

Psychometric Properties of the Youth Pornography Addiction Screening Tool

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Original Article

Abstract

Background: Addiction to pornography in the virtual world can seriously affect the mental, psychological, social, and family health of individuals and easy access to the Internet and cyberspace has intensified addiction to virtual pornography. Knowledge of the status of phenomena requires an accurate and scientific measurement tool with appropriate validity and reliability, so this study was conducted with the aim to study the Youth Pornography Addiction Screening Tool (YPAST).

Methods: This study was carried out using the descriptive-exploratory method. The statistical population of the study included all students aged 18 to 30 years studying in the universities of Hamadan, Iran, in the academic year 2020-2021. Using stratified random sampling method, 480 individuals were selected from Bu-Ali Sina University, Islamic Azad University, and Payame Noor University of Hamadan Province. To collect data, the YPAST was utilized. The Cronbach's alpha coefficient, exploratory factor analysis (EFA) with Varimax rotation, and confirmatory factor analysis (CFA) were used to analyze the data.

Findings: The YPAST consists of the 3 components of lack of control over pornographic behavior, regret after pornography use, and pornography for sexual arousal. These 3 factors together explained 61.16% of the total variance of pornography addiction in cyberspace, with the first, second, and third factors explaining 22.98%, 21.79%, and 16.39% of the variance, respectively. The CFA results showed that the scale items were of appropriate factor loads and higher than 0.40 on each factor, and the study measurement model in the first and second order factor analysis was of an acceptable fit. Therefore, the YPAST had an appropriate and acceptable structural validity among young people. The total validity coefficient of the YPAST was 0.88 and that of the first, second, and third factors were 0.94, 0.93 and 0.88, respectively. The YPAST has 3 factors.

Conclusion: The YPAST can be a powerful and accurate tool for measuring youth pornography addiction and it can be used with confidence in various situations to measure youth virtual pornography addiction. In addition, it seems that the scale items have a proper coherence and fluency, which, as a unified and integrated set of different aspects, can measure virtual pornography addiction among young people with high accuracy.

Keywords: Psychometric properties; Addiction; Pornography; Youth; Cyberspace

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Introduction

Today, following widespread discussion, compulsive sexual behavior disorder (CSBD) has been classified as a disease.¹⁻³ Based on previous studies, addiction to pornography is one of the causes of the spread of sexual behavior disorder,⁴ in that pornography causes high irritability, emotional dysregulation, maladaptive coping styles, and lack of moral compliance and cohesion, and increases the prevalence of sexual immorality.⁵⁻¹⁰

One of the consequences of the widespread use of the Internet and tools such as smartphones is increased access to sexually explicit media.¹¹ Research shows that about 42% of Internet users watch pornography.¹² There are currently more than 5 million pornographic websites (12% of all websites). In 2003, however, there were only 1.3 million pornographic websites. Presently, 200 new pornographic websites are created daily.¹³ It was estimated that by 2020, more than 50% of the topics on webpages would be related to sexual activity.¹⁴ Statistics for the United States show that the pornography industry is worth about \$13 billion.¹⁵

Since the advent of the Internet and its subsequent use as a means of sharing explicit sexual content, there has been a risk of Internet pornography addiction,¹⁶ and with the advent of advanced smartphones, the risk of this type of addiction and overuse of pornography in cyberspace has increased dramatically.^{17,18} One of the consequences of the increasing access to the Internet has been easy access to pornographic products, especially among adolescents and young people, which can have devastating effects.^{19,20} Many researchers have noted the risk of sexual promiscuity.^{21,22} Accordingly, the issues of cyber pornography addiction have quickly entered academic and research topics.²³ Research on problematic sexual behaviors and the unconventional use of pornography is rapidly expanding and has been the subject of various books and online forums²⁴⁻³¹ (recreation³²). Moreover, various models have been proposed to reduce problematic sexual behaviors and the use of pornography; nevertheless, addiction to pornography is still increasing.³³⁻³⁷

Addiction to cyber pornography refers to the desire of individuals to pursue pornography through websites, social networks, etc., which has become a habit and has become an objective behavior in the individual.^{13,38} Addiction to cyber

pornography is also one of the signs of Internet addiction.^{19,39}

Cyber pornography is defined as a morbid dependence on pornographic Internet content, including movies, photos, posts, games, online chat rooms, and even webcam sex, followed by a sexual relationship and often masturbation.⁴⁰ This tendency to use pornographic Internet content, through repetition and intensification, can have devastating effects on the individual and family life of consumers.⁴¹ The first effect of these images is a change in value systems and patterns of sexual behavior. Behavioral patterns in pornographic images, in many cases, contain all kinds of violence, humiliation of women, masturbation, unconventional sex such as group sex, homosexuality, etc.⁴² Rodda et al. concluded that people turn to virtual pornography with different motivations and their strategies for searching for pornography on websites vary according to their purpose.⁴³

In developed countries, most adults who have access to the Internet have experienced watching pornography.⁴⁴⁻⁴⁶ A meta-analysis suggests that 6% of adolescents are addicted to online pornographic games, and this figure is higher in countries with lower quality of life (QOL).⁴⁷ National studies in the United States show that 46% of men and 16% of women have watched Internet pornography each week.⁴⁸

Therefore, cyber pornography is an important and controversial issue. Through extensive research in this field, behavioral thinkers and experts are investigating the psychological and social effects of this phenomenon.⁴⁹ Pornography is the cause of many sexual and mental illnesses such as child abuse and rape. Additionally, addiction to pornography disrupts suitable and intimate family relationships and married life.⁵⁰ Moreover, in recent years, the number of people who have referred to therapists due to problems caused by the use of pornography has been increasing.³⁴

Internet pornography addiction affects sexual behaviors, and a person addicted to Internet pornography violates social sexual behaviors and norms.³⁷

Given the results of various investigations, addiction to cyber pornography is associated with various damages such as psychological, social, and family problems,⁵¹⁻⁵³ social isolation, communication, educational, and occupational problems,^{43,54,55} mental disorders such as anxiety

and depression,³⁸ substance abuse disorder,⁵⁶ psychological distress, social anxiety and other addictive behaviors,^{38,13} decreased self-esteem and feelings of moral failure,⁵⁷ alcohol use,⁵⁸ decreased sexual satisfaction,⁵⁹ and decreased mental health.^{2,13,53,60-62} In general, Internet pornography addiction has a wide range of mental and social health consequences and affects a person's sexual behavior. Thus, Internet pornography addiction has become a clinical concern.¹³

Grubbs et al. found that addiction to cyber pornography intensifies over time and men are significantly more likely than women to be addicted to cyber pornography.¹³

Given these bitter realities and acknowledging that the number of Internet users in the world is increasing daily, it is expected that the prevalence of pornography addiction increase worldwide. As already mentioned, this addiction has become a common problem in many developed countries.³⁸

According to the above-mentioned issues, addiction to virtual pornography can seriously affect the mental, psychological, social, and family health of people, and easy access to the Internet and cyberspace has intensified addiction to cyber pornography.⁶³ Therefore, prevention of addiction to cyber pornography is a necessity, which should be studied scientifically. However, to study any social phenomenon, the most important thing is to be aware of the state of society in that phenomenon, and awareness of the status of phenomena requires an accurate and scientific measurement tool with appropriate validity and reliability. Therefore, knowing the status of cyber pornography addiction also requires a powerful tool; in this case, a questionnaire is a suitable tool for reasons such as low cost, and no direct and face-to-face questioning. As the reviewed literature, no standard local tool has been developed in Iran so far to measure virtual pornography addiction, and those who have measured the phenomenon have used translated questionnaires that have not yet been standardized in the Iranian society.

Various tools have been designed to examine cyber pornography addiction, one of the most appropriate tools being the Youth Pornography Addiction Screening Tool (YPAST).⁶⁴ The YPAST has been designed to measure a person's level of sexual pornography involvement in cyberspace. The PAST consists of 25 items, but there are also other tools available, such as the Problematic

Pornography Consumption Scale (PPCS) proposed by Kor et al.,⁴⁹ which has 43 items,¹² Hypersexual Disorder Screening Inventory (HDSI),⁶⁵ and the Cyber Pornography Use Inventory-9 (CPUI-9).⁶⁵ Among these questionnaires, the PAST is a tool measuring pornography on cyberspace.

According to our review of literature, the YPAST has not been standardized in Iran, especially among young people aged 18 to 30, and its psychometric properties have not been studied, which is a research gap in the field of psychometrics. Accordingly, the present study aims to standardize and evaluate the psychometric properties of the YPAST, and seeks to answer the following question:

What are the psychometric properties of the YPAST among young people aged 18 to 30?

Methods

This study was performed using a descriptive-exploratory method in order to standardize the questionnaire based on the classical theory of measurement. The statistical population of the study included all students aged 18 to 30 years in the universities of Hamadan, Iran, in the academic year of 2020-2021, from among whom 480 people were selected using the stratified random sampling method in accordance with the number of students in Bu-Ali Sina University, Islamic Azad University, and Payame Noor University of Hamadan Province as the study samples.

The YPAST⁶⁶ was used to collect data. This scale includes 25 items scored on a 5-point Likert scale ranging from 0 to 4 (options of never, very rarely, rarely, sometimes, and often). This questionnaire measures the degree of addiction to virtual pornography, with high scores indicating the addiction of the subject to virtual pornography. This questionnaire is suitable for the age group of 18 to 40 years. The developer of the questionnaire reported its content validity to be appropriate. Additionally, its construct validity using exploratory factor analysis (EFA) was reported to be 0.48, meaning that this questionnaire can explain 0.48 of the variance of pornography. Moreover, Mardhatillah and dan Buah Hati⁶⁷ reported a convergent validity of 0.67 for this questionnaire using the 12-item questionnaire of Corral and Calvete.⁶⁸ Mardhatillah and dan Buah Hati⁶⁷ calculated the reliability coefficient of this questionnaire to be

0.79 using Cronbach’s alpha method. In this study, the questionnaire was first translated into Persian by the researcher and the words and terms that were not in accordance with the common culture of the Iranian society were replaced with similar and close terms. Then, it was delivered to 5 experts and university professors, and the necessary corrections were made after receiving their opinions. In the next step, the questionnaire was first distributed experimentally among 30 people, and after ensuring its appropriateness, it was distributed among the main sample. It was analyzed and standardized based on the results obtained.

Construct validity, Cronbach’s alpha, principal axis factoring (PAF) with Varimax rotation, and confirmatory factor analysis (CFA) were used to investigate the study questions. SPSS (version 25, IBM Corporation, Armonk, NY, USA) and AMOS (version 24) software were used in the present study.

Results

Demographic characteristics: As seen in table 1, of the 480 respondents, 196 (40.5%) were women and 284 (59.2%) were men.

The age of 37 (7.4%), 191 (38.2%), 171 (34.2%), 76 (15.2%), and 25 (5.0%) participants was under 25, 25 to 30, 31 to 35, 36 to 40, and more than 40 years, respectively.

Degree: Among the participants, 75 (15.6%), 270 (56.3%), and 135 (28.1%) individuals had an associate degree, bachelor’s degree, and master’s degree, respectively.

YPAST reliability: In this study, the Cronbach’s alpha and Lambda-2 methods were used to estimate the reliability of the YPAST. Accordingly, first the reliability coefficients of the items related to the 3 components of the questionnaire were examined separately, and then, the Cronbach’s alpha coefficient was obtained for all items.

Based on the results presented in table 2, the reliability (using Cronbach’s alpha) of the 3 components of lack of control over

pornographic behavior, regret after pornography use, and pornography for sexual arousal, and the whole questionnaire were 0.936, 0.926, 0.885, and 0.883, respectively.

Table 2. Reliability coefficient of items related to each component and the whole questionnaire

Variable	Cronbach’s alpha coefficient
Lack of control over pornographic behavior	0.936
Regret after pornography use	0.926
Pornography for sexual arousal	0.885
Addiction to pornography	0.883

YPAST validity: In order to identify and determine the factors forming the basis of performance in subtests, the EFA approach was used by the PAF method with Varimax rotation in SPSS software. In this study, 240 statistical samples were considered in the first stage for EFA and 240 for CFA.

Bartlett’s Test of Sphericity [Kaiser-Meyer-Olkin (KMO)] was employed to determine the adequacy of the sampling volume and Cattell’s Scree plot and Kaiser’s rule were used to determine the number of factors. The KMO was 0.899. The value of Bartlett’s chi-square was 8472.36 with a significance of 0.001.

Specifying the number of factors extracted: To determine the number of factors extracted, the EFA was first performed on 25 items, the results of which showed 3 factors based on Kaiser’s rule (values higher than 1) and the breakage of Cattell’s Scree plot also showed 3 factors.

At this stage, item 25 did not have a suitable factor load (0.40) on any of the extracted factors and item 8 had a factor load of higher than 0.40 on 2 factors simultaneously. Accordingly, the 2 above-mentioned items, and then, EFA were performed again, the results of which indicated that by considering the 3 factors and removing these items, all items were on a factor with a factor load greater than 0.40 and there were no items on 2 factors with a factor load higher than 0.40 simultaneously.

Table 1. Descriptive statistics on pornography addiction and its components extracted

	Mean ± SD	Minimum	Maximum
Lack of control over pornographic behavior	26.60 ± 8.45	8	40
Regret after pornography use	25.44 ± 8.55	8	40
Pornography for sexual arousal	23.89 ± 7.13	7	35
Addiction to pornography	75.93 ± 15.89	44	111

SD: Standard deviation

Therefore, by considering 3 factors and eliminating inappropriate items, a simple and appropriate structure was achieved, which is mentioned in the following extracted indicators.

One of the indicators is to use the scree plots. Cattell and Jaspers stated that a number of main factors that calculate the highest variance are located in the sloping part of the ridge and sub-factors that calculate the lowest variance in the shallow part, the criterion for extracting the factors is the breaking point in the plot.⁶⁹ The breaking point is at the point corresponding to the third factor, and then, the slope of the factors becomes almost the same. Figure 1 shows the 3 factors in the sloping part. Moreover, based on Kaiser’s rule, the value of lambda (eigenvalue) was higher than 1 for 3 factors, and a lambda’s value of higher than 1 can be considered a main factor. Thus, this questionnaire has 3 main factors, and with 3 factors considered for this questionnaire, a simple structure can be achieved.

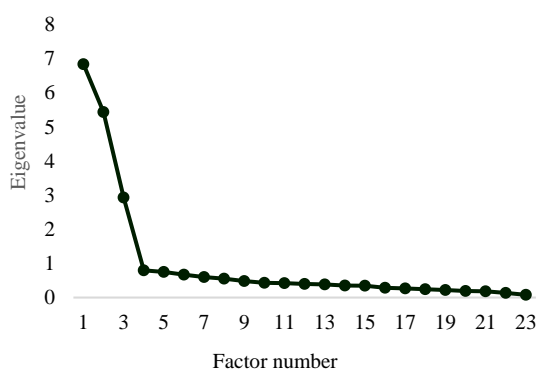


Figure 1. Scree plot

Extraction of the main factors: As mentioned, the correlation matrix was used for factor analysis using the PAF method and Varimax rotation. The results presented in table 3 show that the 3 factors explain 61.16% of the total variance of YPAST after rotation (with the first, second, and third factors explaining 22.98, 21.79, and 16.39% of variation, respectively). Therefore, by considering 3 factors

for this questionnaire, a simple appropriate structure can be reached in which only 38.84 information is lost. Therefore, it can be said that the mentioned factors explain a significant amount of variance in pornography addiction, which indicates the validity of the questionnaire.

To achieve a simple structure, the Varimax rotation method was used, which given the results of the data factor matrix, has reached the best combination of the question structure after 250 experimental rotations the results of which are presented in table 4. Given the results, each question has a factor load of above 0.40 on at least 1 of the factors and there is no question that has the same or close factor loads on 2 factors at the same time, which shows that the extracted factors and factor loads of questions are appropriate and acceptable.

CFA: After performing EFA and identifying their factors and variables, after removing questions 8 and 25 and rotation, a model was obtained which was adopted as the hypothetical model for CFA in the second sub-sample (n = 240). Structural equation modeling (SEM) was applied to assess the structural validity of the questionnaire. Before examining the structural coefficients, the model fitness was examined. The fit of the initial model based on the fit indices used in this study is reported in the first row (developed model) of table 5, which shows that the values of some fitness indicators of the original model indicated that the proposed model (Figure 2) needed to be modified and improved.

For this purpose, in the next step, according to the modification indicators (MI) at the output of Amos, the covariance routes of dimensions of the study variables (Figure 3) were added to the model. After applying these changes, another analysis was performed on the data, the fit indicator results of which are given in the second row of table 5. Accordingly, the first model does not have a good fit. In the next steps, by adding the proposed MI routes, the model was improved and the fit indicators of the final model were accepted.

Table 3. Total sum of variance based on principal axis factoring (PAF) of the pornography addiction questionnaire

Factor	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)
1	6.834	29.712	29.712	6.483	28.188	28.188	5.286	22.984	22.984
2	5.436	23.634	53.346	5.068	22.034	50.222	5.011	21.787	44.771
3	2.932	12.748	66.094	2.516	10.940	61.162	3.770	16.391	61.162

Table 4. Matrix of structures (factors) extracted from the Youth Pornography Addiction Screening Tool (YPAST) after rotation

Questions	Rotated factor matrix ^a		
	Factor		
	Lack of control over pornographic behavior	Regret after pornography use	Pornography for sexual arousal
Question 21- During a week, how many times did you look for an opportunity to be alone and watch pornography?	0.913		
Question 12- When you have access to the Internet, how often do you watch pornography?	0.869		
Question 15- How often have you made others leave to watch pornography alone in cyberspace?	0.859		
Question 9- What is the longest duration you have been up late watching pornography in cyberspace?	0.809		
Question 1- How often do you watch pornography in cyberspace out of lust?	0.803		
Question 23- How often have you carried on watching pornography despite realizing that it may harm your peace of mind?	0.726		
Question 16- How often do you spend more time watching pornography in cyberspace than you expected?	0.690		
Question 24- How many times have you faced a personal, family, or social problem due to viewing pornography, but still tried to view it after a while?	0.657		
Question 11- How rational were you in not using or minimizing the use of pornography?		0.863	
Question 10- How many times have you deleted pornography files from your phone or computer and destroyed its effects so that others do not realize that you have seen pornography?		0.849	
Question 13- How much has watching pornography affected your sexual thoughts and feelings?		0.808	
Question 5- How much regret and shame do you feel after seeing pornography?		0.786	
Question 6- How often have you promised yourself after seeing pornography that you will never see pornography again?		0.769	
Question 7- How often have you lied to others about viewing pornography in cyberspace?		0.761	
Question 18- How often do your sexual thoughts and feelings interfere with your moral/religious beliefs or family values because of watching too much pornography?		0.758	
Question 19- To what extent do sexual thoughts and behaviors that are influenced by constant viewing of pornography make you feel useless and unworthy?		0.641	
Question 4- To what extent does the power of sensuality and lust motivate you to watch pornography?			0.747
Question 14- How many sexual chats a week do you have or have you had such as online chat, sending emails, or posts?			0.742
Question 3- How much do you expose yourself to sexually provocative situations in cyberspace?			0.726
Question 20- How often do you search various pornographic sites and channels for sexual arousal?			0.706
Question 2- How stimulating is watching pornography for you?			0.701
Question 22- How often do you masturbate while watching pornography?			0.673
Question 17- How often have you seen pornography for a longer duration than the previous time?			0.643

Table 5. Fitness indicators

	X ²	df	X ² /df	NPAR	GFI	IFI	TLI	CFI	RMSEA
Default model	1225.73	228	5.38	48	0.814	0.874	0.859	0.873	0.160
Fitted model	760.94	210	3.62	66	0.883	0.930	0.916	0.930	0.074
Independence model	8130.10	253	32.13	23	0.260	0.001	0.001	0.001	0.255

GFI: Goodness of fit index; IFI: Incremental fit index; CFI: Comparative fit index; TLI: Tucker-Lewis index; RMSEA: Root mean square error of approximation; df: Degree of freedom; NPAR: Number of parameters

For the X²/df fit index, values of less than 5 are appropriate, and the closer it is to 0, the better the model fitting. For the goodness of fit index (GFI), incremental fit index (IFI), comparative fit index (CFI), and Tucker-Lewis index (TLI) indices, a value close to 0.90 and higher was considered as an acceptable goodness of fit, indicating model goodness. In relation to the root mean square error of approximation (RMSEA) index, values close to 0.05 or less indicated a good fit of the model and a value of 0.08 or less indicated a logical approximation error. A value higher than 0.10 indicated the necessity of rejecting the model.⁷⁰

Using the general fit indices, it can be determined whether, regardless of the specific values reported for the parameters, in general, the factors and questions extracted in the EFA stage are supported by the collected experimental data. If the answer is yes, the questionnaire has acceptable structural validity. To interpret the

values presented in table 5, one must say:

The presence of non-significant chi-square (CMIN) equal to 760.94 and the level of significance (P = 0.001) show a good result, but the role of the degree of freedom (df) is also important. In addition, considering that the df of the fitted model (equal to 210) gets away from 0 and approaches the df of the model of independence (equal to 253), the model should be considered favorable.

The number of free parameters (NPAR) for the developed model, which is 66, indicates that the df is not easily spent in the development of the model, and this situation is acceptable.

Regarding the relative indices, it should be said that in this table, the relative chi-square value (CMIN/df) is 3.62, which indicates an acceptable situation for the model. Moreover, the value of 0.074 of the RMSEA index for the developed factor model indicates the acceptability of the model.

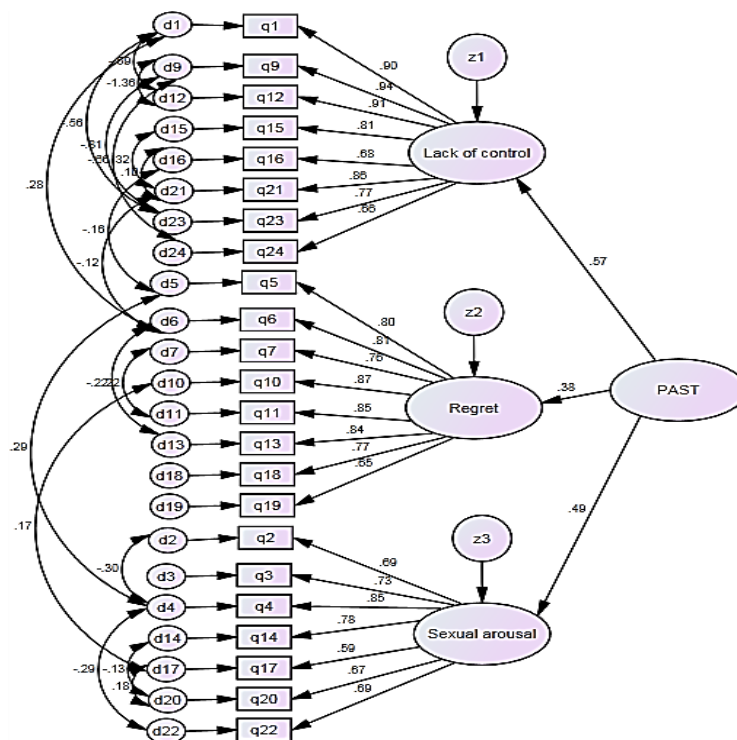


Figure 2. Primary measurement model

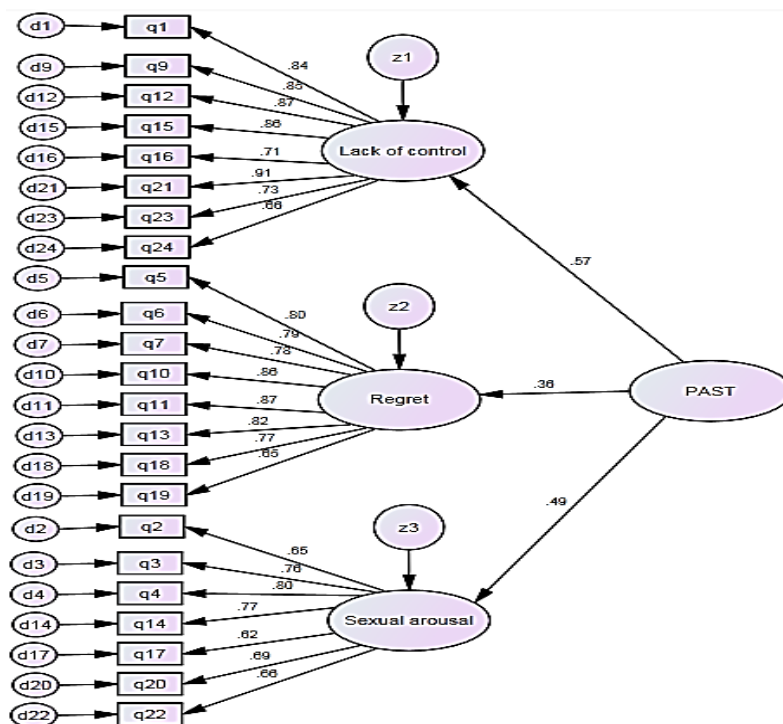


Figure 3. Modified measurement model

- In table 5, the TLI is equal to 0.916 and the CFI is equal to 0.93, and since their values are close to 0.90, the developed model is considered acceptable.

- In table 5, the value of GFI is equal to 0.883 and the value of IFI is equal to 0.93, both of which show acceptable values. The values of the general fit indices listed in table 5 show that the measurement model of this study is quite acceptable.

The results presented in table 6 show that all 23 questions entered in the model for factor analysis have a factor load (β) above 0.40 with a significance of less than 0.05, indicating the presence of the factor load of each question on the afore-mentioned factors. Furthermore, the results of the second-order factor load in figure 3 and table 6 indicate that the 3 factors extracted, namely, lack of control over virtual pornographic behavior, regret after the virtual pornography, and virtual pornography for sexual arousal, respectively, have a factor load of 0.57, 0.38, and 0.49 with a significance of less than 0.05. This indicates that the extracted components had a suitable factor load on the main structure, namely virtual pornography. Therefore, the model regression coefficients suggest that the questionnaire items well explained virtual pornography on the basis of the 3 components of lack of control over pornographic behavior, regret

after virtual pornography, and virtual pornography for sexual arousal.

Discussion

Given the findings, after removing items 8 and 25, the total reliability coefficient of the YPAST using Cronbach's alpha method was determined to be 0.88, indicating the appropriate and acceptable reliability coefficient of this questionnaire among young people. In addition, the reliability coefficient of the subscales of this questionnaire was calculated using the Cronbach's alpha method. The results indicated that the reliability coefficient of the factors of lack of control over pornographic behavior, regret after pornography use, and pornography for sexual arousal was 0.94, 0.93, and 0.88, respectively, all of which were at an acceptable level. Thus, it can be stated that the YPAST has sufficient and acceptable reliability.

Given the study findings, the questionnaire reliability was at an appropriate level, in other words, it is likely that the implementation of this questionnaire in a single group in different situations will achieve similar results and the questions will be clear and unambiguous for respondents so that the internal consistency of the questions is appropriate, as has been the case in this study.

Table 6. Structural model of routes and their standard coefficients in the final model

		Standardized estimate	Unstandardized estimate	SE	CR	P
Lack of control	PAST	0.566	1.642	0.437	3.759	***
Regret	PAST	0.375	2.726	1.236	2.205	0.026
Sexual arousal	PAST	0.486	2.155	0.837	2.574	0.011
q24	Lack of control	0.659	0.727	0.042	17.384	***
q23	Lack of control	0.770	0.817	0.044	18.496	***
q21	Lack of control	0.859	0.833	0.028	29.367	***
q16	Lack of control	0.682	0.762	0.040	19.118	***
q15	Lack of control	0.805	0.876	0.035	25.208	***
q12	Lack of control	0.910	0.922	0.036	25.859	***
q9	Lack of control	0.941	1.049	0.031	34.394	***
q1	Lack of control	0.904	1.000			
q19	Regret	0.648	0.802	0.052	15.442	***
q18	Regret	0.772	0.955	0.049	19.481	***
q13	Regret	0.837	1.014	0.047	21.698	***
q11	Regret	0.851	1.044	0.047	22.432	***
q10	Regret	0.867	1.102	0.047	23.302	***
q7	Regret	0.764	0.931	0.049	19.120	***
q6	Regret	0.814	1.067	0.050	21.279	***
q5	Regret	0.805	1.000			
q22	Sexual arousal	0.690	1.058	0.079	13.376	***
q20	Sexual arousal	0.672	1.049	0.080	13.127	***
q17	Sexual arousal	0.593	0.935	0.078	11.926	***
q14	Sexual arousal	0.781	1.234	0.082	14.996	***
q4	Sexual arousal	0.846	1.312	0.089	14.800	***
q3	Sexual arousal	0.726	1.084	0.076	14.236	***
q2	Sexual arousal	0.688	1.000			

PAST: Pornography Addiction Screening Tool; SE: Standard error; CR: Critical ratio

These results are consistent with the findings of Mardhatillah and dan Buah Hati,⁶⁷ who showed that the YPAST had a reliability coefficient of 0.79. Additionally, the results of this study are in line with the findings of Darvish Molla and Nikmanesh⁷¹ who reported a reliability coefficient of 0.85 for the Persian version of the Problematic Pornography Use Scale (PPUS-P).

The present study results showed that the YPAST has 3 factors, which together explain 61.034 of the total variance of pornography, with the first, second, and third factors explaining 23.09, 21.42, and 16.52 of the variance, respectively. The names chosen for these factors according to the content of the questions loaded on each factor are lack of control over pornography behavior, regret after pornography use, and pornography for sexual arousal. The results of CFA also indicated that the measurement model had an acceptable fit with the factor of questions related to each component higher than 0.60, indicating the appropriateness of the factor loads of the questions related to each factor. Therefore, the construct validity of the

YPAST is appropriate and acceptable among married students, so that at least 61.16% of the variance of youth virtual pornography addiction can be explained with this questionnaire. In other words, this questionnaire measures the underlying structure of virtual pornography addiction of young people well in the 3 dimensions of lack of control over pornographic behavior, regret after pornography use, and pornography for sexual arousal. Moreover, the YPAST has a suitable factor structure in obtaining significant information about youth virtual pornography addiction, so that using this questionnaire, at least 0.61 of the youth virtual pornography addiction can be correctly recognized and can be measured in 3 subscales. Additionally, the CFA results revealed that 23 items of the questionnaire provide appropriate information about addiction to virtual pornography among young people and each item has a decisive role in measuring addiction to virtual pornography among this group. Therefore, the questionnaire can accurately measure the addiction of young people to virtual pornography

in different dimensions and from different aspects; these results are consistent with those of the study by Mardhatillah and dan Buah Hati,⁶⁷ which showed that the YPAST can significantly explain the variance of pornography. It was also consistent with the findings of Darvish Molla and Nikmanesh⁷¹ who showed that YPAST is a suitable tool for measuring students' pornography addiction and the PPUS-P questionnaire has a suitable factor structure among students. Therefore, YPAST can be considered as a suitable tool for measuring students' pornography addiction and obtaining with appropriate accuracy the extent of pornography addiction in various dimensions. According to the study results, the YPAST has an appropriate and acceptable validity, which can be trusted given its high ability to identify and measure the level of virtual pornography addiction among young people. Based on the results, it is possible to make a necessary and accurate prediction about the level of addiction to virtual pornography among young people in situations in which they have access to the Internet and cyberspace. These results are in line with the findings of Mardhatillah and dan Buah Hati⁶⁷ who showed that the YPAST has a good and high validity, and the scores they obtained were highly consistent with the scores obtained from the pornography scale of Corral and Calvete.⁶⁸

Conclusion

The aim of this study was to investigate the psychometric properties of the YPAST. The statistical population included all students aged 18 to 30 years studying in the universities of Hamadan in the academic year of 2020-2021, of whom 480 people were selected using stratified random sampling. On the basis of the results, this questionnaire includes the 3 components of lack of control over pornographic behavior, regret after pornography use, and pornography for sexual arousal. These 3 factors together explain 61.16% of the total variance of pornography addiction in cyberspace. Therefore, the YPAST can be a powerful and accurate tool for measuring youth pornography addiction, and users of this questionnaire can confidently use it in various situations to measure youth virtual pornography addiction. Moreover, it seems that the items of

this scale have a proper coherence and fluency, which, as a unified and integrated set, can measure virtual pornography addiction of young people from different aspects with high accuracy. The results of using a pornography addiction questionnaire to measure the rate of pornography on the Internet can show the clinical signs of youth pornography addiction and the pornography addiction scale can evaluate the characteristics mentioned for pornography addiction in different theories. Therefore, this questionnaire can be useful for psychologists and counselors in measuring pornography addiction, especially among young people, and provide reliable results.

Regarding the limitations of the study, the following can be mentioned:

- The statistical population of the study was limited to students aged 18 to 30 years in the universities of Hamadan, so its generalization to other sections of society should be performed with caution.

- The degree of honesty of the respondents to the items of the questionnaires was among the issues that could not be controlled by the researcher.

- Using a self-report questionnaire to examine a variable has made the method of measurement subjective, which has less reliability than objective measurement.

- Lack of use of the new theories of question and answer (IRT) in psychometric analysis of the questionnaire was another limitation of the present study.

Conflict of Interests

The Authors have no conflict of interest.

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Authors' Contribution

Data collection and analysis, conclusion, and writing the manuscript: MZR; gathering theoretical foundations and writing the manuscript: SG; gathering theoretical foundations and writing the manuscript: SSM.

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ویژگی‌های روان‌سنجی پرسش‌نامه اعتیاد به پورنوگرافی در جوانان

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مقاله پژوهشی

چکیده

مقدمه: اعتیاد به پورنوگرافی مجازی می‌تواند سلامت روحی- روانی، اجتماعی و خانوادگی افراد را به صورت جدی تحت تأثیر قرار دهد و دسترسی آسان به اینترنت و فضای مجازی، باعث تشدید اعتیاد به پورنوگرافی مجازی شده است. اطلاع از وضعیت پدیده‌ها، نیازمند یک ابزار سنجش دقیق و علمی دارای روایی و پایایی مناسب می‌باشد. بنابراین، پژوهش حاضر با هدف بررسی ویژگی‌های روان‌سنجی پرسش‌نامه اعتیاد به پورنوگرافی جوانان انجام شد.

روش‌ها: این مطالعه نوع توصیفی- اکتشافی و جامعه آماری آن شامل کلیه دانشجویان ۱۸ تا ۳۰ ساله مشغول به تحصیل در دانشگاه‌های شهر همدان در سال تحصیلی ۹۹-۱۳۹۸ بود که ۴۸۰ نفر به روش نمونه‌گیری تصادفی طبقه‌ای، از سه دانشگاه بوعلی سینا، آزاد اسلامی و پیام نور به عنوان نمونه انتخاب شدند. جهت جمع‌آوری اطلاعات، از مقیاس اعتیاد به هرزه‌نگاری جنسی جوانان استفاده گردید. به منظور تجزیه و تحلیل داده‌ها، از ضریب Cronbach's alpha، تحلیل عاملی اکتشافی با چرخش واریماکس و تحلیل عاملی تأییدی استفاده شد.

یافته‌ها: پرسش‌نامه مذکور سه مؤلفه «عدم کنترل رفتار پورنوگرافی، پشیمانی بعد از عمل پورنوگرافی و پورنوگرافی به دلیل تحریک جنسی» می‌باشد که این سه عامل در مجموع، ۶۱/۱۶ درصد از واریانس کل اعتیاد به پورنوگرافی در فضای مجازی را تبیین کرد؛ بدین صورت که عامل اول ۲۲/۹۸ درصد، عامل دوم ۲۱/۷۹ درصد و عامل سوم ۱۶/۳۹ درصد از واریانس را تبیین نمود. نتایج حاصل از تحلیل عاملی تأییدی نشان داد که سوالات پرسش‌نامه دارای بارهای عاملی مناسب و بیشتر از ۰/۴۰ بر روی هر کدام از عامل‌ها هستند و مدل اندازه‌گیری تحقیق در تحلیل عاملی مرتبه اول و دوم از برازش قابل قبولی برخوردار می‌باشد. بنابراین، روایی سازه‌ای پرسش‌نامه اعتیاد به پورنوگرافی در بین جوانان مناسب و قابل قبول می‌باشد. بر اساس یافته‌ها، ضریب اعتبار کل پرسش‌نامه اعتیاد به پورنوگرافی، ۰/۸۸ و برای عامل اول تا سوم به ترتیب ۰/۹۴، ۰/۹۳ و ۰/۸۸ به دست آمد.

نتیجه‌گیری: پرسش‌نامه اعتیاد به پورنوگرافی مجازی می‌تواند ابزار قوی و دقیقی برای سنجش اعتیاد به پورنوگرافی جوانان محسوب شود و استفاده‌کنندگان از این پرسش‌نامه می‌توانند با اطمینان خاطر از آن در موقعیت‌های مختلف جهت سنجش اعتیاد به پورنوگرافی مجازی جوانان استفاده نمایند. به نظر می‌رسد گویه‌های ابزار مذکور، از یک انسجام و گویایی خاصی برخوردار می‌باشد که می‌تواند به صورت یک مجموعه متحد و یکپارچه، جنبه‌های مختلف اعتیاد به پورنوگرافی مجازی جوانان را با دقت بالایی مورد سنجش قرار دهد.

واژگان کلیدی: ویژگی‌های روان‌سنجی؛ اعتیاد؛ پورنوگرافی؛ جوانان؛ فضای مجازی

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