



## ***Internet Addiction among Primary School Children as a Civilisational Challenge***

### **ABSTRACT**

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**RESEARCH OBJECTIVE:** The aim of the article is to present the results of own research on the attitudes of year 1 to year 6 students of Polish primary schools in rural areas and in urban areas towards the use of the Internet and its purpose, as well as their attitudes to and the level of understanding of online dangers.

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**THE RESEARCH PROBLEM AND METHODS:** The main problem of the publication is to determine the degree of risk resulting from the use of new technologies by children. For the purpose of presentation of the results of own research, mathematical analysis tools were used to determine the size of the population and the respective shares related to threats and addiction in relation to the subject matter of the research.

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**THE PROCESS OF ARGUMENTATION:** The argumentation is divided into two parts: theoretical part – based on a review of the literature on the subject of addiction, and empirical part – presenting the results of own research, which compared the attitudes and behaviours of primary school students in rural areas and in urban areas.

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**RESEARCH RESULTS:** Innovations such as the Internet, and all devices through which it can be accessed, keep developing. Laptop hard drive space is no longer measured in gigabytes, but in terabytes, which well surpasses the capabilities of the average human brain. Searching for information, keeping up with latest news, and learning about new technologies – it all boils down to spending hours on the computer. Children, who are only at the beginning of their intellectual development, constitute a group that is particularly vulnerable to the associated risks. The results of the research indicate that they have some awareness in this respect. The question is, however, whether they are aware enough.

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**CONCLUSIONS, INNOVATIONS, AND RECOMMENDATIONS:** A question arises whether the current education system is conducive to conscious shaping of the skill of objective recognition by children of both the advantages and disadvantages associated with the use of new technologies and the Internet.

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→ **KEYWORDS:** **INTERNET, ADDICTION, ABUSE, NEW TECHNOLOGIES, STUDENTS**

## STRESZCZENIE

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*Uzależnienie uczniów szkół podstawowych od Internetu w kontekście wyzwań cywilizacyjnych*

**CEL NAUKOWY:** Celem artykułu jest zaprezentowanie wyników badań własnych dotyczących postaw uczniów uczęszczających do klas I-VI polskich szkół podstawowych na wsi i w mieście wobec korzystania z Internetu i celu jego użytkowania oraz ich postaw i poziomu zrozumienia zagrożeń wynikających ze spędzania czasu on-line.

**PROBLEM I METODY BADAWCZE:** Przewodnim problemem publikacji jest określenie stopnia zagrożenia wynikającego z użytkowania nowych technologii przez dzieci. Do prezentacji wyników badań własnych użyto narzędzi analizy matematycznej, określając wielkość populacji i udziały związane z zagrożeniem i uzależnieniem w badanym przedmiocie.

**PROCES WYWODU:** Wywód usystematyzowano w dwóch częściach: teoretycznej – opartej na przeglądzie literatury przedmiotu w zakresie uzależnień, oraz empirycznej – prezentującej wyniki badań własnych w podjętej problematyce, dokonując porównania postaw i zachowań wobec Internetu uczniów uczęszczających do szkoły podstawowej na wsi i w mieście.

**WYNIKI ANALIZY NAUKOWEJ:** Innowacje, do których należy Internet, rozwijają się nieustannie, jak i wszystkie urządzenia, za których pośrednictwem można z niego korzystać. Laptopy posiadają już nie gigabajtowe, a terabajtowe dyski, przerastające możliwości przeciętnego ludzkiego mózgu. Zdobywanie informacji, śledzenie nowości i poznawanie nowych technologii jest jednoznaczne ze spędzaniem przed komputerem wielu godzin. Dzieci, będące dopiero na początku rozwoju intelektualnego, stanowią grupę szczególnie narażoną na zagrożenia z tym związane. Wyniki badań własnych wskazują na posiadaną przez nie pewną świadomość w tym zakresie. Pytanie jednak, czy wystarczającą.

**WNIOSKI, INNOWACJE, REKOMENDACJE:** Pojawia się pytanie, czy obecny system edukacji sprzyja świadomemu kształtowaniu umiejętności obiektywnego definiowania przez dzieci zarówno zalet, jak i wad związanych z użytkowaniem nowych technologii i Internetu.

→ **SŁOWA KLUCZOWE: INTERNET, UZALEŻNIENIE, NADUŻYWANIE, NOWE TECHNOLOGIE, UCZNIOWIE**

## Introduction

Humans are complex creatures, who live in a three-dimensional world. However, this does not refer to the Euclidean or Cartesian space, but to the perception of everyday life in relation to the past, the present, and the future. Because of the dynamism of the ongoing changes and the challenges of civilisation, everyone – regardless of their age – everywhere – regardless of the area of activity – is faced with the question of the strategy of life. Each stage of human development comes with many advantages, but also risks,

stemming from globalisation processes. Due to the pace of those changes, the creation of reality is an increasingly frequent way of compensating for the realities in which one finds themselves. How, then, can the competence of having 'knowledge in a nutshell', which is provided by the possibility of effective Internet use, be discussed in relation to the risks associated with its use?

The history of the Internet begins in September 1969, when at the University of California in Los Angeles (UCLA), at the request of the Pentagon, the ARPANET distributed network nodes were installed – the predecessor of today's Internet. The Internet arrived in Poland in 1993, however the first connection between the USA and Norway took place in 1973. It has since been spreading on a massive scale, becoming an increasingly available tool for entire populations, being not only the domain of personal computers, but, primarily, mobile devices (smartphones and tablets), which are growingly designed with a wide range of applications requiring online services. Free wireless networks are available almost everywhere: in cafés, shopping centres, public places, at railway stations and universities. Research results published in 2010 already indicated that in Poland 98% of children aged 9 to 16 used the Internet at least once a week, of whom the vast majority accessed it daily (FDN, 2012, p. 4; Kirwil, 2011, pp. 1-47).

In the nineties, a new research area concerning Internet abuse and addiction appeared in the literature on the subject (Griffiths, 1995, pp. 14-19; Abramson et al., 1989, pp. 358-372; Young, 1996a, pp. 237-244; Young, 1996b, pp. 899-902; Scherer, 1997, pp. 655-665; Griffiths, 1998, pp. 61-75; Young, 1999a, pp. 381-383). It dealt with scientific issues such as abuse, addiction, and even pathological use of the Internet – sometimes referred to as 'webaholism'. Despite numerous attempts, this phenomenon remains only vaguely identified and defined, and researchers continue to discuss the correct terminology, with the main division being into those who adopt a behavioural approach, which involves an addiction to an activity, placing Internet addiction alongside gambling, workaholism, shopaholism, addiction to sex, pornography, physical exercise or a mobile phone, and those who reserve the term 'addiction' only to addictive substances such as alcohol, drugs, medicines or nicotine, considering the term 'Internet addiction' to be incorrect as it inadequately describes the problem of excessive use of the Internet. There is even a theory about the harmfulness of using descriptions which treat the issue as addiction because of the potential stigma for those affected by this problem, suggesting that they suffer from a specific disease that they are unable to overcome (Morgan-Martin, 2005, pp. 39-48). In the approach to defining behavioural disorders as unrelated to the use of psychoactive substances, this classification, which reflects the issue of the phenomenon described, seems justified. Consequently, Internet addiction can be defined as a modification of behaviour, using the principles of operant and classical conditioning, usually described as a set of symptoms where one activity, or a group of activities, becomes established and repetitive to obtain certain emotional states: pleasure, euphoria, relief or satisfaction. The Internet becomes addiction when control is lost over the time and intensity of its use, and the associated pejorative consequences affect one's proper functioning in other areas of life (Shapira et al., 2003, pp. 207-216).

According to PWN Encyclopaedia, 'addiction' is defined as "a health disorder, a state of psychological, or mental and physical, dependence on a certain psychoactive chemical agent, manifested by periodic, or permanent, compulsion to take this substance in order to obtain the effects of its action, or to avoid the unpleasant symptoms of its absence (abstinence symptoms)". Other researchers define the issue in more concise terms as "one of the health consequences of using psychoactive substances," distinguishing between three types of those effects: physical, mental and social, which are accompanied by disorders affecting cognitive functions, personality, the emotional sphere, and the functioning of internal organs (Fundacja Pedagogium, 2009, p. 13). The problem of excessive Internet use was the subject of the EU Kids Online survey conducted among children from 25 European countries, according to which nearly 20% of Polish teenagers get insufficient nutrition or sleep because of surfing the web, and over 30% of them admit feeling discomfort when they have no access to the Internet, while 35% of the studied population is aware of its negative impact on their relationships with family and friends. The author shares the stand of researchers who use the term 'addiction' in the literature, considering it to be the most adequate and relevant to the issue studied in the article.

The excessive use of the Internet by children and its negative impact on their emotional development was also noticed through the occurrence of addiction to the strong emotions associated with its use, especially as regards addiction to computer games, the pace and subject of which causes excessive adrenaline spikes (see also: Zimbardo, 1999).

In the literature on the subject, the terms 'digital natives', introduced by M. Prensky, and 'digital immigrants' have functioned since 2001. The former refers to youth and its relations with the media, while the latter describes the generation of their parents. Even though 'immigrants' may have a high level of computer literacy, the Internet is simply natural for 'natives' (Prensky, 2001, pp. 1-6). Regardless of the generation, the role of time, or, in fact, the impossibility to embed Internet use into any time frame, makes the Internet even more attractive, which is expressed by the term 'being online' (Filiciak et al., 2010).

The aim of the article is to present the results of own research on the attitudes of grade 1 to grade 6 Polish primary school students in rural areas and in urban areas towards the use of the Internet and the purpose of its use. Presentation of those results against the background of the relevant literature on the dependence of primary school children on the Internet, and examination of their attitudes and level of understanding of the threats posed by spending time online, is an attempt to determine the behaviour of future generations in relation to the threats of modern civilisation and technologies.

## Methodology

The research was conducted among grade 1 to grade 6 primary school children in the period from September to December 2017. The results were presented based on 363 responses given by Polish primary school students in rural areas and in urban areas – 177 students attended a rural school and 186 students attended an urban school, of

whom 193 were girls and 170 were boys aged 6 to 13. The study was conducted using a group administered questionnaire. The children had 45 minutes to complete it. Most of the questions contained in the group administered questionnaire required them to provide a response that primarily determined the purpose and the intensity of using the Internet. In addition to personal details, the questionnaire contained quantitative (10) and qualitative (17) questions. The questionnaire contained 3 open-ended questions and 24 closed-ended questions, allowing respondents to choose one of the answers or to answer in a five-point Likert scale (5). The open-ended questions gave the respondents an opportunity to provide a subjective answer to regarding: (1) usefulness of the Internet as a learning aid, (2) the major threats or advantages of using the Internet as perceived by the respondents – depending on an earlier response regarding the awareness of the threat associated with being online, (3) online activity, in accordance with subjective preferences and experiences. The opportunity to express an independent opinion on the usefulness of the Internet and its significance in the learning process at school was also used to create a list of the main threats and advantages, as perceived by the respondents, which is described in the last part of the article. Answers regarding access to a computer (laptop or tablet) and the Internet, the amount of time spent online, the preferred way of using the Internet and contacting others, as well as the attitude towards the information available on the Internet, were compared. This allowed to obtain information illustrating the situation of individual children in relation to the research questions posed. Not all respondents provided answers to each of the questions asked, hence the size of the sample for each analysed criterion varies.

To present the results of the research, mathematical analysis tools were used to determine the size of the population studies and the respective shares, while describing the phenomenon of threat and addiction in tables and diagrams. In order to confirm the research hypothesis concerning correlation between the amount of time spent daily on the Internet and the location (children from a rural area vs. children from an urban area), the chi square test was used, and the analysed data were presented in a contingency table.

## Internet addiction criteria

According to M. Griffiths, Internet addiction is associated with the occurrence of three of the six components defined by him: (1) salience, (2) mood modification, (3) tolerance, (4) withdrawal symptoms, (5) conflict, and (6) relapse (Makaruk & Wójcik, 2013, pp. 35-48). In our case, the first component means that using the Internet becomes the most important activity in one's life, the second means that it improves one's mood, and even provides an escape from everyday problems, the third means that it requires an increasingly more intensive and longer contact with the Internet, which resembles dependence on chemicals, and the fourth describes the shaky mental states caused by the lack of access to the web (e.g. irritability or anxiety). The fifth component can be examined in many terms, but in each instance it leads to disruption of the ability to share time between

the Internet and other types of activity. The last of the components captures the intense and uncontrolled relapses into Internet abuse, even after Internet-free periods.

Woronowicz, who represents the trend of defining the phenomenon of excessive use of the Internet as 'webaholism', has also distinguished six specific symptoms: (1) spending increasingly more time online at the expense of other interests, (2) neglect of one's duties – both family and school – resulting from excessive online activity, (3) emergence of family conflicts related to the Internet, (4) lies about the time spent online, (5) making unsuccessful attempts to limit it, and (6) reacting with irritability, and even aggression, when faced with difficulties in effective Internet use (Woronowicz, 2009).

The amount of time spent online, however, is not the only Internet abuse criterion for the researchers. It must be accompanied by a combination of additional circumstances, such as: (1) uncontrolled time and intensity of Internet use, reinforced by the perceived and difficult to avoid need to use the web, and (2) neglecting other aspects of life because of Internet use, causing multifaceted problems or suffering (affecting both the addict and their environment) (Sharpia et al., 2003, pp. 207-216; see also: Young et al., 1999, pp. 475-479). Such an approach to the problem under consideration is indicative of the multidimensionality of the issue, because the mere use of the Internet does not indicate the nature of the actions taken online nor describes the user's involvement. The crux of the problem is not the activity itself, but its type. Therefore, the following classifications are indicated in the literature on the subject: (1) online computer games (see: Blinka & Sahel, 2011, pp. 73-90), (2) social networking websites and instant messengers, which are the successors of e-mails and chat rooms (see: Kuss & Griffiths, 2011, pp. 3528-3552), (3) pornography and cybersex, which are disseminated online not only through movies or publications, but also via social media (see: Delmonico & Griffin, 2010, pp. 112-135), (4) online gambling, which is not as common as pornography or online gaming, but due to the preservation of anonymity becomes an easily available form of entertainment, leading to addiction (see: Griffiths, 2010, pp. 91-121).

In the behavioural approach, the problem of Internet addiction is seen as provision of irregular reinforcements whose type builds the strongest habits (Chocholska & Osipczuk, 2009, see also Tuukkanen & Wilska, 2015, pp. 3-16). Personality traits such as depressive inclinations, lack of stress coping skills, introversion, hypersensitivity, shyness, and low self-esteem are considered to be the main psychological factors accompanying the phenomena of choosing the Internet as a form of coping with stress, a sense of isolation or loneliness (Majchrzak, 2010, pp. 113-144; Young, Yue, & Ying, 2011, pp. 17-17, see also: Augustynek, 2010). In this respect, the group of people particularly vulnerable to Internet addiction are adolescents and children, who are in the midst of personality development. Children find it more difficult to separate emotion-laden information, good from evil, and truth from fiction – all of which they see on the Internet. On the other hand, young people, especially during adolescence, are looking for solutions and guidance on what kind of person they want to be, examining and pushing their own boundaries, in pursuance of acceptance of their environment (Denic et al., 2017, pp. 525-533; Shubnikova, Khuziakhmetov, & Khanolainen, 2017, p. 5261-5271).

The progressing globalisation is reflected in the increase in the number of new technologies. Children naturally become its participants and users from an early age. The issue of responsible use, purposefulness and moderation remains largely the responsibility of adults, from whom the young generation takes an example. Online security is an increasingly popular topic both in the literature on the subject, as well as in general magazines and the media (see: Wojniak & Majorek, 2016, pp. 1-6; Bovina et al., 2017, pp. 1-12). The three-year-old girl appearing in the ATL advertisement who quizzes an adult – a bank assistant – about the safety of online transactions on her dad's mobile teaches both generations, drawing the attention of those directly involved: children and adults. Moreover, young people, and even children, often happen to be much more competent in using electronic devices and new technologies. Hence, the component of prevention to be provided by adults, who have much lower skills, is often very difficult to enforce when it comes to monitoring children's activity on the Internet. Ultimately, it is the largest database of publicly available information, which can also support learning, expand knowledge about the world, and help to develop interests.

The threat to students, being Internet abuse, is also related to the state of general knowledge and the parents' approach to the danger of child addiction in this respect. Usually, it is cigarette smoking, alcohol drinking, drug using or returning home late that is considered problematic, rather than a child who spends time nicely at home, busy with excessive computer use. To adults, a 'child at home' has become synonymous with a 'safe child'. Unfortunately, the content of the Internet is not safe, and its use may affect children's physical growth (scoliosis, impaired vision, and sleep disorders) and psychological development, both in cognitive and emotional terms (lower level of concentration and logical thinking, emotional lability, low self-esteem, social disorders, lack of ability to spend time without a computer/tablet/mobile phone, or even lack of the ability to function properly in the real world). The Internet may also be considered as addictive potential because of the unlimited possibilities of its use as every piece of content refers the user to subsequent pages, sources and information (Greenfield, 2011, pp. 153-153).

### Internet addiction among primary school children as a civilisational challenge in the light of empirical research

According to the 2010 EU KIDS Online survey on Internet use by children and adolescents, 21% of boys and 15% of girls do not eat properly or do not sleep because of the Internet. At the same time, 38% of boys and 26% of girls try to spend less time on the Internet without success. 63% of the respondents felt uncomfortable when unable to be on the Internet (35% of boys and 28% of girls), while 68% of the respondents admitted that they had neglected their family, friends, learning or hobby because of spending time online (38% and 30%, respectively) (Kirwil, 2011, pp. 1-47).

The author's own research was conducted among primary school children, divided into urban area and rural area, in Poland. The study involved 363 students: 170 boys

and 193 girls from grade 1 to grade 6 in the period from September to December 2017, of whom 177 lived in a rural area and 186 in an urban area (Diagram 1). The most numerous group in rural areas were the grade 1 students (50 children), while in urban areas – grade 3 and 4 primary school students (40 persons). The smallest number in both locations was represented by the grade 5 and 6 group of students, which totalled 70 in the entire study sample (urban areas: 20 and 18; rural areas: 16 and 16, respectively).

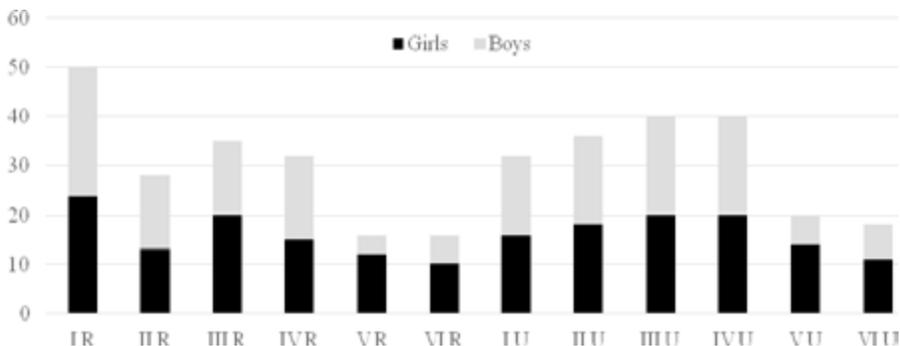


Diagram 1. Size of research sample (R – rural, U – urban, grade 1 to grade 6 primary school children).

Source: own research.

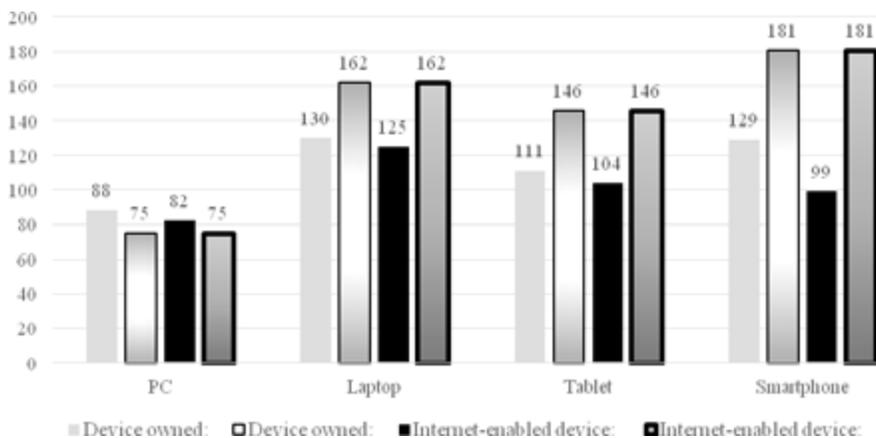


Diagram 2. Structure of Internet-enabled electronic devices owned by grade 1 to grade 6 children.

Source: own research.

The first stage of the research focused on determining the scope of the students' access to devices enabling them to use the Internet. It transpired that in the whole studied

group of 363 children, only one of them did not have a desktop computer, a laptop, a tablet or a smartphone at home. Most students had all four devices, with PCs being the least popular: present in 88 rural homes and 75 urban homes (Diagram 2). In general, out of the 1,022 devices the students declared to own, 95.3% were Internet-enabled with online access anywhere and anytime. The observed difference in the number of devices was 10.37%. All of the equipment (100%) owned by the surveyed urban population was Internet-enabled, while 10.48% of the devices in rural areas did not offer such a functionality.

The study population included children aged 6 to 13, of whom 35% had used the Internet for more than 5 years and 54% for over 2 years. In the “1 year or less” group, there were only grade 1 and grade 2 students. The research results also showed that half of all children surveyed spent between 2 and 4 hours online on a daily basis, and 15% more than 5 hours. This component was also dominated by grade 1 and grade 2 students, who mostly spent their online time watching cartoons or playing games. However, there were no differences in preferences in terms of the gender criterion. A detailed analysis of the shares of individual groups as regards two criteria: years of use and daily time spent on the Internet, broken down into rural areas and urban areas, is presented in Table 1.

Table 1  
Structure of online time among grade 1 to grade 6 children [%]

LOCATION	GRADE	How long have you used the Internet?					How much time do you spend daily on the Internet?				
		Do not use	1 year or less	2 - 3 years	4 - 5 years	More than 5 years	Do not use it daily	1 h or less	2-4 h	More than 5 h	Only at school
RURAL	1	0.0	6.6	4.4	1.1	1.7	0.0	6.6	5.5	1.7	0.0
RURAL	2	0.0	1.9	3.9	1.4	0.6	0.0	2.8	4.1	0.8	0.0
RURAL	3	0.0	1.1	4.4	2.2	1.9	0.0	4.4	4.1	1.1	0.0
RURAL	4	0.0	1.1	2.5	1.7	3.6	0.0	4.7	2.8	1.4	0.0
RURAL	5	0.0	0.6	0.6	0.8	2.5	0.0	1.9	2.2	0.3	0.0
RURAL	6	0.0	0.0	1.9	0.8	1.7	0.0	1.4	2.2	0.8	0.0
URBAN	1	0.0	0.0	7.7	0.6	0.6	0.0	1.7	5.5	1.7	0.0
URBAN	2	0.0	0.0	8.0	1.1	0.8	0.0	3.9	4.1	1.9	0.0
URBAN	3	0.0	0.0	2.2	3.3	5.5	0.0	2.8	6.9	1.4	0.0
URBAN	4	0.0	0.0	1.4	2.8	6.9	0.0	2.8	6.9	1.4	0.0
URBAN	5	0.0	0.0	0.0	0.6	5.0	0.0	1.4	2.8	1.4	0.0
URBAN	6	0.0	0.0	0.0	0.8	4.1	0.0	0.6	2.8	1.7	0.0

Source: own research.

A research hypothesis was put forward to verify the dependence of daily time spent on the Internet and the location (children from rural vs. urban locations). Because of the assumptions of the test, two responses were excluded from the analysis: “Don’t use it daily” and “Only at school,” because neither group selected those answers. To verify whether there was a relationship between the location and the daily amount of online time, the chi square test ( $\chi^2$ ) was used. It was assumed that the distributions were independent – in other words, that the location did not affect the attitude towards time spent on the Internet. With the assumed significance level  $\alpha = 0.05$ , the number of degrees of freedom was p.f. = 2, and the critical value was 5.9915. The value of  $\chi^2 = 15.1310$  was

obtained, which is higher than the critical value, and p-value = 0.000518 was significantly lower than the level of significance, therefore it can certainly be assumed that there are grounds for rejecting the research hypothesis (Table 2).

Table 2  
Contingency table

LOCATION		How much time do you spend daily on the Internet?		
		1 hor less	2-4 h	More than 5 h
RURAL	quantity	79	76	22
	share	44.6%	42.9%	12.4%
URBAN	quantity	47	105	34
	share	25.3%	56.5%	18.3%

Source: own research.

However, researchers do not consider the criterion of time spent by students online as the only criterion for excessive use of the Internet. The multidimensional nature of the problem indicates that the mere use of the Internet does not – without the user’s involvement – determine whether the problem of excessive use is present (Sharpia et al., 2003, pp. 207-216). The essence of the problem is defined not by the activity itself, but by its type.

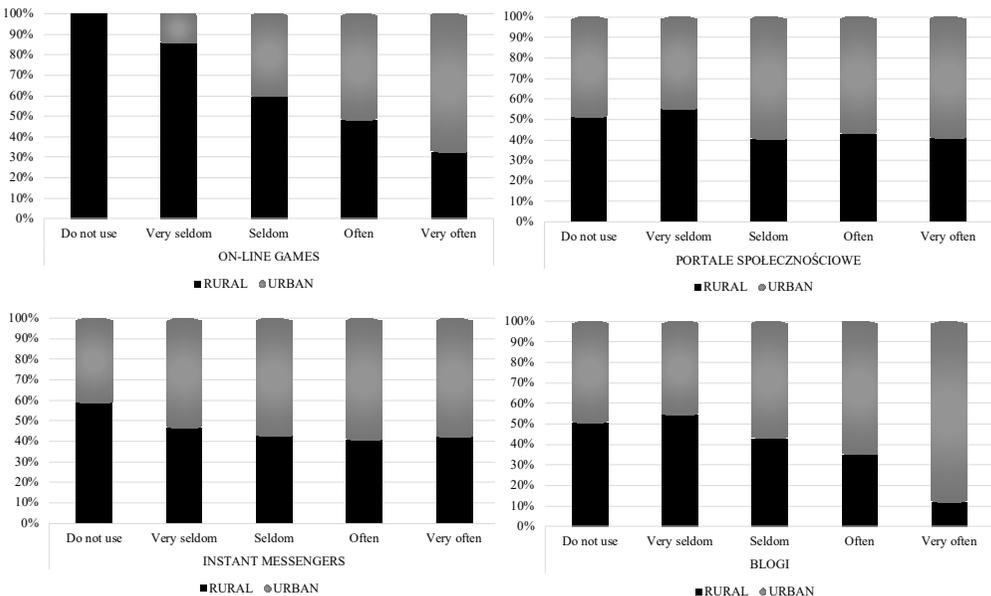


Diagram 3. Selected types of online activity among grade 1 to grade 6 children.

Source: own research.

The research concerned two of the following four categories described in the literature on the subject: (1) online computer games, (2) social networking websites and instant messengers, (3) pornography and cyber-sex, and (4) online gambling. The third of those categories was a resultant – one of the threats posed by using the Internet and being online indicated by children in the form of subjective statements in response to open-ended questions that give the opportunity to supplement the survey with their own observations (Diagram 3). Gambling, regardless of where it takes place, requires confirmation of being an adult, therefore children had not been asked about this criterion, although that fact that they actively use e-mail suggests the possibility of circumventing this obstacle (which is additionally tightened by legal restrictions): 6.3% respondents declare using e-mail “often” or “very often”, of which 65.22% are children attending rural schools, and 34.78% urban schools.

It can be argued that the anonymity of the Internet has also a multidimensional aspect: on the one hand, it gives a greater sense of security, while giving under-aged persons – through the lack of verification of data veracity – the possibility of deceit and access to data and information which they are not authorised to view.

The results of own research, taking into account a division into location, showed that the entire surveyed population of children attending urban schools plays online games, while 8.47% of rural school children chose the answer “Don’t use.” Online games, however, are definitely more popular in urban locations, where children often indicate boredom as the main reason for using the Internet. This may be understandable – the virtual world offers the possibility of active participation and decision-making to influence each stage of the game (see: Ulfik-Jaworska, 2002, pp. 1-15). The answer “I do not know why” [I use the Internet] was also frequently given in the survey. Blogs, social networking websites and instant messengers are more actively visited by children attending schools in urban areas than children in rural areas, who, in turn, indicate “Watching cartoons or movies” and “Online gaming with friends” as the main reasons for using the Internet.

The answers given by the respondents as regards the disadvantages and threats resulting from the use of the Internet are very interesting from the point of view of the problem studied. Answers such as viruses, hackers, fraud or coax were given only occasionally, while the problems generally noticed by both groups of children included posture disorders (“back pain”), the possibility of sight deterioration (“sore eyes”), and pornography (“naughty pictures,” “naughty pages,” “naked pages”). Grade 5 and grade 6 students used the following expressions to describe the potential threats: “paedophile,” “cyber-bullying” and even “addiction” – 34% of the respondents. This would indicate that children have certain awareness of the threats, and their consequences, resulting from excessive Internet use.

The results of the research included in the EU NET ADB research project, the main objective of which is to estimate the extent of the Internet abuse phenomenon among young people in seven European countries, show that Poland ranks third (after Spain and Romania) in terms of the “youth at risk of Internet abuse” criterion – 11.5% of the surveyed population (2,000 Polish students), and 1.3% “abuse the Internet.” The least exposed are children in Iceland – 6.8% and 0.8%, respectively (EU NET ADB, 2012).

The attitudes presented by the surveyed children from rural and urban schools indicate a much greater use of the Internet in urban locations, but also show greater consciousness of the same children and their awareness of the risks of spending time online.

## Conclusion

The Internet, as a global network, is an inseparable tool that facilitates the performance of many professional activities as well as enables the pursuit of personal interests. As a meta-medium, it combines all existing forms of communication, such as newspapers, magazines, books, films and music, giving unlimited access to cultural resources (art collections, photo galleries, performances, concerts, etc.), as well as broadly understood economic and information knowledge. From the user's point of view, however, the most important element is the form of using Internet-enabled devices – unlike traditional media, the user is the decision-maker as to when and what they want to listen to or watch. It also carries certain added value which is unavailable in traditional media – the impression of belonging to a community, for example through participation in online games along with millions of other people, and, at the same time, quenching the sense of loneliness. There is no doubt that excessive use of the Internet – especially if it causes noticeable discomfort in the absence of the factor which otherwise is the source of comfort – can be classified as addiction. However, the question arises: in the case of the Internet, is the technology itself the problem, or is it the additional socio-psychological circumstances of individual people that play a greater role?

The results of the author's own research show that Internet-enabled devices are available to children attending both rural and urban schools; in rural locations, however, this access is smaller by almost half when it comes to mobile phones. Tablets and laptops used by children from urban schools all have permanent Internet access (100%), which was not the case among children attending rural schools. The vast majority have used the Internet for over two years, of which 85% for up to 4 hours a day. The most significant difference was noted in the use of the Internet for online gaming: 100% of the studied urban population used this option, in contrast to the second group, rural children. Each of those groups, however, observed the disadvantages of using the Internet and identified specific threats. However, a question arises whether the current awareness of primary school children regarding Internet abuse is sufficient to protect them from becoming addicted and how the education system can influence their attitudes in this area. The direction of development and increasing emergence of e-learning platforms at every level of education should be the basis for reflection and further research in this field.

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