

Prevalence and Characteristics of Internet Use Among Rural Adolescent Students in Russia

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Abstract—The information impact of the Internet on the minds of young people is widely discussed in scientific literature. However, there are practically no sociological studies on the prevalence of Internet use among adolescents of 15-17 years, when adolescents' self-consciousness and value orientations are forming. A sample study of Internet use among rural adolescents aged 15-17 years was conducted in 2016-2017, covering 17 regions of 6 Federal districts of Russia. The total sample consisted of 18222 adolescents: 8208 boys and 10014 girls. The data set and their statistical development was carried out with the help of a computer program "risk factors". The results of the study showed that the prevalence of Internet use among boys was 96.1, and among girls 97.2 out of 100 adolescents of the appropriate age and sex, wherein 85.4% of boys and 90.0% of girls used Internet daily and 44.4% of school boys and 60.4% of school girls used Internet 3 hours or more per day. Adolescents who use the Internet every day for 3 hours or more are a "risk group", as they have not only social and psychological difficulties, but also a high risk of Internet addiction.

Keywords—Internet, rural adolescents-schoolchildren, prevalence, motives, consequences

I. INTRODUCTION

The problem of the information impact of the Internet on the individual and social consciousness of young people, the use of this resource, both for the positive impact (education) and for the negative transformation of value orientations, is widely discussed in the scientific literature. But the data of sociological research on the prevalence of Internet use among young people is not so much, in particular, there is no study on learning environment difficulty of adolescents aged 15-17. In this age group, the consciousness, viewpoint and value orientation of these adolescents begin to take shape. Internet forms cyberculture with its concepts, values, and ways of thinking [1]. Taking Internet as the carrier of culture spread, its influence on youth spirit civilization can not be neglected.

However, scientific works mainly deal with the phenomenon of dependence on the Internet (Internet

addiction, virtual addiction) and are actively studied by psychologists and psychiatrists [2-7].

A survey of Internet users in 2008 conducted by the Public Opinion Foundation in Russia showed that 75.5% of adolescents aged 14-16 years were Internet users. The Internet is gradually reaching younger children and adolescents. If 17-year-old teenagers first become Internet users around 15 years old, now 14-year-old teenagers have become Internet users between 12 and 13 years old. If in Moscow, the Internet audience consists of almost all teenagers aged 14-17 (97.4%), in villages – at least two-thirds (59.9 %) [8].

According to our research, already in 2014, the prevalence of Internet use among adolescents aged 15-17 years (students of primary vocational education schools) amounted to an average of over 97% in Russia [9,10].

Considering the scale of Internet use among adolescents and young people, and the mixed impact of this cyberspace, it is necessary to monitor the situation on a regular basis (prevalence, goals, motivations, consequences, etc.).

This article is devoted to the characteristics of Internet use by rural teenagers-school students of the Russian Federation.

II. MATERIALS AND METHODS

A large-scale sample study of the prevalence of Internet activities among rural adolescents of 15-17-year-old, students of 9-11 grades of secondary schools covered 17 regions of the Russian Federation from 6 federal districts of Russia. The choice of subjects (regions) of the Russian Federation was determined either by the presence of a regional monitoring group or by the desire of the subject of the Russian Federation to participate in the study.

A sample of rural adolescents aged 15-17 years in each selected region was formed in several stages. At the first stage, rural areas were selected in each selected area, taking into account their geographical location (North, South, West, East) and the distance from the regional center (near and remote). In the second phase, 2-3 rural General education schools were randomly selected in each selected rural area. In the third stage, the selected schools conducted a complete anonymous survey of schools in grades 9, 10

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and 11.

The sample size in each region was the same and was determined by the calculation of the required number of observations according to the known formula [11], taking into account 5% of the errors in the questionnaires. The estimated number of cases involving 5% of errors was 1076 adolescents aged 15-17 years.

The total number of students surveyed in 17 regions of the Russian Federation was 18222 rural teenagers, including 8208 (45%) boys and 10014 (55%) girls.

The set of questionnaire materials, database formation and their statistical development was carried out with the help of computer program “risk factors” [12]. Statistical development of databases included: obtaining absolute and relative indicators and their errors, calculating the reliability of differences between indicators according to the Student's criterion (t) for the normal distribution.

III. RESULTS AND DISCUSSION

In 2016-2017, 96.1 out of 100 rural adolescent boys aged 15-17, and 97.2 out of 100 adolescents girls of the corresponding age and sex used the Internet in Russia.

It should be noted that the number of girls using the Internet was slightly higher than the number of boys ($p < 0.001$).

The main purpose of using the Internet for rural school children was to find information for preparation for studies: 57.0% of boys and 67.3% of girls. However, boys were significantly more likely to use the Internet for their hobbies and girls were more likely to use it for educational purposes ($p < 0.001$).

For 15% of adolescents, both boys and girls, the Internet is a means of communicating and dating with friends. Little number of rural adolescent schoolchildren (1.0% of boys and 0.7% of girls) use e-mail, and 1.0 percent of rural boys and girls shop online.

An important characteristic of Internet use is the frequency and duration of this activity. The distribution of adolescents by frequency and duration of Internet use is presented in the table. 1.

TABLE I. THE FREQUENCY AND DURATION OF INTERNET USE AMONG RURAL ADOLESCENT SCHOOLCHILDREN AGED 15-17 IN THE RUSSIAN FEDERATION IN 2016-2017. (% OF USERS)

No.	The frequency and duration of employment	Sex		Significance of differences
		boys	girls	
1.	Monthly (but not weekly)	3,1	1,8	$p > 0,005$
2.	Weekly (but not every day)	11,3	8,0	$p < 0,01$
3.	Daily (30 minutes to 2 hours per day)	41,0	29,6	$p < 0,001$
4.	Daily (3 or more hours) – “risk group”	44,4	60,4	$p < 0,0001$

As follows from table 1, the vast majority of rural adolescent students use the Internet daily-85.4% of boys and 90% of girls, with girls outnumber boys in daily Internet use for 3 hours or more, and boys in daily Internet use for up to 2 hours ($p < 0.001$).

More than half of the boys (55.8%) and 60% of the girls have to sacrifice some kind of need or activity for their daily use of the Internet. So, 14.0% of boys, 17.8% of girls have to sacrifice sleep at night, and 9.0% of boys and 10.1% of girls - eating. 13.0% boys and 13.3% girls miss walking with friends.

Because of the daily use of the Internet, 6.2 per cent of boys and 5.0 per cent of girls do not complete school homework, about 5 per cent of adolescents skip classes in sections and clubs, 5.1 per cent of boys and 5.9 per cent of girls ignore homework, 1.7 per cent of boys and 1.0 per cent of girls skip home holidays and family celebrations for the Internet, and 1.6 per cent of boys and 1.1 per cent of girls even skip school.

As a result of the above, this part of adolescents has a number of problems: quarrels with parents (4.9% of boys and 7.8% of girls), decline in performance (7.0% of boys and girls). About 3% of adolescents (2.4% of boys and 2.8% of girls) indicate difficulties in communicating with other people and friends in real life. 1.1% of boys and 2.5% of girls report deterioration of health.

Deterioration of health is manifested as: headache (8.6% of boys and 15.1% of girls), pain and dryness in the eyes (4.8% of boys and 8.5% of girls). 4.4% of boys and 6.5% of girls report insomnia, 3.3% of boys and 5.7% of girls report back and neck pain. 2.0% of boys and 2.6% of girls indicate hand pain and numbness.

A comparative analysis of adolescents’ “rarely” using the Internet (monthly and weekly) and “daily” (3 or more hours), showed that all kinds of social problems statistically significantly more often occur in adolescents who use the Internet for a long time every day.

Another danger for adolescents who use the Internet on a daily basis is the potential risk of Internet addiction. In some cases, these adolescents may develop Internet addiction. In our study, 8.6% of boys and 13.6% of girls indicate the presence of emerging dependence on the Internet such psychological manifestations in the absence of the Internet as anxiety, irritability and inability to think about something else and do something else.

Therefore, teenagers who use the Internet every day for a long time (3 hours or more) should be allocated to a special group – a “risk group”, because such a long excessive stay on the Internet can only affect their mental and somatic health, complicating their socialization and adaptation to the real world.

On average, in Russia, the number of at-risk rural adolescents using the Internet on a daily basis is 42.9 out of 100 boys and 59.0 out of 100 girls of the corresponding age.

IV. CONCLUSION

Describing in general, the level of prevalence and features of Internet use by rural teenagers-schoolchildren aged 15-17 in the Russian Federation in 2016-2017, it is necessary to state the following:

1. The prevalence of Internet use among rural teenagers aged 15-17 in 2016-2017 is very high. On average, 96.1 out of 100 boys used the Internet in Russia, and 97.2 out of 100 adolescents of the corresponding age and sex among girls.

2. The main purpose of using the Internet is to find information for study (57.0% of boys and 67.3% of girls). Another 15% of adolescents, both boys and girls use the Internet for communication and dating, about 10% of girls and 14.1% of boys are looking for Internet information delete for hobbies.

3. The vast majority of rural adolescents (85.4 % of boys and 90 % of girls) use the Internet daily, with 44.4 % of boys and 60.4 % of girls having 3 or more hours (“at risk”).

4. Problems and difficulties due to the Internet statistically significantly more often occur in adolescents who use the Internet every day for 3 hours or more.

5. Teenagers who use the Internet every day for 3 hours or more, often have to ignore not only the physiological needs (night sleep, eating), but also to sacrifice their leisure time (skip sections, clubs, walks with friends), to evade their duties (not to perform academic tasks, homework, skip school lessons).

6. Adolescents “at risk” should be identified in a timely manner, because they have not only social and psychological difficulties, but also a high risk of Internet addiction.

There is no an effective treatment method for Internet addiction nowadays. Therefore, it is necessary to identify the adolescents “at risk” (who use the Internet every day for

3 hours or more) timely and to carry out the preventive corrective work with them. The development of criteria for the identification of such adolescents at the population level requires further researches.

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