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Scientific Review

## INTERNET ADDICTION: METHODS FOR ASSESSING VARIOUS FORMS OF COMPUTER DEPENDENCE

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**Purpose:** analysis of methods for assessing various forms of computer addiction in domestic and foreign scientific research.

**Materials and methods.** The article presents a review of the literature and analyzes scientific research on Internet addiction in children, adolescents and adolescents. The advantages internet addiction assessment methods (ease of use; minimum filling time; quantitative and qualitative assessment of the features of Internet addiction in children, adolescents and adolescents; obtaining information from any number of respondents) and disadvantages (information obtained during the survey process may be subjective, which can be link the pressure of social approval) of diagnostic questionnaires with the interpretation of the results obtained. In most of the presented scientific studies, the most accessible research methods were used to assess the characteristics of Internet addiction - questionnaires, questioning (full-time).

A scientific search was carried out using the relevant keywords and basic terms in the PubMed and Google Scholar search engines, in the Scopus database, Web of Science, MedLine, The Cochrane Library, EMBASE, Global Health, CyberLeninka, RSCI (eLIBRARY.RU) and others.

**Results.** According to the results of studies conducted in different countries, Internet addiction is widespread among children, adolescents and adolescents, and every year their number is increasing.

**Conclusion.** It should be noted that each questionnaire has its own advantages and disadvantages, diagnostic criteria of the norm, the inclusion or non-inclusion of individuals in the study, the formation of groups, as well as the compliance of the questionnaire methods and the results of the study with the tasks set - "validity".

**Keywords:** Internet addiction; Internet addiction criteria; computer literacy; age characteristics of addictions; questionnaires; assessment methods

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Научный обзор

## ИНТЕРНЕТ-АДДИКЦИЯ: МЕТОДЫ ОЦЕНКИ РАЗЛИЧНЫХ ФОРМ КОМПЬЮТЕРНОЙ ЗАВИСИМОСТИ

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**Цель исследования:** анализ методов оценки различных форм компьютерной зависимости в отечественных и зарубежных научных исследованиях.

**Материалы и методы.** В статье представлен обзор литературы и проанализированы научные исследования по интернет-аддикции у детей, подростков и лиц юношеского возраста. Показаны достоинства методов оценки интернет-аддикции (простота использования; минимальное время заполнения; количественная и качественная оценка особенностей интернет-аддикции у детей, подростков и лиц юношеского возраста; получение информации от любого количества респондентов) и недостатки (информация, получаемая в процессе анкетирования, может быть субъективна, что можно связать давлением социальной одобряемости) диагностических опросников с интерпретацией полученных результатов. В большинстве представленных научных исследований для оценки особенностей интернет-аддикции применялись наиболее доступные методы исследования - опросники, анкетирование (очное).

Проведен научный поиск с использованием соответствующих ключевых слов и основных терминов в поисковых системах PubMed и Google Scholar, по БД Scopus, Web of Science, MedLine, The Cochrane Library, EMBASE, Global Health, CyberLeninka, РИНЦ (eLIBRARY.RU) и другим.

**Результаты.** По результатам проведенных в разных странах исследований интернет-аддикция широко распространена среди детей, подростков и лиц юношеского возраста, число которых с каждым годом возрастает.

**Заключение.** Следует отметить, что каждый опросник имеет свои достоинства и недостатки, диагностические критерии нормы, включение или не включение лиц в исследование, формирование групп, также соот-

ветствие методик-опросников и результатов исследования поставленным задачам – «валидность».

**Ключевые слова:** интернет-зависимость; критерии интернет-зависимости; компьютерная грамотность; возрастные особенности аддикций; опросники; методы оценки

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Internet addiction (IA) is one of the most important and urgent problems of our time. According to the results of studies conducted in different countries, Internet addiction is widespread among children and adolescents [2, p. 158-167] and adolescents [1, p. 75-78; 3, p. 10-28] and every year their number increases [5, p. 14-22].

Currently, behavioral addictions associated with online activity are sometimes combined under the general term “e-addictions” or electronic / “e-addictions” [4, p. 3-9].

There are 2 types of computer addiction: Internet addiction and addiction to computer games (computer “online” and “offline” games) [20, p. 1-16; 21, p. 101304].

V.L. Malygin (2018) [9, p. 90-97] identifies variants of computer addiction: pathological computer addiction; computer addiction syndrome; ‘networkism’ or ‘cyberaddiction’ [8, 10, p. 15; 11, p. 56].

M.H. Orzack (1999) notes 16 criteria for diagnosing computer addiction [50, p. 53-57]. The presence of 5 symptoms indicates computer addiction in the studied individuals. A.E. Voiskunsky (2017) proposed 13 diagnostic criteria for computer addiction [1, p. 75-80] and in the works of S.A. Kulakov, S.A. Fridman psychological criteria of “gaming” [6, p. 53].

In the study of O.I. Teslavskaya et al. (2018) found that the number of adolescents with high online activity (more than 8 hours/day) has doubled over several years. In 2012, this indicator among adolescents was 14%, in 2018 it was 34% [6, p. 27-54].

As you know, the beginning of research in the field of AI was laid by the test questionnaire method developed by K. Young in 1994 [43, p. 97; 44].

The Internet Addiction Test is a technique developed and tested in 1994 by K.S. Young [43, p. 97; 44]. The test is a tool for self-diagnosis of pathological addiction to the Internet (regardless of the form of this addiction), although the

diagnostic category of Internet addiction itself has not yet been finally determined. The Russian version of the questionnaire was adapted by V. Loskutova [7, p. 16]. It is also important to note that the clinical significance of the questionnaire test is a screening tool for selecting individuals who need specialist advice [7, p. 16].

The full version of the questionnaire includes 40 questions. For each standardized set of questions, the subject must give an answer in accordance with a 5-point scale of total assessments. The scale (Likert scale, 1932) is often used in surveys and surveys. The subject independently fills in and evaluates the degree of his “agreement” or “disagreement” with each judgment in the questionnaire form. The scores for all questions are summed to form a total score, allowing the results to be quantified. Interpretation: ordinary Internet user “20-49 points”; the presence of some problems associated with excessive interest in the Internet “50-79 points” and Internet addiction “80-100 points”. This test can be used to screen people who need a consultation with a specialist psychologist, and in the dynamics of the questionnaire can be used to assess the improvement in the condition of patients during treatment [24, p. 1-10; 26, p. S89-s99; 27, p. 784-795].

Screening diagnostics of Internet addiction using questionnaires. The test questionnaire includes 11 statements regarding the manifestations of the emotional state of a person at a computer or on the Internet (the influence of a computer on the psycho-physiological state, sleep and wakefulness patterns). Interpretation: score < 16 (risk of Internet addiction is 0); the sum of points is 16-22 (the stage of passion, “sticking” to addiction); score 23-37 (I stage of Internet addiction); the sum of points is 38 and ↑ (II stage of Internet addiction). At stages I and II of Internet addiction, it is necessary to carry out rehabilitation measures and therapeutic measures [9, p. 90-97].

“Questionnaire Perception of the Internet” allows you to measure indicators on 12 scales and includes 67 questions that are grouped by addiction factors, Internet perception characteristics and the consequences of addiction [10].

- 1) Addiction factors: belonging to a network subculture, non-purposeful behavior and the need for sensory stimulation;
- 2) Features of the perception of the Internet: motivation for using the Internet, a change in the state of consciousness as a result of using the Internet, the perception of the Internet and preferably in comparison with real life, communication;
- 3) The consequences of addiction: the time spent by the user on the Internet, the space on the Internet, the perception of the Internet as a projective reality, the animation of the Internet, the desire to transfer the virtual world to the real one.

The socio-linguistic question (No. 67) was introduced to determine the degree of belonging of the respondents to the network subculture and is analyzed separately, i.e. words are selected by the researcher: (10 words = 5 words - concepts related to the Internet; 5 words - Internet slang. The result is obtained from the calculation of 10 words - 100%). The advantage of this test is a more detailed study of the psychological characteristics of Internet addiction.

Test for "Internet Addiction" was developed taking into account age-related characteristics. The questionnaire is used to identify Internet addiction in adults and children. Includes 20 questions, answers are given on a 5-point scale. Interpretation: the sum of points 50-79 points - a serious impact of the Internet on the life of the surveyed; a score of 80 or more means that Internet addiction is diagnosed with the need for specialist help [11].

So in foreign [18, p. 601-610; 19, p. 4053-4061; 20, p. 1-16] and domestic literature [8; 9, p. 90-97; 10, p. 16-18; 11, p. 56] provides different criteria for assessing AI [28, p. 333-354; 29, p. 280; 30, p. 106845; 31, p. 345; 61, p. 153-155].

The Chen Internet addiction scale (CIAS scale) according to the diagnostic criteria, the Chen IS test is the most suitable for universal diagnostic components for all variants of addictions (S.H. Cnen, 2003). The test includes 5 scales (compulsive symptoms; withdrawal symptoms; tolerance; intrapersonal problems, health-related problems; time management) and 2 types of suprascale criteria, then the scores are summed up, obtaining the final result: 27-42 points (lack of Internet internet addiction or minimal risk development of internet addiction); 43-64 points (prone to internet addiction); 65 points and above (presence of internet addiction). The CIAS test makes it possible to diagnose not only the presence/absence of internet addiction, but also qualitatively determine the severity of symptoms [35, p. 2248-2256], which characterize the structure of a person's dependent behavior [32, p. 4635-4642; 33, p. 10; 34, p. 294].

To study the presence of internet addiction and various forms of computer addiction, surveys are used in research ("Chen Internet Addiction Scale" (CIAS) [36, p. 787], "Game Addiction Scale for Adolescents" (GASA) [37, p. 668] and "The Social Media Disorder Scale" (SMDS) - Russian-language versions of the questionnaires [23, p. 3; 25, p. 307].

It is important to note that the Bergen Social Media Addiction Scale (BSMAS) questionnaires are widely used in foreign scientific studies (IGDS-SF9) - Online Video Game Problematic Usage Scale [22, p. 275].

BSMAS scale [19, p. 4053-4061] includes 6 items (engagement, continued involvement; need - growing tolerance; influence on mood; relapse - loss of control; withdrawal syndrome, conflict - functional impairment) to assess the

use of social networks such as Facebook, Twitter, Instagram and 5 response options in points: “1-very rarely”, “2-rarely”, “3-sometimes”, “4-often”, “5-very often”. The points are summed up, and the total score varies from 6 to 30 points. The questionnaire is widely distributed and adapted in many countries [42, p. 225-232].

At the moment, clear diagnostic criteria [57, p. w14061] assessments of social network addiction have not yet been developed, that most scientific papers use the term “pathological or problematic use” of the Internet as a milder form of Internet addiction [38, p. 231-267; 39, p. 235; 41, p. 123; 44].

According to Xu Zhengchuan et al. (2017) [40, p. 1434-1444; 62, 1275-1283] online gambling addiction has become a common occurrence that affects many people. The impact of motivation and prevention factors on online gaming addiction is often mediated by online gaming [40, p. 1434-1444; 62, 1275-1283; 61, p. 153-155].

The Tucker T. test questionnaire is used to identify gambling addiction. The questionnaire was adapted by I.A. Konygina for children and teenagers. Includes 9 questions, 4 answer options in points: “0-never”, “1-sometimes”, “2-most often”, “3-almost always”. The points obtained for the questions are summed up, the higher the result, the more the subject is interested in computer games. Interpretation: “0 points” - there are no negative consequences from computer games; “3-7 points” - the subject is at risk for gambling addiction.

It can be assumed that various assessment methods and diagnostic criteria for Internet addiction [59, p. 1195; 60, 277-283; 61, p. 153-155], as well as understanding the definition of Internet addiction [48, p. 2913; 49, p. 20-26] by researchers from different countries lead to inconsistency in the results obtained - from 0.7% to 36.7%. The conducted studies prove that Internet addiction has a global prevalence [45, p. 959-966; 46, p. 726; 47, p. 133-146].

The results obtained can provide additional information for a personalized prognosis, and are aimed at correcting and preventing Internet addiction in children, adolescents and adolescents [51, p. 1885; 52, p. 601-610]. The following questionnaires seem to be valid: “Chen Internet Addiction Scale” (CIAS), “Game Addiction Scale for Adolescents” (GASA) [55, p. 680-685; 56, p. 2265-2283] and “The Social Media Disorder Scale” (SMDS) [53, p. 776-789; 54, p. 447-455], also the method of L.N. Yurieva and T.Yu. Bolbot.

It is important to note that any survey and testing is the initial stage in identifying individuals with a tendency to addictive behavior.

Conclusion. The advantages of methods for evaluating Internet addiction (ease of use; minimum filling time; quantitative and qualitative assessment of

the characteristics of Internet addiction in children, adolescents and adolescents; obtaining information from any number of respondents) and disadvantages (information obtained in the process of questioning may be subjective, which can be associated with the pressure of social approval) of diagnostic questionnaires with the interpretation of the results obtained. In most of the presented scientific studies, the most accessible research methods were used to assess the characteristics of Internet addiction - questionnaires, questioning (full-time).

Thus, the analysis of the literature showed that each questionnaire has its own advantages and disadvantages, diagnostic criteria of the norm, the inclusion or non-inclusion of individuals in the study, the formation of groups, as well as the compliance of the questionnaire methods and the results of the study with the tasks set - "validity".

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