

# **Validation of an Arabic version of the female version of The Sexual Dysfunctional Beliefs Questionnaire: a factor analysis study**

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## **Abstract**

Several questionnaires have been developed to evaluate female sexual dysfunction (FSD) and sexual health problems. However, there is a lack of validated versions of these questionnaires in Arabic. One of the most used instruments is the female version of The Sexual Dysfunctional Beliefs Questionnaire (SDBQ). The current study aimed to validate an Arabic version of the SDBQ. The Arabic version of SDBQ-Female was incorporated into an online questionnaire using and distributed among Jordanian Facebook groups and women-only groups. Factor analysis was performed to

investigate evidence for the validity of the questionnaire. 530 females (mean age 30 years, SD = 9) completed the questionnaire. Principal component analysis produced the final model composed of 24 items distributed across four factors: Sexual Desire & Pleasure, Affection Primacy, Sexual Conservatism and Age-Related Beliefs. Confirmatory factor analysis was conducted, and fit indices were acceptable (CMIN/DF = 2.52, GFI = 0.91, AGFI=0.89, CFI = 0.90, SRMR=0.05 and RMSEA = 0.05). Income level and marital status both influenced FSD beliefs, with higher scores associated with higher income and being single. The Arabic version of the SDBQ-female demonstrated evidence of validity and reliability. Additional research is necessary to explore beliefs related to FSD within an Arabic context.

Keywords: Sexual Dysfunctional Beliefs Questionnaire; SDBQ; Jordan; Factor Analysis; Arabic

### **Lay summary**

This study provides evidence for the validity and reliability of an Arabic questionnaire for assessing female sexual dysfunction (FSD) among Jordanian women recruited through Facebook. Women's income level and marital status influenced their FSD beliefs. Further research is needed to explore these beliefs in an Arabic context.

### **Introduction**

The World Health Organization (WHO) highlights the importance of sexual health to individuals' overall health and well-being, as well as that of couples and families. Sexual health also contributes to the economic and social development of communities and countries (World Health Organization, 2022). Female sexual dysfunction (FSD) is a sexual health issue that can have adverse effects on one's well-being and quality of life, and may cause considerable distress (Nappi et al., 2016). Sexual dysfunction is defined by the WHO as "the various ways in which an individual is unable to participate in a sexual relationship as he or she would wish" (World Health Organization, 2019).

FSD is a major public health concern that impacts approximately 41% of women of reproductive age globally (McCool et al., 2016). Prevalence rates vary by country.

Representative studies show that the rate of FSD among women of reproductive age in the Middle East, at 59.5% (Shaeer et al., 2012), is higher than the global average, and FSD prevalence is particularly high in Jordan, at 64.7% (Maaita et al., 2018).

In Jordanian women of reproductive age, desire problems are the most reported facet of FSD, and being older than 50 years is the most significant risk factor. An additional considerable risk factor being the presence of chronic illnesses (Abu Ali et al., 2009; Maaita et al., 2018). For example, FSD is more common in Jordanian diabetic women (Abu Ali et al., 2008) and in those who are obese (Abu Ali et al., 2009). The latter is of particular concern as, at 70.6%, the prevalence of obesity is very high in women in Jordan (Bustami et al., 2021). Menopause is also associated with FSD in Jordanian women (Jaber et al., 2017).

FSD is a biopsychosocial issue, a product of the interaction of physical, psychological and sociocultural factors (Thomas & Thurston, 2016). In addition to physical risk factors, dysfunctional sexual beliefs, which are social cognitive factors, have a significant role in sexual dysfunction. These are inaccurate and unrealistic beliefs about sexuality and sexual response which are, even in the absence of evidence, accepted as true (Abdolmanafi et al., 2015). Women who experience FSD often exhibit age-related beliefs, such as the notion that sexual pleasure decreases as women age, as well as body image beliefs, such as the idea that women who are not physically attractive cannot attain sexual satisfaction (Nobre & Pinto-Gouveia, 2006). Dysfunctional sexual beliefs are an important aspect of the multiple factors implicated in sexual problems (Nobre & Pinto-Gouveia, 2006) and therefore their assessment warrants attention. The Sexual Dysfunctional Beliefs Questionnaire (SDBQ) (Nobre et al., 2003) is a validated self-report measure used to evaluate dysfunctional sexual beliefs. It consists of 40 items that are assessed on a five-point Likert scale. There is both a male and a

female version. Both the male and female versions of the SDBQ have acceptable test-retest reliability ( $r = 0.73$  for the male version and  $r = 0.80$  for the female version) and demonstrate good internal consistency (Cronbach's alpha = 0.93 and 0.81, respectively) (Nobre & Pinto-Gouveia, 2006). The female version yielded six factors that accounted for 43% of the total variance: Sexual Desire and Pleasure as a Sin; Sexual Conservatism; Body-Image Beliefs; Age-Related Beliefs; Motherhood Primacy and Denying Affection Primacy. The SDBQ possesses evidence of discriminant validity, effectively differentiating between clinical and non-clinical populations, and evidence of convergent validity, evidenced by its correlations with other tools assessing sexual and broader beliefs, as well as scales measuring sexual functioning (Nobre et al., 2003). The questionnaire has been validated in different versions, including Australian (Hayes et al., 2006), Chinese (Sun et al., 2011), Italian (Nimbi et al., 2019) and Iranian (Abdolmanafi et al., 2015). However, there is no validated Arabic version of the SDBQ. In light of the Middle East's high occurrence of FSD, particularly in Jordan, the development and validation of an Arabic version is pertinent to the assessment of FSD beliefs, an important step in the treatment of FSD.

FSD beliefs frequently are rooted in culture, and through these beliefs exert their influence on sexual dysfunction. For example, cultural influences are evident in the delayed treatment of FSD among Muslim women because of ideals of modesty (Heinemann et al., 2016). This highlights how important it is to examine FSD beliefs in the context of Arab culture. However, few studies have examined FSD beliefs in Jordan and the Middle East generally (Maaita et al., 2018). Furthermore, there is a lack of validated instruments to measure psychosocial aspects of FSD, and even fewer such instruments in Arabic. The Female Sexual Function Index (FSFI) (Rosen, Brown, Heiman, & Leib, 2000), a widely used measure in the assessment of FSD, has been validated in Arabic (Anis et al., 2011); however, this measure does not assess any dysfunctional sexual beliefs which may contribute to sexual

problems. That FSD is so common in Jordan and the Middle East points to the importance of assessing FSD beliefs in this region using a validated instrument such as the SDBQ, however, this has so far been lacking. Therefore, we aimed to investigate the evidence for the validity and reliability of the Arabic version of the SDBQ in females in Jordan.

## **Materials and Methods**

### ***Study design***

We conducted an online study between July and September 2021. Two professional translators translated the SDBQ into Arabic and then back into English, and the two versions were determined to be comparable. A pilot study with 30 females was conducted to ensure the comprehensibility and legibility of the questions. The data collected as part of the pilot study were not included in the final analysis. The final version of the questionnaire was built using Google Forms and a convenience sampling approach was applied by distributing the link in Jordanian, generic and women-only Facebook groups.

The prologue to the questionnaire included a description of the objectives of the study and confirmed the confidentiality of the data collected and that no personally identifying questions were included. It also clarified to respondents that by completing and submitting the survey they consented to participate in the study. Ethical approval was obtained from the research ethics committee of the research ethics committee of Al-Zaytoonah University of Jordan (ethical approval number 22/23/2019–2020).

### ***Participants and sample size calculations***

The inclusion criteria for the study were being 18 or above, Jordanian and female. Questions about age, sex and nationality were included in the questionnaire to verify that participants fulfilled these inclusion criteria. Sample size was based on the widely-adopted item-participant ratio of 1:10 (Nunnally, 1978). As the SDBQ questionnaire includes 40 items, the

required sample size for this study was therefore 400.

Questionnaires were completed by 580 females. However, 35 were excluded for being under the age of 18 and 15 for not being Jordanian, therefore, the final analysis was based on the data from 530. Participants had a mean age of 30 years (range 18 to 76,  $SD = 9$ ) and 48.9% were married. Most participants (74.9%) had a bachelor's degree and 6.8% had a postgraduate education. Two thirds (63.2%) had an average monthly income of less than 1,000 Jordanian Dinars (approximately USD1,400).

### *Study instruments*

The initial segment of the questionnaire comprised a demographic sheet that contained questions related to age, educational level, average monthly income, and marital status. The second section included the SDBQ-female (Appendix 1). The items are grouped into six domains (Nobre et al., 2003): 'sexual conservatism (SC)' which evaluates women's perception of different sexual activities including masturbation, oral and anal sex; 'sexual desire and pleasure as a sin (SDPS)', which assesses attitudes toward controlling their sexual urges and pleasures; 'age-related beliefs (AB)' which evaluates women's attitude toward sexual activity and pleasure in older women, particularly after menopause; 'body-image beliefs (BIB)' which assesses women's perceptions of body-image as a vital element in sexual activities; 'denying affection primacy (DAP)' which assesses the importance of emotions, love and compatibility in sexual activities; and 'motherhood primacy (MP)' which includes questions evaluating women's perceptions of the importance of motherhood in female identity.

The scoring of the scale's 5-point Likert type questions ranged from 1 for "strongly disagree" to 5 for "strongly agree" for all items except for the following items which were reversed-scored: "Love and affection from a partner are necessary for good sex", "The most

important component of sex is mutual affection”, “Simultaneous orgasm for two partners is essential for a satisfying sexual encounter”, “Sex is a beautiful and pure activity”, “Sex without love is like food without flavor” and “As long as both partners consent, anything goes”.

### ***Statistical analysis***

Data analysis was conducted using the Statistical Package for the Social Sciences (IBM) version 27, AMOS version 26 (IBM Corp., 2020), and R with package misty (Yaganida, 2023). Categorical variables were presented as frequencies and percentages while continuous variables were presented as means and standard deviations (SD). Confirmatory factor analysis (CFA) was applied to the original six-factor model. As the results indicated that the original model is not suitable for the study data, principal component analysis (PCA) was conducted. Kaiser-Meyer-Olkin value (KMO) and Bartlett’s Test of Sphericity showed that the data were appropriate to conduct PCA. We conducted Parallel Analysis (Eigenvalue Monte Carlo Simulation) and evaluated scree plots to identify the optimal number of factors to extract. The direct-oblimin method was used to create a pattern matrix, and the correlation matrix was analysed to determine the most suitable rotation method.

Internal consistency for each generated factor was evaluated by computing Cronbach’s alpha (CA) and Composite Reliability (CR). Convergent validity was assessed by calculating the Average Variance Extracted (AVE) values. CFA was applied on the suggested final model examined. To assess goodness of fit, CMIN/DF (minimum discrepancy), GFI (goodness of fit index), CFI (comparative fit index), standardized root mean squared residual (SRMR), and RMSEA (Root Mean Square Error of Approximation) were computed. Values between 2-5 are considered acceptable for CMIN/DF, while values less than 0.6 are desirable

for RMSEA. Values that are closer to 1 are preferable for GFI, AGFI, and CFI and for SRMR  $\leq 0.05$ .

Based on their scores on each factor and the overall SDBQ scores, the participants were categorized into high- or low-level groups. Individuals who obtained scores higher than the mean were designated as being in the high-level group, whereas those who scored lower than the mean were categorized into the low-level groups. Additionally, individuals were categorized into high- and low-income groups, depending on the average monthly income of Jordanian households (1,000 Jordanian Dinars, which is equivalent to \$1,400). To assess the factors associated with the scores for each factor and the overall SDBQ score, multiple binary regressions were performed. Age, income category, and marital status were the independent variables.

## **Results**

### ***Validity and reliability of the SDBQ female version***

To assess the suitability of the study data on the original suggested model, CFA was conducted, and very poor suitability was noted, and AMOS could not produce model fit indices. Therefore, PCA was performed to evaluate the most suitable model for study data.

Table 1 Here

Low communalities were produced in items 4, 9,10, 12, 17, 18, 19, 21, 29, 26, 30,31, 33, 38 and 40 ( $<0.03$ ). Therefore, all these items were excluded from the analysis. Item 4 also did not reach the loading cut-off point of 0.4 and therefore was removed from the analysis. Item 27 was removed from the analysis because it had a loading of more than 0.4 on two factors. The PCA was rerun after excluding these items and the and scree plots (Figure 1) were examined; these suggested four factors.



Figure 1 Here

The four-factor model was validated when parallel analysis was conducted. The direct-oblimin rotation method was employed, as the inter-correlation between the factors surpassed the threshold of 0.32 (Tabachnick & Fidell, 2007). The sample was deemed adequate based on a KMO value of 0.867, and the PCA results were supported by the significance of Bartlett's test of sphericity ( $\chi^2 = 3757.36$ ;  $p < 0.001$ ).

Table 2 Here

Factor names, statements, factor loadings, communalities and CAs for the four-factor model are shown in Table 2. Factor 1, Sexual Desire & Pleasure, contained 13 statements. For this factor, the communalities ranged from 0.34 (for item 37) to 0.60 (for item 34); factor loadings varied between 0.48 (for item 6) and 0.80 (for item 34). CA for this factor was 0.86 and would not improve if any item were deleted. The total mean for Factor 1 was 2.13. For Factor 2, Affection Primacy, factor loadings ranged between 0.54-0.77 and communalities between 0.34 and 0.62. CA was 0.65, and the mean 1.55. For Factor 3, Sexual Conservatism, loadings ranged from 0.54 to 0.72 and the communalities between 0.34 and 0.69. The CA for Factor 3 was 0.66 and the mean was 3.44. Finally, Factor 4, Age-Related Beliefs, had items loading between 0.69 and 0.82 and communalities between 0.34 and 0.47. CA was 0.68, and the mean 2.79. For SDBQ female version, the CA was 0.84.

Factor names, statements, factor loadings, communalities and CAs for the four-factor model are shown in Table 2. Factor 1, Sexual Desire & Pleasure, contained 13 statements. For this factor, the communalities ranged from 0.34 (for item 37) to 0.60 (for item 34); factor loadings varied between 0.48 (for item 6) and 0.80 (for item 34). CA for this factor was 0.86, McDonald's Omega was 0.86 and ordinal alpha was 0.90. The reliability would not improve if any item were deleted. The total mean for Factor 1 was 2.13. For Factor 2, Affection

Primacy, factor loadings ranged between 0.54-0.77 and communalities between 0.34 and 0.62. CA was 0.65, McDonald's Omega was 0.65 and ordinal alpha was 0.78. The mean for Factor 2 was 1.55. For Factor 3, Sexual Conservatism, loadings ranged from 0.54 to 0.72 and the communalities between 0.34 and 0.69. The CA for Factor 3 was 0.66, McDonald's Omega was 0.68 and ordinal alpha 0.71. The mean for Factor 3 was 3.44. Finally, Factor 4, Age-Related Beliefs, had items loading between 0.69 and 0.82 and communalities between 0.34 and 0.47. CA was 0.68, McDonald's Omega was 0.69 and ordinal alpha was 0.73. The mean 2.79. For SDBQ female version, the CA was 0.84, McDonald's Omega was 0.84 and ordinal alpha was 0.88.

Correlations between factors were examined to evaluate discriminant validity (Table 3). The results indicated evidence of good discriminant validity ( $r$  between -0.04 and .35); the highest correlation was between Sexual Desire & Pleasure and Age-related beliefs. AVE and CR were computed for each factor and total score: Sexual Desire and Pleasure (0.35; 0.87), Affection Primacy (0.46; 0.77), Sexual Conservatism (0.43; 0.75) Age-Related Beliefs (0.56; 0.79) and total score (0.41; 0.94).

CFA was conducted on the four-factor solution (24 items) to confirm model. The model yielded acceptable model fit indicators (CMIN/DF = 2.52, GFI = 0.91, AGFI=0.89, CFI = 0.90, SRMR=0.05 and RMSEA = 0.05).

#### ***Variables associated with SDBQ scores***

The results of the binary regression indicated that average monthly income was significantly associated with Sexual Desire and Pleasure, Sexual Conservatism, Age-Related Beliefs and SDBQ scores, as the lower income group had significantly higher odds to be in the high score

group when compared with the high-income group ( $p > 0.01$ , OR=1.86, 95% CI (1.22-2.83);  $p < 0.01$ , OR=2.39, 95% CI (1.56-3.67);  $p = 0.03$ , OR=1.60, 95% CI (1.06-2.42); and  $p < 0.01$ , OR=2.19, 95% CI (1.44-3.33) respectively). Single women had significantly higher odds of being in the high-level group for Sexual Desire and Pleasure when compared with married women ( $p < 0.01$ , OR=2.06, 95% CI (1.26-3.36)). On the other hand, single women had significantly lower odds of being in the high-level group for Sexual Conservatism ( $p < 0.01$ , OR=0.49 (0.29-0.83)). Lastly, greater age significantly decreased the odds to be in the high-level group for Age-Related Beliefs ( $p$ -value =0.04, OR=0.95, 95% CI (0.93-0.99)).

## **Discussion**

Studies evaluating FSD beliefs in Jordan and the Middle East in general are limited (Maaita et al., 2018); validated tools to measure FSD beliefs are also lacking. Therefore, the aim of the current study was to investigate evidence for the validity of the Arabic version of SDBQ in females and identify variables associated with FSD beliefs. Ours is one of the few studies evaluating FSD beliefs among a conservative Middle Eastern society. Furthermore, the validated tool in the present study can be used in other Arabic-speaking countries in the Middle East and North Africa, which could facilitate further much-needed studies in the region.

After CFA indicated the original structure suggested by Nobre et al. (2003) was unsuitable for the current study data, we used PCA to identify the most suitable structure. The PCA yielded a final model consisting of four factors: Sexual Desire & Pleasure, Affection Primacy, Sexual Conservatism, and Age-Related Beliefs, which were represented by a total of 24 items. The results of the CFA provided confirmation of the appropriateness of the four-factor model, as evidenced by the satisfactory values obtained for CMIN/DF, GFI, AGFI, CFI, SRMR, and RMSEA. The final version accounted for 47.8% of variance which was

higher compared to the percentages reported in the Italian (Nimbi et al., 2019), Iranian (Abdolmanafi et al., 2015) and original versions (Nobre et al., 2003) of the measure. According to the results, the model demonstrated evidence of acceptable levels of discriminant validity, convergent validity, and internal consistency.

The current four-factor model is similar to the one found in the Italian version (Nimbi et al., 2019) which also excluded 11 items. Moreover, the factors Affection Primacy and Age-Related Beliefs were constructed from the same items, although the other two factors were constructed from different items. Furthermore, the remaining items have captured the main remaining concepts evaluated in the original SDBQ. SC was evaluated by the items “Masturbation is not a proper activity for respectable women”, “Masturbation is wrong and sinful”, “As long as both partners consent, anything goes” and “Anal sex is a perverted activity” and SDPS was evaluated by the remaining 12 items.

When compared with the original and Iranian models, differences were found in the number and structure of the factors. While these differences could be attributed to differences in study methodology, they are more likely related to cultural differences.

The participants’ responses to many of the items indicated the strong influence of cultural taboos and religious doctrines on their perceptives to sexuality (Al-Ghabeesh et al., 2019; Okazaki, 2002). For example, the highest means were for “Masturbation is wrong and sinful” and “Anal sex is a perverted activity” indicating that both had high agree/strongly agree responses. This is to be expected as these activities are highly discouraged in Jordan, and Islamic countries in general, for religious and cultural reasons (Abdolmanafi et al., 2015).

The binary regression results indicated that being in the low-income group increased the odds of having higher FSD beliefs. This contradicts findings reported in the literature concerning the association between income level and FSD, for example, a study conducted in Turkey found no significant association between income and FSD (Bayoğlu Tekin et al., 2014), yet a study conducted in China found higher FSD among the high-income groups (Lau et al., 2006). Differences in the association between income and FSD appear to be linked to cultural and regional differences (McCool-Myers et al., 2018). This may explain the similar findings to the current study reported previously in a study conducted in Saudi Arabia, which found higher levels of FSD among lower income groups (Madbouly et al., 2021).

Compared to married women, single women tended to score higher on Sexual Desire and Pleasure and lower on Sexual Conservatism. There is a lack of consensus in the literature regarding the role of marriage in sexual satisfaction. Some studies have found no significant association between marriage and sexual satisfaction and even suggest that marriage may have a negative correlation with sexual satisfaction (Kislev, 2020). However, other research has indicated that being married is linked to higher levels of sexual satisfaction (Antičević et al., 2017). The link between marital status and sexual satisfaction may not be straightforward and could be influenced by various factors, such as attachment style (Butzer & Campbell, 2008). Examining the relationship between sexual desire, sexual satisfaction, sexual pleasure, and marital status was beyond the focus of the current paper; however, further research in a Jordanian context would be useful to shed some light on this finding.

Interestingly, with increasing age women were significantly less likely to score high on Age-Related Beliefs. This is contrary to what would be expected, as the prevalence of FSD in Jordanian women increases with age (Maaita et al., 2018), and age-related beliefs are

common in FSD (Nobre & Pinto-Gouveia, 2006). It has been suggested that stereotypical views regarding the sexuality of older adults may diminish as cohorts progressively become more sexually permissive over time (Syme & Cohn, 2016). Also, it has been found that the biological changes associated with menopause do not necessarily affect women's sex life negatively; rather, the negative impacts of menopause on sexuality are more likely due to anticipatory anxiety or negative perceptions regarding sexuality during this period (Ringa et al., 2013). Since our sample consisted primarily of young women, additional research is necessary to establish whether this finding is replicated in a sample that has a higher proportion of middle-aged and older women.

### *Study limitations*

Since the present study relied on a self-administered online survey, the outcomes may have been impacted by biases related to social desirability and selection. Although self-administered online surveys have limitations such as selection and social desirability biases, they can provide a safe and private environment that allows respondents to answer honestly, especially for sensitive topics like sexuality in Jordanian society. Online surveys can offer a secure and confidential space for respondents to provide truthful responses, which may not be possible in face-to-face interviews due to the sensitivity of the topic in Jordanian society (Cantrell & Lupinacci, 2007). Moreover, online surveys eliminate possible interviewer bias. In addition, web-based recruitment has the potential to generate representative samples (Fenner et al., 2012).

During the validation process, almost half of the original items were removed from the scale. This might impact the validity of the scale. This is an important, but perhaps not surprising outcome: Jordan, like many other countries in the Arab world, is culturally conservative. This is likely to influence not only attitudes towards FSD, but physical and

mental health outcomes. While we believe that our work is an important step towards developing a culturally sensitive and acceptable measure of FSD, further work is needed.

## **Conclusion**

In the current study, the Arabic version of the SDBQ was validated and was and showed evidence of both reliability and validity. Factors that influenced FSD beliefs included income level and marital status. Further research in a Jordanian context is needed to shed further light on these findings. In particular, the development of a culturally sensitive measure of FSD has the potential to highlight beliefs that may help improve education focusing on women's sexual health and wellbeing.

**Word count: 3,575**

## **Disclosure of interest:**

The authors report there are no competing interests to declare.

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**Table 1.** Socio-demographic characteristics of participants

<b>Variable</b>		<b>Mean (SD) or N (%)</b>
Age		30±9
Marital status	Single	271 (51.1%)
	Married	259 (48.9%)
Education level	Less than high school (primary, secondary)	12 (2.3%)
	High School	25 (4.7%)
	University/community collage	19 (3.6%)
	Diploma	41 (7.7%)
	Bachelor's degree	397 (74.9%)
	Postgraduate degree	36 (6.8%)
Average monthly income	≤1000 JD	335 (63.2%)
	>1000 JD	195 (36.8%)

**Table 2.** Factor names, statements, factor loadings, communalities, and Cronbach's alpha for the four-factor model

Factor name	Question number	Communalities	Factor loading	Cronbach's alpha	Cronbach's alpha if item deleted	Mean	Total mean
Sexual desire and pleasure	34.Sex should happen only if a man initiates	0.60	0.80	0.86	0.84	1.98	2.13
	15.Sex is dirty and sinful	0.52	0.69		0.85	1.70	
	25.Any woman who initiates sexual activity is immoral	0.41	0.67		0.85	1.9	
	36.Experiencing pleasure during sexual intercourse is not acceptable in a virtuous woman	0.40	0.65		0.84	2.00	
	14.Sexual activity must be initiated by the man	0.51	0.63		0.85	2.83	
	35.There is just one acceptable way of having sex	0.34	0.57		0.85	2.22	
	13.Reaching climax /orgasm is acceptable for men but not for women	0.41	0.56		0.85	1.52	
	37.A good mother must control her sexual urges	0.34	0.54		0.85	2.51	
	28.Oral sex is one of the biggest perversions.	0.35	0.53		0.85	2.72	
	11.In the bedroom the man is the boss	0.37	0.51		0.85	2.50	
	22.Sex is a beautiful and pure activity	0.42	0.49		0.85	1.96	
	39.A woman who only derives sexual pleasure through clitoral stimulation is sick or perverted	0.41	0.48		0.85	2.05	
	6.Women who have sexual fantasies are perverted	0.44	0.48		0.85	1.91	
Affection primacy	1. Love and affection from a partner is necessary for good sex	0.62	0.77	0.65	0.53	1.34	1.55
	3. The most important component of sex is mutual affection	0.56	0.77		0.51	1.43	
	23. Sex without love is like food without flavor	0.42	0.62		0.58	1.61	
	16.Simultaneous orgasm for two partners is essential for a satisfying sexual encounter	0.32	0.54		0.65	1.82	
Sexual conservatism	7. Masturbation is not a proper activity for respectable women	0.69	0.72	0.66	0.48	3.05	3.44
	2.Masturbation is wrong and sinful	0.67	0.71		0.49	3.80	
	24.As long as both partners consent, anything goes	0.39	0.63		0.65	2.84	
	32.Anal sex is a perverted activity	0.34	0.54		0.66	4.14	
	5.After menopause women lose their sexual desire	0.66	0.82		0.68	0.27	

Age-related beliefs	8. After menopause women can't reach orgasm	0.62	0.73	0.56	0.25
	20. As women age, the pleasure they get from sex decreases	0.47	0.69	0.68	3.17

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**Table 3.** Correlation matrix between the four factors

<b>Variable</b>	Sexual desire and pleasure	Affection primacy	Sexual conservatism
Sexual desire and pleasure	**		
Affection primacy	.147	**	
Sexual conservatism	.222	-.039	**
Age-related beliefs	.347	-.049	.095

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**Table 4.** Variable association with SDBQ scores (High level compared to low)

Variable	Sexual desire and pleasure		Sexual conservatism		Age-related beliefs		Total score	
	<i>p</i>	OR (CI)	<i>p</i>	OR (CI)	<i>p</i>	OR (CI)	<i>p</i>	OR (CI)
Age	0.37	1.02 (0.98-1.05)	0.67	0.99 (0.96-1.03)	0.04*	0.95 (0.93-0.99)	0.7	0.99 (0.96-1.03)
Average monthly income (>1000JD compared to ≤1000JD)	>0.01**	1.86 (1.22-2.83)	<0.01**	2.39 (1.56-3.67)	0.03*	1.60 (1.06-2.42)	<0.01*	2.19 (1.44-3.33)
Marital status (Single compared to married)	>0.01**	2.06 (1.26-3.36)	<0.01**	0.49 (0.29-0.83)	0.4	0.82 (0.5-1.33)	0.23	0.74 (0.45-1.21)

Note. \*  $p < .05$ . \*\*  $p < .01$ .

## Captions

**Figure 1.** Scree plot of the female SDBQ

(Alt Text: Scree plot for the female version of the Sexual Dysfunctional Beliefs

Questionnaire, with the x-axis showing the component number and the y-axis showing the Eigenvalue)

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