

Parental Assessment of Online Gaming Addiction Behavior in Children and Adolescents

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Abstract

The prevalence of Internet addiction (IA) is 1.5-13.9% in the USA, Europe and Russia; in Asian countries it reaches 7.5-36.9 %. Such a significant difference in the assessment of the scale of the phenomenon makes it possible to raise the question of the reliability of the criteria used. The goal of this study was to compare the results of questioning parents using questionnaires on Internet gaming behavior in children and adolescents, as well as a questionnaire on types of upbringing. The main group consisted of parents of 26 children and adolescents aged 6-17 years, 14 boys and 12 girls, whose parents complained of their excessive use of the Internet. The comparison group consisted of the parents of 31 children and adolescents aged 4-17 years, 21 boys and 10 girls, whose parents had no such complaints. The severity of Internet activity was measured by Test for child Internet addiction and "Determination of dependence on computer games, children's version" questionnaire. The types of upbringing were estimated by "Analysis of family relationships" questionnaire. It was found that the IA severity in the group of children and adolescents whose parents believed that their children were overly addicted with a group of children and adolescents without such complaints did not reveal significant differences. At the same time, differences in the educational position of parents in the compared groups were revealed. It has been shown that those parents who consider their children online gaming activity to be excessive are less able to use prohibitive measures. They are more characterized by an unstable type of upbringing, and they are distinguished by the immaturity of the emotional attitude towards their children, which manifests itself in such features as the expansion of the sphere of parental feelings and their underdevelopment.

Keywords

Internet addiction, Online gaming activity, Parental assessment, Types of upbringing, Children and adolescents

1. Introduction

The prevalence of Internet addiction (IA), according to various publications, is 1.5-13.9% in the USA and Europe, and in Asian countries it reaches 7.5-36.9 % [1-7]. According to Russian studies, the analysis of the prevalence of IA among Moscow adolescents had showed it in 4.3% of the surveyed, and 29.3% are at risk [8]. IA was detected in 12% of 527 surveyed university students in Ufa, Republic of Bashkiria [9]. Monitoring of 16,574 secondary school students showed that 89% of boys and 64% of girls play computer games, while every third boy and every fifth girl are at risk in the IA [10]. A recent study of 1119 schoolchildren aged 15 to 18 years in Kopeysk (Chelyabinsk region) revealed a high risk / pronounced signs of IA in 10.4% of the examined [11]. Such a significant difference in the

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assessment of the scale of the phenomenon makes it possible to raise the question of the reliability of the criteria used.

Various literature sources provide 2 main approaches to assessing the online gaming activity (OGA) of children and adolescents, each of which has its own advantages and limitations. This is a self-assessment based on questionnaires and an analysis of referrals to medical institutions based on complaints from parents (guardians, or other legal representatives). Most of the statistics presented are based on self-surveys of adolescents and young people. However, in the minds of a reflexive adolescent with an insufficiently formed personality boundary, the idea of his own behavior and his self-esteem often diverge. As a result, it is difficult for him to distinguish what is really happening to him or what is truly inherent in him from what others say about him.

If we consider the problem of OGA of children and adolescents from the perspective of parental perception, then we can say that the real scale of the "disaster" and their interpretation are sometimes confused here. Such a factor as the emotional rejection of the child, the rejection of his inherent authentic character traits leads to the fact that the child's playful hobbies irritate the parents, and their dominance in the child's life to the detriment of other activities (study, sports, etc.) gives rise to anxious expectation for the future. As a result, the true scale of OGA may be exaggerated, and a child may be called an "addict", "gamer", etc. for no apparent reason.

The literature has repeatedly pointed out that it is the parental interpretation of the pupils' Internet gaming activity that is a decisive factor in assessing their severity and consequences, and attributing this phenomenon either to behavioral deviation or to an established addictive disorder [12]. Dysfunctional family relationships, family conflicts, cold, dismissive, indifferent and restrictive parenting styles, and low family cohesion contribute to the negative perception of the child's online play activity. Moreover, these traits can increase the risk of developing IA [13-20]. On the other hand, a number of sources say that if a child is closely attached to the mother, then she is less likely to interpret his OGA as an addiction [21-22].

In turn, an authoritative parenting style is a protective factor against IA. Thus, the parent must be caring, protect his child, but respect his autonomy. [23].

There are many different classifications of games, the most popular are the following: by genre [24-25], a narrative game or not [26], according to the main action - activity, search, imitation, logic [27].

The goal of this study was to compare the results of questioning parents using questionnaires on Internet gaming behavior in children and adolescents, as well as a questionnaire on types of upbringing. We compared the responses of parents who complained about excessive online activity of their children with those of parents who did not have such complaints. Thus, it was planned to find out to what extent the complaints made by parents about the excessive use of the Internet by their children really reflect the presence of dependent computer behavior, and not a consequence of rejection of the child's behavior style, a particular manifestation of which is a high enthusiasm for online games and absorption in them. We assumed that the use of rating scales, in contrast to spontaneously presented complaints, more objectively reflects the real state of affairs, since it is more based on test choices, is the result of rational understanding and logical analysis of the situation associated with the child's hobby.

2. Subjects and Methods

The main group consisted of parents of 26 children and adolescents aged 6-17 years, 14 boys and 12 girls ($\chi^2=0.154$; $p=0.695$). Statistical data on age and gender are presented in Table 1. The inclusion criteria were: (1) parents complained of excessive use of the Internet, which led to their self-seeking help from a psychotherapist of the Children's Advisory Center of St. Petersburg State Pediatric Medical University; (2) availability of informed consent to fill out the questionnaires, (3) understanding the meaning of the questionnaire questions; (4) the absence in the course of preliminary screening, carried out on the basis of the research diagnostic criteria of ICD-10, diagnoses from headings F 00-89. Since at the time the parents filled out the questionnaires, the examination and follow-up continued, the diagnoses F90.0 Disturbance of activity and attention, F90.1 Hyperkinetic conduct disorder, F91.0 Conduct disorder confined to the family context, F91.3 Oppositional defiant disorder. The exclusion criteria were (1) the presence of other mental disorders from headings F 00-89 accompanying the main complaints, as well as a conscious request from the parents to search for a mental illness in the pupil –

a delegated falsified disorder (F68.12 – Munchausen syndrome by proxy); (2) refusal to continue the study.

Initially, 36 people were supposed to be surveyed. However, on the basis of concomitant symptoms F 00-89, 6 respondents (16.7%) were not included in the study. Based on the exclusion criterion, 4 respondents (11.1%) completed the survey ahead of schedule, whose questionnaire questions seemed “offensive” and “suspicious”.

The comparison group consisted of the parents of 31 children and adolescents aged 4-17 years, 21 boys and 10 girls whose parents did not complain of excessive OGA. The comparison group is comparable in age, sex and the number of complete/incomplete families with the main group (Table 1).

Research methods. To assess the severity of Internet activity we used tests and methodologies elaborated and validated in Russian Federation:

1) "Test for child Internet addiction" (TCIA) [28]. Consists of 20 questions, graded 1-5 points. According to the author's approbation, a total score of up to 50 indicates a minimal risk of developing IA, 50-79 points - about a high risk of IA, 80 points and above - about clinically expressed IA.

2) Questionnaire "Determination of dependence on computer games, children's version" (DDCG) [29] Consists of 17 questions, each of which is assessed yes / no. If the total score exceeds 3, then this is regarded as addictive play behavior.

3) Questionnaire "Analysis of family relationships" (AFR) [30]. The questionnaire consists of 130 items, each of which is assessed yes/no. Children's (for 3-10 years old) and adolescent (11-21 years old) variants of the questionnaire are similar in the number of questions and their content, the differences concern age-determined nuances of the wording. As a result, 20 main characteristics (scales) of the parent's upbringing position in relation to the child/adolescent are assessed.

All three presented questionnaires were completed by mothers. Currently existing methods for children and adolescents in the Russian Federation provide an opportunity to evaluate online activity and game dependent behavior separately.

Clarification of complaints was conducted with parents in the format of a clinical interview. The parent was offered a free style of presenting complaints. To structure the interview, the researcher proposed three main open-ended questions: "What is happening to the child?", "What is the reason for these difficulties?", "How does he / she react to your advice/comments?"

In this work, the taxonomy developed by Kutaliev was used. This author proposed to divide games into the following genre groups: action (shooters, martial arts, arcades, etc.), simulations, adventures, strategies, puzzles, role-playing and mixed games [25].

Statistical processing was carried out using the χ^2 goodness-of-fit test, the Mann-Whitney nonparametric U test, for the parametric data of the Student's t-test. To check the normal distribution, the indicators of skewness and kurtosis and their standard errors were used. Significance level – $p \leq 0.05$.

3. Results and Discussion

Among the online games used by children and adolescents, the leading genre groups were the following: action (23 people), strategy (7 people), puzzles (2 people). The obtained data regarding genre groups can be correlated with the previous publications. According to various sources, shooters (a subgenre of the genre group - action) are preferred by 19.8 - 96% of all players [31-32]. Strategy is a less popular genre, although there are works in which players report this genre group as one of the leading [33]. The division of players according to genre is an important predictor. There are publications that report that among all players, those who resort to shooters are more likely to become pathological gamers [34], or separately to MMORPG (role-playing games) [35].

Parents complained about the inability to control both the content and the temporal characteristics (duration, time of day) of their children OGA. The content of the games appeared to be "stupid", "empty", "unintellectual", "shocking". At the same time, in the words of some parents, the latent delight and joy sounded like a dissonance that the child knows how to use such complex technologies. That is, an internally contradictory attitude towards the hobby of children was often revealed. Parents' attempts to control the time and duration of children's play behavior ended in open confrontation, in which the child usually won. The imperative to "immediately stop playing" on a computer or tablet usually leads

to a violent affective reaction on the part of the child that goes beyond what is permitted – rudeness, boorishness towards parents and even foul language.

The peculiarity of complaints made by parents about excessive use of the Internet was their close intertwining with manifestations of behavioral deviations. Along with complaints about the online activity of children, parents pointed to a number of concomitant behavioral disorders, such as restlessness, excessive mobility, inability to concentrate for a long time when doing school and homework, disobedience, protest behavior, provocation of quarrels and conflicts with parents, siblings and peers. It was noted that it was impossible to force the child to carry out daily duties, the experience of discomfort in the school environment and among peers, refusal to attend school, and tension in communication with teachers. Children and adolescents usually did not tolerate criticism in their address, in response to any comment, screams and scandals were observed. There was an increased sensitivity to any negative assessment of their actions. When analyzing the family situation, it was revealed that the parents, in principle, could not influence the child, prohibitions and punishments were ineffective.

Since at the time of the survey, no patient had undergone a final examination and the follow-up time was not necessary for the diagnosis, information on the diagnosis profile was not provided. Hypothetically, children were supposed to have F90.0 Disturbance of activity and attention, F90.1 Hyperkinetic conduct disorder, F91.0 Conduct disorder confined to the family context, F91.3 Oppositional defiant disorder. The peculiarity of the studied sample consisted in the fact that none of the patients had manifestations of antisocial, aggressive, illegal (delinquent) behavior, including in the peer group – diagnoses F91.1 Unsocialized conduct disorder and F91.2 Socialized Conduct Disorder.

Table 1

Characteristics of age, gender, family, Internet-addicted and gambling-addicted behavior in the main group and the comparison group

Characteristics Total	Total (N=57)	Main group (N=26)	Comparison group (N = 31)	Differences
Age M (sd)	11.58 (4.23)	12.13 (3.71)	11.00 (4.62)	t=1.028
min-max, years	4-17	6-17	4-17	p=0.318
Gender				
female	22 (38,6%)	12 (46.1%)	10 (32.3%)	$\chi^2=1.152$
male	35 (61.4%)	14 (53.8%)	21 (67.7%)	p=0.283
Family				
Full	34 (59.6%)	17 (65.4%)	17 (54.8%)	$\chi^2=0.653$
Incomplete	23 (40.4%)	9 (34.6%)	14 (45.2%)	p=0.519
Total score TCIA. Me [Q1; Q3], min-max, points	34.00 [24.00; 43.00] 0-72	28.00 [21.75; 43.00] 0-70	34.00 [25.00; 49.00] 20-72	p=0.348 U Mann-Whitney
Total score DDCG, Me [Q1; Q3], min-max, points	2.00 [1.00; 5.00] 0-16	2.50 [1.00; 5.00] 0-10	2.00 [1.00; 5.00] 0-16	p=0.809 U Mann-Whitney

Table 1 shows that the main group and the comparison group did not differ in the median values of the Internet addiction scales (p=0.348 according to U Mann-Whitney criteria) and dependence on games (p=0.809 according to U Mann-Whitney criteria). That means that children and adolescents whose parents complained about excessive use of online games did not differ in objective signs of the severity of addictive behavior from their peers whose parents did not present such complaints. Moreover, both in the main group and in the comparison group, the scale indices were within the reference values (for TCIA it is less than 50 points, for DDCG – 3 or less points), which indicates not only the absence of clinical signs of IA, but about the absence of the risk of its formation. Thus, an objective scale-rating assessment of the true scale of online activity of patients suggests that parental complaints about excessive use of Internet games in our case were the result of erroneous interpretation.

Table 2

Types of upbringing according to the "Analysis of family relationships" questionnaire in the main group and the comparison group

Types of upbringing Me [Q1; Q3], min- max, points	Total (n=57)	Main group (n=26)	Comparison group (n=31)	Differences up to U Mann-Whitney
Hyperprotection	4.00 [2.00; 5.75] 0-10	4.00 [2.00; 6.00] 0-10	4.0 [1.75; 4.25] 0- 8	p=0.445
Hypoprotection	2.00 [1.00; 3.00] 0-9	2.00 [1.00; 3.00] 1-7	2.50 [1.00; 4.00] 0-9	p=0.880
Indulgence	2.00 [3.00; 4.00] 0-9	3.00 [2.00; 5.00] 0-9	3.00 [2.00; 4.00] 1-6	p=0.329
Ignoring the needs of the child	0.00 [0.00; 1.00] 0-4	0.00 [0.00; 1.00] 0-3	0.00 [0.00; 1.00] 0-3	p=0.449
Excessive requirements-duties	1.00 [0.00; 2.00] 0-5	1.00 [0.00; 2.00] 0-5	1.00 [0.00; 2.00] 0-4	p=0.649
Lack of requirements- responsibilities	2.00 [1.00; 3.00] 0-5	2.00 [1.00; 3.00] 0-5	2.00 [1.00; 3.00] 0-5	p=0.826
Excessive requirements- prohibitions	1.00 [1.00; 2.75] 0-5	1.00 [0.00; 2.00] 0-5	2.00 [1.00; 3.00] 0-5	p=0.013
Lack of prohibition requirements	2.00 [1.00; 2.75] 0-4	1.00 [2.00; 3.00] 0-4	1.00 [1.00; 2.00] 0-4	p=0.285
Excessive sanctions	1.00 [0.00; 1.00] 0-4	1.00 [0.00; 1.00] 0-4	0.00 [0.00; 1.00] 0-3	p=0.164
Minimum sanctions	3.00 [2.00; 4.00] 0-5	3.00 [2.00; 4.00] 0-5	2.50 [1.75; 4.00] 0-5	p=0.687
Unstable parenting style	1.00 [0.00; 3.00] 0-5	1.00 [0.75; 3.00] 0-4	0.00 [0.00; 2.00] 0-5	p=0.027
Expansion of the sphere of parental feelings	1.00 [0.00; 2.00] 0-7	2.00 [1.00; 3.00] 0-7	0.00 [0.00; 1.00] 0-6	p=0.002
Preference in a child / adolescent for children's qualities	0.00 [0.00; 1.00] 0-3	0.00 [0.00; 1.00] 0-3	0.50 [0.00; 1.00] 0-3	p=0.573
Educational uncertainty of parents	2.00 [0.25; 3.00] 0-5	2.00 [1.00; 4.00] 0-5	1.00 [0.00; 2.25] 0-5	p=0.065
Phobia of loss of a child	0.50 [0.00; 1.00] 0-4	1.00 [0.00; 2.00] 0-4	0.00 [0.00; 1.00] 0-4	p=0.222
Underdevelopment of parental feelings	1.00 [0.00; 2.00] 0-8	1.00 [0.00; 2.00] 0-8	0.00 [0.00; 1.25] 0-4	p=0.031
Projection onto the child of one's own undesirable qualities	1.00 [0.00; 2.00] 0-5	1.00 [0.00; 2.00] 0-5	1.00 [0.00; 3.00] 0-4	p=0.381
Making the conflict between spouses in the sphere of upbringing	0.00 [0.00; 1.00] 0-5	0.00 [0.00; 1.00] 0-4	0.00 [0.00; 1.25] 0-5	p=0.542
Preference for female qualities in a child	1.00 [0.00; 2.00] 0-4	1.50 [0.75; 4.00] 0-4	0.00 [0.00; 2.00] 0-4	p=0.007
Preferences in the child of male qualities	0.00 [0.00; 1.00] 0-4	0.00 [0.00; 1.25] 0-4	0.00 [0.00; 0.25] 0-3	p=0.076

Hypothetically this situation may be associated with a misunderstanding by parents of their children and, as a consequence, the interpretation of reactions of protest, stubbornness, emancipation for manifestations of addictive behavior, at the next stage, the results of studying the educational position in 2 compared groups were analyzed (Table 2).

It was revealed that in the main group the values of the scale "Excessive demands-prohibitions" ($p=0.013$) and higher than the values of the scales "Unstable style of upbringing" ($p=0.027$), "Expansion of the sphere of parental feelings" ($p=0.002$), "Underdevelopment of parental feelings" ($p=0.031$) and "Preference for female qualities in a child" ($p=0.007$). This shows that, compared to the reference sample, parents whose children's online gambling activity appeared to be excessive had a reduced use of prohibitive measures against their children. In general, this indicates to an insufficient formation of educational competence, a property that plays a key role in the formation of behavioral deviations in children [36].

In addition, in the main group, there was a high severity of characteristics reflecting the immaturity of the emotional component of the attitude of parents to children. This is, first of all, the expansion of the sphere of parental feelings - a property that indicates the instability and blurring of child-parental boundaries with a high desire on the part of the parents to "emotionally invest" in the child. Also significant is such a characteristic as the underdevelopment of parental feelings associated with insufficient knowledge of the inherent in the pupil of the authentic characterological properties and the desire to control his external behavior. In the context of our research, this may be an attempt to control the child's hobbies for Internet games through ineffective measures.

Such an educational characteristic as "Preference for female qualities in a child" is associated with a subconscious desire to have a calm, docile pupil, which indirectly indicates the presence of protest behavioral reactions in the studied contingent. Of great importance (to explain the results obtained) is the prevalence in the main group of an unstable style of upbringing, the role of which in the origin of dysfunctional parent-child relations has been repeatedly emphasized [37].

Probably, the feeling of anxiety, usually associated with low educational competence, was a direct source of exaggeration of the problem of Internet use. Not possessing effective ways of influencing children necessary to achieve results, in this case the desire for them to play less and learn more, parents justified their own educational incompetence by adding symptoms of addiction in children. This position of the parents is unconscious; it does not pursue the goal of stigmatizing the child. The criteria for delegated falsified disorder are excluded in this case.

4. Conclusion

Thus, a comparison of the OGA severity of the group of children and adolescents whose parents believed that their children were overly addicted to online games with a group of children and adolescents where no such complaints were noted did not reveal significant differences. At the same time, in both groups, the indicators corresponded to the reference values both according to the methodology that assesses Internet activity and according to the questionnaire measuring the involvement in computer games. At the same time, differences in the educational position of parents in the compared groups were revealed. It has been shown that those parents who consider their children OGA to be excessive are less able to use prohibitive measures. They are more characterized by an unstable type of upbringing, and they are distinguished by the immaturity of the emotional attitude towards their children, which manifests itself in such features as the expansion of the sphere of parental feelings and their underdevelopment.

In general, the study conducted indicates the possibility of overdiagnosis of IA when collecting an objective anamnesis on the part of the parents. This echoes the findings of the Przybylski et al. [38] meta-analysis that the evidence linking Internet gaming disorder to game engagement was strong, but links to physical, social, and mental health outcomes were decidedly mixed, as well as the opinion of Markey and Ferguson [39] that for almost all kids and young adults, video games will be a normal part of their development. The overwhelming majority of people appear to be able to play video games while still balancing a productive work schedule and active social life.

Research limitations. The factors limiting the results obtained include: (1) a wide age range of the surveyed contingent, including both preschool children and adolescents, (2) involving only mothers in

the study, (3) using 2 scales to study the severity of online gaming behavior, separately to assess Internet activity, separately for the level of involvement in games.

5. References

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