

## Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS): Psychometric Properties of the Persian Version within an Iranian Population

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### ABSTRACT

The aim of the present study was to investigate the psychometric properties of the Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS; Lawrance, Byers, & Cohen, 2011) within an Iranian population of approximately 300 men and women. The main conclusions of this study are that the structure of IEMSS is fairly well replicated in an Iranian sample. The amount of variance by factor analysis was good. Internal consistency and stability of IEMSS and its subscales are satisfactory and the subscales are reasonably stable across demographic variables. The discriminant validity and the ability of the scales to predict sexual satisfaction or dissatisfaction was excellent. The convergent and divergent construct validity was good. These results support the reliability and psychometric validity of the IEMSS in the assessment of sexual satisfaction in different samples.

**Keywords:** *Interpersonal Exchange Model of Sexual Satisfaction Questionnaire, IEMSS, validity, reliability, Iran*

Sexual satisfaction is defined as the affective response arising from one's evaluation of his or her sexual relationship, including the perception that one's sexual needs are being met, fulfilling one's own and one's partner's expectations, and a positive evaluation of the overall sexual relationship (Offman & Mattheson, 2005). Sexual satisfaction has been linked to a number of important variables including relationship satisfaction and self-esteem, and is one of the strongest predictors of marital stability for both men and women; thus, it is not surprising that sexual satisfaction is an important component of well-being for most individuals (Stephenson & Meston, 2011). As a result, different researchers have increasingly focused on the subject from different viewpoints, including the interpersonal exchange theory perspective.

In exchange theories, interaction is seen as a process of giving and receiving valued resources and the purpose of the interaction is gaining a "profit", i.e., receiving resources that are viewed as more valued than those given up (Turner & Stets, 2005). In words of George C. Homans (1961, 1974), the first theorist to adopt behavioristic psychology to a sociological

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## Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS): Psychometric Properties of the Persian Version within an Iranian Population

analysis of exchange, “activity” is behavior aimed at deriving “rewards”, which are anything that is valuable to this person. He defined “costs” as activities that are punishing, or alternative rewards that are forgone to get another reward. Exchange in this way gives rise to notions of fairness, justice, and expectations, which in turn gives way to emotions such as satisfaction (as a result of expectations being met) and anger and sadness (in case expectations are not met). Later on, Karen S. Cook, in collaboration with Emerson (1978) examined the process of commitment in exchange networks. They believed that commitment could be said to exist when actors choose their current exchange partners over potential alternatives. In case of very high or extreme commitment they remain with partners who give them less valued or fewer resources than potential alternative partners. Because rational actors each seek to maximize payoffs, commitment should not occur in situations like that. Especially because of the propensity of actors to assign greater subjective value to losses and punishments than to gains, i.e. loss aversion (Molm, 1987). Irrationality through commitment to exchange partners, however, is quite common (Cook & Emerson, 1978). Same concepts could be used in the context of sexual relationships; because when thinking about their sexual relationship with their partner, most people can think of both rewards, things that are positive or pleasing, and costs, things that are negative or displeasing (Lawrance, Byers, & Cohen, 2011). In order to examine whether or not the exchange theory is related to sexual satisfaction, the Interpersonal Exchange Model of Sexual Satisfaction was designed based on the proposition that sexual satisfaction is influenced by:

- a) The balance of sexual rewards and sexual costs in the relationship,
- b) How these rewards and costs compare to the expected level of rewards and costs,
- c) The perceived equality of rewards and costs between partners, and
- d) The nonsexual aspects of the relationship (Lawrence & Byers, 1995).

The present study aims at providing a Persian version of the questionnaire and examining its psychometric properties within the Iranian population.

## **METHODOLOGY**

### *Materials and Methods*

#### **Participants and Procedure**

The participants consisted of 170 married women (M age=34.6, SD=7.4, M age of female participants' husbands=39.2, SD=8.6, M duration of marriage (in years)=10.5, SD=8.1) and 122 married men (M age=37.3, SD=7.8, M age of male participants' wives=39.2, SD=8.6, M duration of marriage (in years)=9.4, SD=7.5).

Subjects were selected among married individuals living in Tehran, Iran, by the use of convenience sampling. Inclusion criteria consisted of:

- 1- Spouses should be living together,
- 2- Spouses should have an active sexual life with each other.
- 3- Subjects should be between 18 to 65 years of age.
- 4- Subjects should give consent to fill out the questionnaires.

Exclusion criteria consisted of:

1. One or both spouses suffer from mental, sexual, or medical conditions that affects their sexual activity.
2. Subjects should not leave more than 30% of questionnaire unanswered.

## Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS): Psychometric Properties of the Persian Version within an Iranian Population

### *Instruments*

Interpersonal Exchange Model of Sexual Satisfaction (IEMSS): The preparation of the Persian version of IEMSS was done based on the following steps:

1. Forward translation
2. Use of expert panel
3. Back translation
4. Harmonization
5. Pre-testing
6. Preparation of the final version

The original version of IEMSS was translated into Farsi, with the permission of the designers of the original questionnaire. The translated version was studied by an expert panel with the aim of identifying and resolving the inadequate expressions/concepts of the translation. The panel consisted of the original translator, experts in sexual health, and experts with experience in instrument development and translation. Some words or expressions were adjusted when the panel suggested alternatives. The final version was back-translated by a native English speaker; no substantial loss of information or discrepancies was observed. On the basis of a few minor differences between the original and retranslated versions of the questionnaire, additional changes were made in the Persian translation. Pre-testing was performed to ensure the clarity, unambiguity, and understandable language of the experimental version of the questionnaire. Pre-test respondents included individuals, representative of the general population, who were to be administered the questionnaire. After the pre-test, the respondents were systematically debriefed and the final version was satisfactorily prepared based on the feedback provided by the pre-test participants.

Two pre-standardized tools were used in measurement of the validity of IEMSS, Persian version:

- Index of Sexual Satisfaction (ISS), Persian Version: ISS is a short-form scale designed to measure the degree of dissatisfaction in the sexual component of a dyadic relationship. It contains 25 category-partition (Likert-type) items. Cronbach's alpha for the Persian version is .91 and test-retest validity is .93 (Besharat & Firouzi, 2003; Besharat, Hosseinzadeh Bazargani, Mirzamani, 2003).
- Multidimensional Sexual Self-Concept Questionnaire (MSSCQ), Persian Version: MSSCQ is an objective self-report instrument designed to measure different psychological aspects of human sexuality including sexual anxiety, sexual self-efficacy, sexual assertiveness, sexual motivation, sexual problem self-blame, etc. Ramezani et al. (2013) measured the validity and reliability of the MSSCQ for the Iranian population ( $\alpha=0.89$ ). In this study a short form of MSSCQ was used.

## **RESULTS**

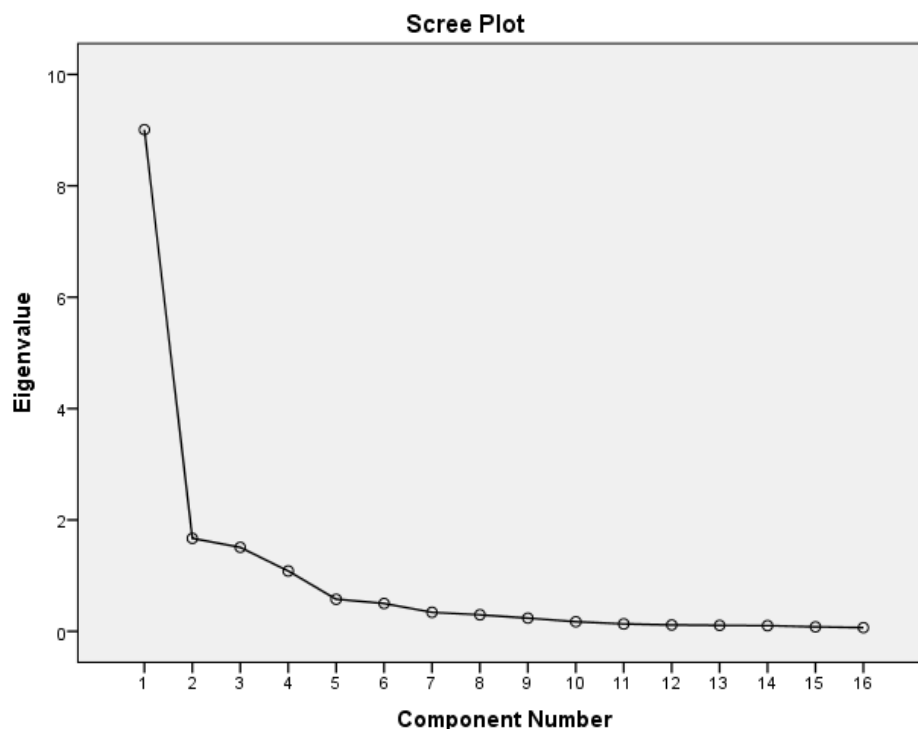
After data collection, data analysis began to determine the validity and reliability of the IEMSS, Persian version.

Content validity was ensured by confirming that the translation was accurate during the process of translation and preparation of the Persian version of the questionnaire.

Factor analysis was performed in the form of principle component analysis (PCA). In order to assess the correlation between IEMSS' items, orthogonal method with varimax rotation was used. The maximum acceptable eigenvalue was 1 and the maximum acceptable correlation coefficient in the matrix was assumed .4 for each component (Figure 1).

**Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS): Psychometric Properties of the Persian Version within an Iranian Population**

*Figure 1- Scree plot of the questions and their eigenvalue*



PCA resulted in four components that accounted for a total of 76.1% of the variance. 56.3% for the first component, 10.4% for the second component, 9.4% for the third component, and 6.7% of the variance belonged to the fourth component (Table 1).

**Table 1. Total variance explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.008	56.300	56.300	9.008	56.300	56.300	5.528	34.548	34.548
2	1.669	10.434	66.734	1.669	10.434	66.734	4.563	28.519	63.068
3	1.508	9.425	76.159	1.508	9.425	76.159	1.669	10.429	73.496
4	1.084	6.773	82.932	1.084	6.773	82.932	1.510	9.436	82.932

As the designers of the original IEMSS state, the questionnaire was made in four sections, as it considers sexual satisfaction to be influenced by the four factors of the balance of sexual rewards and sexual costs in the relationship, how these rewards and costs compare to the expected level of rewards and costs, the perceived equality of rewards and costs between partners, and the nonsexual aspects of the relationship (Lawrence & Byers, 1995). Which is also the case in the rotated component matrix of the PCA of the Persian version (Table 2).

**Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS): Psychometric Properties of the Persian Version within an Iranian Population**

**Table 2. Rotated component matrix**

	Component			
	1	2	3	4
GMSEX1	.847			
GMSEX2	.846			
GMSEX3	.837			
GMSEX4	.850			
GMSEX5	.715			
GMREL1		.819		
GMREL2		.855		
GMREL3		.848		
GMREL4		.853		
GMREL5		.839		
EQ1	.794			
EQ2	.764			
EQ3				.869
EQ4			.910	
EQ5			.911	
EQ6				.863

Convergence construct validity was measured by two methods of known-groups comparison, and similar questionnaires.

For known-group comparison, it was assumed that in older ages (both for the individual and their spouse) sexual satisfaction is lower than younger ages, and the longer the duration of marriage, the lower the score of sexual satisfaction. Results showed significant lower scores for sexual satisfaction in older individuals, in individuals with older spouses, and in individuals with longer duration of marriage (Table 3).

**Table 3. Correlation between age, spouse age, and duration of marriage with scores of sexual and relationship satisfaction (IEMSS) and sexual dissatisfaction (ISS)**

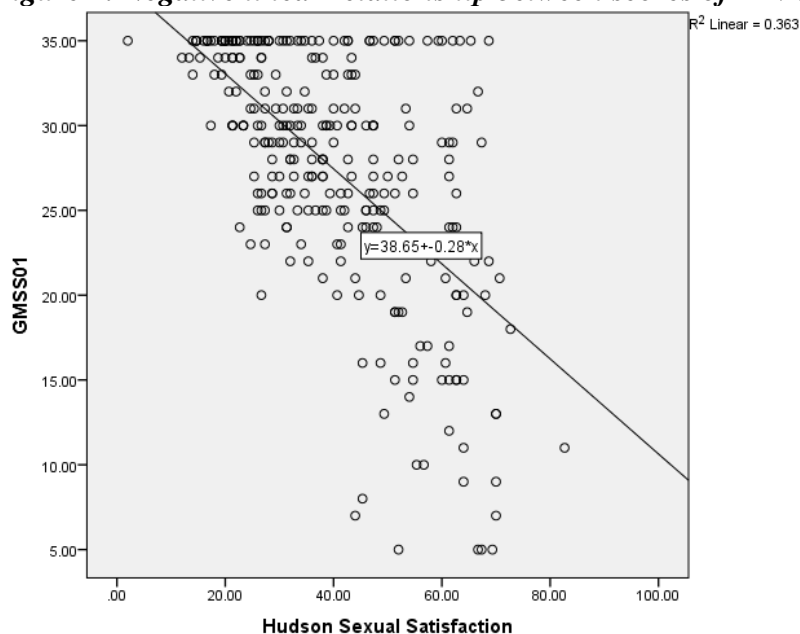
	Age	Spouse Age	Marriage Duration	Sexual Satisfaction (IEMSS)	Relationship Satisfaction (IEMSS)	Sexual Dissatisfaction (ISS)
Age	1	-	-	-	-	-
Spouse Age	.764	1	-	-	-	-
Marriage Duration	.754	.757	1	-	-	-
Sexual Satisfaction (IEMSS)	-.125	-.212	-.127	1	-	-
Relationship Satisfaction (IEMSS)	-.138	-.280	-.196	-.780	1	-
Sexual Dissatisfaction (ISS)	.174	.210	.131	-.603	-.495	1

## Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS): Psychometric Properties of the Persian Version within an Iranian Population

For the similar questionnaire method, Hudson's Index of Sexual Satisfaction was used. The correlation between total scores of both questionnaires was measured, as well as the scores of all subscales of ISS and IEMSS, using Pearson correlation coefficient (Table 3).

Criterion value consists of predictive criterion validity and concurrent criterion validity. Concurrent criterion validity was measured by assessing the correlation between the total score of sexual satisfaction in IEMSS and the score of ISS. Results showed a significant relationship of .603 between the two measures. Figure 2 shows how higher scores in IEMSS (that indicate higher satisfaction) correlate with lower scores in ISS (that show higher dissatisfaction).

**Figure 2. Negative linear relationship between scores of IEMSS and ISS**



In order to examine whether IEMSS is a good predictive measure, IEMSS scores were examined in relation with the score of MSSCQ subscales (Table 4).

**Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS): Psychometric Properties of the Persian Version within an Iranian Population**

**Table 4. Correlation between Subscales of IEMSS and MSSCQ**

	Sexual Satisfaction	Relationship Satisfaction	Sexual Rewards and Costs	Perceived Rewards and Costs	Partner's Perceived Rewards and Costs	Sexual Anxiety	Sexual Efficacy	Sexual Assertiveness	Sexual Problem Self-Blame	Sexual Monitoring	Sexual Motivation	Sexual Esteem	Sexual Depression
Sexual Satisfaction	1												
Relationship Satisfaction	.780	1											
Sexual Rewards and Costs	.567	.495	1										
Perceived Rewards and Costs	.465	.410	.699	1									
Partner's Perceived Rewards and Costs	-.036	-.021	.032	.034	1								
Sexual Anxiety	-.508	-.440	-.514	-.457	-.076	1							
Sexual Efficacy	.433	.444	.386	.342	.103	-.451	1						
Sexual Assertiveness	.394	.406	.276	.271	.087	-.465	.568	1					
Sexual Problem Self-Blame	.174	.217	.021	.118	-.037	.155	.123	.014	1				
Sexual Monitoring	.122	.173	-.108	.013	-.213	.229	.025	-.014	.440	1			
Sexual Motivation	.317	.371	.232	.237	-.011	-.232	.594	.546	.310	.232	1		
Sexual Esteem	.483	.467	.399	.334	.067	-.505	.765	.624	.130	.072	.612	1	
Sexual Depression	-.529	-.434	-.537	-.502	-.084	.895	.496	-.483	.097	.160	-.306	-.537	1

Reliability was measured by examining the internal consistency. Cronbach's alpha was .904 for the IEMSS, Persian version. Cronbach's alpha was .959 and .972 for the subscales of sexual satisfaction and relationship satisfaction, respectively.

## **DISCUSSION**

The aim of the current study was to investigate the psychometric properties of the IEMSS, Persian version, in an Iranian population. The main conclusions of this study are that the structure of IEMSS is fairly well replicated in an Iranian sample; the reliability index was approximately .96 which is fairly high, and different validity types were demonstrated for the questionnaire. As a result, the Persian version of IEMSS could be a good apparatus for the evaluation of sexual satisfaction of Iranian individuals.

Research is fundamental to increasing the understanding of individual and societal sexual expression and reliable and valid measurement is fundamental to sound research (Fisher, Davis, Yarber, & Davis, 2010). Although sexual satisfaction is known to be vital in an intimate relationships (Barrientos & Paez, 2006; Litzinger & Gordon, 2005; Santtila et al., 2008) to the extent that low sexual satisfaction significantly increases the likelihood of divorce (White & Booth, 1991) because of certain cultural and religious aspects in countries like Iran, the body of research is not that vast in the field of sexual satisfaction and consequently, valid and reliable measures for the Iranian population are limited in number. Therefore, preparing a standardized tool that measures sexual satisfaction in a unique way, based on the exchange theory, could be quite valuable. By providing the IEMSS, Persian version this study aims to help counselors, therapists, educators, and individuals themselves to better understand how individuals' perception of sexual costs and rewards affect their sexual and relationship satisfaction and try to improve their sexual satisfaction further, by understanding their exchange-related mindset about their relationships.

## Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS): Psychometric Properties of the Persian Version within an Iranian Population

The main limitation of the current study was that gathering information about sex, as a cultural taboo in Iran, is a relatively difficult task. Moreover, although IEMSS is designed for all couples, married or cohabiting, heterosexual or homosexual, subjects of the current study had to be chosen from among married heterosexual couples. Because both homosexuality and sexual relationship outside of marriage are not only considered as culturally unacceptable in Iran, but also, they are illegal and forbidden by law.

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**Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS): Psychometric Properties of the Persian Version within an Iranian Population**

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***Conflict of Interest***

The author(s) declared no conflict of interest.

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