# Students' Internet Addiction: Study and Prevention

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**ABSTRACT**
The information society reveals the social impact of the dissemination of information technologies. The purpose of this article is to study the negative social, psychological, and pedagogical implications of the Internet on young people. The authors analyzed the internet addiction problem among students (14-19 years) from the standpoint of the social health of the individuals and society as a whole. In a pilot study, which involved more than 600 adolescent participants aged 14-19 years (secondary school, college and university students), the authors have defined internet addiction as a complex phenomenon. The prerequisites of its development identify and highlights its formation in stages among students (mild fascination, passion, addiction, attachment). At the ascertaining stage of the experiment, a screening study was carried out to examine the state of internet addiction in young students in social networks. The results showed the necessity to design and implement internet addiction prevention programs for young students, which include three main blocks (motivational and cognitive, practice-oriented, reflexive), and a systematic plan for its implementation in the educational space framework. The stages of the experiment provided evidence of the authors' proposed effectiveness of methodologies for young people aged 14-19 years. This article may be useful to pedagogues, psychologists, and parents of students, social workers, and researchers working in the field of addiction prevention among young people.

**Keywords:** information society, information technology, the Internet, social networking, Internet addiction, students addiction prevention

## INTRODUCTION

At the beginning of the XXI century, the transformation of the various social life spheres occurred, due to the influence of the Internet. However, the ambiguity of its impact and appearance of both positive and negative social consequences provokes researchers, from different areas of expertise, interest and attention to the problem (Arshinova & Bartsalkina, 2010; Gubanov & Chkhartishvili, 2009; Khil'ko, 2015; Khutornoi, 2013).

Among the negative social and psychological consequences, the impact of the Internet has had is the so-called Internet addiction phenomenon, which has been the subject of scientific debate for the past 20 years, depending on the development of information technology and its availability.

Addictive behavior is one of the forms of deviant behavior, characterized by a constant desire for a pleasant subjective emotional state, which is expressed in an active change in their mental state (Arakelyan, 2014; Arestova, Babanin & Voiskounsky, 2000; Bubnova & Tereshchenko, 2016). The formation process of Internet addiction is

**Contribution of this paper to the literature**

- The emergence of Internet addictions fosters students' cognitive presentations. Its formation is defined, and an integrated technique for diagnosing Internet addiction is offered.
- An Internet addiction prevention program and a step-by-step realization plan of practical actions used by pedagogues and psychologists within the educational space is developed that helps to decrease the propensity of Internet addictions among young students.
- A pedagogical suggestion for Internet addiction's prevention among young students is suggested. It includes: organizational and pedagogical conditions of preventive actions realization; a special training of a pedagogue psychologist, forms and methods of preventive work for all participants of education in the prevention activities.

simple, figuratively speaking: a netizen effortlessly gets a variety of adrenaline emotions, and along with them a powerful release of the brain hormone serotonin which replaces all vital human needs. However, at the base of Internet addiction, there are other reasons. The first is based on the qualities conferred on "Me on the Web" in comparison with "real self" (looseness, lack of tact, passive acceptance and ease), which generally means the ability to get rid of any kind of restrictions and act without effort.

Therefore, it seems that the Internet is attractive to addicts with the ability to get rid of the requirements of social environments. The results of several studies suggest a subjective value of the properties for Internet addicts as uncertain. Those addicted to the Internet do not use the uncertainty of the Internet to implement the ideal of «I». Their need to use the Internet becomes super valuation, and pathological addicts due to increased sensitivity to its limitations.

The second cause of Internet addiction: Internet addicts need emotional support and the perception of the Internet as a medium that can provide this support, in contrast to the real social environment, where to get such support is much more difficult.

Consequently, the impact of computer and Internet technologies, and the emergence of new leisure activities and communication forms between young people must be analyzed from the perspective of general cultural change in order to reduce their impact. Internet addiction also leads to the formation of various psychological problems, which only exacerbate the existing social problems in young people and the lack of social experience. In the virtual space, young people often have the illusion of permissiveness and impunity that have a significant influence on the formation of personality (Davydov, Neverkovich & Samoukina, 1994; Malygin, Khomeriki & Smirnova, 2011; Minicheva & Khrustova, 2017; Objorin, 2011).

We conducted a screening study using the Young (2000) methodology (267 people: young students aged 16-20 years), which made it possible to determine that the predominant of the young people in the study had a medium and low level of Internet addiction (48% and 52% respectively). Part of the students (16%) was in the border state and were close to the transition from the middle to the high level of Internet addiction. That is, they obviously had a displacement of real life from the virtual surrogate. Approximately the same number of subjects (15%) showed a conscious attitude to Internet space, being able to limit the time to stay in it; this group is characterized by high self-organization of their training activities.

Pilot implementation of the authors' Internet addiction prevention program allowed a positive change for 17% of the subjects, reducing their reliance on the Internet, but it also revealed the need to adapt and adjust the preventive actions and the need for further, more in-depth study of the problem.

Another reason for the need of prevention work is that for many young men and women, social networks act as a way to compensate for their existing difficulties and exacerbate disharmonious personality development.

Developing and testing the program of Internet addiction prevention among adolescent students was considered as the goal of the research.

This goal required the following tasks:

1) The development of the theoretical foundations of the Internet addiction prevention program among students.

2) Selection and adaptation of methods to identify the propensity to Internet addiction among students.

3) Development of programs for Internet addiction prevention among students and a systematic plan for its implementation, taking into account the type of educational organization and the educational participants' relations.

4) Development and implementation of psycho-pedagogical support programs to prevent Internet addiction among students.

5) Results verification of the program for Internet addiction prevention among students.

## LITERATURE REVIEW

As we noted above, at the present stage of the development of society, the younger generation spends more and more free time in communication using the computer and on Internet networks. Large-scale computerization of humanity has been occurring rapidly in recent decades, and has put before the people a new problem, namely, the consequences of computer influence on the human psyche. In 1996, the American scientist, A. Goldberg, first identified a new species in the classification of mental disorders - "cyber disorders" (Goldberg, 1996). It occurs because of excessive stress and fatigue as the results of long stays in the virtual world.

In a broad sense, Internet addiction is understood as a non-chemical addiction of the use of the Internet (Griffiths, 2001).

Social scientists, psychologists, psychiatrists and teachers studied certain aspects of the problem, to some extent. Among the foreign studies on the phenomenon of Internet addiction, a special place is occupied by the works of Young (2000), Griffiths (2001), Greenfield (2009), Grohol (2009), Moreyhen-Martin J (2008), Chen (2007), and a number of other authors. Their work largely determined the current state and prospects of studying the problem, the development of diagnostic criteria and recommendations for Internet addiction treatment.

Griffiths (2001) and Grohol (2009), noted that Internet addiction is not a disease, but rather is a behavioral disorder. In the works of Moreyhen-Martin (2008), Caplan and High (2006), and other authors, is the cognitive component in the development of Internet addiction.

Among the Russian research, a special place is occupied by the Voiskunsky (2004), who was one of the first researchers to pay attention to the activities of people on the Internet and the impact on their network. He proposed the phenomenon in relation to the psychological concept of flow. This approach is also revealed in the works Babaeva, Voiskounsky and Smyslova (2002) (specific flow experiences experienced by hackers), and Kosenko (2008). Flow experiences experienced by Russian-speaking players Multi User Dimension (MUD) and Asmolov, Tsvetkov and Tsvetkova (2004) (psychological consequences of informatisation). In the center of their attention is the study of the impact that Internet usage has on the individual in different aspects (play, communication, cognitive).

A number of experts in the field say that the syndrome of Internet dependence (addiction), (Voiskounsky, 2004; Egorov, Kuznetsova & Petrova, 2005) is when a person loses a sense of real-time and are overloaded by gaming and information types of computer activity, which narrows their consciousness and plunges them into the virtual computer world.

Many researchers believe that Internet addiction occurs in people much faster than addiction to alcohol, tobacco and gambling. According to Burova (2000), computer addiction syndrome is acquired within six months after the start of use of the Internet in the vast majority of people. Let us consider in more detail the term "Internet addiction" itself.

Griffiths (2001) believes that Internet addiction can be formed based on various forms of internet use, such as the means of communication in the absence of face-to-face contact, the immediate interest content on the site, and online and social activity. This author points out that the majority of Internet users are not actual Internet addicts, they use the network for the implementation of other addictions.

According to another researcher, Kandell (1998), Internet addiction is a pathological addiction to the Internet, not due to the form of network activity. We see that in this definition the author does not classify addiction to the Internet by its sub-types.

Today, this increasing development receives a new form of Internet addiction - an addiction to social networks- where everyone can feel interesting, important and sought-after, especially if some effort is attached to it. Receiving feedback from social networks, young people form an image of their own "I", and often the image formed is distorted, since feedbacks are biased, the information provided is characterized as not realistic (Mendelevich, 2013).

Communicating in social networks while hiding under some "nickname", the young person seeks to satisfy significant needs in communication, recognition for them, acceptance and seeking to improve their self-esteem and self-assertion (Pan, 2014).

To have a deeper understanding of the term "Internet addiction", Young (2000) proposed a cognitive-behavior model of the pathological usage of the Internet that includes two forms of internet addictions: specific pathological Internet usage and general pathological Internet usage.

Specific pathological Internet usage is the addiction of specific Internet functions (online sexual services, auctions, sale of shares, etc.). General dependent behavior for this form will become permanent and can be implemented without the Internet.

The emergence of computer addiction can be determined based on symptoms. Several researchers (Hinić, 2011; Weinstein, Dorani & Elhadif, 2015), indicate that the beginning symptoms of computer addiction shows in wanton

aggression, fatigue, prolonged mood changes, fluctuations in their emotional balance from the bright burst of happy emotions to the lowest depression, and not being able to accept criticism from their inner circle of friends and acquaintances. In the forming of computer addiction syndrome in humans, there is a change in the usual circle of friends, the usual rhythm of life, and non-sustainable interests and hobbies that were expressed earlier.

# MATERIALS AND METHODS

## Experimental Research Base

An experimental study was conducted with the participation of 657 people: high school students of secondary schools in Moscow (76 people) and in Irkutsk (102); college students (Construction College in Kazan – 78 people) and the Moscow College of Architecture, Design and Re-Engineering (82 people), students from the Irkutsk State University (113 people), Sechenov First Moscow State Medical University (112 people) and Plekhanov Russian University of Economics (95 people).

## Background and Stage of Development of Internet Addiction among Young Students

Generalized pathological usage of the Internet is non-specialized, multipurpose, and excessive. It is characterized by such behavior of the person as when a person spends a lot of time on the network without a clear objective - communication in a chat room and the dependence on e-mail.

*The prerequisites for the emergence of Internet addiction are*:

- experiencing strong frustration in adolescence is associated with self-knowledge, the definition of their place in society, and the processes of self-development and self-improvement;
- The chance to feel free, since the space on the Internet is anonymous (Korolenko & Dmitrieva 2001);
- The inability to obtain the desired sensation and necessary communication, in the case of their limitations or the inability (Prokhorov, 2006);
- The state of isolation in the family (hyper-protection, emotional distance) (Burova, 2000);
- Tendency towards antisocial coping strategies; emotional aloofness; low communicative competence (Khutornoi, 2013).

The researchers noted that Internet addiction occurs in people much faster than addiction to alcohol, tobacco and gambling. Computer addiction syndrome is acquired within six months after the initial start of use of the Internet in the vast majority of people (Burova, 2000), and in the case of teenagers who already have issues, this time-period is much shorter.

*Internet addiction is formed gradually and is formed through the development of a series of stages*:

1. Light stage enthusiasm is when the person has experienced positive activities, in some form or other on the Internet, has fun and then tends to repeat these actions deliberately to reproduce those positive feelings;

2. The enthusiasm stage, indicative of transition to this step is the appearance of finding the need for the Internet and, accordingly, the desire to escape from reality;

3. Dependence stage: at this stage there are serious changes in the value-semantic sphere of the person, in their self-esteem and self-awareness: exactly at this stage socialized and individualized forms of Internet addiction begins to manifest;

4. Affection stage, at this stage there is a fading force of affectionate attachment, which is when a person is at a certain distance from the virtual space that they consciously seek to maintain, but cannot completely abandon their addiction.

## Research Methods

In this study, we applied the following psycho-diagnostic methods:

1. Test for detection of internet addiction by Young (2000) was used to determine Internet addiction levels. The results of its application did not only allow us to know how to define a group of high-level risk Internet addictions, but also how to adjust and adapt its program of prevention for the widespread introduction.

2. "Scale of Internet addiction" test by Chen (2007) was used to detect the presence of Internet addiction, and the features of Internet addictive behavior.

3. Test for detection of addiction to the social networks by Kulakov (2017) was used to identify Internet addiction on the social networks.

4. Test of interpersonal relationships by Leary (2004) was used to identify the features of interpersonal relationships in secondary school students.

## Program Prevention of Internet Addiction among Young Students

The authors have developed and implemented (in the framework of educational work - classroom hours, curator talks, etc.) a program focused on preventing Internet addiction to the social networks in students in the form of educational activities.

*The program aimed at* prevention of Internet addiction to social networks in young students, and promoting social identity formation.

*Objectives of the program:*

1. Formation of young students' personal life attitudes and values needed to determine their social and professional development outside the virtual space.

2. The conscious social regulation of Internet communications and the use of information technology in the process of life.

3. Development of communicative competence in personal and professional communication.

The program included motivational, cognitive, practice-oriented, and reflective units that provided a phased implementation of the program.

*Psychological and educational support programs included*:

- Organizational and pedagogical conditions of realization for preventive activities to ensure its harmonious integration in the educational and upbringing processes;

- Specifically trained pedagogical psychologist: possession of the basics of psychology, pedagogy, technology, social-pedagogical correction and development and psychological-pedagogical correction and development;

- *Forms and methods of preventive work*: conversations, classes, group discussions, role and business games, training exercises, psycho-gymnastic exercises, brainstorming, etc.

- The inclusion of preventive activity for all participants of educational relations: pedagogues, parents, students.

Characterized features of the work organization with students within the program (**Table 1**).

This program aimed at:

- Defining the role and place of social networks and the Internet in general, in young peoples' lives;

- Identification of propensity in young students to Internet addictions by simultaneous application of several techniques;

- Improvement of cognitive representations in studying youth about the negative impact of social media and the Internet on their personality, mind and body as a whole;

- Building skills of psychological and information safety in young students;

- The development of interaction for all educational participants' relations.

## RESULTS

After the initial screening study of Internet addictions in young students, using the Yang (2000) method to test the control and experimental groups, we also used a number of other techniques to clarify and aggregate the data.

Study by Chen (2007) test "Scale of Internet addiction" presented in **Figure 1**.

From **Figure 1**, we see that the number of subjects with an average level of Internet addiction was 52% in the experimental group, and 44% in the control group. The number of respondents with a low level was 48% in the experimental group, and 56% in the control group. By this method, results in general were slightly different from the pilot testing results in young students from the Yang test.

The use of this technique allowed us to obtain extra information about the display of Internet addiction in accordance with the degree of its severity. Young people with an average level of Internet addiction show less pronounced changes to the psycho-emotional state and physical condition, but nevertheless, these students also displayed signs of fatigue, irritability, tension, and anxiety.

**Table 1.** Implementation plan of prevention programs for online addictions

| Number | Event | Content | Participants |
|---|---|---|---|
| 1 | The study of scientific literature on the topic | | Social pedagogue; Psychologist. |
| 2 | Interviews with young people who use social networks, a slides show. Carrying out the test method with teenagers, aimed at identifying, addictions to the social networks. Compile lists of adolescents who are at risk of addiction to social networks. | Topic: "Addiction"; Subject: "Computer and my health"; Exercises: "Change your chair all who … "" The formula of self-hypnosis, "" As a child I wanted to be … "" Write a letter to yourself "," Relax a minute … "; Topic: "Virtual aggression"; Exercise: "That's the same word," "The formula of self-hypnosis", "Jug", "Choice", etc.; The game "20,000 Days"; Addiction scale of social networks. | Social pedagogue; Psychologist; Teenagers. |
| 3 | Preparing and conducting a survey for parents, a social pedagogue, and a psychologist. | Theme: "The child and the computer. Danger Line "; Theme: "The causes of addictive behavior among minors"; Subject: "The influence of the computer on children's health." A questionnaire on the subject. "Your attitude to social networks" Talk with pedagogues on the topic: "See your online problem - addiction of the social network in senior students?" | Social pedagogue; Psychologist; Parents; Teacher. |
| 4 | Parent meeting | Subject: "Teenager and social networks"; Topic: "How to protect children from addiction to social networks." | Social pedagogue; Parents. |
| 5 | Organization and carrying out of discussions about the prevention of adolescents' addictions to the social networks. | Topic: "Addiction to social networks, and how to fight it." | Social pedagogue; Psychologist. |
| 6 | Development memo, the rules for parents and teenagers, "How to avoid addiction to social networks." | Safety in the social network. Recommendations to parents to ensure information and psychological security. | Social pedagogue; Psychologist. |
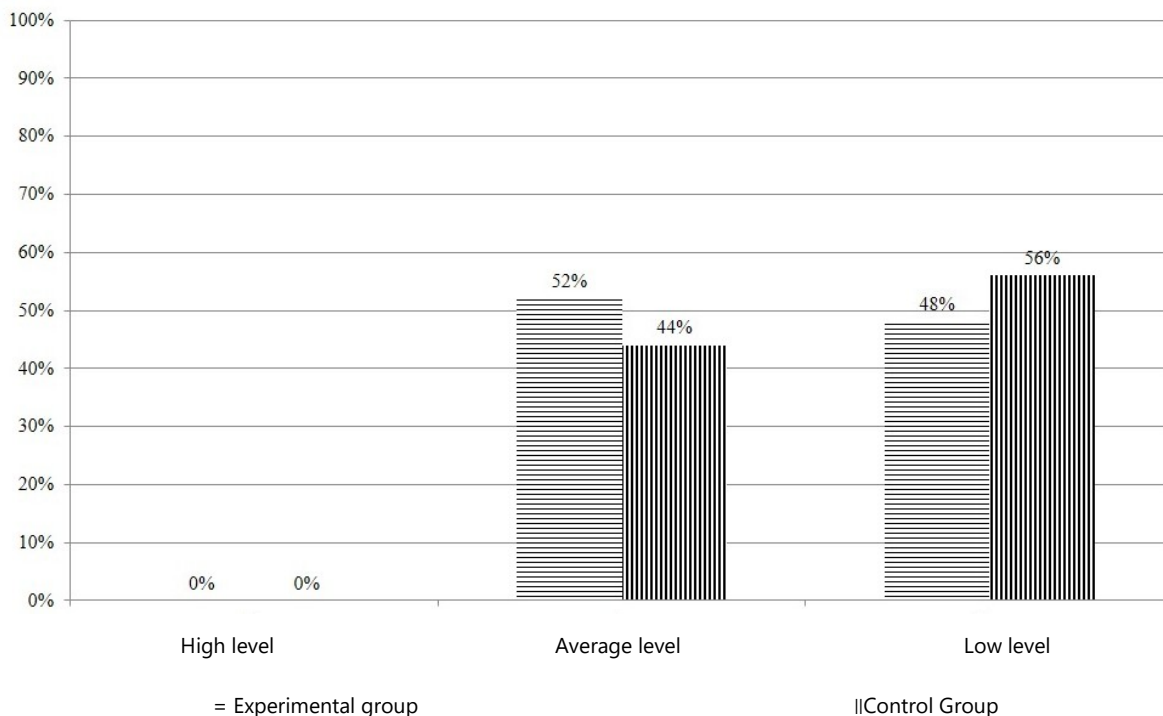


**Figure 1.** Internet addiction level percentages among young students - Chen method

Young people with low levels of these manifestations expressed minimally. Mostly they felt sufficient capacity to perform, felt optimism, and had a positive emotional condition.

The average level was an indication of predisposition to the development of this addiction type; therefore, the results indicated the need for the organization of preventive work, because many young people who were identified had risk of this addiction.
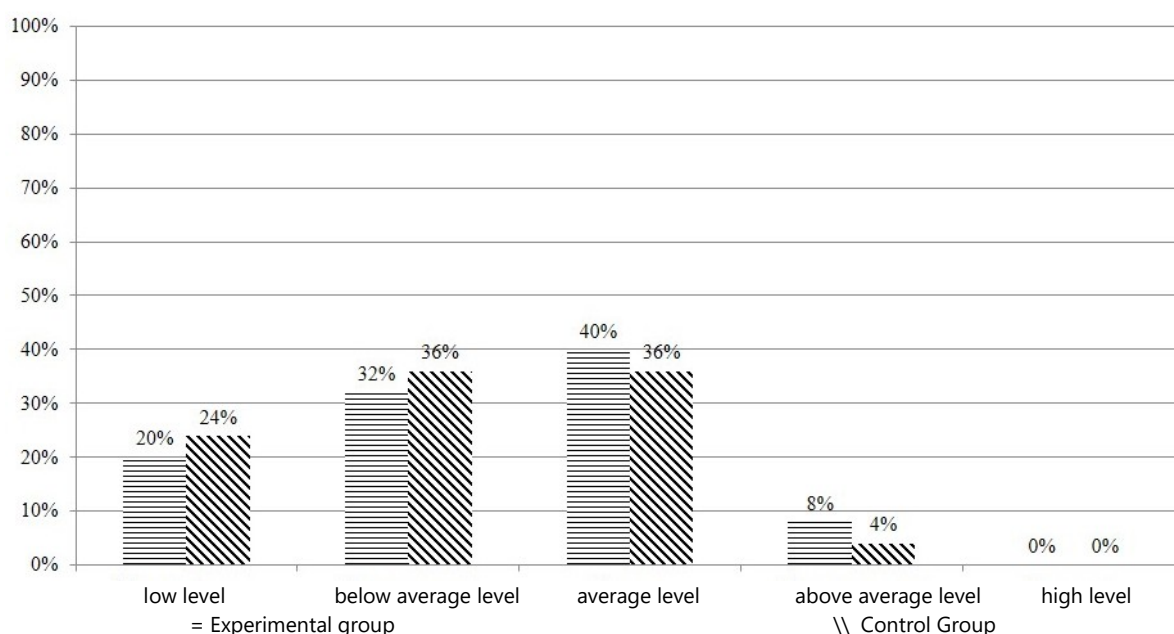
**Figure 2.** The degree of addiction to social networks in students

Thus, summing up the results of these methods, we can conclude that the majority of young people were characterized by a tendency to Internet addiction. This meant that their behavior is was not yet Internet-addicted, but at the same time, in the absence of prevention this addiction could be formed.

To evaluate the addiction of social networks in students, we used the Kulakov (2017) test. The usage of this technique assisted us to separate students by their levels of developed Internet addiction to social networks. The results are shown in **Figure 2**.

These results were obtained during the Kulakov (2017) test: identification of addiction to social networks.

As seen in **Figure 2**, a low-level dependence to social networking was detected in 20% of the respondents in the experimental group, and 24% in the control group. These young people did not spend a lot of time on social networks, and they did not have observable changes in school and relationships with other people. They did not feel depressed or joyless boredom, they did not manifest depression and anxiety, their communication was wide enough, that they easily came into contact with others, and in accordance with that, devoted a lot of time in direct communication.

A below average level of addiction to social networking was detected in 32% of the young people from the experimental group, and 36% from the control group. Their Internet addiction did not appear specifically to social networks, but did show some signs. They could spend a little more time than planned on social networks, could sometimes put off other things in order to test their pages on social networks, but at the same time, it was not typical for them to feel a sense of anxiety or irritability if they could not visit their page in the social networks. These students also did not prefer virtual communication to real communication. They had a generally positive outlook on life and were quite active in their pastimes.

The average level of addiction to social networks was detected in 40% of the young people in the experimental group, and 36% in the control group. They were characterized by the presence of stable individual manifestations of addiction to the social networks: the pursuit of more time in social networks, sustained interest in virtual communication was shown, virtual communication was given priority combined with the actual observed euphoria and excitement while working at the computer. They were not willing to consistently neglect sleep and other activities in order to visit the social networks, and students' interest in social networks largely had not yet affected their studies, but sometimes they could stay up late. In relationships with others, they also displayed no clear evidence of impaired interpersonal interactions.

An above average addiction level was detected in 8% of the young people in the experimental groups, and 4% in the control groups. They exhibited a tendency to Internet addiction manifested in such symptoms as difficulty not communicating in a social network, and a permanent increase in the amount of time spent in the network, reducing performance because they had a lack of time to carry out both educational tasks and still spent time on social networks. The emergence of irritability, anger, nervousness in situations of absence from the social network also appeared. They lingered in the network late, and many could neglect personal needs in favor of spending time

**Table 2.** The degree of relationships to other types of young people in the experimental group using the method of Leary (2004)

| pp number | Types of attitude towards others | Low severity, % | Moderate severity, % | High degree of severity, % |
|---|---|---|---|---|
| 1 | Authoritarian | 92 | 8 | 0 |
| 2 | Selfish | 12 | 88 | 0 |
| 3 | Aggressive | 24 | 72 | 4 |
| 4 | Suspicious | 60 | 40 | 0 |
| 5 | Submissive | 48 | 36 | 16 |
| 6 | Dependent | 28 | 60 | 12 |
| 7 | Friendly | 8 | 92 | 0 |
| 8 | Altruistic | 100 | 0 | 0 |

in a social network. At this level of behavior, they showed observable changes in the emotional state while both in and out of their stay in social networks.

A high level of addiction of social networking sites was not identified in the study sample. This indicated that at this stage, young people had a tendency for addiction to social networks, and this necessitated the organization of preventative work aimed at preventing the further development of addiction to social networks.

We considered the assumption that one of the reasons that led to the tendency for addiction to social networks were difficulties in interpersonal interactions in young people. Therefore, as an additional tool in the study, we used an interpersonal questionnaire by Leary (2004) (**Table 2**).

According to the results obtained in the course of this procedure, we identified the severity of the different types of relationships to others in young people.

Authoritarian types of attitudes in the greater majority of students (98%) were weak. Only 8% indicated a moderate severity of an authoritarian attitude towards others. This meant that most young people who were studied in relationship to others showed no signs of authoritarianism, the desire to dominate, or to dictate some of their own rules without regard to the interests of other people.

The next type of relationship - selfish relationships, was contrary when compared with the authoritarian style. A total of 88% of the adolescents expressed this type of relationship in moderation, with only 12% of respondents to a low degree. This meant that young people had selfish traits in general, which manifested themselves in a variety of situations. Most often, this was reflected in the fact that they were not willing to take into account other peoples' opinions and tended to increasingly express themselves, while taking up a very inflexible position. In this situation, it was obvious that there could be all sorts of conflicts in the system of interpersonal relations with parents and in relationships between students and pedagogues. Aggressive relationships to others was expressed at the low grade in 24% of young people. A total of 72% in the moderate level and 4% of the students showed a high degree. According to these results, we could conclude that young people with a low degree of the aggressive types of relationships often displayed aggressive behavior in self-defense and only in situations where they must.

A total of 72% of young people with average levels of the aggressive attitude types towards others often showed irritability, and were prone to aggressive relations, which did not come in the form of open constant aggression. Students with high degrees of aggressive relationships, manifested aggression very often in relationships with other people, which is was expressed in various forms, especially verbally.

As many as 60% of young people expressed a low degree of the suspicious attitude towards others, which was characterized by a low degree of confidence, the presence of constant worry, anxiety, fear and suspicion of others and their actions, challenges of cooperation and interaction with other people. A total of 40% expressed moderately. This could mean that young people in certain situations could behave very cautiously, wary of any dirty tricks on the part of the other person that was not always justified. This might occur due to lack of experience and knowledge of other people, and it does not rule out the possibility of making mistakes in relations with other people.

The submissive attitude type towards others was formed in young people in varying degrees: the low severity degree of this type of relationship was seen in 48%, 36% in the moderate degree, and 16% in the high degree. This type of relationship indicated that in dealing with people with the severe form of this relationship type, teenagers were inclined to submission, acceptance of other peoples' points of view as the only truth, and lack of desire to express their views or defend their position.

A dependent type of relationship to others, in the vast majority of young people, was expressed at a moderate level (60%), 28% of students expressed at a low level, and only 12% of students expressed it in a high degree. The dependent type of relationship to others indicated that young people, who are characterized by a high severity degree of this type of relationship, tended to look for the person in their environment who would be responsible

**Table 3.** The severity of the relationship types to others in young people in the control group by the method Leary (2004)

| pp number | Type of attitudes towards others | Low severity,% | Moderate severity,% | High degree of severity,% |
|---|---|---|---|---|
| 1 | Authoritarian | 92 | 8 | 0 |
| 2 | Selfish | 16 | 84 | 0 |
| 3 | Aggressive | 28 | 72 | 0 |
| 4 | Suspicious | 64 | 36 | 0 |
| 5 | Submissive | 48 | 40 | 12 |
| 6 | Dependent | 28 | 64 | 8 |
| 7 | Friendly | 12 | 88 | 0 |
| 8 | Altruistic | 92 | 8 | 0 |

for them. A stronger willed person, who could make decisions and in this relationship, they occupied a driven position which suited them.

The friendly type of relationship to others was expressed in the moderate degree in the majority of adolescents (92%). This meant that they were quite friendly towards the people around them, but sometimes they could experience irritation, fear and anxiety. These feelings were manifested in relation together with selfishness, which could also reduce the expression of friendliness.

Altruistic types of attitudes to people around them were formed in the low degree in all our study respondents. This could indicate a lack of maturity in the individuals, which was to a certain extent natural for students at this age, but it could also talk about the unformed system of value orientations and moral spheres.

**Table 3** shows the results obtained in the control group.

At the secondary school level, students in the control group were observed with similar trends in interpersonal interaction, as well as in senior students in the experimental group.

Thus, the study of interpersonal relations between secondary school students and other people showed that in general, most types of relationships to the other people around them are were formed in the middle and low grades. The most prominent types of relationships to others that were manifested in secondary school students were the aggressive, submissive and dependent types. Lack of maturity of interpersonal relations in students, and the prevalence of non-constructive relationship types to the people around may be factors contributing to the tendency for addiction to social networks.

As part of the work carried out with the experiments' participants for the study and prevention of internet addiction, we implemented the following measures:

1. Conducting interviews with teenagers who use social networks, a slide show.
2. Carrying out of the test methods with teenagers, aimed at identifying their addiction levels to social networks "Scale of addiction to the social networks".
3. Preparation and carrying out of the survey for parents on the topic "Your attitude to social networks" (only for secondary school students).
4. Discussions with pedagogues on the subject: "Do you see the problem of the Internet addiction to the social networks among young people?"
5. Organization and holding of discussions about the topic of adolescent addiction prevention to social networks: "Addiction to social networks, and how to fight it."
6. Develop checklists, rules for pedagogues, parents and teenagers "How to avoid addiction to social networks."

All these activities were carried out with psycho-pedagogical support and with advice to students and pedagogues.

Analysis of the results obtained in the ascertaining and control stages of the experimental work revealed a positive trend. A comparative analysis of Internet addiction levels among the participants on the test using Chen's experiment (2007) is shown in **Figure 3**.

As we can see from **Figure 3**, the level of internet addiction among the participants in the experimental group changed.

Students with a high level were not revealed. The amount of young people with an average level in the experimental group was reduced to 34% in the experimental group, and to 4% in the control group. The amount of young people with a low level of internet addiction had increased in the experimental group to 34%, and in the control group to 4%. Young people in the control group had less pronounced signs of fatigue, irritability, tension,
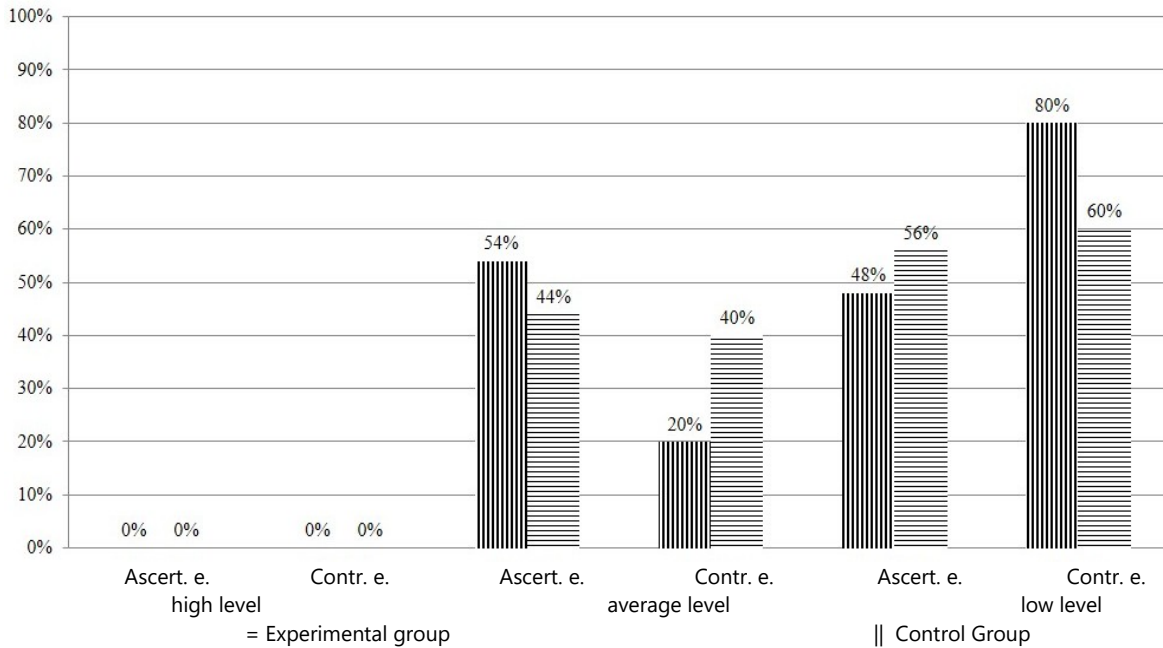
**Figure 3.** Internet addiction levels among young people using the Chen test, before and after implementation of the program percentages
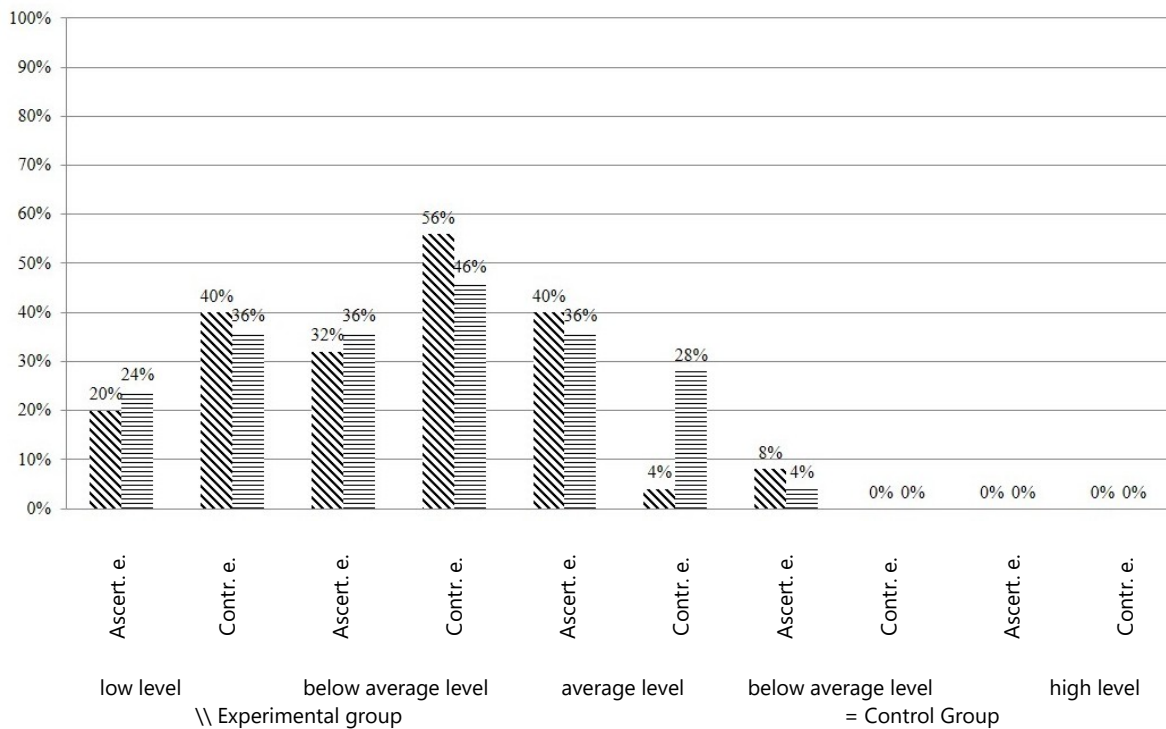


**Figure 4.** Degrees and percentages of addiction to social networks in young people, before and after implementation of the program

and feelings of anxiety. The organization promoted activities aimed at forming the values of a healthy lifestyle among young people, and considering the implications of computer effects on health.

Thus, we have carried out preventative work that was efficient, and contributed to reducing the predisposition to the development of internet addiction in all students.

The test results for assessing young students' dependence to the social networking sites are presented in **Figure 4**.

As seen in **Figure 4**, the diagnosis resulted in the studies' control stage of addiction degrees in young people to social networks had declined. Particularly pronounced indicators of change are shown in the experimental group of students compared to the control group. They had increased in the control stage performance to low-level and below average.

Our results demonstrate the effectiveness of the prevention programs we have developed on dealing with Internet addiction and its psychological and pedagogical support. Preventative work has had a positive impact and has contributed to reducing the manifestations of susceptibility that young students (secondary school, college and university students) have to the Internet, and addiction to the social networking sites.

## DISCUSSION

Internet addiction as a whole is a complex phenomenon, which refers to a range of behavioral problems and control over impulses. Social networks, in turn, are a unique means of communication and a way of searching for people. It can help us to always be in touch or to find out news about the people with whom we surround ourselves. Internet addiction can be of various types, including Internet addiction to social networks. The social network is a collection of participants, united not only by the medium of communication, but also by the social ties between them. However, many people are addicted to communication in social networks, because there is a replacement of real relationships in the virtual world, and even with knowledge of an addiction, it is not always possible to get rid of it.

States of frustration among adolescents is increasing pressure on the part of parents, pedagogues, friends and acquaintances, as well as the ever-increasing responsibility as a member of society. The desire to get rid of this frustration, as well as the burden of responsibility, often leads young people to form a climate of opinion and the network gives them this opportunity.

Relatively easy, affordable, and at first glance, safe, concern of the current problems in the virtual life gradually raises emotional aloofness, which reduces communication in the real world and hinders the formation of personality, breaking its integrity, stability and the formation of social experience. That is why the prevention of Internet addiction, forming a true picture of reality and the place of the "I", is essential for students.

We can see in the preventive measures implemented jointly by all the educational participants' relations, a solution to this problem.

## CONCLUSION

The authors studied the propensity to internet addiction in students. Thus, during the study it was found that most of the subjects indicated a predisposition to the formation of Internet addiction. It was characterized by the fact that the observed lack of control over the residents' time in the network, to organize their own activities, prioritizing between being online and performing various current affairs including training. At the same time, these students could limit their presence on the Internet, and may give priority to real communication with their friends and the implementation of any business. In addition, these students are not expressing dire need to be constantly on the Internet, even though the pastime forms, which are offered by the network, are very interesting for them.

The interpersonal relations of students identified the prevalence of non-structural relationship types with the people around them, and this influenced the development of addiction to social networks.

The risk of developing addiction to social networks is also connected with the fact that the most prominent types of relationships to others that occur in young students is the aggressive, submissive and dependent types. Lack of maturity in adolescents' interpersonal relations, and the prevalence of non-structural relationship types to the people around them may be factors contributing to the tendency on a personal level to the formation of addiction to the social networks.

In light of the study results, we have developed and tested a program aimed at preventing Internet addiction. The main impact of this program is the formation of cognitive systems on the value orientation, social experience, self-regulation development and self-management of activities in the information space, and critical thinking when analyzing the information content. Testing the program on a large number of secondary school, college and university students, has proven its effectiveness, and prevention efforts have had a positive impact and have contributed to reducing the manifestations of susceptibility to Internet addiction.

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