



Psychometric Adequacy of the Persian Version of Women's Sexual Self-Schema in Shiraz

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ABSTRACT

The aim of this study was to evaluate the psychometric adequacy of the Persian version of women's sexual self-schema scale (Andersen & Cyranowski, 1994) in Iranian society. 360 married women were selected using multistage cluster sampling method in Shiraz. Results obtained through principal components analysis and factor analysis using varimax orthogonal rotation on a scale of women's sexual self-schema indicated the validity of the scale. In this study, factors extracted from the scale were not similar to those included in the original version of women's sexual self-schema scale (Andersen & Cyranowski, 1994). The three dimensions of passionate/romantic, open/direct, embarrassed/conservative were not extracted for the women's sexual self-schema scale in Iran. These four factors called open ended/clear, warm-loving, lustful and conservative-reserved, respectively. In addition, the validity of the women's sexual self-schema scale using correlation coefficients of sub-scales and the total score were reported desirable. The studies also showed that the Persian version of women's sexual self-schema scale has an acceptable reliability.

Keywords: psychometric, sexual self-schema, women

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INTRODUCTION

Psychologist's traditional view was that masculinity and femininity are on opposite sides of a particular spectrum. Namely that a one-dimensional continuum bipolar describes the changes masculinity and femininity. This view is based on the current dominant cultural stereotypes is that the pre-determined behavioral patterns of men and women (Bergen, 2009). Sexual identity is the most important concept to explain the behavior patterns of male and female. Gender role is the most important and the most decisive element of sexual identity (Woodheel & Samuels, 2004). Sexual identity forms a substantial part of the identity of every man and is contained sexual images of one as male or female. Since God created man as male or female, he learns to think, behave and feel in a sex-specific manner (Yoorberg, 2001; Crawford and Unger, 2004). Sexual self-schemas represent basic or core beliefs about sexual aspects of one self. Sexuality schema theory was developed by Bam (1981). Schema refers to the concept in cognitive psychology that examines how people think, perceive and process and how they recall information and sexual schema is defined as a set of associations linked to gender which shows gender-based information processing. According to Bam, people show somewhat different gender schemas and this change in content may be as a result of information that the person has been exposed to family, culture and society in relation to gender throughout their lives (quoted by Berners, 2003). Anderson and Cyranowski (1994) have defined sexual schema as a cognitive generalization about the sexual aspects of the self. Sexual self-schemas are beliefs about the extent to which one

possesses personal characteristics that are associated in contemporary western culture with "being a sexual woman" (Andersen & Cyranowski, 1994), and are thus likely to be relevant to women's beliefs about their ability to form satisfying intimate relationships. They maintained that this scheme emanates from personal previous experiences and encompasses the whole range of sexual aspects, including sexual orientation, sexual behavior and cognitive representation of individual's sexual identity. Gender role schema is developed from an early age in girls and women are scheduled to be inactive for their gender fate (Khamseie, 2005). Since each person's self-concept is also influenced by his behavior, it is believed that sexual schemas influence how sexual information is processed as well as how sexual behavior is directed. It is important to note that none of the items on Andersen and Cyranowski's scale refers directly to sexual behavior, attitudes, or experience. Rather, it consists of personal qualities that may enable women to engage in some kinds of behaviors and to participate in some kinds of relationships. However, although the Sexual Self-Schemas Scale does not measure sexual behavior or attitudes directly, it has been found to be associated with sexual experience, romantic involvement/attachment, number of sexual partners, enjoyment of sexual encounters, and experience with a range of sexual activities (Andersen & Cyranowski, 1994, 1995, 1998; Cash, Jakatdar & Williams, 2004; Cash, Maikkula et al., 2004). These schemas are associated with beliefs that women can enjoy their private relationships (Donaghueo, 2009; Khamsie 2006). Smith et al (2010) in their study reached the conclusion that sexual stereotypes influence sexual relationships in teenagers. Experience has shown that knowledge and

awareness about sexual will change life and often improves it (Westheimer 2005, quoted from Joseph, 2005). Donaghueo (2009) found that sexual stereotypes can predict satisfaction with life and make positive or negative emotions in one's life; therefore, positive or negative emotions for women can be somewhat influenced by their sexual schemas. Blaine et al. (2011) came to the conclusion that positive sexual schemas (passionate/romantic and open-direct) are associated with an attitude, happiness, and positive affect, but negative schemas (embarrassed-conservative) are associated with emotions and negative attitudes. Mojtabaie et al., (2013) showed that there is a relationship between sexual schemas of passionate/romantic and embarrassed-conservative with sexual performance; but there was no association between open-direct schemata and sexual performance. Based on these findings, sexual schemas can predict sexual function. Schemata and gender roles can also be influenced by culture (Khamsei, 2005) and androgens (Ramsir & Toorrech, 2007). For example, girls who have high levels of androgens prefer male gender roles (Pasterskie et al., 2005; Servin et al., 2003). Over the past few decades, psychologists have tried to develop questionnaires in order to examine men's and women's sexuality schema. Anderson and Cyranowski (1994) defined sexual schemata concept as a personal perspective and considered it a sexually relevant. Women's sexual self-schema was introduced by Anderson and Cyranowski (1994). Reliability and validity of the scale have been achieved by the developers and encompasses 29 main subscales including passionate-romantic, open-direct, embarrassed-conservative. The "passionate/romantic" dimension refers to the propensity to experience positive emotions in the context of romantic and sexual relationships. The "open" dimension concerns the extent to which one sees oneself as being broad-minded and open to new experiences. The "embarrassed/conservative" dimension reflects negative feelings about the self in relationships and a lack of confidence and experience (Anderson and Cyranowski, 1994). Since this scale shows a contemporary western culture with "being a sexual woman" (Andersen & Cyranowski, 1994), as well as due to the unavailability of suitable behavioral scale for women's sexual self-schema in Iran, the need to evaluate the reliability and validity of this scale to fit our culture is felt. By providing an appropriate tool with proper reliability and validity to assess women's sexual self-schema in the country, conditions are provided to do more detailed research. Thus, the present study examines factor structure, reliability, and validity of Persian version of women's sexual schemata developed by Anderson and Cyranowski (1994). The research questions of the study are: 1. Do the women's sexual schema has a desirable validity in Shiraz? Does the women's sexual schema have a desirable reliability in Shiraz?

METHOD

The study population consisted of all married women in Shiraz in 2013. The sample was composed of 360 married women who were selected by multistage cluster sampling method. The samples were selected among four educational districts of Shiraz (Iran); the first and second districts were randomly selected, among which 15 elementary schools were selected at random and parents of students were then surveyed among the selected primary schools.

Tool

Women's self-sexual schema: Women's sexual schema scale (Anderson & Cyranowski, 1994) contains 50 items that participants rate according to their self-descriptiveness. Responses were made on 7-point scales from 0 (not at all descriptive of me) to 6 (very much descriptive of me), measuring one's perception of the self as a sexual being. Since few people find it easy to talk freely about their sexual problems, 24 adjectives have been used as fillers in this test so that the nature of the assessed main features remains hidden

from the subjects. This test contains 26 main items and three subscales of passionate-romantic, open-direct and embarrassed and conservative. 26 sexual self-schema scale items are marked in bold. Other 24 items are fillers that have been used in order to hide the true nature of evaluated features. Items for each subscale are below:

Table 1. Number related to aspects of women's self-sexual schema

	Personal skills dimensions	Numbers related to each dimension
1	Passionate-romantic subscale	5,11,20,35,37,39,44,45,48,50
2	Open-direct subscale	2,6,9,13,16,18,24,25,32
3	Embarrassed-conservative subscale	3,8,22,28,31,38,41
4	Inversed items	45

Sexual self-schema scale score: total = passionate / romantic subscale score + open/direct subscale score +embarrassed/conserved. Women's self-sexual schema scale was normalized by Anderson and Cyranowski on a sample of 221 female students and it is given in the following table:

Table 2: Mean, standard deviation and correlation between factors of women's self-sexual schema scale

Dimensions	Men	Standard deviatin	Factor 1	Factor 2	Factor 3
Passionate-romantic Factor 1	47.44 %	6.45%			
Open-direct Factor 2	36.26 %	7.15%	37%* *		
Embarrassed-conservative Factor 3	23.22 % [^]	5.91%	- 0.16%	- 0.31%*	
Total	60.47 %	14.15%	0.71% **	0.80%* *	- 0.65 %**

The Cronbach alpha coefficient was also reported by Anderson and Cyranowski (1994) including passionate-romantic (0.81%), open-direct (0.77%), embarrassed-compassionate (0.82%). Total test-retest reliability of the scale was also estimated 0.88% within 9 weeks. Therefore, women's self-sexual schema scale has good reliability. Research results regarding the content analysis by scale developers have shown that the women's self-sexual schema tests (cognitive view about self-sexuality) consisting of 3 passionate-romantic, open-direct, embarrassed-compassionate subscales has a desirable validity. Given the significant correlation between women's self-sexual schema with scales assessing attitudes and sexual behaviors, convergent validity of the test was confirmed. The validity of research's tool by Iranian researchers has been determined by the investigator after completing the questionnaire and collecting and extracting them data using item analysis and calculating the correlation coefficients between the total score of each dimension with the same scores of validity in items. The

factors analysis method was also used to determine the validity of the factor structure and reliability of women's scale was obtained by calculating Cronbach's Alpha. The results are shown in the findings. Descriptive statistical methods including mean, standard deviation and inferential statistics including factor analysis, KMO index, Bartlett's sphericity test and Pearson correlation were used. Data analysis was performed using SPSS software (version 20) and LISREL 8.80.

Bem Sex Role Inventory (1974): This inventory was used to assess gender roles, which included 60 attributes: 20 measure female stereotypical attributes (such as being emotional, gentle and sensitive), 20 measure male stereotypical attributes (such as ambition, independence and aggression) and 20 measure neutral attributes and regardless of gender. It should be noted that only masculine and feminine characteristics were measured in this study for brevity. Validation studies in Iran indicate the psychometric properties of the questionnaire (Khamsei, 2006; Ali Akbari Dehkordi et al., 2012). In this study, Cronbach's alpha coefficient was obtained 66% and 75% for male and female dimensions, respectively. Due to the popularity and confirmed validity of the scale in different studies, its validity was not investigated in the present study.

FINDINGS

Table 3 shows the mean, standard deviation, minimum and maximum score for variables of age, number of children and women.

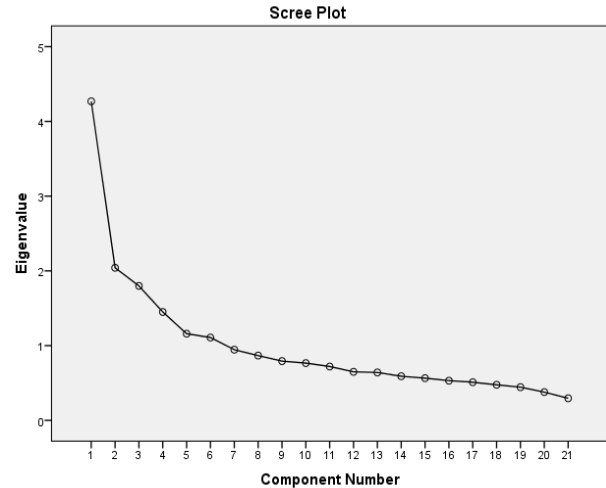
Table 3: Mean, standard deviation, minimum, and maximum score for variables of age and number of children

variable	\bar{x}	SD	Min	Max
Age	31.52%	9.06%	17	56
Number of children	1.04%	0.91%	0	4

According to the results in Table, the mean age of studied women was 31.52 years. The mean number of children was 1.04. The minimum age for female respondents is 17 years and the maximum age for male respondents is 56 years. Various methods were used to evaluate the reliability and validity of women's self-sexual schema scale. To examine the validity of the scales, their factor structure was examined using exploratory factor analysis. Then pattern of exploratory factor analysis was assessed using confirmatory factor analysis and model fitting was compared with the pattern on the original scale version. In order to examine the discriminant validity (convergent and divergent), the correlation of respondents' scores was calculated with Bem Sex Role Inventory (1974) scores. In addition, the relationship between dimensions of sexual self-schema and demographic variables were studied. Finally, internal consistency (Cronbach's alpha) and test-retest methods were used to assess the reliability of the scale. The first research question: 1. Do the women's self- sexual schema have a desirable validity in Shiraz? Second research question: Do the women's sexual schema have a desirable reliability in Shiraz? For this purpose, the factor structure of the women's self- sexual schema was firstly examined using exploratory factor analysis. This study which was conducted using principal components and Varimax rotation indicated that a four-factor structure is a good way to describe the scale items. These four factors are able

to explain 45.52% of the variance of the scale. Figure 1 shows a schematic diagram of factor analysis for the women's self- sexual schema.

Figure 1: Schematic diagram of women's self- sexual schema scale



Based on the items, these four factors were called open minded - clear, warm - loving, lustful, and reserved - conservative, respectively. A total of 5 items (24, 31, 38, 41 and 45) were excluded due to improper loading of the scale. The criterion to remove items was load factor less than 0.4% or higher than 3.0% on more than one factor. Table 4 shows the results of exploratory factor analysis of women's self- sexual schema scale.

Table 4: The results of exploratory factor analysis of the women's self- sexual schema scale

Open-minded / clear		Warm /loving		lustful		reserved-conservatives	
Item	Factor load	Item	Factor load	Item	Factor load	Item	Factor load
2. bold	59%	5. loving	56%	11. irritable	68%	3. cautious	71%
6. broad-minded	60%	25. intimate	55%	12. irritating	62%	8. embarrassed	55%
9. frank	65%	35. Romantic	64%	39. sexual	67%	Conservative	77%
13. Experienced	44%	37. sympathetic	63%	48. whistleblower	56%		
16. direct	64%	44 warm	60%				
18. open-minded	59%	50. Sensory	65%				
22. Conscious	45%						
32 - straight	49%						
Equity	2.93%						
% of total variance	13.96%		2.88%		2.03%		1.72%
			13.67%		9.65%		8.21%

It should be noted that Kaiser-Meyer-Olkin (KMO) Test to measure the sampling adequacy was equal to 77.0% and the Bartlett sphericity test for significance of the correlation matrix between items the questions was significant at the 0.0001 level. Table 5 shows the results of this analysis.

Table 5: the results of Kaiser-Meyer-Olkin Test and Bartlett's sphericity test to measure the scale in women

Kaiser-Meyer-Olkin Test		77%
Bartlett's sphericity test	Chi-square test	1636.95%
	Degrees of freedom	210
	Significance level	0.0001

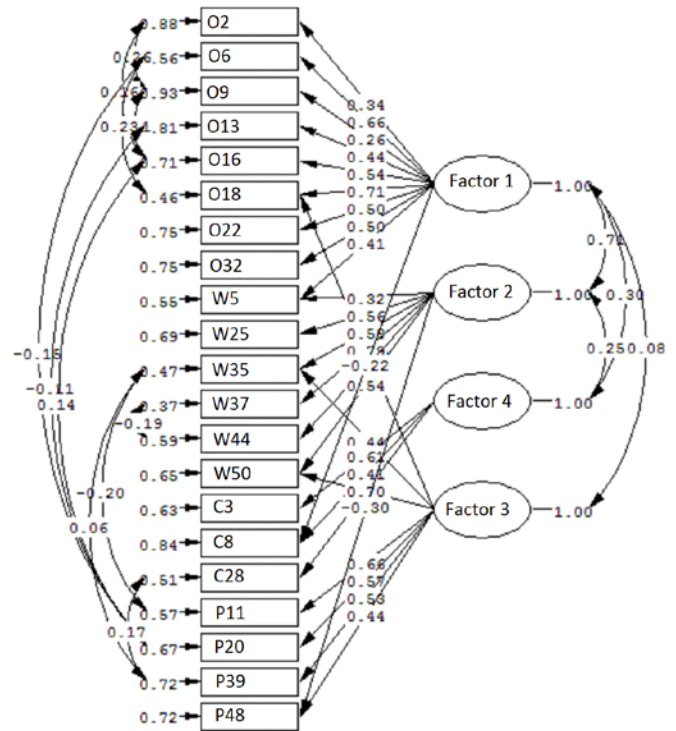
Since the model derived from factor analysis was different from the original model introduced in the self-sexual schema scale (Anderson and Cyranowski, 1994), confirmatory factor analysis for the scale was conducted. The purpose of these analyzes is to identify which of the existing models (main model and the factor analysis model) is more consistent with data from Iranian samples. For this purpose, the model proposed by Anderson and Cyranowski (1994) was tested by confirmatory factor analysis; then, the model of exploratory factor analysis was tested by confirmatory factor analysis and the fitness of each model was compared with each other. Finally, we tried to introduce some modifications in order to improve the fitness of new model and be close to acceptable parameters. Table 6 shows the parameters of the main model fit (without modification) new model (without modification) and a new model (with modifications).

Table 6: Fitness indicators related to confirmatory factor analysis in women's self- sexual schema scale

Model	X ²	df	X ² /df	RMSEA	GFI	AGFI
Main model (without modification)	1692.37	296	5.72	11%	73 %	68 %
New model (without modification)	773.7	183	4.23	0.1%	83 %	78 %
New model (with modifications)	377.74	168	2.24	0.06%	91 %	87 %

As it is noted in the table above, by dividing the chi-square into degree of freedom and other fitness indicators, the new model was improved without any modification, compared to the original scale model. With some modifications (to delete the path in the dimensions of open-minded/clear, item 5, warm/loving, item 48, lustful and items 18 and 35) fitness of the new model reached to an acceptable level (the degree of freedom derived by dividing the square is close to 2; RMSEA GFI under 1.0 and above 9.0). Therefore, theses analyzes showed that the model obtained from exploratory factor analysis (especially after corrective measures) had a higher fitness in comparison with the proposed model by the original scale version in the studied samples.

Figure 2 shows a schematic confirmatory factor analysis for women's self- sexual schema scale



Discriminant validity of women's self- sexual schema scale

In order to examine discriminant validity (convergent and divergent) in women's self- sexual schema scale, Pearson correlation coefficient between dimensions of factor analysis and scores from Bam gender roles inventory (1974) were calculated. Table 7 shows the correlation matrix of variables.

Table 7: Pearson correlation coefficient between dimensions of women scale and Bam gender roles inventory

Variables	1	2	3	4	5	6
open-minded/clear	1					
warm/loving	0.47**	1				
lustful	0.06%	0.09%	1			
reserved/conservative	0.05%	0.11%*	0.02%	1		
masculinity	0.50**	0.33%**	0.38%	-0.19%*	1	
femininity	0.29**	0.50%**	0.17%	0.27%**	0.39%**	1

As it is seen in the table above, clear/open-minded dimension has a positive significant relationship with masculinity and femininity and its relationship to masculinity is stronger. Warm - loving dimension also has a positive and significant relationship with femininity and masculinity and its relationship with femininity is stronger. Lustful dimension has a positive and significant relationship with both masculine and

feminine and its relationship to masculinity is stronger. Conservative-reserved dimension has a negative relationship with masculinity and has a positive and significant relationship with femininity. In addition, the relationship between some demographic variables such as age, duration of marriage, number of children and women's self- sexual schema scale were studied.

Table 8 shows the correlation matrix of variables.

Table 8: Pearson correlation coefficient between the demographic variables and women scale dimensions

Variables	1	2	3	4	5	6	7	8	9
Age	1								
education level	0.14%	1							
Duration of marriage	74%	-0.09%	1						
income	25%	0.30%	18%	1					
Number of children	59%	-0.06%	0.65%	0.07%	1				
Open-minded/clear	-0.01%	0.08%	0.01%	0.09%	-0.04%	1			
Warm/loving	0.00%	0.00%	0.05%	0.002%	0.14%	47%	1		
lustful	-0.15%	0.03%	-0.22%	-0.04%	-0.26%	0.06%	0.09%	1	
Reserved-conservative	-0.01%	-0.05%	0.01%	-0.08%	-0.02%	0.05%	0.11%	0.02%	1

As it can be seen in the table above, there was a significant negative relationship between age, duration of marriage and number of children and lustful dimension. In other words, the increase in the variables is associated with a decrease in lustful domain scores. The second question: does women's self- sexual schema scale had a good reliability?

Internal consistency and test-retest methods were used to evaluate the reliability of women's self- sexual schema scale. Cronbach's alpha coefficient was used to assess the internal consistency of scales. In accordance with Table 9, the result shows that dimensions of open-minded/ clear and warm/loving had an acceptable reliability. Despite the small number of items, lustful and reserved - conservative dimensions had an average reliability.

Table 9: Cronbach's alpha for dimensions of women's self- sexual schema scale

Dimensions of self- sexual schema	Alpha coefficient	Number of questions	Number of subjects
Open-minded/clear	73%	8	360
Warm/loving	73%	6	360
Lustful	56%	4	360
Reserved - conservative	52%	3	359

Moreover, in order to calculate test-retest reliability, the results were evaluated by implementing measures twice on 133 subjects and within a week using Pearson correlation

coefficient. Table 10 shows the Pearson correlation coefficient by implementing measures twice for dimensions of factor analysis. The analytical results indicate that dimensions of women's self- sexual schema scale had an acceptable test-retest reliability.

Table 10: Test-retest reliability coefficients for women's self- sexual schema scale dimensions

	R	N	P
Open-minded/clear	91%	133	0.0001
Warm/loving	72%	133	0.0001
Lustful	81%	133	0.0001
Reserved-conservative	76%	133	0.0001

After checking the validity and reliability, descriptive statistics indicators (mean, standard deviation, minimum and maximum) were calculated for women's self- sexual schema scale dimensions. Since the number of dimension items was different from each other, each score was firstly divided by the number of dimension items so that the average dimensions can be compared with each other. Table 11 shows the descriptive statistics for women's self- sexual schema scale dimensions. As can be seen in the table, respondents have gained the highest mean in dimensions of open-minded/clear, warm-loving, lustful and reserved-conservatives.

Table 11: Descriptive statistics for women's self- sexual schema scale dimensions

	\bar{x}	SD	N of items	Min	Max
Open-minded/clear	4.02%	0.80%	8	1.25%	6
Warm/loving	4.52%	0.95%	6	1	6
Lustful	2.74%	0.16%	4	0	5.75%
Reserved-conservative	3.37%	1.07	3	0.33%	6

DISCUSSION AND CONCLUSION

The aim of this study was to evaluate the psychometric adequacy of the Persian version of women's sexual self-schema scale (Andersen & Cyranowski, 1994) in Iranian society. The following questions were posed to reach those aims: Does the women's self- sexual schema have a desirable validity in Shiraz?

Second research question: Does the women's self-sexual schema have a desirable reliability in Shiraz? The three dimensions of passionate/romantic, open/direct, embarrassed/conservative were not extracted for the women's sexual self-schema scale in Iran. Results obtained through principal components analysis and factor analysis using varimax orthogonal rotation on a scale of women's sexual self-schema indicated the validity of the scale. These four factors are able to explain 45.52% of the variance of the scale. These four factors were called open ended/clear, warm-loving, lustful and conservative-reserved, respectively. A total of 5 items were excluded due to improper loading of the scale. The analytical results indicate that dimensions of women's self- sexual schema scale had an acceptable reliability. The study of discriminant validity (convergent and divergent) in the women's self-sexual schema together with the Pearson's correlation coefficient from factor analysis and Bem Sex Role Inventory (1974) scores revealed that clear/open-minded dimension has a positive

significant relationship with masculinity and femininity and its relationship to masculinity is stronger. Warm - loving dimension also has a positive and significant relationship with femininity and masculinity and its relationship with femininity is stronger. Lustful dimension has a positive and significant relationship with both masculine and feminine which seems logical with regard to female traits. According to the results, there was a significant negative relationship between age, duration of marriage and number of children and lustful dimension. In other words, the increase in the variables is associated with a decrease in lustful domain scores. Since women are faced with more restrictions in Iran, their social roles tend to be more introverted which seems logical. In general, it can be inferred that a lot of sexual problems related to physiological functions caused by the existence of cultural differences between communities make people do not understand symptoms and sexual schema origins in the same way; these functions are common among all people, but their culture and context may change attitudes and functional kinds. Therefore, the division of questions based on three passionate and romantic, clear-comfortable and embarrassed-conservative factors is not feasible in practice in Iranian society and we cannot definitely comment on the certainty of these factors in the Iranian sample and Shiraz and this emphasizes the need for further research. Since women are faced with more restrictions on sexual issues in Iranian society and it can influence the shape of their sexual scheme, so it is logical that there is no consistency between the results. Discussions of sexual topics are generally considered a taboo among Iranians because of existing cultural dimensions; however, the high reliability of the Persian version of women's self-sexual schema can be due to the implementation of this tool on married couples and indeed the type of questions is consistent with the objectives and conditions of the married community value. In Iran, sexual issues are discussed within the formal and purposeful framework and various social and religious institutions, such as Welfare institute compensates for the shortcomings of the families. Also, due to the accurate monitoring of Iranian families in raising their children on sexual issues in consistent with their family status for social interaction, healthy friendship, and an attempt to reduce sexual risk behaviors in their children, as a result, healthy and principled sexual education practices, individual competencies such as positive self-concept, self-efficacy, and positive and negative attitudes regarding the sexual issues are shaped in people and help them make a good deal and compatibility at the time of marriage. According to the results, although the results obtained from the women's self-sexual schema scale are not fully consistent with the cultural conditions in Iran, we can say that the Persian version of the scale has a good reliability due to consistency of questionnaire items. Overall, the proper coefficients of reliability and validity of the questionnaire and an ease of implementation provide a wide range of conditions for researchers to use this tool. Additionally, with the development of studies on sexual issues in Iran, the findings of the study could help researchers, counselors and therapists in providing studies and numerous research in Psychology and Educational Sciences in future studies. The present scale attempted to examine an important tool in the field of sexual schema through using a partially acceptable sample, but there is still a need for many larger studies in order to investigate and analyze the sexual schemata issue more extensively.

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