



# Psychometric Properties of the Pornography Craving Questionnaire (PCQ) in Iran

Nader Molavi<sup>1</sup>, Shahrzad Khosravifar<sup>2</sup>, Masumeh Ghazanfanpour<sup>3</sup>, Mohammad Reza Najarzadegan<sup>4</sup>, Abdolhadi Saeidi<sup>5</sup> and Masoudeh Babakhanian<sup>6,\*</sup>

<sup>1</sup>Kashan University of Medical Sciences, Kashan, Iran

<sup>2</sup>Rasool Akram Hospital, Iran University of Medical Science, Tehran, Iran

<sup>3</sup>Department of Midwifery, Razi School of Nursing and Midwifery, Kerman University of Medical Sciences, Kerman, Iran

<sup>4</sup>Research Centre for Addiction and Risky Behaviours (ReCARB), Iran University of Medical Science, Tehran, Iran

<sup>5</sup>Urmia University of Medical Sciences, Mahabad, Urmia, Iran

<sup>6</sup>Student Research Committee, Psychiatry and Behavioral Research Centre, Addiction Institute, Mazandaran University of Medical Sciences, Sari, Iran

\*Corresponding author: Student Research Committee, Psychiatry and Behavioral Research Centre, Addiction Institute, Mazandaran University of Medical Sciences, Sari, Iran. Tel/fax: +98-2335225140, Email: babakhanian.m@gmail.com

Received 2019 January 07; Revised 2020 June 09; Accepted 2020 July 11.

## Abstract

**Objectives:** Addiction to pornography is one of the most important behavioral addictions among Iranian youth. The purpose of this study was to develop and validate a measurement scale of “cravings for pornography” Iran.

**Methods:** This Psychometric study was conducted on a 234 general Iranian population sample in 2017 with a random sampling method. In this study, the psychometric properties of the Persian version of the Pornography Craving Questionnaire were evaluated. Data were analyzed by exploratory factor analysis using SPSS version 23. The questionnaire was administered online (Telegram application and email).

**Results:** The age range of 234 study participants was 13 to 51 years (mean = 29.7); 97 females (41.5%) and 135 males (57.7%). To determine this questionnaire's cut-off value, we divided into three categories of low or no craving (12 - 36), average (36 - 60), and high (60 - 84). The result of exploratory factor analysis for these questions identified two factors (Psychological reactions and Desire). Cronbach's alpha was 0.8.

**Conclusions:** According to the results of this study, the Persian version of the “the pornography craving questionnaire” has sufficient reliability and validity in Iranian society.

**Keywords:** Craving, Iran, Pornography, Psychometric

## 1. Background

Addiction is not just using drugs. Whenever a habit becomes a compulsion, it may be counted as addiction (1). Since the 1970s, as media grew, and after the advent of the Internet, pornography became easily accessible (2), but the results of multiple studies have shown pornography addiction includes the seven-dimensional behavioral addiction (3). The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) and previous studies have suggested that the diagnostic criteria for pornography addiction overlap with diagnostic criteria for “impulse control disorder” (pathological gambling) or non-substance related disorders (1, 4). Behavioral addictions are marked by two main manifestations: (a) direct major distress or decline in functionality and (b): perseverance (5).

Pornography use has become a moral conundrum (6).

Due to its widespread availability, excessive use of this type of material is shifting moral and religious cornerstones (7). It is difficult to assess the prevalence of and to find accurate statistics on sex addiction on the Internet (8). The reasons are the ever-expanding number of internet users and the difficulty of identifying crimes there because of online erotica usage as a linker between internet addiction and engagement in risky online sexual behaviors (9, 10). According to an online survey in 2006, about an average of 68 million daily pornographic search engine requests, which are 25% of the total search engine requests every day, have been recorded with the average age of first internet pornography exposure at 11 years old (11).

Research shows the tendency to watch pornography among young people is an important predictor of drug and alcohol abuse (1). Methamphetamine addiction is one of the causes of “pornography addiction” in Iran (12).

Watching pornography is considered one of the most important behavioral addictions among young people in Iran (13); therefore, this study aims to develop and validate another measurement scale called “the pornography craving questionnaire” (PCQ) (14). Following the increasing use of pornography in the past few decades in the world, valid and reliable tools for evaluating the use of pornography such as pornography craving questionnaire, cyber-pornography use inventory (CPUI), cyber-pornography use inventory-9 (CPUI-9), compulsive pornography consumption (CPC), and problematic pornography use scale (PPUS) (14-18) have been developed (19). Among them, the PPUS questionnaire has been standardized in Iran (19).

Pornography, due to its addictive potential and easy and cheap anonymous online access (20), has become an important behavioral addiction in the world (20) and in Iranian society. A scale for measuring the intensity of craving for pornography can help in the evaluation and therapy of this addiction, but such a scale was not previously available in Iran.

## 2. Methods

This psychometric study was conducted on a sample of 234 Iranian general population in 2017 with a random sampling method. In this study, the psychometric properties of the Persian version of the pornography craving questionnaire were evaluated, and its target groups are anyone, using pornography in Iran. The Ethics Committee of the Student Research Committee of Mazandaran University of Medical Sciences approved this study (IR.MAZUMS.REC.1396.175). This study was supported by Mazandaran University of Medical Sciences (Student Research Committee), (grant number = 175).

### 2.1. Pornography Craving Questionnaire

This questionnaire surveyed the individual's cravings for pornography. It was first developed and evaluated using samples of male students in the United States (14). After conducting three studies, the final questionnaire, 12 questions with a subscale on a seven-point Likert scale (from “totally agree” to “totally disagree”) was developed. The participants were asked to consider their feelings about the questions at the time of completing the questionnaire. Convergent, criterion, discriminant, and predictive validity of pornography use. the PCQ had excellent internal consistency reliability ( $\alpha = 0.91$ ) and was unidimensional (14). Moreover, this questionnaire has strong psychometric properties (21, 22).

### 2.2. Procedure

Initially, the main questionnaire was translated into Farsi by expert translators who were fluent in both English and Persian languages. Content validity index (CVR) was calculated for each item, and no question was removed or changed. After verifying the precision of the translation, the back-translated English version was sent to the original author for review.

The questionnaire was administered online, and the responses were anonymous. The link to the questionnaire was sent through the Telegram messaging application or email to the participants. For participants without access to the internet, a print version was used and distributed, mostly to university students. The purpose of the research was explained fully to the participants, and the questionnaire was completed after obtaining informed consent from the participants.

### 2.3. Participant

The link to the online study questionnaire was provided and the participants were asked to continue with the questionnaire only if they like to read or watch pornography. The inclusion criteria were having Iranian nationality, both sexes, age under sixty, and being able to read and write. The exclusion criteria were those who did not complete the online questionnaire. Monroe believes the sample size needed for factor analysis is between 200 and 500 (21). The sample size for the current study was 234. The majority of the participants accessed the study questionnaire by clicking on the study link sent online, mostly through the Telegram application; therefore, the participation rate is not available. Based on the evidence available for the adequacy of the response rates to online forms, the participation rate is 50% at best (23). In the current study, because the percentage of non-responders is probably very high, Nevertheless, we are confident it is representative, as well as based on previous studies, the optimum sample size for factor analysis is between 200 and 500 (22), we believe the number of the participants is adequate for this study (4, 23).

### 2.4. Statistical Methods

Descriptive and inferential statistical methods were used in this study. Descriptive methods were used to calculate central indicators and dispersion. The exploratory factor analysis method was used to determine the subscales of the questionnaire. For the statistical calculations, SPSS software version 23 was used.

### 3. Results

#### 3.1. Analysis Strategy

Descriptive and inferential statistical methods were used in this study. Descriptive methods were used to calculate central indicators and dispersion. The construct validity was evaluated using exploratory factor analysis (EFA). Accordingly, EFA was conducted using SPSS software version 23. Kaiser-Meyer-Olkin (KMO) is a measure of sampling adequacy with a value in the range of 0 and 1, KMO value should be  $> 0.5$ , and These results emphasize the desirability of this test prior to proceeding to factor extraction.

##### 3.1.1. Demographics

The age range of 234 study participants was 13 to 51 years (mean = 29.7); 97 females (41.5%). Demographics and pornographic histories of the study participants are summarized in [Tables 1](#) and [2](#).

#### 3.2. Exploratory Factor Analysis

Prior to exploratory factor analysis, KMO and Bartlett's Sphericity test were used to examine the acceptability of sample size. The results from KMO measure (0.899) and Bartlett's Sphericity test (chi-square = 1234.833; Df = 45;  $P < 0.000$ ) were indicative of the suitability of the data for factor analysis ([Table 3](#)).

Exploratory factor analysis was conducted on the data. Principal component analysis indicated that a single factor with two items could explain 62% of the variance. Factor loadings ranged from 0.56 to 0.44 and items 3 and 4 were deleted because cross-loading values were less than 0.2 between the two factors.

##### 3.2.1. Test Norm

To determine this questionnaire's cut-off value, conventional logical-mathematical methods were used. Based on the results obtained from this method, the distance between classes in this questionnaire was 24. Accordingly, the degree of craving for pornography was divided into three categories of low or no craving (12 - 36), average (36 - 60), and high (60 - 84). In our subjects, the average score for this questionnaire was 60.90; therefore, most of the participants in this study (58.8%) were in the range of high cravings for pornography.

##### 3.3. Consistency

The two subscales had excellent internal consistency ([Table 3](#)). The total Cronbach alpha coefficient for this questionnaire was calculated to be 0.87. Since Cronbach's alpha of higher than 0.7 indicates high internal consistency ([24](#)), this questionnaire has an acceptable internal consistency.

**Table 1.** Demographic Characteristics of the Participants

| Characteristics                                      | Frequency | (%)  |
|--|-----------|------|
| <b>Sex</b>   |           |      |
| Male   | 136       | 57.7 |
| Female   | 98        | 41.5 |
| <b>Ethnicity</b>                                     |           |      |
| Fars   | 62        | 26.5 |
| Kord   | 36        | 15   |
| Lor  | 13        | 5.5  |
| Turk   | 12        | 5.1  |
| Others (Torkman, Gil, Mazani, Arab, Baluch)          | 111       | 47.9 |
| <b>Education</b>                                     |           |      |
| Up to high school diploma                            | 62        | 26.4 |
| Four-year university degree                          | 89        | 38.0 |
| Postgraduate education                               | 74        | 31.6 |
| <b>Marital status</b>                                |           |      |
| Married  | 97        | 41.5 |
| Single   | 124       | 53.0 |
| Divorced or widowed                                  | 9         | 3.8  |
| <b>Residence</b>                                     |           |      |
| With family  | 180       | 76.9 |
| With roommate  | 21        | 9.0  |
| Alone  | 27        | 12.8 |
| With partner   | 6         | 1.3  |
| <b>Religion</b>                                      |           |      |
| Muslim   | 188       | 80.3 |
| Other religions (Zoroastrian, Jewish, and Christian) | 6         | 1.7  |
| Without a religion                                   | 36        | 15.5 |

### 4. Discussion

"Pornography craving" is an addictive behavior and suggests this instrument provides a useful evaluation questionnaire for the target population in Iran. Tsang et al. suggest expert opinions are the best way to sure that a questionnaire is accurate, free of item construction problems, and grammatically correct ([25](#)). In this study, the CVR number was calculated to be acceptable according to the Lawshe table for seven psychiatrists and psychologists; therefore, no question was removed or added ([26](#)). Cronbach's alpha total score is 0.90, which indicates this questionnaire has a good fit in the Iranian population.

Owing to high availability, affordability, and anonymity, pornography use has nowadays become rather socially acceptable. People's understanding and

**Table 2.** Pornography and Sexual History Characteristics and Psychiatric Disorders of the Participants

| Variable   | Frequency (%) |
|--|---------------|
| <b>Age when first watched pornography</b>                                  |               |
| > 12   | 33 (12.8)     |
| 12 - 18  | 118 (61.7)    |
| < 18   | 83 (25.5)     |
| <b>Ever masturbated to pornography in lifetime</b>                         |               |
| Yes  | 210 (89.7)    |
| No   | 24 (10.3)     |
| <b>Time spent on pornography</b>   |               |
| > 30 minute  | 169 (84.5)    |
| 30 - 60 minute   | 22 (11)       |
| < 1 hour   | 9 (4.5)       |
| <b>Weekly pornography use</b>  |               |
| 1 - 2  | 153 (67.6)    |
| 3 - 10   | 58 (25.6)     |
| < 11   | 15 (6.8)      |
| <b>Money spent on pornography</b>  |               |
| Zero dollars per month   | 161 (68.8)    |
| More than zero but less than or equal to 50\$ per month                    | 57 (24.3)     |
| More than 50\$ per month   | 15 (6.5)      |
| <b>Have received professional help for problems related to pornography</b> |               |
| Yes  | 202 (83.6)    |
| No   | 32 (13.7)     |
| <b>Psychiatric disorders</b>   |               |
| Yes  | 91 (38.9)     |
| No   | 143 (61.1)    |
| <b>Multiple sexual partners outside wedlock</b>                            |               |
| No   | 164 (70)      |
| Yes  | 70 (30)       |
| <b>Sexual orientation</b>  |               |
| Same sex   | 43 (18.4)     |
| Opposite sex   | 191 (81.6)    |
| <b>Any lifetime drug use</b>   |               |
| Yes  | 57 (24.4)     |
| No   | 177 (75.6)    |

acceptance of the fact that addiction to pornography is a disorder can greatly reduce its prevalence and change social attitudes toward it (27), especially in a religious country like Iran. Today, sex addicts anonymous is rehabilitating many of those affected by pornography addiction

(28), and is helping individuals to take steps to reduce the psychological, occupational, and social problems caused by it (27, 28).

One of the strengths of this study is that this questionnaire has been localized to the general population in Iran and is not specific to a particular group or groups; it is applicable to all target populations in Iran. The major constraint of the original main questionnaire was that cut-off values were not validated (21). The strengths of the current questionnaire, compared to the main tool (26), are that the cut-off values are defined, and the therapist, using this tool along with an interview, can prioritize their interventions. Additionally, by exploratory factor analysis and rotation of the factors, two subscales were defined for this tool, and each of them was named.

The low sample size and people's reluctance to participate in the study were of the main constraints. Other notable limitations include the fact that, although this tool can be used as a screening questionnaire, it is better to be used along with a clinical interview. Owing to Iranian cultural limitations, the participants were not interviewed about their pornography cravings by clinicians. This interview is the gold standard for this item. Therefore, it was not possible to use a receiver operating characteristic (ROC) curve for determining the cut-off point.

It is suggested a tool is designed and administrated for investigating cybersex, with questions about sex addiction applied to a large sample population for future studies in Iran. Research is also needed to explore the role of social and environmental factors such as culture, peers, community, and all other relevant items, which contribute to the formation of these types of behaviors.

#### 4.1. Conclusion

According to the results of this study, the Persian version of the "the pornography craving questionnaire" has sufficient reliability and validity in Iranian society.

#### Footnotes

**Authors' Contribution:** Masoudeh Babakhanian designed the study. Masoudeh Babakhanian and Nader Molavi conducted the study. Shahrzad Khosravifar and Mohammadreza Njarzadegan and Abdolhadi Saeidi contributed to data collection. Masoudeh Ghazanfarpour analyzed the data. Masoudeh Babakhanian and Nader Molavi wrote the manuscript. All authors read and approved the content of the final manuscript.

**Conflict of Interests:** The authors declare that they have no conflict of interest.

**Table 3.** Principal Component Analysis (PCA) with Varimax rotation, Mean  $\pm$  SD and Cronbach Alpha ( $\alpha$ )

|          | Factor's Name           | Question Number | Question   | Factor's Weight | Mean $\pm$ SD | Cronbach's $\alpha$ |
|----------|-------------------------|-----------------|--|-----------------|---------------|---------------------|
| FACTOR 1 | Psychological reactions | PCQ6            | Right now, I am making plans to watch porn.                    | 0.77            | 5.6 $\pm$ 1.9 | 0.89                |
|          |                         | PCQ7            | If the situation allowed, I would watch porn right now.        | 0.68            | 5.3 $\pm$ 1.8 |                     |
|          |                         | PCQ8            | If I were watching porn this minute, I would feel energized.   | 0.73            | 5.3 $\pm$ 2.0 |                     |
|          |                         | PCQ9            | I have an urge to watch porn right now.                        | 0.79            | 5.9 $\pm$ 1.7 |                     |
|          |                         | PCQ10           | I will watch porn as soon as I get the chance.                 | 0.67            | 5.5 $\pm$ 2.2 |                     |
|          |                         | PCQ12           | I want to watch porn right now.                                | 0.88            | 5.8 $\pm$ 1.8 |                     |
|          |                         | PCQ1            | If I watched porn right now, I would have difficulty stopping. | 0.80            | 3.6 $\pm$ 2.1 |                     |
| FACTOR 2 | Desire                  | PCQ2            | The thought of watching porn makes me sexually aroused.        | 0.69            | 4.8 $\pm$ 2.1 | 0.72                |
|          |                         | PCQ3            | My heart would beat faster if I were watching porn right now.  | deleted         | 4.9 $\pm$ 1.9 |                     |
|          |                         | PCQ4            | I would feel less bored if I watched porn right now.           | deleted         | 5 $\pm$ 2.1   |                     |
|          |                         | PCQ5            | If I were watching porn this minute, I would feel happier.     | 0.71            | 4.4 $\pm$ 2.2 |                     |
|          |                         | PCQ11           | I would feel less stressed if I watched porn right now.        | 0.56            | 4.4 $\pm$ 2.2 |                     |

**Ethical Approval:** The Ethics Committee of the Student Research Committee of Mazandaran University of Medical Sciences approved this study (IR.MAZUMS.REC.1396.175). All participants were informed about the study and were asked to complete the questionnaires only if they consent to the study.

**Funding/Support:** Student Research Committee of Mazandaran University of Medical Sciences supported this study (grant number = 175).

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