				2.26	1.06	.48			
Lubrication				2.43	0.86	.41				2.65	1.13	.47
Orgasm	2.61	0.94	.44	3.34	1.03	.57	2.60	0.76	.34	3.53	1.22	.57
Satisfaction	2.04	0.66	.41	2.32	1.01	.47	2.04	0.70	.34	2.42	1.31	.55
Total	11.62	2.82		13.79	3.11		11.40	2.99		14.06	3.87	

Table 5

Zero-order correlations between sexual functioning and sexual arousal, inhibition, and sensation seeking in men and women

	Sexual functioning			
	Spain		Portugal	
	Men	Women	Men	Women
Sexual excitation	-.37***	-.19**	-.28***	-.21***
Sexual inhibition due to the threat of performance failure	.32***	.30***	.25**	.37***
Sexual inhibition due to the threat of performance consequences	.08	.12*	.24**	.25***
Sexual sensation seeking	-.21*	-.30***	-.29***	-.28***

* $p < .05$, * $p < .01$, *** $p < .001$

Table 6

Percent of male and female sexual problems in Spain

	1	2	3	4	5	6	Dysfunction[a]
Men							
Interest	8.80	46.00	37.20	5.10	2.90	0	2.90
Arousal	8.10	47.10	39.00	4.40	1.50	0	1.50
Erection	21.90	53.30	19.00	4.40	1.50	0	1.50
Orgasm	9.70	37.30	35.80	14.20	3.00	0	3.00
Satisfaction	16.70	64.40	17.40	0.80	0.80	0	0.80
Pain	66.20	18.80	11.30	2.30	2.30	0	2.30
Women							
Interest	2.10	29.40	50.90	14.50	2.90	0.30	3.20
Arousal	3.70	25.50	50.40	18.90	1.60	0	1.60
Lubrication	12.70	43.60	33.10	9.50	0.80	0.30	1.10
Orgasm	1.10	19.30	38.30	28.50	9.20	3.50	12.70
Satisfaction	11.50	61.20	19.10	4.10	0.30	3.80	4.10
Pain	37.00	32.40	18.90	10.30	0.50	0.80	1.30

Note. Lower scores indicate hyperfunction and higher scores hypofunction (1: Extremely strong/easily/satisfying/painful; 2: Very strong/easily/satisfying/painful; 3: Somewhat strong/easily/satisfying/painful; 4: Somewhat weak/difficult/unsatisfying/painful; 5: Very weak/difficult/unsatisfying/painful; 6: No sex drive/never aroused/never/never reach orgasm/Can't reach orgasm/Extremely painful). [a] Based on McGahuey et al. (2000).

Table 7

Percent of male and female sexual problems in Portugal

	1	2	3	4	5	6	Dysfunction[a]
Men							
Interest	26.10	51.60	18.00	1.20	3.10	0	3.10
Arousal	11.80	41.00	39.10	6.80	1.20	0	1.20
Erection	22.40	52.20	3.70	21.10	0.60	0	0.60
Orgasm	6.80	36.60	46.60	9.90	0	0	0
Satisfaction	19.30	59.60	18.00	3.10	0	0	0
Pain	56.00	24.50	8.20	9.40	1.90	0	1.90
Women							
Interest	10.40	41.20	35.00	10.90	2.30	0.20	2.50
Arousal	3.50	24.50	45.40	23.80	2.80	0	2.80
Lubrication	14.80	34.20	28.60	17.80	3.00	1.60	4.60
Orgasm	3.10	17.30	31.00	26.20	14.90	7.60	22.50
Satisfaction	19.40	49.10	17.80	3.60	2.80	7.30	10.10
Pain	32.20	25.20	20.20	17.50	4.30	0.50	4.80

Note. 1: Extremely strong/easily/satisfying/painful; 2: Very strong/easily/satisfying/painful; 3: Somewhat strong/easily/satisfying/painful; 4: Somewhat weak/difficult/unsatisfying/painful; 5: Very weak/difficult/unsatisfying/painful; 6: No sex drive/never aroused/never/never reach orgasm/Can't reach orgasm/Extremely painful.[a]

Based on McGahuey et al. (2000).