



The Process of Validating a Persian Version of Addiction Potential Scale for Children in the Iranian Population: A Systematic Review

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Abstract

Background: Hitherto, no instrumental research has been designed to measure the addiction potential for children in Iran. Therefore, the questionnaires designed to investigate addiction were examined in this systematic review article.

Methods: In the present systematic review, all Iranian and foreign research on addiction potential for children were examined until March 2022. Using separate keywords and their Latin synonyms according to Mesh terms, an extensive search was conducted in databases: PubMed, Magiran, Iranmedex, Medline, Google Scholar, SID, and Irandoc. In total, 173 Farsi and English papers were included in the initial list, and after evaluation according to the Meta-analysis of Observational Studies in Epidemiology (MOOSE) checklist and acceptance criteria, 43 final papers were selected for systematic review.

Findings: Through searching in Persian and English databases and using related keywords, 173 papers were found in the initial search and after removing duplicates and unrelated studies, 43 papers were selected for systematic review. In this research, papers related to the addiction potential between 1998 and 2019 were considered, and among these, 22 papers particularly dealt with addiction. In the conducted studies, the awareness, attitude, talent, and factors affecting addiction were mostly measured and in some papers, addiction potential was measured.

Conclusion: Designing psychometrically appropriate tools is necessary to measure the addiction potential of children in Iran. Due to the unavailability of appropriate tools and the fact that the previous versions are not up to date and are not checked regularly, for better and more complete decision-making in the health policy-making process more investigation in this field is necessary.

Keywords: Addiction potential scale, Validation, Addiction potential for children, Iran, Systematic review

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Introduction

Today, drug abuse is considered one of the major global crises, which, after the most significant contemporary social problem, i.e., addiction, is spreading rapidly.¹ However, addiction is a behavioral and psychological syndrome with a strong desire for drugs and their constant use and a strong desire to use again after quitting the drug.^{2,3} Generally, addiction means: “Dependence on substances in such a way that it is completely harmful to the individual and society” and substances are any type of chemical composition that causes a change in brain function, this change is likely to be in the form of excitement, depression, abnormal behavior, anger or impaired judgment.^{4,5} Moreover, the United Nations defines addiction as “acute or chronic poisoning that is harmful to a person or society and is caused by the use of natural or industrial drugs”. Annually, the number of drug users and addicts in the world increases.^{3,6-8} Iran’s particular position in the Golden Crescent region

is influential in increasing the consumption of these substances.^{9,10} However, according to the statistics of the United Nations Narcotics and Crime Control Office, approx. 90% of all drug addicts and drugs identified in the world are in the Golden Crescent region.¹⁰ Addiction, on the one hand, causes the disintegration of the individual personality, and the institution of the family, and, on the other hand, it destroys social life and society. Addiction, moreover, destroys the aptitude to organize and organize a healthy society, disturbs the functioning of social norms, and imposes social crises on human society.

Nonetheless, the most vulnerable group in terms of addiction are children who are either addicted themselves or live in a family where one of the adult members is an addict.¹¹ Victims of drug abuse, including toddlers and young children, are tragically involved with opioids since they get involved in drugs without their own will and due to the ignorance of their caregivers.¹² Improving the mental and social health of society depends on the



empowerment of children. Considering that drug abuse is a long process, the first measures should be implemented promptly so that society achieves social vaccination. The publication of news about the decreased age of addiction in the country is a warning sign that shows the vulnerability of the young Iranian society to drugs.¹³⁻¹⁵

According to the UNODC document (United Nations Office on Drugs and Crime, 2022), an estimated 284 million individuals between the ages of 15 and 64 worldwide abused drugs by 2020, an increase of 26% over the previous decade. Young people consume more substances, and the level of consumption today in many countries is higher than in the previous generation.^{16,17}

Today, instrumentation is considered a scientific method for conducting research and researchers will not be successful in conducting scientific research without relying on valid and reliable tools; therefore, to determine the adequacy of research in the first place, the adequacy of the measurement tool is crucial.^{18,19} Therefore, experts believe that the instrumentation of the content related to each tool may be directly extracted from the individuals who are the reference of that tool. However, this issue should be considered both in the explanation of the tools and in determining the wording and in its literature. In this case, the built instrument covers all dimensions related to the studied concept.²⁰ Moreover, all tools must be built based on a theoretical foundation that explains the structure of the subject well, this issue is one of the basic requirements in tool making, but it is usually neglected, because the values and meanings that reflect the components of a structure may differ from one culture to another. To achieve acceptable validity and reliability, the instrument must be based on the culture of the studied society. Extracting content through the participation of respondents in a structured and scientific way in different countries is a necessity that can maximize the cultural compatibility of the tool.²¹ The differences in nations have created different challenges in providing medical services. In healthcare research, the environmental, social, structural, and physical conditions of societies strongly affect the members of that society as well as all aspects of the research process. As a result, the people of the same community help the researcher to understand the phenomenon from the perspective of the same individuals. As a result, health service providers and health policymakers provide care and formulate health policies based on the culture of different societies.²²

Accordingly, several different tools have been designed to study addiction potential with different titles, including Youth Addiction Propensity Checklist, Addiction Propensity List, Addiction Propensity Tool, Addiction Readiness Questionnaire, Addiction Causes Questionnaire, Addiction Awareness Checklist, Drug Abuse Propensity Questionnaire,²³⁻⁶⁵ some of which are in short forms.²⁴ However, it seems that there are limitations

and contradictions in the use of these tools.

Therefore, in this systematic study, our goal is to examine the available scientific questionnaires and checklists that have been developed on the topic of addiction potential in children. However, none of the related studies have applied a single tool that has been specifically developed for this target group according to the principles of validation. Furthermore, to our knowledge, no study has been developed to validate instruments for this target group. Not having a needs assessment tool to determine the needs of this target group has led to defective strategic planning for this group. With such a tool, it is possible to obtain more objective and reliable information. Failure to use a suitable tool can affect individuals in different ways and needs remain obscure and neglected. Moreover, without an appropriate tool, it is impossible to ensure that the actions taken are exactly what is required.

Materials and Methods

Record and report protocol

The current protocol was prepared following the Meta-analysis of Observational Studies in Epidemiology (MOOSE).^{66,67}

Data sources and search strategy

The statistical population of the research was all Iranian studies published in domestic and foreign scientific sources on addiction in children. Therefore, to examine the available scale on addiction potential for children, a systematic and extensive literature review was conducted using the following keywords: “Addiction”, “Addiction Potential Scale”, “Validation of Iranian Population Addiction Potential Questionnaire”, “Addiction Questionnaire Validation”, “Addiction Questionnaire Reliability”, “Addiction Questionnaire Psychometrics”, “Addiction Checklist Validation”, “Validation of Addiction Questionnaire”, “Standardization of Addiction Propensity Tool”, “Standardization of Addiction Questionnaire”, “Standardization of Addiction Questionnaire”, “Addiction Propensity Questionnaire”, “Drug Abuse Questionnaire”, and “Narcotics Questionnaire”. Furthermore, the equivalent of these keywords in English was prepared by applying the Mesh term and combining the corresponding synonyms using the operators “AND”, “OR”, and “NOT” in the following databases: PubMed, Magiran, Iranmedex, Medline, Google Scholar, SID, Irandoc. Ultimately, 173 titles of Persian and English papers were examined. Moreover, to prevent the removal of relevant papers because of the insufficient power of internal scientific databases in extensive search, separate keywords were applied for searching. All papers containing each of the desired keywords in their title or abstract were included in the inclusion list.

Paper type

The present study was a systematic review that examined the validation of the addiction potential scale for children. Due to the limited number of research available in this field, the time frame for the research was not considered (the last date for searching sources was March 2022).

Eligibility criteria

The main result of the current research is the systematic review of the validation process of the Persian version of the addiction potential scale for children among the Iranian population. In this regard, the criticism and comparison of questionnaires are discussed for measuring the addiction potential.

Inclusion criteria

To be included: (1) a study must have been published online in any domestic or foreign scientific journals (2), Questionnaires needed to be available or provided to the authors in correspondence with the corresponding authors (3), Questionnaires needed to be verified for validity and reliability.

Exclusion criteria

The exclusion criteria included: (1) lack of access to the full text of the paper, and (2) lack of data required for statistical analysis.

Screening and selection procedures

A doctoral student in epidemiology, who was proficient in the steps of conducting a systematic review, independently searched and selected the papers electronically using qualified criteria. Related papers were first determined by title and abstract, and subsequently, they were evaluated based on the criteria for entering the paper, and the reasons for exclusion were mentioned at each stage. Initially, all the study titles were approved and searched, excluding studies that didn't meet the eligibility standard, and finally, a list of eligible studies was selected.

Therefore, to evaluate the correctness of the coding, another author (academic professor), re-examined 30% of the papers, and any remaining disagreements in the selected papers were re-monitored and resolved. In the results section, the screening flowchart, and the details of the studies were presented at each stage of the study selection process.

Data Extracting

Subsequently, the required information was extracted from the selected papers in a separate form. This form included the following: author(s) of studies, type of study, type of questionnaire, number of questionnaire questions, type of options, validity criteria, reliability criteria, year of conducting or publishing the research, target group of studies, gender of subjects, age group of people (years),

sample size, location of the study, questionnaire or scale type (made by the researcher or taken from others' questionnaires).

Results

Based on the searches in Persian and English databases, as well as the use of related keywords according to the principles of the search strategy and the help of MeSH (Medical Subject Headings) terms for English words, 173 papers were identified in the initial search. Subsequently, by removing 27 duplicate studies from the database, 146 papers remained for the continuation of the screening stage. Upon studying the titles and abstracts of the papers, 73 researchers were selected to enter the evaluation stage. Ultimately, during the evaluation stage, by studying the entire paper using the evaluation list and considering the inclusion and exclusion criteria and the quality review of the papers, 43 final papers were selected for systematic review (Figure 1).

As shown in Table 1, 43 related papers were extracted that were published between 1998 and 2019. These included 14 correlational studies, 1 experimental study, 3 semi-experimental studies, 1 retrospective study, 1 qualitative study, 2 causal-comparative studies, 5 descriptive-analytical studies, 10 descriptive-cross-sectional studies, and 6 survey studies. In the conducted studies, 22 papers particularly focused on addiction. In 2 studies, the exact title of the questionnaire was unclear, and the rest of the papers measured addiction potential despite measuring awareness of addiction, attitudes toward addiction, susceptibility to addiction, and factors influencing addiction. Moreover, 26 studies on boys and girls, 8 studies on boys, 3 studies on girls target group, and in 6 studies the target group was unclear (Table 1).

Moreover, the frequency of papers according to some

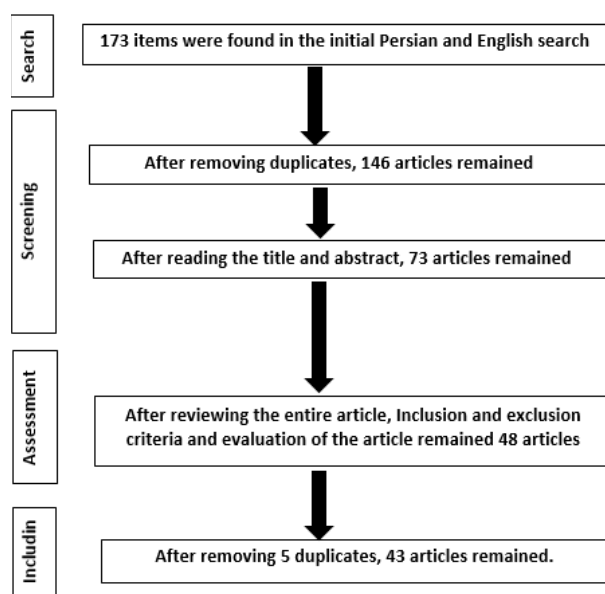


Figure 1. Systematic review process diagram

Table 1. Studies on the Addiction Potential Scale

First Author	Number of questions	Validity criteria	Reliability criteria	Year	Target group	Age group (years)	Sample size	Researcher-made/adopted	Results
Fathi ³⁶	16	Face	Cronbach's alpha	2015	Adolescents and young people of Tabriz city	21	400	Adopted	There was a significant relationship between family performance and individual ($r=0.35$), social ($r=0.33$), and addiction potential ($r=0.72$) factors ($P<0.001$).
Mohammad Nasl ³⁵	16	Interview of informants	Cronbach's alpha	2018	Students, experts, judges, teachers, parents and teachers	16	150	Researcher made	a weighted average of 16 extracted items; It was between 2.94 and 4.46.
Hosseini ³³	Unknown	Unknown	Unknown	2011	Student	>18	150	Adopted	The correlation of aggression, self-expression, and depression was 0.63, -0.43, and 0.59, respectively, and the beta value for the three variables aggression (0.44), depression (0.37), self-expression (-0.22), and $r=.30$.
Charmhini ⁴³	36	Criteria, structure	Cronbach's alpha	2016	Student	18-20	570	Adopted	The overall result of the test in the two groups has a significant difference ($F=8.2$, $P<0.001$).
Jamaloui ⁴⁹	30	No	Cronbach's alpha	2010	Student	15-18	600	Adopted	Attachment to God $r=0.41$, social support $r=-0.29$, and excitement seeking $r=0.18$ had a significant correlation with addiction potential ($P<0.001$) with $R^2=0.47$.
Salami ³⁷	50	Criteria	Cronbach's alpha	2015	Addict teenager	13-19	150	Adopted	Path coefficient of family psychological space $\beta=-0.064$ and path coefficient of addiction of family members ($P<0.001$). $\beta=0.153$
Amini ³⁹	49	Unknown	Cronbach's alpha	2012	Student	Unknown	511	Adopted	There was a statistically significant difference in the average score of attitudes toward addiction in different intervention methods (eta squared=0.61, $F=10.63$) and pre-training (eta squared=0.56, $F=3.45$) ($P<0.001$).
Mohammadi ⁵⁴	78	Face, content, confirmatory analysis factor	Cronbach's alpha	2011	Addict youth	16-29	408	Researcher made	Content and form validity were confirmed. The factor loading or regression weight in the second-order confirmatory factor analysis was above 0.5. Cronbach's alpha coefficient was estimated at 0.94.
Amiri ⁵¹	78	Face, content	Cronbach's alpha	2014	Addict youth	Unknown	200	Adopted	The mean of the groups in the variable of addicted parents ($F=14.70$), family differences ($F=34.63$), inappropriate parenting method ($F=20.45$), and parental divorce ($F=109.26$,) had a significant relationship, $P<0.001$.
Kamkari ⁵⁵	60	Factor, analysis, discovery	Cronbach's alpha	2011	Adolescent and young	14-18	1100	Adopted	There was no construct validity. The open test criterion is 0.60 and has a high Cronbach's alpha.
Kleiber ²⁵	Unknown	Unknown	Cronbach's alpha	2018	Student	Unknown	30	Adopted	There was a significant difference between the scores of life skills training (eta square=0.56, $P<0.001$, $F=34.39$) and attitude scores towards drug use (eta square=0.570, $P<0.001$, $F=36.63$).
Amini ²⁹	16	Unknown	Cronbach's alpha	2016	Student	15-18	497	Adopted	Father's education ($P<0.001$, $B=-3.24$), the mother literacy ($b=-2.283$, $P<0.001$), a sense of belonging ($P<0.001$, $B=0.277$), sense of security ($P<0.001$ and $B=-0.302$)
Naderi ³⁴	16	Unknown	Cronbach's alpha	2015	student	Unknown	53	Adopted	Spiritual intelligence had a significant effect on addiction potential for students ($F=13.93$) ($Eta=0.651$).

Table 1. Continued.

First Author	Number of questions	Validity criteria	Reliability criteria	Year	Target group	Age group (years)	Sample size	Researcher-made/adopted	Results
Mousavi ⁶⁵	13	Face	Cronbach's alpha	1998	Student	Unknown	883	Researcher made	The history of using tobacco and other drugs in medical school was 9.34%, 8.8%, campus school 8.38%, and 6.16% respectively.
Baharvand ³¹	16	Face	Cronbach's alpha	2017	Student	15-18	150	Adopted	45.7 of the students scored lower than the average (10.37) and 3.45 of the students scored higher than the average (10.37).
Narouei ³⁰	78	Face, content	Cronbach's alpha	2018	Addict youth	18-30	105	Adopted	Socio-economic deprivation with an average of 33.31% and family with an average of 86.25% was the most related.
Sheikh ⁶⁸	Unknown	Unknown	Unknown	2011	Teenager	14-20	2400	Researcher made	The prevalence of substance use was 5.25% in boys and 3.75% in girls. The most consumed substance was opium with 5.2%.
Babaei ⁶⁰	23	Content	Unknown	2005	Teenager	14-18	550	Researcher made	The highest awareness score for opium is 30% and the lowest score for LSD is 7%.
Movahed ⁵⁷	Unknown	Content	Unknown	2009	Student	Unknown	517	Researcher made	Students' awareness about opium was 62.8%, how to use it was 6.69%, and dependence was 6.80%.
Nerimani ⁴⁰	78	Unknown	Cronbach's alpha	2013	Student	Unknown	400	Adopted	The variables of gender $B=0.16$, physical symptoms $B=1.20$, impairment in social functioning $B=1.22$, and depression $B=1.29$ with $R^2=0.39$ had a significant relationship with addiction.
Khalegh Khah ²⁷	41	Criterion structure	Cronbach's alpha	2016	Student	Unknown	377	Adopted	The psychological toughness variable with $B=-83.83$ and $R^2=0.57$ form predicts addiction potential for students.
Parsian ⁵⁰	50	Confirmatory path analysis	Unknown	2012	Student	16-19	378	Unknown	and (socio-economic status with $t=2.35$, path coefficient=0.15), (adaptive problem solving, $t=1.62$, path coefficient=13.0), (incompatible problem solving with $t=-3.39$ path coefficient=-0.27)
Jalilian ⁴⁴	38	Unknown	Cronbach's alpha	2012	Student	Unknown	288	Adopted	Positive beliefs about worry ($\beta=0.22$, $P<0.001$), and cognitive self-awareness ($\beta=0.13$, $P<0.001$) were predictive of addiction potential.
Rezaei ²⁶	38	Criterion. convergent	Cronbach's alpha	2017	Student	Unknown	160	Adopted	There was a significant relationship between emotional reluctance and readiness to addiction with $R^2=0.23$ and expressiveness with readiness to addiction with $R^2=-0.67$ ($P<0.001$).
Sareban ²⁴	34	Face	Cronbach's alpha	2016	Addicted youth	Unknown	217	Unknown	Face validity was confirmed. Exploratory factor analysis showed that 4 components explained 93.48 of the total variance. Cronbach's alpha was between 0.75 and 0.89.
Soleimani ⁶⁹	38	Content; Exploratory factor analysis	Cronbach's alpha	2016	Student	15	304	Researcher made	Face and content validity were confirmed. Exploratory factor analysis showed that nine components explained 17.57% of the total variance. Cronbach's alpha was 0.91.
Zainali ⁵²	50	Criterion; exploratory	Cronbach's alpha	2013	Student	14-20	5884	Researcher made	Exploratory factor analysis of 10 components was extracted, whose factor loadings are between 0.30 and 0.80. Cronbach's alpha was obtained between 0.68 and 0.83.
Sharifi ⁶¹	21	Criterion; exploratory	Cronbach's alpha	2015	Addict youth	Unknown	211	Researcher made	A convergent validity of 0.55 was obtained. The retest coefficient in two weeks was 0.88 and Cronbach's alpha was 0.76.
Rezaei ⁴¹	50	Criterion; confirmatory factor analysis	Cronbach's alpha	2006	Student	13-19	6108	Researcher made	Five factors were extracted in factor analysis. Cronbach's alpha was between 0.77 and 0.86.

Table 1. Continued.

First Author	Number of questions	Validity criteria	Reliability criteria	Year	Target group	Age group (years)	Sample size	Researcher-made/adopted	Results
Ziyadini ⁶²	Unknown	Unknown	Unknown	2007	Student	16-19	3318	Researcher made	26.5% of boys and 11.5% of girls had a history of using drugs at least once. The desire to leave was in boys (8.40%) and in girls (2.26%).
Faizi ⁴²	15	Content	Cronbach's alpha	2011	Addiction center addicts	25-47	768	Researcher made	The most common substance consumed was opium (4.67%) and the main way of consumption was smoking (1.72%). Also, the main reason for drug addiction was communication with addicted friends and acquaintances (54%).
Mohammadi ⁶⁴	35	Unknown	Unknown	2002	Rehabilitation center addicts	25-35	186	Researcher made	The biggest factor in the initial potential of ignorance was 87.6% and the factor affecting the re-inclination to obtain peace was 87.6%.
Meymandi ⁶³	Qualitative	Brainstorming, collaborative problem-solving	Qualitative	2005	Student	15-19	352	Researcher made	Knowledge, attitude, value, means of mass communication, and education formed the basis of 6%, 9.7%, 9.8%, 9.8%, and 7.5% of the statements.
Fallah ⁵⁹	28	Content	Cronbach's alpha	2007	Student	Unknown	200	Researcher made	The frequency of consumption of ecstasy, cigarettes, and alcohol was 1.5%, and the average score of awareness was 86.9% which was weak.
Valadbigi ³⁸	32	Content	Cronbach's alpha	2011	Student	15-19	367	Adopted	The "commitment" variable had the most predictive power with a path coefficient of 0.45. With R ² =0.28, and 2.78% of students had a weak attitude.
Maghanlou ²³	38	Converge	Cronbach's alpha	2018	Student	20-31	217	Adopted	Suffering (T = 36.4, B = 0.15), extraversion (T = -3.51, B = 0.18), openness to experiences (T = -2.33, B = -0.12) and being conscientious (T = -91/3, B = -0.20), were related to resilience with P < 0.001.
Furozani ⁴⁵	41	Unknown	Cronbach's alpha	2014	Student	16-19	374	Adopted	Self-expression in boys with (β = -0.18) and R ² = 0.24 and self-expression in girls (β = -0.35) and R ² = 0.12 have been able to predict addiction readiness.
Baghiani Moghadam ⁵⁸	29	Content	Cronbach's alpha	2009	Addict and non-addict youth	< 40	400	Adopted	5.82% of addicts and 4.77% of non-addicts considered the role of friends in the addiction potential. In general, about 51% of addicts and 12% of non-addicts were addicted.
Mikaeili ⁴⁶	16	Unknown	Cronbach's alpha	2014	Student	Unknown	283	Adopted	There was a significant difference in mindfulness (F = 59.39), thought control (F = 19.24), avoidant attachment (F = 7.82), and ambivalent attachment (F = 44.31) with addiction potential.
Aghajani ³²	41	Criteria, structure	Cronbach's alpha	2018	Student	15-18	231	Adopted	Anxiety sensitivity with r = 0.62, and R ² = 0.59, fear of bodily sensations T = 263.6 and fear of being seen T = 6.325 predict addiction potential.
Noubakht ⁴⁷	44	Content	Cronbach's alpha	2013	Student	Unknown	375	Researcher made	Fifty percent had a positive attitude and 37% had a negative attitude towards addiction.
Hajji ⁵⁶	Unknown	Content	Unknown	2006	Society	> 15	14000	Researcher made	36% of the respondents knew about opium and traditional drugs, 89% considered the causes of addiction to be friends, and 82% of the addict's family.
Azar Mehr ³³	41	Structure	Cronbach's alpha	2017	Student	Unknown	150	Adopted	The correlation coefficients of attention control, fear of lack of cognitive control, fear of being observed by others, and fear of physical concerns were: 0.57, 0.58, 0.50, and 0.53 respectively with P < 0.001.

variables considered in previous research is available below, separated by their subclasses (Table 2). As Table 2 exhibits, the highest percentage of the age group was for the 12- to 20-year-old group, which was 44.18%. Furthermore, 37.21% of age group cases were unknown. This is despite the fact that none of the previous studies focused on the age group younger than 12 years (0 out of 43 studies conducted). However, 13 studies (30.23%) even believed that they had acknowledged validity assessment in the research, but did not clearly state any report of validity review. Only three of the conducted research analyzed the exploratory factor and the same number of 6.97% analyzed the confirmatory factor analysis. Additionally, 34 studies (79%) tested the reliability through Cronbach’s alpha, among which eight studies among all conducted studies did not mention any report on the reliability of the designed tool. Correspondingly, 60.44% of researchers (26 studies) considered their subjects from both genders and in six studies, the gender of the participants was unclear. The minimum number of questions in the questionnaire was 13 questions and the maximum was 78 questions. Some of the researchers did not consider the subject scientifically and based on the number of questions, which is discussed in the discussion section. Moreover, 23 studies adopted the questionnaire from others’ research, and in 18 studies out of 43 studies, the researcher applied the researcher-made questionnaires for validation.

Discussion

In the screening process, 43 studies were obtained, each of which was relevant in some way to addiction potential assessment using a standard questionnaire. Based on our results, it was found that many studies were conducted. Although they had dealt with the potential for addiction through a questionnaire method, there are criticisms of them from various aspects. Many studies had only examined one or more dimensions (such as addressing the dimension of awareness, attitude, and susceptibility to addiction) but did not comprehensively investigate the addiction potential.^{27,30,35,37,39,41,45,47,48,50,52,53,56-62,68,69} As a result, many issues may have been overlooked. Additionally, the subjects may not have the potential to distinguish and understand the questions of awareness, attitude, and performance separately.

Some studies, however, did not have a sufficient sample size and the sample was not representative of the society and according to scientific principles.^{25,26,30,33,34,37,51,53,54,64} In other words, the sample size was not large enough according to the references and scientific principles of questionnaire validation, even though experts expressed different opinions regarding the sample size. Some believe that five to 10 subjects should be included in the study for each item, and some consider 20 subjects for each item.⁷⁰⁻⁸⁴ As a result of not observing these principles,

Table 2. Frequency distribution of the selected papers

Variable	Category	Frequency (percent)
Age	<12	0 (0)
	12-20	19 (44.18)
	21-30	4 (9.31)
	31-40	2 (4.65)
	<41	2 (4.65)
	Unknown	16 (37.21)
	Total	43 (100)
Validity criteria	Structure	2 (4.65)
	Exploratory factor analysis	3 (6.97)
	Confirmatory factor analysis	3 (6.97)
	Face	6 (13.96)
	Content	9 (20.95)
	Criterion	5 (11.62)
	Qualitative - interview	2 (4.65)
Reliability criteria	Unknown	13 (30.23)
	Total	43 (100)
	Cronbach's alpha	34 (79.05)
	Qualitative / Rain of thoughts	1 (2.32)
	Unknown	8 (18.63)
Gender	Total	43 (100)
	Boy	8 (18.63)
	Girl	3 (6.97)
	boy/girl	26 (60.44)
	Unknown	6 (13.96)
Number of questionnaire questions	Total	43 (100)
	<20	8 (18.63)
	20-40	13 (30.22)
	40-60	11 (25.56)
	<60	4 (9.31)
	Qualitative / rain of thoughts	1 (2.32)
	Unknown	6 (13.96)
Questionnaire questions	Minimum questions	13
	Maximum questions	78
Target group	Total	43(100)
	Adopted from others	23(53.47)
	Researcher made	18(41.88)
	Unknown	2(4.65)
	Total	43(100)
	Teenager - young	7 (16.28)
	Student	11 (25.56)
Student	18 (41.88)	
The whole community	1 (2.32)	
Addicts	6 (13.96)	
Questionnaire type	Total	43(100)
	Adopted from others	23(53.47)
	Researcher made	18(41.88)
	Unknown	2(4.65)

the correctness of doing the work and, as a result, the generalization of the findings to the entire population is not possible.

In most of the studies, only one validity or reliability measurement method was applied for validation, and some even had flaws in the measurement and the method of measurement. Therefore, they did not mention all dimensions of validity or reliability^{23-25,28,29,31,33,34,36-40,42,44-50,53,56-60,62,64,65,73,84,85} that it would be better to take several validity and reliability methods. Conceivably one of the reasons is that due to the different target groups of the researchers, if only one reliability or validity measurement method is applied, we will not reach the desired result.

Another reason may be that the use of a measurement method may be affected by the sample size or the type of response of the subjects and it is not possible to get an acceptable result from the validity and reliability measurement.

Correspondingly, in most research, only Cronbach's alpha was applied to study the reliability.^{23-47,49,51,52,54,55,58,59,61,65,73,84-86} This seems acceptable as for the confirmation of Cronbach's alpha, other reliability measurement methods were applied. On the other hand, any tool needs to be appropriate and have sufficient validity and reliability.⁸⁷ However, the tool is designed⁸⁸ since the results may only be relied upon when either the validation features of the existing tools (validity and reliability) are fully determined, or if there is no suitable scale. The main problem of the conducted research was that they were not updated in new versions.^{23,25-65,73,84-86} Moreover, the last updated research that measured the addiction potential was the study of Zeinali in 2013.⁵² Some of the existing tools were not valid and only applied a list to review addiction potential,^{49,60} which did not hold any scientific validation.

Another criticism of some studies is that they applied one questionnaire for different groups to measure addiction potential. In other words, the questionnaire was not specific for a certain group of people.^{23-65,73,84-86} It was a standard questionnaire for different groups of people with addiction, including women, men, students, parents, coaches, judges, and teachers. Therefore, due to the different target societies of these tools, it is not possible to use them for other groups. It should be emphasized that until recently, no questionnaire that particularly examines the addiction potential among Iranian children has been designed and validated, and there is a need to design and psychometrically assess it. Furthermore, the tools available in the field of addiction potential in different studies contain different items with different measurement scales, e.g., questionnaires with 4-option Likert scales,^{23,27,32,49} 5-options^{24,25,29-31,33,34,36,40,43,45-47,51,53,54,58,86} and 9 options⁶⁰ Thurston scale^{26,37,42,44,61,64} which may be difficult to understand or their completion may lead to respondent fatigue.^{35-39,43,49,55,57,60,63,65}

Another criticism of some studies is that other authors applied a standardized questionnaire; however, the number of questions they applied was different from the questionnaire applied by the researcher.^{23,26,27,32,33,43,45,53} In other words, citing the questionnaire is not performed accurately and scientifically.

Another significant criticism and mistake that was made in most research is that in some parts of the research, there is a variable or vague and unclear item in the findings, and no information and explanation is given in this regard. Consequently, in some research, the type of question options was unclear.^{35,38,39,41,48,50,55-57,59,62,65} In some studies, however, it was evident that the gender of the subjects was unclear.^{23,24,30,51,54,58}

In some papers, however, it is unclear whether the questionnaire applied was made by the researcher or taken from the standard questionnaire of others.^{24,48,50,58,62} Moreover, in some other studies, the number of questionnaire questions was unclear.^{25,48,53,56,57,62} Some researchers did not mention any validation in their study,^{48-50,53,62,64} and some others, despite mentioning validation, did not perform any validity assessment^{29,34,39,45,46} or other researchers did not focus on its reliability and reporting.^{56,57,60} Some researchers mentioned the addiction potential in the title, and some other studies, even though the title or summary of the paper did not raise this issue, discussed addiction potential in the paper.

Some researchers did not mention the name of the questionnaire they applied,^{24,65} and in other studies, the researchers did not specify the age group of the subjects or the target group.^{24-27,33,34,39,40,44,46,47,51,57,59,61,65} However, uncertainty and ambiguity in such variables weaken the validity of the validation, making it difficult to cite such questionnaires and confusing other researchers and audiences.

One of the limitations of the present research may be the non-cooperation of some researchers in providing the questionnaires and checklists they applied. They provided the information related to the conducted research in an obvious and acceptable manner in terms of ethics in research, and perhaps with the availability of information and questionnaires, a more detailed investigation and analysis would be possible in the current research. One of the strengths of the present study is that the scope of the research is limited to Iranian studies, to create an opportunity to collect and analyze the studies conducted in Iranian society. Besides, in the implementation of the present study, we tried to use the guidelines and precise methods of systematic review.

Another strength of the current study is the type of study which extensively and analytically, first pointed out all the gaps and limitations of other people's research and then showed the necessity of designing and psychometrically assessing a questionnaire to examine

their potential for assessment of addiction in children.

Conclusion

It is necessary to discover the needs and measure the state of addiction potential for children to make better and more complete decisions in the health policy-making process and to reduce the unwanted consequences of addiction in this group. Furthermore, considering all criticisms of the conducted studies and the lack of a suitable, standard, and comprehensive tool that examines the addiction potential for children in Iran, a tool or instrument that measures the requirements of this group has not been developed hitherto. Moreover, the lack of appropriate tools in Iran, the lack of a standard questionnaire that has examined children's addiction, outdated previous versions and the lack of regular examination of this issue highlight the necessity of designing psychometrically appropriate tools and instruments for children with this condition in Iran.

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Competing Interests

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