

# Individual Psychological Resources Forming Students' Resistance to Internet Addiction

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**Abstract:** The problem of Internet addiction has become increasingly relevant. The aim of the study is to analyze the psychological factors that help to prevent Internet addiction at youth age. The results of the empirical study of individual typological prerequisites of forming a resistance to Internet addiction among students are discussed. 72 first-year students of natural sciences department of Belgorod National Research University took part in experiment. The results describe the psychological traits of a student without tendency to Internet addiction. In particular, the personality traits contributing to prevention of students' Internet-addicted behavior are: extraversion, predominance of choleric temperament, human personality traits labelled viscerotonia and somatotonia, character accentuations: demonstrative and stuck types, predisposition to "person-person" occupational type.

**Keywords:** *Internet addiction, excessive Internet use, psychological stability, individual typological personality traits, temperament, character accentuations, professional abilities.*

## I. INTRODUCTION

The Internet and computer technologies has become an essential part of person's everyday life recently. The online world creates a unique psychological environment for a person where he or she can demonstrate qualities that are not actualized in everyday life, can "safely" come into contact with other people, can get access to a huge amount of information. The Internet allows people to keep constantly in touch with friends and relatives, learn news about them. It can promote a convenient atmosphere for self-expression as well. The advantages of the Internet can significantly expand the opportunities for professional development and self-improvement, which is especially important at the stage of professional formation (Gorokhova & Irodova, 2010; Dzhagaryan, 2015; Tolypina, 2012). Moreover, many everyday duties, such as communication, paperwork, financial, legal and other issues involve the application of Internet technologies because of a switch to online and electronic document management. All this makes the Internet vital and emotionally attractive.

At the same time with the increase of computerization, the problem of pathological use of the Internet, and, in particular, the emergence of psychological problems such as a lack of emotional

support, a decrease in a volitional self-control, a social activity decreases and loss of an interest in life, has become increasingly relevant (Dzhagaryan, 2015). The rapid development of Internet technologies in the modern world puts forward new practical tasks for psychology. Among them is the task of psychological assistance to people who are addicted to Internet. Despite the fact that the concept of “computer/Internet addiction” is not all over the world recognized as a mental disorder, though the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) includes it as a disorder that needs further study and research. Many young people whenever they feel overwhelmed, stressed, depressed, lonely or anxious, they use the Internet to seek solace and escape. The incidents of pathological use of Internet/computer is becoming more widespread (Gureyeva & Sizov, 2015).

The problem of Internet addiction is mostly relevant at the age of adolescence and youth, because youngsters use Internet actively as a means of communication and getting information, a way of entertainment or shopping (Ataskevich, N.O. (2014; Belyakova, N.A. (2014; Gureyeva & Sizov, 2015; Zhrebchenko et al., 2018; Ivanova, 2014; Samoylik, 2014; Khatagova et al., 2014). Numerous sociological surveys have shown that the most active Internet users in Russia today are young people at the age of 18-24 (A.Yu. Gureeva and S.V. Sizov), mostly students (Gureyeva & Sizov, 2015). For them, the Internet is, on the one hand, a means of creating connections with different people around the world, and a place for widening hobbies and getting pleasure, on the other hand, an important way for extensive information and, in particular, for self-education or professional training and development.

In psychology Internet addiction is defined as “an obsessive desire to surf in the Internet when being off-line, and the inability to get off the Internet when being on-line” (Yang, 2000).

The problem of Internet addiction has been studied to a greater extent in the context of the analysis of the pathological consequences of Internet surfing, since “addiction” is traditionally referred to psychiatry. Nevertheless, psychological aspects of Internet addicted behavior has increasingly become the object of study in psychological research lately. Various aspects of Internet addiction studied by M. Brand, D.N. Greenfield, M.D. Griffiths, K. Laier, M. N. Orzack, K.S. Young, etc. In Russia this scientific problem has been most actively elaborated in the last 10-15 years by I.V. Burlakov, A.E. Voiskunsky O.I. Genisaretsky, K.A. Dzhagaryan, M.I. Drepa, A.E. Zhichkina, A.L. Katkov, N.A. Nosov, V.V. Titova, E.A. Shchepilina.

Internet addiction is a broad term that covers a range of behaviors and impulse-control problems involving internet, personal computer, and mobile technology. One of the important directions of Internet research is the analysis of origin of Internet compulsive behavior, where both internal (psychological) and external (social) factors of Internet addiction are discussed. Moreover, individual psychological factors of Internet-addicted behavior are of a greatest interest. The most significant psychological traits associated with the Internet addiction is the lack of communication and real-life relations and the feeling of loneliness. (Apunevich, 2015; Gureyeva & Sizov, 2015; Dzhagaryan, 2015; Yang, 2000; Dalbudak & Evren, 2014; Yen et al., 2009). Thus, O.A. Apunevich showed that adolescents with a tendency to Internet addicted behavior demonstrate an average and a high level of loneliness, which significantly higher the level of loneliness in the group of their peers who are not addicted to Internet (Apunevich, 2015). According to K.A. Dzhagaryan, the increase in the level of Internet addiction among students is accompanied by the signs of personality psychological security violation – they have feelings of guilt and isolation, have low self-estimation and lack of willpower (Dzhagaryan, 2015). Young people with the computer addiction has a lack of

emotional support, and are often unable to create relations with peers, can't socialize well in team, these factors can be the reasons for switching from a real life into a virtual world and it can lead to a development of the computer addiction (Gureyeva & Sizov, 2015). K. Young concluded, that most of Internet-addicted users spend much time in areas related to communication (Yang, 2000; Young, 1998). Internet addicts use the Internet to receive social support (by belonging to a certain social group or participating in chats), or to "create a person" to receive the recognition of on-line peers (Gureyeva & Sizov, 2015). Thus, one of the basic needs' dissatisfaction in feeling of being a part of any social network or community, as well as the lack of efficient communicative skills can be considered as a prerequisite for the emergence of Internet-addiction (Dalbudak & Evren, 2014; Bakhyt et al, 2018).

Many authors state that there are some peculiarities in the emotional sphere of the Internet-addicted person. Thus, Yu.M. Baranova and N.V. Shutova indicated the differences in the emotional development of adolescents with and without Internet addiction: those with Internet addiction showed a lower level of stress resistance and a higher level of aggressiveness compared to adolescents without Internet addiction (Baranova & Shutova, 2015). Among individual and personal traits of Internet-addicted adolescents are anxiety, depression, self-doubt, contradictory self-esteem, emotional lability, irritability, no sense of time, lack of decisive behavior, avoidance of responsibility, difficulties in establishing deep emotional relations with other people (Titova, 2015). According to a study conducted in 2016 in the USA there is a correlation between the time young people spend on social networks and the likelihood of depression. The most active social networks' users are 2.7 times more prone to depression. The same results were obtained in the group of high school children with a high level of Internet addiction in Korea: they demonstrated the highest level of depression and suicidal behavior (Kim et al., 2006). Based on the literature we can conclude that Internet addictive behavior is highly correlated with emotional lability, anxiety, irritability, and depression (Hassan et al., 2019).

Some authors stated that Internet addiction has an impact on a self-control and an autonomy of a person. One of the factors that can play a crucial role in the development of Internet addiction is a low self-control (Tsoy, 2011). According to N.A. Belyakova, students with a predisposition to in comparison with students who have no Internet addiction, are characterized by less constructive coping strategies: Internet-addicts' leading type was an "avoidance" coping strategy, while students without Internet addiction chose "planning a problem solution" coping strategy (Belyakova, 2014). Some researches focused on compiling an image of an "ideal" Internet user and an image of a pathological Internet user (Khatagova et al., 2014). Therefore, one of possible approaches in studies on Internet addiction is to study psychological factors and personality traits that can contribute to prevention of Internet-addiction development.

When analyze individual psychological characteristics of students with different levels of Internet addiction it is possible to identify a psychological "portrait" of a person resistant to excessive Internet use. The aim of the present research is the analysis of the psychological personality traits that can be considered as prerequisites to prevention of Internet-addiction development. The question of the current study is whether individual psychological traits of Internet-addicted students differ sufficiently from those of students who are resistant to excessive Internet use. A following up program for the Internet addiction prevention among students can be developed based on the results of this study.

## II. MATERIALS AND METHODS

The whole sample consisted of 72 students of the department of Mathematics and Natural Science Education of Belgorod National Research University (17 male, 55 female), mean age 18.6.

In order to analyze comprehensively the individual psychological characteristics of students and their correlations with the level of Internet addiction, a research paradigm was developed (see Table 1).

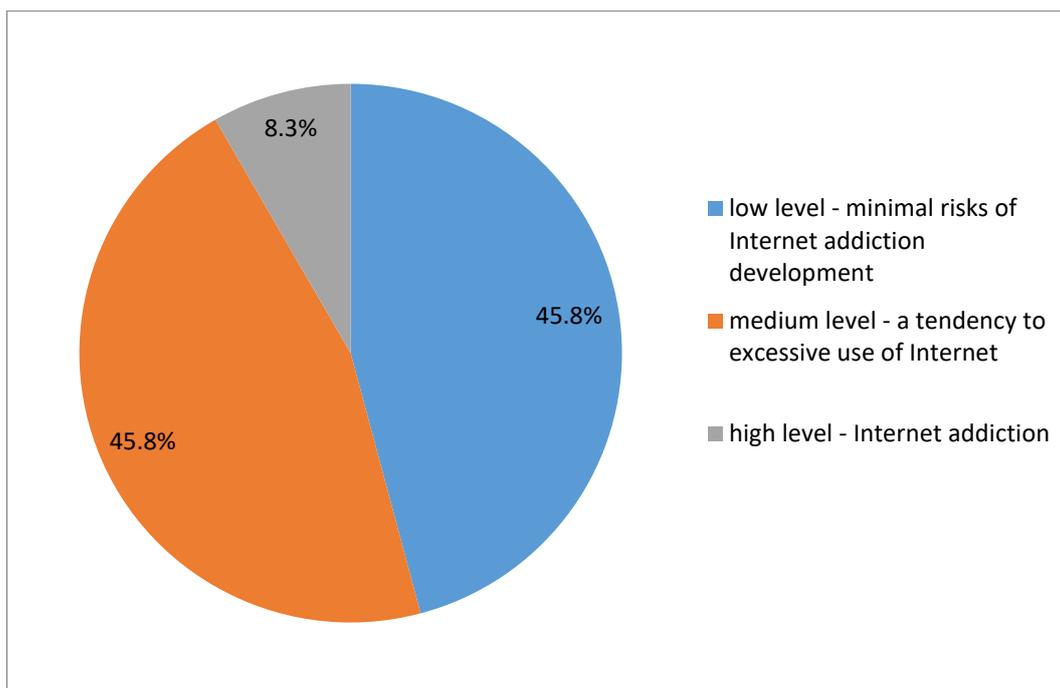
**Table 1.** Parameters and methods for analyzing various individual personality traits in correlation with a level of Internet addiction

Diagnostic parameter	Psychodiagnostic techniques
1. The level of Internet addiction	Chen Internet addiction scale (CIAS) in adaptation by V.L. Malygin, K.A. Feklisov
2. Dominant instincts (types of behavior)	“Questionnaire to identify a dominant instinct” (V.I. Garbuzov)
3. Temperament types	“Eysenck Personality Questionnaire”, questionnaire “Formula of temperament” (A. Belov), “Sheldon's Scale for Temperament”
4. Character accentuations	“Questionnaire Of Determining Character Accentuation by K. Leonhard-S. Shmishek”
5. Professional abilities	“Differential diagnostic questionnaire of professional abilities“ (E.A. Klimov)

Statistical analysis of the behavioral data was carried out using the r-Pearson correlation criterion.

## III. RESULTS

The distribution of subjects according to three levels of Internet addiction is shown on Fig. 1.



**Fig. 1.** The distribution of students with different levels Internet-addiction.

The results show that the groups of students with the low level, i.e. with mostly no risks of Internet-addiction development (45.8%) and students a tendency to excessive use of Internet (45.8%) are most represented sample among subjects. A group of students that demonstrate Internet-addicted behavior patterns (8.3%) is a relatively small sample. Therefore, we can conclude that the level of Internet addiction in the group of our subjects is mainly within the low and medium level, most of the respondents did not show Internet addiction. At the same time, there was a significant dispersion in values within three levels of excessive Internet use among the sample.

To identify the individual psychological prerequisites of forming a resistance to Internet addiction an analysis of correlation between the indicators of the psychological “portrait” of subjects and their level of Internet addiction was carried out (see Table 2).

**Table 2.** The r-Pearson correlation coefficients of Internet addiction and individual psychological traits of students

<b>Internet addiction</b>	<b>Dominant instinct (type of behavior)</b>							
	Egophilic type	Genophilic type	Altruistic type	Investigative type	Dominant type	Libertophilic type	Dignitophilic type	
	-0,15	-0,11	0,17	0,03	<b>-0,28*</b>	-0,08	<b>-0,32**</b>	
	<b>Personality traits of temperament</b>							
Extraversion	Emotional stability	Choleric	Sanguine	Phlegmatic	Melancholic	Viscerotonia	Somatotonia	Cerebration

	<b>-0,33**</b>	-0,06	<b>-0,37**</b>	<b>-0,26*</b>	0,26	<b>0,32**</b>	<b>-0,29*</b>	<b>-0,26*</b>	<b>0,29*</b>
<b>Character accentuations</b>									
Demonstrative type	Stuck type	Hypertensive type	Distimic type	Emotive type	Exalted type	Cycloid type	Anxious type	Excitable type	Pedantic type
<b>-0,32**</b>	<b>-0,38**</b>	-0,21	-0,09	0,07	-0,01	0,12	-0,07	-0,12	0,04
<b>Professional abilities</b>									
Person-nature		Person-technics		Person-person		Person-sign system		Person-artistic image	
0,04		<b>0,27*</b>		<b>-0,35**</b>		-0,14		0,19	

\* - significance level  $p \leq 0,05$ ; \*\* - significance level  $p \leq 0,01$

The analysis showed that there are significant correlations between the level Internet addiction and psychological traits of students according to some parameters. Direct correlation was found between the level of Internet addiction and traits of temperament. The tendency to highly excessive use of Internet is positively correlated with melancholic temperament ( $r=0.32$ ,  $p \leq 0.01$ ) and cerebrotonia ( $r=0.29$ ,  $p \leq 0.05$ ). Thus, Internet-addicted students can be described as shy, not confident, cagy, apt to isolation and sadness, as well as to reasoning, sensitive to approval and disapproval, susceptible to emotional impact.

It is worth to mention that inverse correlation is more represented. The high level of Internet addiction has an inverse correlation with dominant instincts: dignitophilic type ( $r = -0.32$ ,  $p \leq 0,01$ ), dominant type ( $r = -0.28$ ,  $p \leq 0,05$ ). Thus, students who don't have Internet addiction can be described as intolerant to the violation of human rights, ready to defend their rights, honor and dignity, striving for leadership, predisposed to solving complex organizational problems, focused on the priority of the mutual interests over the private or personal. Inverse correlation was also significant for Internet addiction and traits of temperament: extraversion ( $r = -0.33$ ,  $p \leq 0.01$ ), choleric temperament ( $r = -0.37$ ,  $p \leq 0.01$ ), sanguine temperament ( $r = -0.26$ ,  $p \leq 0.05$ ), viscerotonia ( $r = -0.29$ ,  $p \leq 0.05$ ), somatonia ( $r = -0.26$ ,  $p \leq 0.05$ ). The psychological "portrait" of a student resistant to Internet addiction can be described as follows: interested in communication and social contacts, showing great activity or vitality, self-confident, able to express openly feelings and emotions, impulsive, ready to give a reaction to what is happening around, physical active.

Based on the present study, Internet addiction has significant correlations with character accentuations. In particular, significant inverse correlation was found for Internet addiction and demonstrative type ( $r = -0.32$ ,  $p \leq 0.01$ ), and stuck type ( $r = -0.38$ ,  $p \leq 0.01$ ). Students who don't use Internet excessively are characterized by such traits as: orientation toward getting approval from others, the desire for leadership and success, the need to be in the center of other people's attention, "getting stuck" on their thoughts and feelings. Therefore, the "portrait" of a student, who is not addicted to Internet, includes a number of distinct characteristics. Among individual personality traits that contribute to such type of behavior are sociability, craving for communication, a good

command of leader traits, a sharp sense of dignity and honor, perseverance in achieving their goals.

While a similar “portrait” of a student, addicted to Internet, is blurred. There is much variety of individual personality traits that can lead to Internet addiction, while the most common are melancholic temperament and cerebrotonia.

The analysis of the predisposition of students with different levels of Internet addiction to a certain type of profession abilities also revealed significant correlations. So, there is a direct correlation between the Internet addiction and the preferences of such professional spheres as “person-technics” ( $r = 0,27$ ,  $p \leq 0,05$ ). An inverse correlation was found for Internet addiction and the preferences of professions from “person-person” interaction ( $r = -0,35$ ,  $p \leq 0,01$ ). One possible explanation is that young people who choose professions, where their objects of work are people or groups of people, are seldom become Internet addicts. On the contrary, the preference of professions associated with interactions with various technical devices is more typical for people with possible tendency to excessive Internet use. The results of the study showed that such individual typological psychological traits as dominant instincts (types of behavior), temperament types and traits, character accentuations and professional abilities can be considered as factors that determine either resistance to or different levels of Internet addiction.

#### IV. CONCLUSION

In general, we can draw the following main conclusions based on the results of the study:

1. The results allow us to describe more distinctly the psychological “portrait” of a student who is not inclined to Internet addicted behavior than an addicted one. These results are of a particular interest in the context of the main task of our study: the identification of psychological prerequisites to prevention of Internet-addiction development.
2. The psychological traits of an Internet-addicted student are blurred in comparison to the traits of students without tendency to an excessive Internet use. This suggests that the Internet addiction and the corresponding behavior are complex multidimensional phenomena. The individual psychological prerequisites play an important role in its determination, but other factors (including environmental) can have an equally important influence, but they are behind the objectives of the present study.
3. The psychological “portrait” of a student resistant to Internet addiction includes such traits as: extraversion, the predominance of choleric temperament, viscerotonia, somatonia, demonstrative and stuck types of accentuated character traits, predisposition to professions of “person-person” interaction.
4. Based on the identified typological personality traits, psychological prerequisites and factors that can help to prevent young people from excessive Internet use, can be considered. Thus, some of the primary factors are the inclusion of young people in active interaction (both personal and professional), and the support in improving themselves in line with their interests and abilities. An important condition is also the reinforcement of the student's determination and perseverance in achieving the goal.

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