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STUDIES

The risk of Internet addiction and psychoactive substance use
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Gambling and Internet addictions
– epidemiology and treatment
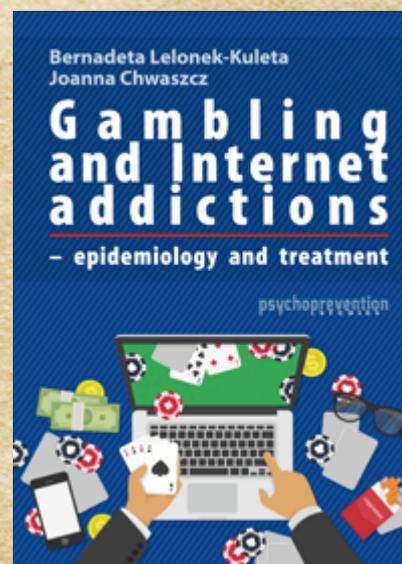
psychoprevention

Gambling and Internet addictions – epidemiology and treatment
Bernadeta Lelonek-Kuleta, Joanna Chwaszcz

Table of Contents

Gambling and Internet addictions – epidemiology and treatment Part II

Bernadeta Lelonek-Kuleta, Joanna Chwaszcz

The risk of Internet addiction and psychoactive substance use

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ABSTRACT

The article presents the results of a study on upper secondary school children from Poland. Based on other research and literature, the study hypothesized that there was a positive correlation between problematic Internet use and psychoactive substance use by teenagers. This hypothesis was supported in relation to the use of marijuana, sedatives and hypnotics. There was a significant positive correlation between marijuana use and problematic Internet use, and a significant positive correlation between the use of sedatives and hypnotics and pathological Internet use.

Keywords: pathological Internet use, psychoactive substance use, marijuana use, use of sedatives and hypnotics

Introduction

Scholars specialising in addictions have explored behavioural addictions for several dozen years. However, in the last decade, this phenomenon has become investigated much more broadly. Technological advancement and challenges faced by contemporary societies are considered to be the main reasons for the development of behavioural addictions (Ogińska-Bulik, 2010). One of such behavioural addictions is addiction to the Internet, which, even though not included in official diagnostic classifications, is a serious and widespread phenomenon worldwide (Tadeusiewicz, 2002). Internet addiction is defined as "an impulse control disorder, which does not cause intoxication, and has a significant impact on the level of one's functioning in social, professional and psychological spheres" (Ogińska-Bulik, 2010, p. 54).

The issue of Internet addiction is widespread. Polish studies on the epidemiology of Internet addiction show that among young Internet users aged 24 or less, 13% score high in this respect and belong to the group at risk of pathological Internet use. In addition, approximately 2% have very high scores, which could suggest that they are pathological Internet users. Similar results were obtained in a group aged 24+, with more than 12% representing the population at risk, and nearly 2% of respondents having very high scores (Poprawa, 2011). Another study on addiction, conducted among schoolchildren aged 12–18 (Juczyński, Chodkiewicz & Pisarski, 2004), shows that 7% of teenagers might be addicted to the Internet, and over 5% are at risk of addiction and overuse the Internet. The largest proportion of addicts are boys aged 14 and 16. It is important to note that more than 44% of the teenagers admitted to having no control over the time they spend on the Internet, and to usually using it longer than they intended to.

Global statistics are as follows. Wallace (2001) states that addicts and non-addicts, who took part in her survey, differed in terms of the amount of time they spent online. The majority of persons categorised as addicts were beginners – approx. 83% of them had had access to the Internet for no more than a year. Non-addicts, on the other hand, were usually experienced Internet users – only 29% of them had had access to the Internet for a year or less. More than 60% of addicts were women aged 40+, and the second largest group of addicts were students (18%). In a study by Cooper and his team (Cooper, Morahan-Martin, Mathy & Maheu, 2002), nearly 10% of respondents assessed themselves as Internet addicts. In a randomly selected group of 699 Internet users, Leung (2004) diagnosed more than 38% as addicts. In Korea, it is estimated that approx. 2% of people aged 6–19 are addicted to the Internet, and in Taiwan 6% of university students are Internet addicts (Chou & Hsiao, 2000), while in China nearly 14% of teenagers are diagnosed this way. In Finland, less than 2% of teenagers aged 12 to 18 are addicted to the Internet (Kaltiala-Heino, Lintonen & Rimpela, 2004).

Based on the area of life and activity in which they manifest themselves, the consequences of excessive computer and Internet use can be divided into physical, mental, moral, social and intellectual (Krzyżak-Szymańska & Szymański, 2013, p. 81).

Physical and physiological consequences of Internet use include eye disorders and discomfort, headache, sleep disorders, increased susceptibility to infections, and allergic reactions. Physiological consequences include photosensitive epilepsy, which is triggered by intensive, rapid flashing on the screen. Another disorder, caused by long-term and unskilful use of a computer keyboard, is known as Carpal Tunnel Syndrome (CTS). Nervousness, weakness and fatigue, as well as neck, back and shoulder pain, are other common negative consequences of computer use (Krzyżak-Szymańska & Szymański, 2013).

Psychological consequences of excessive Internet use include non-verbal communication problems and disorders, i.e., social phobia and depression caused by the lack of access to the Internet (Przybysz-Zaremba, 2008, p. 28). Results of research into this area make it possible to construct a psychological profile of people who overuse the Internet. Such people are characterised by low emotionality, i.e., which and how emotions are expressed, and anxiety, manifested in two types of behaviour, either withdrawal, apathy and reduced activity, or aggression and impulsiveness. What is alarming in people who are addicted to the media is that they treat people in an instrumental way to achieve their objectives (Gała & Ulfik, 2000, pp. 57–58).

The consequences of addiction to new media can also be observed in social behaviour, in many cases leading to the alienation of the individual from the real world (Przybysz-Zaremba, 2008, p. 31). Social consequences of excessive Internet use also include cybercrime, which usually involves digital piracy, password disclosure, modification of important data, or chargeback fraud.

Last but not least, there are the intellectual consequences of excessive Internet use. These include, in particular, the lack of interest in learning, and so-called "information overload", which is experienced as a result of a very rapid influx of various information, causing the individual to loose control over the rational selection of incoming information. Excessive use of the Internet by children and teenagers can produce symptoms of personality disorders, such as character disorder, personality disorder and sociopathy (Kaliszewska, 2007, pp. 38–39).

Internet overuse and psychoactive substance abuse

Substance abuse is defined as "a cluster of behavioural, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences" (WHO, 1997, p. 44; Zimbardo, 1999, p. 743). Psychoactive substance use affects one's psychological functioning as a whole, gradually triggering defence mechanisms, distorting cognitive processes, and causing neuroadaptation. All this is experienced not only during intoxication, but long after the individual stops taking the substance (Koczaska-Siedlecka, 2009, p. 14).

The scale of health implications of psychoactive substance use, and the number of related deaths, are a growing concern. The use of such substances causes serious damage to human body, often leading to the impairment of cognitive functions, changes in the ways emotions are experienced, biased judgement, and treatment of important matters with indifference (Niewiadomska & Stanisławczyk, 2004). Young people who use psychoactive substances share a few characteristics, including poor school performance, negative self-image and low self-esteem. They also tend to struggle with interpersonal relationships and have trouble coping with stress and anxiety. In addiction, addicts and people at risk of addiction are characterised by having an external locus of control and expecting immediate gratification (Evren C., Dalbudak, Evren B. & Demirci, 2014).

Internet addiction, or online addiction, is a new type of addiction, involving constant use of computers, and especially the Internet, and characterised by the feeling of internal compulsion to be online (Sokołowski, 2005, p. 276). Both Polish and international scholars have tried to define Internet addiction criteria, and, as a result of many studies on the epidemiology of, and disorders created by, Internet overuse, in 2013, it was announced that corresponding diagnostic criteria would be introduced in the subsequent editions of the Diagnostics and Statistical Manual of Mental Disorders (DSM-V, 2013). Computer and Internet addiction was included in Section III of the Manual, which focuses on conditions for further study, as Internet gaming disorder, understood as computer games, not as gambling (gaming addiction) (DSM-V, 2013). The proposed criteria that require further study, and, as a result, might be the basis for the disorder description in the next edition of the Manual, are:

- preoccupation with Internet games,
- withdrawal symptoms when Internet gaming is taken away,
- tolerance – the need to spend increasing amounts of time engaged in Internet games,
- unsuccessful attempts to control the participation in Internet games,
- continued excessive use of Internet games despite knowledge of psychological problems,
- loss of interests in previous hobbies and entertainment as a result of, and with the exception of, Internet games,
- use of Internet games to escape or relieve a negative mood,
- has deceived family members, therapists, and others regarding the amount of Internet gaming,
- has jeopardised or lost a significant relationship, job, or educational or career opportunity because of participation in Internet games (DSM-V, 2013).

Co-occurrence of psychoactive and behavioural addictions – study overview

Based on a study conducted in Poland in 2015 by the Public Opinion Research Centre (CBOS), the most noteworthy psychoactive substances which co-occur with behavioural addictions include marijuana and hashish, due to the high prevalence of cannabinols in Poland. People who suffer from at least one behavioural addiction are more likely to have used marijuana or hashish at some point in their lives, compared to persons without such tendencies (CBOS, 2015, p. 159). In the group of people who have at least one behavioural addiction, 17.1% have used THC, compared to 12.2% in the group of other people. Among workaholics, the proportion of those who have used THC is 16.8%, among shopaholics – 30.4%, gamblers – 24%, and Internet addicts and people at risk of Internet addiction – as much as 44%. Among people without behavioural addictions, only 13% have used marijuana or hashish.

For each of the above-mentioned behavioural addictions, the proportion of people who exhibit symptoms of marijuana or hashish addiction is greater in the population at risk and among addicts, compared to respondents who do not have such problems (CBOS, 2015, pp. 159–161). In the case of other drugs, some significant correlations can be observed between amphetamine use and gambling addiction. Gamblers declare that they have taken amphetamine at some point (1.8% to 13.6%) (CBOS, 2015, p. 163). In the case of gambling, the difference between the proportions of people using drugs among the non-addicts, people at risk of becoming addicted, and addicts, is considerable. Among the respondents categorised as low-risk, the proportion of people who have experimented with drugs is twice as large as for non-addicts. For compulsive gamblers, this ratio is four to one (4.5%, 11%, and 18.2%, respectively). Similarly, among people at risk of Internet addiction, 8.1% of respondents in the population at risk have experimented with drugs, while in the group of average Internet users this is 4.6% (CBOS, 2015, p. 165).

There is also a correlation between problematic behaviour and the use of sedatives or hypnotics. People who are addicted to any problematic behaviour tend to use such psychoactive substances more often than others. In the group of addicts, psychoactive drugs (either prescribed or not) have been used by one in four respondents (25.6%), while among

non-addicts the ratio is one in five (20.8%). Workaholics (25.6%) and gamblers (26.6%) are more likely to use psychotropic drugs than non-addicts. With the Internet, there is an inverse correlation. Drugs are used more often by average Internet users than by the population at risk (22% compared to 11.3%) (CBOS, 2015, p. 166). This can be due to the age distribution of Internet addicts, the majority of whom are young people, who use pharmaceuticals less frequently than adults.

A study conducted on a group of students from France showed that people with increased stress levels, and women in particular, compared to students with low stress levels, usually cope by regular smoking, drinking, increased Internet activity (increased risk of addiction) or eating disorders (Tavolacci et al., 2013). A study on Dutch teenagers (a group of 8,478 people) showed that boys who are addicted to computer games are twice as likely to use such substances as nicotine, alcohol, and cannabinols, compared to boys who do not exhibit gaming-related problems (Van Rooij et al., 2014).

Regularities concerning the correlation between the risk of behavioural addictions and the risk of psychoactive substance addictions have also been confirmed by the results of studies on adult populations. A study involving 789 Greek adults showed that problematic Internet use, and online gambling in particular, co-occurs with the use of various psychoactive substances (Giotakos et al., 2016).

Own research methodology

The following research question was addressed – *What, if any, is the relationship between the risk of Internet addiction and psychoactive substance use among upper-secondary school children?*

Hypothesis 1. The risk of Internet addiction co-occurs with marijuana use among teenagers.

This hypothesis is backed up by research conducted by the Public Opinion Research Centre (CBOS, 2015). Based on the findings of that study, it can be argued that people who are addicted to the Internet are more likely than non-addicts to have experimented with marijuana or hashish. As many as 44% of people at risk of addiction, or addicted, to the Internet have used cannabis (CBOS, 2015, pp. 159–160).

Hypothesis 2. There is a negative correlation between problematic Internet use and sedative and/or hypnotic use by teenagers.

This hypothesis is based on research conducted by the Public Opinion Research Centre (CBOS, 2015). Research findings suggest a negative correlation between the risk of Internet addiction and the risk of addiction to sedatives. Drugs are used more often by average Internet users (22%) than by the population at risk (11.3%) (CBOS, 2015, p. 166).

In order to test the above-mentioned hypotheses, the study used the following research tools: Problematic Internet Use Test (TPUI22) by R. Poprawa, and demographic data.

The Problematic Internet Use Test (TPUI22) by R. Poprawa, was developed on the basis of the Internet Addiction Test by K. Young, which operationalises the descriptive definition and criteria of Internet use. The test comprises 22 questions to be answered by respondents using the following six-point scale: 0 – not applicable, 1 – rarely, 2 – occasionally, 3 – frequently, 4 – often, 5 – always. The internal consistency of the test expressed using Cronbach's alpha is 0.94 (Poprawa, 2011, pp. 196–200).

Demographic data were collected on the basis of interviews, which included 10 questions concerning the following areas:

A. Sociodemographic data – gender, age, place of residence;

B. Family of origin – family structure, financial situation of the family, economic migration;

C. Information concerning substance use – addiction in the family, frequency of substance use. Psychoactive substance use was described on the basis of the Maudsley Addiction Profile (MAP) by J. Marsden, D. Stewart, and D. Best. The MAP is a structured interview designed to investigate issues connected with substance abuse. This instrument measures problems in four domains:

    I. Substance use – frequency of using various substances, amounts consumed, age of initiation;

    II. Health risk behaviour – drug injections, risky sexual intercourse;

    III. Physical and psychological health problems associated with substance use;

    IV. Social problems associated with addictive substance use.

This study used the questionnaire section on substance use. Each subject was asked to circle the number which best described the frequency of use in relation to each of the 11 types of psychoactive substances: 1 – never, 2 – rarely, 3 – sometimes, 4 – often, 5 – always. The intensity of substance use is the sum of the frequencies for individual substances.

Fourteen-day test-retest reliability of the MAP showed that correlation coefficients for each section of the method ranged from 0.68 to 0.98. Cronbach's alpha, calculated for a group of 109 substance-addicted patients was as follows: 0.86 – physical health problems; 0.89 – psychological health problems (Hornowska, 2006).

The study covered four randomly selected upper-secondary schools from the Lublin Province. In each school, four classes were randomly sampled to take part in the study. Participation in the study was voluntary. Interviewers were trained psychology students from the Catholic University of Lublin (KUL). The study covered 307 people, 72% of whom were girls and 28% were boys. Their average age was 17.

Study results

Individuals with problematic Internet use accounted for 8.5% of all respondents. The group of individuals at a high risk of developing Internet addiction included almost 29% of respondents. Moderate risk of Internet addiction was observed in 46% of the subjects. Only 15% of young people were characterised by a low risk of developing Internet addiction. As many as 79% of teenagers drank alcohol with varying frequency. Alcohol was consumed often or always by 13% of respondents. As many as 39% of subjects smoked, and 18% of them did so often or always. As many as 30% of subjects experimented with e-cigarettes. Designer drugs were taken by 4.5% of the subjects, and 23% of respondents

used marijuana, with varying frequency. Sedatives and hypnotics were taken, mainly rarely or sometimes, by 25% of the subjects.

Correlation between Internet use and the risk of substance abuse

Table 1 *Frequency of substance use and problematic Internet use (Spearman's rho)*

	Problematic Internet use (Total Score)	
	rho	p
Alcohol	0.06	0.302
Cigarettes	0.066	0.256
E-cigarettes	0.101	0.081
Designer drugs	0.092	0.113
Marijuana	.129*	0.026
Sedatives/hypnotics	.128*	0.028
Other substances	0.047	0.539

The risk of Internet addiction co-occurs with the risk of marijuana and drug addiction. Own study results show that the study population exhibits a significant correlation between problematic Internet use and the frequency of using marijuana and sedatives and/or hypnotics.

In view of these findings, Hypothesis 1 is supported. Problematic Internet use does co-occur with marijuana use (*rho* = .129).

Hypothesis 2 was not confirmed. Compared to the initial assumption, an inverse correlation was found. There was a significant positive correlation (*rho* = .128*) between problematic Internet use and sedative and/or hypnotic use.

Conclusions

These findings are consistent with the results of the CBOS study (2015) regarding the correlation between the risk of Internet addiction and marijuana use. However, this study did not prove the negative correlation between drug use and the risk of Internet addiction, as reported in the CBOS study (2015).

The results of this study are consistent with the findings of a study by Van Rooij et al., who reported a correlation between the use of cannabinols and the risk of Internet gaming addiction. In addition, the above-mentioned study demonstrated correlations between the excessive use of computer games and alcohol consumption and smoking. Boys who were addicted to computer games were twice as likely to use such substances as nicotine, alcohol, and cannabinols, compared to boys who did not exhibit gaming-related problems (Van Rooij et al., 2014). The fact that, in this study, no correlation was observed between problematic Internet use and alcohol or nicotine use can be due to the choice of the study

group, 70% of which were girls. The positive correlation between problematic Internet use and substance use has also been confirmed by other scholars (Giotakos et al., 2016).

These findings can be used to formulate prevention-oriented guidelines. Prevention measures focusing on behavioural and substance addictions should be implemented to address the individual aspects of each addiction in parallel with the shared ones.

Preventive treatment for people who exhibit problem behaviours or are at a higher risk of addiction should be preceded by a detailed assessment of specific problems experienced by young people and their environment to ensure the accuracy and cost-effectiveness of prevention measures. As shown by the above-mentioned studies, behavioural and substance addictions co-occur more and more often. Certainly, this area requires further detailed and careful study.

References

Adamek, A. (2000). *Substancje psychoaktywne świadomość zagrożeń* (*Psychoactive substances – risk awareness*). Poznań: Wydawnictwo Uczelniane Akademii Medycznej im. Karola Marcinkowskiego w Poznaniu.

American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

Andrzejewska, A. (2014). *Dzieci i młodzież w sieci zagrożeń realnych i wirtualnych. Aspekty teoretyczne i empiryczne* (*Real and virtual threats faced by children and teenagers. Theoretical and empirical aspects*). Warsaw: Wydawnictwo Difin.

Centrum Badania Opinii Społecznej (Public Opinion Research Centre) (2015). *Oszacowanie rozpowszechnienia wybranych uzależnień behawioralnych oraz analiza korelacji pomiędzy występowaniem uzależnień behawioralnych a używaniem substancji psychoaktywnych* (*Estimating the incidence of selected behavioural addictions and assessing the correlations between behavioural addictions and psychoactive substance use*). Warsaw.

Chou, C., & Hsiao, M. C. (2000). Internet addiction, usage, gratification, and pleasure experience: The Taiwan college students' case. *Computers & Education*, *35*, 65–80.

Cierpiałkowska, L. (2006). *Oblicza współczesnych uzależnień* (*Faces of contemporary addictions*). Poznań: Wydawnictwo Naukowe UAM.

Cooper, A., Morahan-Martin, J., Mathy, R. M., & Maheu, M. (2002). Toward an increased understanding of user demographic in online sexual activities. *Journal of Sex & Marital Therapy*, *28*, 105–129.

Evren, C., Dalbudak, E., Evren, B., & Demirci, A. C. (2014). High risk of internet addiction and its relationship with lifetime substance use, psychological and behavioral problems among 10th grade adolescents. *Psychiatria Danubina*, *26*(4), 330–339.

Gała, A., Ulfik, I. (2000). *Oddziaływanie „agresywnych" gier komputerowych na psychikę dzieci* (*Effects of violent computer games on children's psychology*). Lublin: Wydawnictwo Artom.

Giotakos, O., Tsouvelas, G., Spourdalaki, E., Janikian, M., Tsitsika, A., & Vakirtzis, A. (2016). Internet gambling in relation to Internet addiction, substance use, online sexual engagement and suicidality in a Greek sample. *International Gambling Studies*, 1-10.

Heszen, I., & Sęk, H. (2016). *Psychologia zdrowia* (*The psychology of health*). Warsaw: Wydawnictwo Naukowe PWN.

Hornowska, E. (2006). Kwestionariusz MAP (Maudsley Addiction Profile) i jego wykorzystanie w obszarze uzależnień [The Maudsley Addiction Profile (MAP) and its use in the area of addicitons]. *Serwis Informacyjny Narkomania*, *2*, 10–11.

Jakubik, A., & Popławska, J. (2002). Uzależnienie od Internetu (Internet addiction). *Studia Psychologica UKSW*, *3*, 133–142.

Juczyński, Z., Chodkiewicz, J., & Pisarski, A. (2004). *Zachowania ryzykowne i szkodliwe dla zdrowia dzieci i młodzieży. Niepublikowany raport z badań* (*Behaviour that is risky or harmful to children and teenagers. An unpublished study report*). Łódź: Miejski Ośrodek Profilaktyki i Terapii Uzależnień.

Kalinowski, M., Niewiadomska, I., Chwaszcz, J., & Augustynowicz, W. (2010). *Więzi społeczne zamiast więzień. Wsparcie pozytywnej readaptacji osób zagrożonych wykluczeniem społecznym z powodu konfliktu z prawem. Raport z badań z rekomendacjami* (*Social bonds instead of prisons. Supporting positive rehabilitation of people at risk of social exclusion due to having a criminal record. A report from a study on recommendations*). Lublin: Fundacja Rozwoju KUL.

Kaliszewska, K. (2007). *Nadmierne używanie Internetu. Charakterystyka psychologiczna* (*Excessive use of the Internet. Psychological characteristics*). Poznań: Wydawnictwo Naukowe UAM.

Kaltiala-Heino, R., Lintonen, T., & Rimpela, A. (2004). Internet addiction? Potentially problematic use of the Internet in a population of 12–18 years old adolescents. *Addiction Research and Theory*, *1*(12), 89–96.

Kobierzycki, T. (2001). *Ja i Nie-Ja. Syndrom uzależnienia psychologicznego. Model rodziny* (*Me and Not-Me. The psychological addiction syndrome*). Warsaw: Wydawnictwo Stakroos.

Koczaska-Siedlecka, A. (2009). *Młodzież i substancje psychoaktywne* (*Young people and psychoactive substances*). Warsaw: Wydawnictwo Edukacyjne PARPAMEDIA.

Krzyżak-Szymańska, E., & Szymański, A. (2013). *Profilaktyka nowych uzależnień wśród dzieci i młodzieży. Zarys problematyki* (*Prevention of new addictions among children and teenagers. An overview*). Katowice: Górnośląska Wyższa Szkoła Handlowa im. Wojciecha Korfantego.

Leung, L. (2004). Net-Generation attributes and seductive properties of the Internet as predictors of online activities and Internet addiction. *CyberPsychology & Behavior*, *3*(7), 333–348.

Masny, Ł. (2013). *Uzależnienia – przyczyny i terapia* (*Addictions – causes and treatment*). Poznań: Wydawnictwo Polskiej Prowincji Dominikanów.

Matczak, A. (2001). *Kwestionariusz kompetencji społecznych* (*Social skills questionnaire*). Warsaw: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego.

Matuszczak, M. (2000). Używki kradną wolność (Stimulants steal freedom). *Edukacja i Dialog*, *8*, 56–61.

Niewiadomska, I., & Stanisławczyk, P. (2004). *Narkotyki. Fakty i mity* (*Drugs. Facts and myths*). Lublin: Wydawnictwo KUL.

Ogińska-Bulik, N. (2010). *Uzależnienie od czynności. Mit czy rzeczywistość?* (*Behavioural addiction. A myth or reality?*). Warsaw: Wydawnictwo Difin.

Pasek, M. (1998). *Narkotyki! I co dalej...* (*Drugs! And then what?*). Warsaw: Wydawnictwo Toret.

Poprawa, R. (2011). Test problematycznego używania Internetu. Adaptacja i ocena psychometryczna Internet Addiction Test K. Young (The Problematic Internet use test. Adjustment and psychometric assessment of the Internet Addiction Test by K. Young). *Przegląd Psychologiczny*, *54*(2), 193–216.

Przybysz-Zaremba, M. (2008). *Uzależnienie młodzieży od współczesnych mediów* (*Addiction to contemporary technology among young people*). Olsztyn: Oficyna Wydawnicza Prospekt.

Rajewska-Nikonowicz, E. (2011). *Problematyka uzależnień wśród dzieci i młodzieży – skala zjawiska w województwie podlaskim* (*The issue of addictions among children and teenagers – the scale of this phenomenon in the Podlaskie Province*). Białystok: Regionalny Ośrodek Polityki Społecznej w Białymstoku.

Sokołowski, M. (2005). *Oblicza Internetu. Internet a globalne społeczeństwo informacyjne* (*Faces of the Internet. The Internet and the global information society*). Biskupiec: Wydawnictwo Algraf.

State Agency for the Prevention of Alcohol-Related Problems (PARPA) (2002). *Alkohol i narkotyki w życiu polskiej młodzieży – dylematy profilaktyki* (*Alcohol and drugs in the lives of Polish teenagers – prevention considerations*). Warsaw: PARPA.

Śledzianowski, J. (2004). *Uzależnienia wśród dzieci i młodzieży szkolnej na przykładzie województwa świętokrzyskiego* (*Addictions among schoolchildren and teenagers based on the example of the Świętokrzyskie Province*). Kielce: Wydawnictwo Akademii Świętokrzyskiej.

Tadeusiewicz, R. (2002). *Społeczność Internetu* (*The Internet community*). Warsaw: Akademicka Oficyna Wydawnicza EXIT.

Tavolacci, M. P., Ladne, J., Grigioni, S., Richard, L., Villet, H., & Dechelotte, P. (2013). Prevalence and association of perceived stress, substance use and behavioral addictions: a cross-sectional study among university students in France, 2009–2011. *Public Health*, *13*, 724.

Van Rooij, A. J., Kuss, D. J., Griffiths, M. D., Shorter, G. W., Schoenmakers, T. M., & Van de Mheen, D. (2014). The (co-) occurrence of problematic video gaming, substance use, and psychosocial problems in adolescents. *Journal of Behavioral Addictions*, *3*(3), 157–165.

Wallace, P. (2001). *Psychologia Internetu* (*The psychology of the Internet*) (translated by T. Hornowski). Poznań: Rebis.

Woronowicz, B. (2009). *Uzależnienie. Geneza, terapia, powrót do zdrowia* (*Addictions. Development, treatment, recovery*). Warsaw: Wydawnictwo PARPAMEDIA.

Young, K. (2009). *Uwolnić się z sieci. Uzależnienie od internetu* (*Escaping the Web. Internet addiction*). Katowice: Księgarnia św. Jacka.

Zajączkowski, K. (2003). *Uzależnienia od substancji psychoaktywnych* (*Substance addictions*). Warsaw: Wydawnictwo Szkolne i Pedagogiczne Spółka Akcyjna.

Zdziarski, M. (2013). *Uzależnienia behawioralne. Rozmowy z ekspertami* (*Behavioural addictions. Interviews with experts*). Kraków: Instytut Łukasiewicza.

Zimbardo, P. G. (1999). *Psychologia i życie* (*Psychology and life*). Warsaw: Wydawnictwo Naukowe PWN.

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Joanna Chwaszcz

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– epidemiology and treatment

psychoprevention
STUDIES

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– epidemiology and treatment

Part II

Part II
Table of Contents

Combining gambling and internet addiction in one single outlet is a timely initiative for clinicians, health professionals and even the general public. This book, edited by Bernadeta Lelonek-Kuleta and Joanna Chwaszcz, covers a wide range of topics and brings valuable and up to date information. Among the various topics discussed, the readers will learn about risk factors, epidemiology, similarities and differences between behavioral and substance addiction, characteristics and principles of treatment available, self-help issues and the importance of social support in recovery. In one word, this book is a "MUST" for any one interested in gambling and internet addiction. It will not only increase your knowledge on these topics, but will provide some practical skills in coping with gambling and internet addictions. Simply outstanding!

Professor Robert Ladouceur

Chapter 6

The level of perceived social support from an authority figure and the risk of Internet addiction among young people aged 16–19

Agnieszka Pierchała

ABSTRACT

This article discusses the results of an own study conducted on a random sample of 300 young people from upper-secondary schools in Lublin, Poland. It addresses the following exploratory research questions: What is the level of Internet addiction among young people? What kinds of support young people rely on and from whom? Is there any correlation between problematic Internet use and support from social authority figures? The study led to the following conclusions: 1) Only as little as 15% of young people using the Internet do so in a safe manner; 46% of young people are moderately addicted to the Internet; 29% of young people are at a high risk of developing Internet addiction and 8.5% of young people using the Internet are problem users. 2) Young people who experience difficult situations such as an interpersonal conflict or a threat, receive emotional and instrumental support that allows them to find ways to cope with difficult situations. This support is usually provided by parents (mother and/or father) and close friends. 3) In difficult situations, young people who experience difficulties due to their excessive use of the Internet, receive support from priests, parishes and specialist institutions.

Keywords: support, risk of addiction, the Internet, the Web, authority figure

Theoretical background

The use of the Internet by young people

The rapidly developing Internet is now the source of all the information in the world, and the availability of this virtual database is widespread (Hofmokl, 2009, p. 64). Especially

among young people, the Internet is an inseparable element of life that makes it possible to satisfy the majority of social needs and motivations, as well as facilitating everyday activities and entertainment. Moreover, the Web is also a place where new communities and social and cultural norms are created. Teenagers use new technologies every day, and for many of them the Internet has become a natural social environment. According to the Central Statistical Office (GUS) data, in 2007 slightly over 50% of Polish households with children aged 16 had access to the Web, while in 2012 this number was more than 90%. The group that used the Internet were usually schoolchildren and students (aged 16–24); in 2011 they accounted for 99% of all Internet users in Poland (Berezowska et al., 2012).

The frequency and ways of using computers and the Internet show that it is an important part of teenagers' lives, and plays a significant role in their intellectual development, establishment and maintenance of relationships, acquisition of knowledge, entertainment, discovery and development of interests, and use of various services (Wróblewska & Chuchra, 2012). A study conducted in 2012 on a sample of 561 schoolchildren from upper secondary schools across Poland showed that the Internet is now part of teenagers' everyday life. As many as 94.8% of schoolchildren use the Internet every day or almost every day, and only a few do so less than once a week. During the day, 48.8% of respondents use computer for 1 to 2 hours, and 28.2% of respondents use it for 3 to 4 hours, which is a relatively long time. Moreover, 63.4% of schoolchildren declare that, in addition to using computers, they connect to the Internet using their smartphones or mobile phones, which means that some of them are constantly online (Kwiatkowska & Dąbrowski, 2012).

The use of the Web might have either positive or negative impact on the individual. Children and teenagers are particularly easily affected by the Internet. This is due to the fact that they have been using the Internet since their early childhood (*Bezpieczeństwo dzieci w internecie*, 2013). In addition, the widespread availability of, and easy access to, various mobile devices makes it difficult, and sometimes even impossible, for young people to control this activity. This can lead to many negative consequences, including addictions, susceptibility to manipulation, self-damage, violence, etc. (Kirwil, 2011). A Polish study from 2012, conducted on 805 children aged 11–16, identified five symptoms of Internet addiction, based on how likely they are to affect their health (sleep deprivation, food deprivation), learning, interests, possible conflicts and functioning in society, and difficulties in limiting or eliminating this addictive activity. The severity of the addiction was the higher, the more symptoms were observed. In the year prior to the study, as many as 18% to 38% of respondents had observed their first symptoms of addiction. As many as 9% of teenagers aged 11–16 had observed all symptoms. Finally, 18% of respondents declared the presence of serious symptoms, which, due to the excessive use of the Internet, negatively affected their health (sleep and food deprivation) (Kirwil, 2011). The above-mentioned data show the need to support young people in making their use of the Internet conscious and effective.

Social support

Social support is important at all stages of human life, during everyday situations which require that other people be there for you, and during traumatic experiences and difficult times. The need for social support is particularly strong when the personal resources of the individual prove to be insufficient or ineffective (Filipiak, 1999, p. 133). Young people often

differ from their parents and grandparents in terms of their views and values. Previous values have been replaced by new ones, thus changing the prevailing ideals and attitudes to certain aspects of life. Young people now find it difficult to find someone to look up to. This is particularly true if they do not receive support from their close relatives, or even feel lonely, alienated and misunderstood. They look for authority figures in places that might not necessarily offer positive values and constructive ideas. Following a wrong authority (anti-authority) can, consequently, lead to a change in young person's behaviour, as a result of which that person might start to exhibit pathological and deviant behaviour. Educators and pedagogues are facing an enormous challenge concerning the establishment of authority figures who keep up with the times. However, this requires the development of personal role models, starting with teachers and educators themselves (Kowalik, 2006).

Own research methodology

The purpose of own research, conducted on a group of three hundred teenagers aged 16–19, was to determine the risk of developing Internet addiction, identify the types and sources of social support received by young people, including in particular the role of social authority figures in supporting young people, and to identify any correlations between the risk of developing Internet addiction and support from authority figures, such as priests and teachers. The following research questions were addressed:

1. What is the risk of developing Internet addiction among upper-secondary school children?
2. What type of support is received by teenagers in difficult situations such as a conflict or a threat, and where does this support come from?
3. Is there any correlation between problematic Internet use and the type and source of support received by teenagers?
4. What authority figures provide support to teenagers who face problems in relation to Internet use?

Specialised research tools were used to verify the proposed hypotheses:

The Problematic Internet Use Test (TPUI22) by R. Poprawa, developed on the basis of the Internet Addiction Test by K. Young, which operationalises the descriptive definition and criteria of Internet use. The test diagnoses 8 symptoms of addiction (based on gambling addiction criteria used in the DSM-IV), with at least 5 symptoms required to be detected in the past year:

- is preoccupied with the Internet,
- needs to remain online for increasing amounts of time,
- has repeated unsuccessful efforts to control their Internet use,
- experiences negative affects when attempting to cut down Internet use,
- has problems with managing (controlling) their online time,
- has experienced environmental stress, personal problems, and social relationship conflicts as a result of their preoccupation with Internet use,
- lies and uses other forms of manipulation in relation to their immediate environment, in order to conceal the extent of involvement with Internet use,
- uses the Internet as a way of regulating their emotions.

The test comprises 22 questions to be answered by respondents using the following six-point scale: 0 – not applicable, 1 – sporadically, 2 – seldom, 3 – sometimes, 4 – often, 5 – always. The internal consistency of the test expressed using Cronbach's alpha is 0.94 (Poprawa, 2011).

Social Support Questionnaire (KWS) by I. Niewiadomska. This method is based on a few assumptions. Firstly, when under stress, people rely on social support to varying degrees as a "buffer" for the negative consequences of stress. This buffer theory suggests that the perception and reception of social support, when faced with great stress, protects the individual against pathology in physiological, mental and/or social functioning. In the Social Support Questionnaire (KWS), social support is assessed by respondents on the basis of their attitude to 7 difficult (stressful) situations:

1. deprivation of biological and mental needs,
2. excessive physical and/or mental load,
3. physical and/or mental suffering,
4. interpersonal conflicts,
5. feeling of threat,
6. frustration in relation to the pursuit of goals,
7. novelty of stimuli.

The questionnaire identifies two categories of support providers relied on in difficult situations:

- persons who can help the individual solve their problems (9 types) – mother, father, siblings, relatives, girlfriend/boyfriend, friends, teachers, priests, other people;
- institutions that can help in problem situations (3 types) – school, parish, other institutions. This method also distinguishes between the types of help received in difficult situations. Respondents assessed the intensity of support received at the following levels (Sęk & Cieślak, 2004, p. 18–19):
   1. emotional – feelings of comfort and increased self-esteem, and emotions reflecting care, attention and sense of belonging;
   2. informational – associated with receiving information facilitating a better understanding of the circumstances and life situation, and providing feedback on the effectiveness of coping measures taken by the supported individual;
   3. instrumental – involving advice on specific methods of dealing with a particular situation, which is a form of providing guidance on effective coping strategies;
   4. economic – financial or in-kind aid for the person in need.

The answer scale in the questionnaire is based on the choice of the appropriate frequency: 1 – never, 2 – very infrequently, 3 – sometimes, 4 – often, 5 – very often.

The study was conducted between October 2015 and April 2016 among upper-secondary school children from Lublin (Lubelskie Province), Poland. The study covered four randomly selected upper-secondary schools from the Lublin Province. In each school, four classes were randomly selected to take part in the study. Participation in the study was voluntary. Interviewers were trained psychology students. The study covered 307 subjects, but not all of them answered all questions in the study questionnaires. Demographic data was obtained on the basis of interviews, which included 10 questions concerning the following areas:

A. Sociodemographic data – gender, age, place of residence;

B. Family of origin – family structure, financial situation of the family, economic migration;

C. Information concerning substance use – addiction in the family, frequency of substance use.

Own research results

The study provided answers to the research questions asked above.

The first step in the assessment was the analysis of teenager structure in terms of Internet addiction.

Table 1 *Descriptive statistics concerning problematic Internet use*

	N	Minimum	Maximum	Mean	Standard deviation
Problematic Internet use (total score)	303	0.00	110.00	30.1320	20.26993
N valid (listwise)	303				

Table 2 *Categories of problematic Internet use*

		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	no or low risk	47	15.3	15.5	15.5
	moderate risk	142	46.3	46.9	62.4
	high risk	88	28.7	29.0	91.4
	individuals with problematic Internet use	26	8.5	8.6	100.0
	Total	303	98.7	100.0	
No data	Systemic lack of data	4	1.3		
Total		307	100.0		

Individuals with problematic Internet use accounted for 8.5% of all respondents. The group of individuals at a high risk of developing Internet addiction included almost 29% of respondents. Moderate risk of Internet addiction was found in 46% of the subjects. Only 15% of young people were characterised by a low risk of developing Internet addiction.

The next step was to analyse the support received by young people in conflict and threat situations.

Table 3 *Support received in interpersonal conflicts*

	Median
How often have you received the following types of support in situations, in which you have been in conflict with other people:	
a) information to improve your understanding of the situation	2.859
b) emotional support	3.316
c) possible ways of solving your problems	3.156
d) economic support (e.g. money, food, blanket)	1.944
How often have you received support from the following people in situations, in which you have been in conflict with other people:	
a) mother	4.234
b) father	3.563
c) siblings	3.155
d) relatives	2.447
e) girlfriend/boyfriend	2.491
f) friends	2.857
g) close friends	3.938
h) teachers	1.513
i) priests	1.233
j) other people	1.317
k) school	1.307
l) parish	1.191
m) other institutions	1.209

When faced with interpersonal conflicts, young people usually experience emotional and instrumental support regarding possible ways of dealing with the situation. Persons who are the most likely to provide support to young people in conflict situations are mothers, close friends, fathers and siblings.

Table 4 *Support received in threat situations*

	Median
How often have you received the following types of support in situations, in which you felt threatened:	
a) information to improve your understanding of the situation	2.720
b) emotional support	3.297
c) possible ways of solving your problems	3.097
d) economic support (e.g. money, food, blanket)	1.856

	Median
How often have you received support from the following people in situations, in which you felt threatened:	
a) mother	4.312
b) father	3.825
c) siblings	3.212
d) relatives	2.500
e) girlfriend/boyfriend	2.102
f) friends	2.796
g) close friends	3.767
h) teachers	1.522
i) priests	1.276
j) other people	1.331
k) school	1.345
l) parish	1.222
m) other institutions	1.228

In difficult situations, when young people feel threatened, they usually receive emotional and instrumental support to identify the possible ways of dealing with or handling the situation. Such support generally comes from their mothers, fathers and close friends.

Subsequently, statistical analysis was performed in relation to the correlations between the support received by young people and young people's involvement with Internet use.

Table 5 *Support in handling interpersonal conflicts and problematic Internet use (Spearman's rho)*

	Problematic Internet use (total score)	
	rho	p
How often have you received the following types of support in situations, in which you were in conflict with other people:		
information to improve your understanding of the situation	0.016	0.788
emotional support	−0.025	0.667
possible ways of solving your problems	−0.005	0.934
economic support (e.g. money, food, blanket)	0.054	0.355
How often have you received support from the following people in situations, in which you were in conflict with other people:		
mother	−0.063	0.282
father	−0.007	0.912
siblings	−0.101	0.09

	Problematic Internet use (total score)	
	rho	p
relatives	−0.055	0.344
girlfriend/boyfriend	−0.03	0.618
friends	0.015	0.799
close friends	0.011	0.851
teachers	0.016	0.785
priests	0.127*	0.03
other people	0.107	0.067
school	0.037	0.531
parish	0.103	0.078
other institutions	0.062	0.301

No significant correlation was found between the type of support received in conflict situations and problematic Internet use. A significant correlation was observed between problematic Internet use and support from priests in interpersonal conflict situations. This correlation can be interpreted as follows – in interpersonal conflicts, problematic Internet users are likely to receive support from clergymen. Such support from a priest might involve both individual advice (e.g. during confession) and group guidance (e.g. during religious instruction).

Table 6 *Support in threat situations and problematic Internet use (Spearman's rho)*

	Problematic Internet use (total score)	
	rho	p
How often have you received the following types of support in situations, in which you felt threatened:		
information to improve your understanding of the situation	0.011	0.849
emotional support	−0.037	0.53
possible ways of solving your problems	−0.005	0.938
economic support (e.g. money, food, blanket)	0.054	0.36
How often have you received support from the following people in situations, in which you felt threatened:		
mother	−0.028	0.626
father	−0.019	0.744
siblings	−0.056	0.343
relatives	−0.008	0.892
girlfriend/boyfriend	0.01	0.872
friends	0.056	0.338
close friends	0.01	0.86

	Problematic Internet use (total score)	
	rho	p
teachers	0.081	0.168
priests	0.141*	0.015
other people	0.112	0.056
school	0.081	0.167
parish	0.135*	0.021
other institutions	0.116*	0.048

No significant correlation was found between the type of support received in threat situations and problematic Internet use. A significant correlation was observed between problematic Internet use and support from priests, parishes and other institutions, as received by teenagers in threat situations. This correlation can be interpreted as follows – in situations that cause anxiety, problematic Internet users receive support from priests, parishes and specialist institutions.

Conclusions

The study, conducted on upper-secondary school children, led to the following conclusions: 1) only as little as 15% of young people using the Internet do so in a safe manner, 46% of young people are moderately addicted to the Internet, 29% of young people are at a high risk of developing Internet addiction, and 8.5% of young people using the Internet are likely to exhibit addiction symptoms; 2) young people who experience difficult situations, such as an interpersonal conflict or a threat, receive emotional and instrumental support that allows them to find ways to cope with difficult situations. This support is usually provided by parents (mother and/or father) and close friends; 3) in difficult situations, young people who experience difficulties due to their excessive use of the Internet, receive support from priests, parishes and specialist institutions.

According to a study conducted in Poland by Orange on 500 children aged 10–15, only 4% would ask a teacher for help if they had an unpleasant experience on the Internet, and 74% of respondents relied on their parents. Priests were not included in that study (*Bezpieczeństwo dzieci w internecie*, 2013). A study by M. Chuchra explored correlations between teenagers' Internet activity and family factors, such as conflicts with parents, mental abuse from parents, and alcohol addiction of a family member. The study, conducted on a group of 67 students aged 20–25, showed that the strongest determinant of young people's Internet activity is alcohol dependence of a family member, followed by mental abuse in the family, with presence of conflicts ranking as the weakest determinant. Students who satisfy their needs for interaction and improved self-esteem on the Internet, come mainly from dysfunctional families (Chuchra, 2014).

Possible prevention measures:

1. Support from the family (mother, father) and close friends is a factor that protects teenagers from developing Internet addiction. Preventive measures should support the

family in its roles associated with development and coping. Indeed, a healthy family provides natural support for young people.

2. The position of authority figures other than family members, such as teachers, needs to be strengthened as part of the prevention of behavioural addictions (including Internet addiction). When faced with difficult situations associated with Internet use, young people rely on support from priests, parishes and assistance institutions (counselling centres, associations that provide such support services), but not schools or teachers. However, teachers see children frequently and are able to notice disturbing symptoms and provide support. Nevertheless, this requires appropriate knowledge and skills concerning support provision. Teachers play an important role, especially for children and teenagers from dysfunctional families, in which parents fail to fulfil their functions.

References

Berezowska, J., Huet, M., Kamińska, M., Kwiatkowska, M., Rozkrut, D., & Zych, A. (2012). *Społeczeństwo Informacyjne w Polsce. Wyniki badań statystycznych z lat 2007–2011* (*Information society in Poland. Results of statistical studies from 2007–2011*). Warsaw.

Bezpieczeństwo dzieci w internecie. Raport z badań jakościowych i ilościowych (*Children safety in the Internet. A qualitative and quantitative study report*). (2013). Badanie zrealizowane przez TNS na zlecenie Orange Polska we współpracy z Fundacją Orange i Fundacją Dzieci Niczyje (A study conducted by TNS at the request of Orange Poland in cooperation with the Orange Foundation and the Empowering Children Foundation). Warsaw, https://panoptykon.org/files/bezpieczenstwo_dzieci_w_internecie_2013.pdf, accessed on 27 March 2016.

Chuchra, M. (2014). Wybrane symptomy dysfunkcjonalności rodziny a aktywność studentów w Internecie (Selected characteristics of a dysfunctional family and Internet activity among students). Medical University of Lublin. *Current Problems of Psychiatry*, *15*(2), 74–77.

Filipiak, G. (1999). Funkcja wsparcia społecznego w rodzinie (Social support function within the family). *Roczniki socjologii rodziny XI UAM* (*Annals of family sociology*). Poznań.

Hofmokl, J. (2009). *Internet jako nowe dobro wspólne* (*The Internet as a common good*). Warszawa: Wydawnictwa Akademickie i Profesjonalne.

Kirwil, L. (2011). *Polskie dzieci w Internecie. Zagrożenia i bezpieczeństwo – część 2. Częściowy raport z badań EU Kids Online przeprowadzonych wśród dzieci w wieku 9-16 lat i ich rodziców* (*Polish children on the Internet. Risks and safety – Part 2. Partial report on the EU Kids Online study conducted among children aged 9–16 and their parents*). Warsaw, http://eprints.lse.ac.uk/46445/1/PolandReportPolish.pdf, accessed on 27 March 2016.

Kowalik, S. (2006). Czy potrzeba nam autorytetów na świecie? (Do we need authority figures in the world?) *Ruch prawniczy, ekologiczny i socjologiczny* (*Legal, ecological and sociological perspectives*), *68*(2), 192–205.

Kwiatkowska, D., & Dąbrowski, M. (2012). Nowoczesne technologie w rozwoju szkół ponadgimnazjalnych – wyniki badań "e-mentor" (Advanced technologies in the development of upper-secondary schools – results of the "e-mentor" study). *e-mentor*, *3*(45).

Poprawa, R. (2011). Test problematycznego używania Internetu. Adaptacja i ocena psychometryczna Internet Addiction Test K. Young (Problematic Internet Use Test. Adaptation and psychometric assessment of K. Young's Internet Addiction Test). *Przegląd Psychologiczny* (*Psychological Review*), *54*(2), 193–216, http://www.kul.pl/files/714/nowy_folder/2.54.2011_art.5.pdf.

Sęk, H., & Cieślak, R. (2004). Wsparcie społeczne – sposoby definiowania, rodzaje i źródła wsparcia, wybrane koncepcje teoretyczne (Social support – approaches to its definition,

types, sources, and selected theoretical concepts). In H. Sęk, R. Cieślak (eds.), *Wsparcie społeczne, stres i zdrowie* (*Social support, stress and health*). Warsaw: Wyd. Nauk. PWN.

Wróblewska, M., & Chuchra, M. (2012). Intensywność korzystania z Internetu i funkcjonowanie w szkole młodzieży licealnej (The intensity of Internet use and school performance among secondary school children). *Current Problems of Psychiatry*, *13*(3), 160–168.

Chapter 7

Perception of support and the risk of Internet addiction in young people

Iwona Niewiadomska, Joanna Chwaszcz, Aleksandra Kłembokowska, Ewa Nosal

ABSTRACT

The article verifies empirically the hypothesis that young people who are more likely to develop Internet addiction are characterised by lower levels of perceived social support than individuals who are less likely to become Internet addicts. Involvement with Internet use was determined using the Problematic Internet Use Test (TPUI22) by R. Poprawa, developed on the basis of the Internet Addiction Test by K. Young. The perception of support was assessed on the basis of the Social Support Questionnaire (KWS) by I. Niewiadomska. The tests were conducted on a random group (307 individuals) of young people aged 15–20. In difficult situations, young people receive support mainly from their parents (mother, father) and friends. This is emotional and instrumental support. No significant correlations were found between the support received by young people when they experience frustration or situations involving physical or mental pain, and problematic Internet use. A negative correlation was observed between problematic Internet use by young people and support from their mothers in overload situations. A positive correlation was found between problematic Internet use and support from priests, parishes and institutions in difficult situations involving interpersonal conflicts, such as threats or obstacles to the accomplishment of one's goals.

Keywords: support, perception of support, internet addiction, Problematic Internet Use Test, Social Support Questionnaire, young people

Research background

This article addresses the issue of the relationship between perceived social support from family and peer group, and the risk of Internet addiction in young people aged 16–19.

Social support

Studies on broadly defined social support started in the 1970s, and even though this notion is intuitively well understood, social scientists have not agreed on its definition yet (Szlachta, 2009, p. 434). There are many difficulties in relation to the standardisation of the definition. Major problems include the multifaceted nature of the notion and the practical character of attempts at its definition (Szymańska & Sienkiewicz, 2011, p. 550; Szlachta, 2009, p. 434). The multifaceted nature of the notion requires that it be considered from a number of perspectives, e.g., by taking its structural aspect into account. From this point of view, social support involves "objectively existing and available social networks, which differ from other networks in that, as a result of bonds, social interactions and affiliations, they serve to provide help to individuals who have found themselves in a difficult situation (...), in other words, they support the well-being of their members" (Kurowska & Frąckowiak, 2010, pp. 101–107). Social networks that can provide individuals with support include natural and formal groups, and various institutions. It needs to be noted that natural sources of support, such as family and close friends, are more effective than institutionalised support. This might be due to the fact that in the above-mentioned groups, mutual help is natural and voluntary, and it does not involve any additional costs or stigmatisation of the individual, while also being more readily available (Marszałek, 2009, p. 202).

Based on its function, social support can be considered as:

- expected help available to the individual, or a group, in difficult, stressful or critical situations that the individual is unable to handle on their own;
- an attitude of support in regaining the lost mental balance, or of preventing various situations that can cause such an imbalance;
- a message that allows the individual to become aware that they are respected and cared for, or that they function as a member of a specific network of communication and responsibility for one another;
- resources provided by other people, help in coping, or the exchange of resources during social interactions (Szymańska & Sienkiewicz, 2011, pp. 550–553).

Based on the different functions fulfilled by the members of a social support network, the following types of social support can be identified (Szymańska & Sienkiewicz, 2011, p. 552):

- Emotional support – based on the expression of emotions, expressing care or sympathy, and showing understanding and acceptance to the supported individual.
- Informational support – involves the provision/exchange of information about the situation in order to improve its understanding and facilitate coping.
- Instrumental support – involves the exchange of information about the ways of coping with the difficult situation.
- Tangible support – involves the provision of a concrete, specific financial or in-kind aid.
- Appraisal support – focuses on showing the individual how valuable they are, e.g., by showing them respect or emphasising their acceptance.
- Spiritual support – involves the provision of information, as well as understanding and empathy in difficult situations in life.

Social support is a significant resource of each individual, and its importance is appreciated particularly in difficult situations. There are five major types of such situations, namely:

- deprivation (situations in which the individual is deprived of basic necessities required for normal functioning; as a result, their needs cannot be satisfied);
- overload (situations in which the task at hand is beyond the physical, mental or intellectual capabilities of the individual; such situations lead to fatigue and discouragement);
- difficulty (situations in which the individual is unable to perform the task due to partial lack of the necessary financial or informational resources);
- conflict (situations in which the choice of one goal prevents the individual from achieving another one, and causes prolonged mental stress);
- threat (situations in which the individual is very likely to loose something very valuable, such as their life, health or social status) (Tomaszewski, 1984, p. 142).

In addition, the literature on the subject identifies perceived support (related to the individual's beliefs about the availability of various forms of support, such as emotional or informational support), received support (related to the forms of support received by the individual) and provided support (related to the forms of support provided to a specific individual). Perceived social support is a personal resource of the individual, and it is used in different ways, depending on their individual characteristics. The availability of an extensive and robust social support network is particularly important in situations that are difficult for the individual, and ones that cause stress or are uncomfortable for the individual in one way or another. Therefore, for the individual to develop in a healthy way, it is important to have a vast social support network during adolescence, when they experience rapid social development (Obuchowska, 2007, pp. 186–196; Domagała-Zyśk, 2004, p. 90). Social support can contribute considerably to well-being, as it satisfies fundamental human needs, such as the need for safety, and is associated with health and life satisfaction (Bojanowska, 2010, pp. 99–112). Clinical study findings show that persons with poor social support are the most likely to suffer from physical disorders (heart attack, stomach ulcers, rheumatism, neoplasms) and mental disorders (schizophrenia, personality disorders, depressions) (Kózka & Lenartowicz, 2010). Individuals that can count on their close friends' support are less likely to show aggressive behaviour and tend to have less problems at school (Ostaszewski, Rustecka-Krawczyk & Wójcik, 2009, pp. 39–40).

A number of studies have confirmed that individuals who have a loving family, many close friends, and are members of various clubs or organisations, tend to enjoy better health and are better at coping with difficult or stressful situations (Kózka & Lenartowicz, 2010). Broadly defined, social support is help available to the individual in difficult situations (Saranson, 1982, as cited in Sęk & Cieślak, 2004). It ensures that the needs of the individual are satisfied by their significant others and reference groups (Caplan, 1981, Saranson, 1980, as cited in Sęk & Cieślak, 2004). In a way, social support is the by-product of one's membership of a social network. The presence of other people and the support received from them play a special role in the functioning of young people during their adolescence. Social support is an important developmental factor that is the predictor of one's success in future, adult life. While acknowledging the broad spectrum of social support, we focused on family and peer support. Family is children's primary educational environment that shapes their emotions and attitudes, and plays a huge role in creating their system of values, norms and behaviour

patterns (Olejniczak, 2013, pp. 183–188). Another group that is important for one's development is one's peer group. From time to time, it replaces parents and teachers in their role as authorities, and satisfies important development needs of young people. Peer relations provide a blueprint for relationships in one's adult life.

Involvement in online activity

Nowadays, the majority of people take advantage of the benefits offered by the Internet. A study conducted in 2016 shows that there are 3.419 billion Internet users worldwide (We Are Social). You can now shop, make calls, send e-mails, check bus timetables, book cinema and theatre tickets, expand your knowledge and meet people in the comfort of your own home. The majority of young people "have an online presence", similar to the one they have in the real world. However, the above-mentioned benefits can also be dangerous. Now, Internet addiction is becoming a more and more frequent phenomenon. It is also referred to as compulsive Internet use (CIU), cyber-dependence, cyber-addiction, information-dependence, and Internet-dependence (Jarczyńska & Orzechowska, 2014, p. 122). It is manifested in the excessive use of the Internet, which dominates human activity. Regardless of whether the individual goes online to search for information, communicate, send e-mails, watch films, or listen to music, each of these activities can lead to addiction. Behavioural addictions include TV, computer, Internet, gaming (video and computer games), slot machine and mobile phone addictions (Griffiths, 2004, p. 10). A. Hoall and J. Persons argue that pathological Internet use can damage cognitive functions, and lead to behavioural and other disorders (Przybysz-Zaremba, 2008, p. 10). Classifications developed by the American Psychiatric Association (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, or DSM-IV) and the World Health Association (WHO) consider problems related to psychoactive substance use as addictions. As a result, they provide clearly defined diagnostic criteria and the related terminology. Internet addiction is not included in the above-mentioned classifications, and of all behavioural addictions, only pathological gambling is provided with diagnostic criteria. In response to the needs identified during their practice, addiction specialists have made attempts to define and operationalise the phenomena they encounter (including Internet addiction) (Lelonek-Kuleta, 2014, p. 17).

The development of Internet addiction comprises the following stages, as identified by K. Young (Kozak, 2014, p. 128; Przybysz-Zaremba, 2008, pp. 13–14):

- Involvement – the individual discovers the Internet and the opportunities it offers. During this stage, the individual is fascinated by the new reality, and excited to see what might happen in it. The individual might be trying to use it to overcome loneliness or boredom.
- Replacement – the individual feels the need to continue online interactions to maintain life balance and reduce discomfort. They start to abandon their real life in favour of the internet community. They start to think frequently about the Internet and online activities, even during real-life interactions.
- Escape – the addiction intensifies. The individual feels the urge to remain online for longer and longer periods of time. The Internet becomes a way to escape from everyday life and its problems that are becoming more and more serious. Symptoms of depression, loneliness and pangs of conscience due to neglected responsibilities (also

in relation to one's family), all exacerbate. After they stop using the Internet, addicts experience withdrawal symptoms (similarly to, e.g., alcoholics).

Internet addiction, as described above, is found especially among children, teenagers and young adults (Jarczyńska & Orzechowska, 2014, p. 123).

As mentioned earlier, uniform diagnostic criteria are yet to be developed for Internet addiction, as neither DSM-IV nor ICD-10 provide such criteria. The new version of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V), lays down diagnostic criteria for Internet gaming disorder (Wąsowicz & Styśko-Kunowska, 2014, p. 48). According to DSM-V (2013), gaming addiction can be weak, moderate or strong (depending on the degree, to which normal activity is disturbed). Persons with weak addiction show less symptoms and function better in everyday life, compared to persons with stronger addictions, who spend more time playing and suffer greater losses in their social and professional lives (Wąsowicz & Styśko-Kunowska, 2014, p. 48).

A number of studies have shown that Internet overuse affects human relationships. Individuals who spend more and more time in front of a computer, have less and less time for their family and friends. Initially, the Internet becomes a way to escape from everyday life, a retreat from problems and concerns. Over time, Internet use leads to the negligence of household chores, work and family (Czarnecki, Kowalski & Schultz, 2011, p. 107).

Methodology

Problem and hypotheses

The following research questions were addressed:

Is there a correlation between social support from peers and involvement in online activity? and

Is there a correlation between social support from family and involvement in online activity?

In order to address these questions, the following research hypotheses were formulated:

H1: Experience of social support from peers shows negative correlation with involvement in online activity.

H2: Experience of support from family shows negative correlation with involvement in online activity.

The hypotheses were formulated on the basis of previous research, which shows that social support networks established during AA meetings have positive impact on one's ability to cope with difficult situations and to maintain abstinence (Bronowski, 2000, p. 345). This gave rise to the hypothesis that considerable social support might minimise the risk of Internet addiction.

The literature on the subject emphasises the importance of having close friends, as a factor that protects the individual in various difficult and/or stressful situations (Ostaszewski, Rustecka-Krawczyk & Wójcik, 2009, p. 39). Close friends are an important element in in-

dividual adjustment. Close peer relations, including close friends, are the predictor of good social and cognitive development of adolescents (Domagała- Zyśk, 2004, pp. 80–81).

H3: Poor experience of support from family shows positive correlation with involvement in online activity.

Previous studies suggest that Internet addicts limit their interactions with other people, thus restricting their social support network. Both close family and friend relations, and broadly defined peer relations deteriorate (Filip, 2013, p. 92). Moreover, social isolation is considered to be one of the risk factors for Internet addiction (Makaruk & Wójcik 2013, p. 37). This data show a significant relationship between the risk of Internet addiction and the experience of insufficient social support.

Research tools

The study used Socio-demographic data; the Problematic Internet Use Test (TPUI22) by R. Poprawa (2011), designed to identify teenagers' involvement in online activity; and the Social Support Questionnaire (KWS) by I. Niewiadomska.

Due to the general availability of those methods, only the questionnaire developed by Niewiadomska is described below. The Social Support Questionnaire is based on a few assumptions. Firstly, when under stress, people rely on social support to varying degrees as a "buffer" for the negative consequences of stress. This buffer theory suggests that the perception and reception of social support, when faced with great stress, protects the individual against pathology in physiological, mental and/or social functioning. In the Social Support Questionnaire (KWS), social support is assessed by respondents on the basis of their attitude to 7 difficult (stressful) situations:

- deprivation of biological and mental needs,
- physical and/or mental overload,
- physical and/or mental suffering,
- interpersonal conflicts,
- feeling of threat,
- frustration in relation to the pursuit of goals,
- novelty of stimuli.

The focus on social support in stressful situations is due to the fact that the perception of difficult situations has special importance for human functioning, as it affects the relationship between the individual and their milieu, causing imbalance that leads to psychological stress (Sęk, 1993, p. 489; Steuden, 1997, p. 77). The assessment of interpersonal support from the perspective of the subjects' experience of difficult situations is also based on the fact that the Questionnaire refers to the transactional model of stress, which stipulates that mental load does not directly depend on either the stressor or the person experiencing stress, but rather it is the product of the individual's assessment of the situation in the context of their adjustment to the environment (Szczepaniak, Strelau & Września, 1996, pp. 188–189). The buffer function of support relations in situations perceived as difficult can have various forms, depending on the stress component mitigated by social support. Its role can be to change the primary appraisal made as part of one's stress response, e.g., the individual stops perceiving the situation as a loss or threat, and starts viewing it as a challenge. The

protective function of support can also manifest itself during secondary appraisal, e.g., as a result of the obtained information, the individual changes their opinion about their own competence, gains insight into their own abilities, starts feeling more resourceful, and, as a result, deals with the problem in a more effective manner. The buffer function of support relations can also involve the reduction of mental stress or mitigation of the negative effects of stress (Sęk & Cieślak, 2004, pp. 26–27; Sęk, 2005, p. 93). The questionnaire identifies two categories of support providers relied on in difficult situations:

- persons who can help the individual solve their problems (9 types) – mother, father, siblings, relatives, girlfriend/boyfriend, friends, teachers, priests, other people;
- institutions that can help in problem situations (3 types) – school, parish, other institutions.

In addition to each category of support providers, the Social Support Questionnaire (KWS) provides numbers that reflect the frequency of using the support from that person or institution in specific difficult situations (deprivation of needs, overload, suffering, threat, conflict, frustration, novel situation) 1 – never, 2 – very infrequently, 3 – sometimes, 4 – often, 5 – very often.

The Questionnaire also distinguishes between the types of help received in difficult situations. Respondents assessed the intensity of support received at the following levels (Sęk & Cieślak, 2004, pp. 18–19):

- emotional – feelings of comfort and increased self-esteem, and emotions reflecting care, attention and sense of belonging;
- informational – associated with receiving information facilitating a better understanding of the circumstances and life situation, and providing feedback on the effectiveness of coping measures taken by the supported individual;
- instrumental – involving advice on specific methods of dealing with a particular situation, which is a form of providing guidance on effective coping strategies;
- economic – financial and/or in-kind aid for the person in need.

In addition to each type of social support, the Social Support Questionnaire (KWS) provides numbers that reflect the frequency of using the support from that person or institution in specific difficult situations (deprivation of needs, overload, suffering, threat, conflict, frustration, novel situation) 1 – never, 2 – very infrequently, 3 – sometimes, 4 – often, 5 – very often.

Study methodology and study group characteristics

The study was conducted in four upper-secondary schools of general education, located in Lublin, Poland. In each of the schools, 4 classes were randomly selected as the study group. Participation in the study was voluntary. The study covered 307 subjects, but not all of them answered all questions in the study questionnaires.

As many as 72% of the study group were girls, and 28% were boys. The majority of the subjects live in cities (57%), 31% come from rural areas, and 12% from towns. The subjects were aged 15–20. Average age in the group was 17 years. A considerable majority of the subjects lived in complete families (79%), and 21% in single-parent families.

Study results

Own study results are presented as follows: the characteristics of Internet use by the study group, a description of the structure of support received by the subjects, and a description of correlations between problematic Internet use and social support received within the study group.

Problematic Internet use by young people

Table 1 *Categories of problematic Internet use*

	Frequency	Percentage	Valid percentage	Cumulative percentage	
Valid	No or low risk	47	15.3	15.5	15.5
	Moderate risk	142	46.3	46.9	62.4
	High risk	88	28.7	29.0	91.4
	Individuals with problematic Internet use	26	8.5	8.6	100.0
	Total	303	98.7	100.0	
No data	Systemic lack of data	4	1.3		
Total	307		100		

The data in the table above show that 8.5% of the studied young people are problematic Internet users. Moreover, almost 30% of the subjects are at a high risk of developing Internet addiction. Moderate risk of problematic Internet use was found in 46% of the subjects. Only 15% of the young people showed no or very small risk of Internet addiction.

Social support received by young people

Table 2 *Social support received in frustrating situations resulting from the inability to satisfy one's needs*

	Median
1. How often have you received the following types of support in situations, in which your fundamental needs have not been satisfied (e.g., you were sleepy, cold, etc.):	
a) information to improve your understanding of the situation	2.835
b) emotional support	3.269
c) possible ways of solving your problems	3.113

	Median
d) economic support (e.g. money, food, blanket)	3.268
2. How often have you received support from the following the following people in situations, in which your fundamental needs have not been satisfied (e.g., you were hungry, or needed sleep or care, etc.):	
a) mother	4.590
b) father	4.016
c) siblings	3.214
d) relatives	2.926
e) girlfriend/boyfriend	2.735
f) friends	3.231
g) close friends	4.084
h) teachers	1.826
i) priests	1.319
j) other people	1.590
k) school	1.531
l) parish	1.232
m) other institutions	1.254

In deprivation situations, young people receive support mainly from their parents (mother, father) and close friends. Generally, this is emotional, instrumental (concerning solution to the problem) or economic support.

Table 3 *Support received in overload situations*

	Median
How often have you received the following types of support in situations, in which you have performed tasks that were beyond your physical or mental capabilities:	
a) information to improve your understanding of the situation	2.837
b) emotional support	3.228
c) possible ways of solving your problems	3.179
d) economic support (e.g. money, food, blanket)	2.589
How often have you received support from the following people in situations, in which you have performed tasks that were beyond your physical or mental capabilities:	
a) mother	4.260
b) father	3.675
c) siblings	3.190
d) relatives	2.545
e) girlfriend/boyfriend	2.922
f) friends	3.000
g) close friends	3.804
h) teachers	1.814

	Median
i) priests	1.284
j) other people	1.413
k) school	1.452
l) parish	1.212
m) other institutions	1.223

In overload situations, young people generally receive emotional or instrumental support concerning the possible solutions to the difficult situation. Such support is usually provided by mothers, friends and fathers.

Table 4 *Support received in situations involving physical or mental pain*

	Median
How often have you received the following types of support in situations, in which you had to endure physical or mental pain (e.g., humiliation, shame, physical violence):	
a) information to improve your understanding of the situation	2.339
b) emotional support	3.130
c) possible ways of solving your problems	2.802
d) economic support (e.g. money, food, blanket)	1.909
How often have you received support from the following people in situations, in which you had to endure physical or mental pain (e.g., humiliation, shame, harm):	
a) mother	4.256
b) father	3.457
c) siblings	3.020
d) relatives	2.395
e) girlfriend/boyfriend	2.133
f) friends	2.631
g) close friends	3.723
h) teachers	1.568
i) priests	1.224
j) other people	1.337
k) school	1.347
l) parish	1.192
m) other institutions	1.204

In situations involving mental or physical pain, young people usually receive emotional support from their mothers. Close friends, fathers and siblings ranked lower.

Table 5 *Support received in interpersonal conflict situations*

	Median
How often have you received the following types of support in situations, in which you have been in conflict with other people:	
a) information to improve your understanding of the situation	2.859
b) emotional support	3.316
c) possible ways of solving your problems	3.156
d) economic support (e.g. money, food, blanket)	1.944
How often have you received support from the following people in situations, in which you have been in conflict with other people:	
a) mother	4.234
b) father	3.563
c) siblings	3.155
d) relatives	2.447
e) girlfriend/boyfriend	2.491
f) friends	2.857
g) close friends	3.938
h) teachers	1.513
i) priests	1.233
j) other people	1.317
k) school	1.307
l) parish	1.191
m) other institutions	1.209

When faced with interpersonal conflicts, young people usually receive emotional and instrumental support. Such support is usually provided by mothers, close friends, fathers, and siblings.

Table 6 *Support received in threat situations*

	Median
How often have you received the following types of support in situations, in which you felt threatened (were afraid of something or somebody):	
a) information to improve your understanding of the situation	2.720
b) emotional support	3.297
c) possible ways of solving your problems	3.097
d) economic support (e.g. money, food, blanket)	1.856
How often have you received support from the following people in situations, in which you have felt threatened (were afraid of something or somebody):	
a) mother	4.312

	Median
b) father	3.825
c) siblings	3.212
d) relatives	2.500
e) girlfriend/boyfriend	2.102
f) friends	2.796
g) close friends	3.767
h) teachers	1.522
i) priests	1.276
j) other people	1.331
k) school	1.345
l) parish	1.222
m) other institutions	1.228

In threat situations, young people receive emotional and instrumental support. Such support comes from their mothers, fathers and close friends.

Table 7 *Support received in situations involving obstacles to goal achievement*

	Median
How often have you received the following types of support in situations, in which you have encountered serious obstacles to the achievement of your goals:	
a) information to improve your understanding of the situation	3.120
b) emotional support	3.390
c) possible ways of solving your problems	3.116
d) economic support (e.g. money, food, blanket)	2.402
How often have you received support from the following people in situations, in which you have encountered serious obstacles to the achievement of your goals:	
a) mother	4.300
b) father	3.771
c) siblings	3.175
d) relatives	2.578
e) girlfriend/boyfriend	2.548
f) friends	2.736
g) close friends	3.652
h) teachers	1.502
i) priests	1.214
j) other people	1.276
k) school	1.317
l) parish	1.162
m) other institutions	1.174

In situations, when the achievement of their goals was hindered by obstacles, young people receive emotional support, explaining the situation, and instrumental support, providing arguments necessary to address it. Support in obstacle situations comes from their mothers, fathers, close friends, and siblings.

Table 8 *Support received in situations involving lack of information*

	Median
How often have you received the following types of support in situations, in which you did not know what to do:	
a) information to improve your understanding of the situation	3.282
b) emotional support	3.513
c) possible ways of solving your problems	3.278
d) economic support (e.g. money, food, blanket)	2.057
How often have you received support from the following people in situations, in which you did not know what to do:	
a) mother	4.346
b) father	3.840
c) siblings	3.356
d) relatives	2.649
e) girlfriend/boyfriend	2.889
f) friends	2.848
g) close friends	1.899
h) teachers	1.286
i) priests	1.305
j) other people	1.368
k) school	1.200
l) parish	1.187
m) other institutions	1.207

In situations involving lack of information, young people generally receive emotional, informational and instrumental support. Such support comes from their mothers, fathers and siblings.

Correlations between problematic Internet use and social support received from family and peers

No significant correlations were observed between problematic Internet use and support received by young people from their families or peers in difficult situations involving frustration resulting from their inability to satisfy their needs, physical or mental pain, interpersonal conflicts, threats, obstacles to goal achievement, and lack of information.

A significant correlation was found only between the received social support and problematic Internet use in overload situations.

Table 9 *Support in overload situations and problematic Internet use (Spearman's rho)*

	Problematic Internet use (Total Score)	
	rho	*p*
How often have you received the following types of support in situations, in which you have performed tasks that were beyond your physical or mental capabilities:		
a) information to improve your understanding of the situation	−0.021	0.724
b) emotional support	−0.103	0.076
c) possible ways of solving your problems	−0.033	0.566
d) economic support (e.g. money, food, blanket)	0.015	0.802
How often have you received support from the following people in situations, in which you have performed tasks that were beyond your physical or mental capabilities:		
a) mother	−0.124*	0.033
b) father	−0.094	0.108
c) siblings	−0.072	0.223
d) relatives	−0.087	0.135
e) girlfriend/boyfriend	−0.038	0.527
f) friends	−0.005	0.935
g) close friends	−0.029	0.618
h) teachers	−0.046	0.430
i) priests	0.053	0.365
j) other people	0.080	0.169
k) school	0.023	0.699
l) parish	0.109	0.062
m) other institutions	0.085	0.147

A negative correlation was observed between problematic Internet use by young people and support from their mothers in overload situations.

Among young people, in difficult situations involving tasks that are beyond their current capabilities, lower support from their mothers correlates with their involvement in online activity.

What contributes to the development of Internet addiction is the lack or low level of support from the mother in overload situations.

Conclusions

In various difficult situations, young people, who participated in this questionnaire-based study, usually received emotional and instrumental support from their family and peers. Surprisingly, there were no correlations between the low level of support from family and peers and problematic Internet use. The results of the study proved different from what the authors had expected on the basis of the literature on the subject. This can be due to a number of factors that were not taken into consideration during the study. Such factors include the choice of the study group, which, although random, focused on upper-secondary school children, where girls were in majority (overrepresentation of females); lack of a lie scale, as a result of which young people might have made deliberate attempts to control their scores, e.g., upper-secondary school children might follow a trend of coping with difficulties alone, while considering help from other people as a weakness; and defects of the research tool, which, due to its complexity, might have been too difficult for young people.

The study arrived at one significant finding. In overload situations, a positive correlation was found between family support (from mothers) and involvement in online activity (problematic Internet use). Overload situations pose difficulties when tasks at hand are at the limits of one's mental or physical capabilities, or one's mental toughness. When faced with insufficient support from their mothers in overload situations, young people tend to intensify their online activity. Therefore, there is a correlation between limited support from the mother and the risk of Internet addiction.

References

Bojanowska, A. (2010). Reaktywność emocjonalna i wsparcie społeczne a jakość życia młodzieży (Emotional reactivity and social support, and the quality of life among young people). *Psychologia Jakości Życia* (*Psychology of the Quality of Life*), *9*(1), 99–112.

Bronowski, P. (2000). Wsparcie społeczne u członków wspólnoty anonimowych alkoholików (Social support among members of the Alcoholics Anonymous community). *Alkoholizm i Narkomani* (*Alcoholism and Drug Addiction*), *13*(3)*,* 337–346.

Czarnecki, E., Kowalski, S., & Schultz, A. (2011). *Internet szanse i zagrożenia* (*The Internet: Opportunities and Risks*). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku (Publishing House of the State University of Applied Sciences in Płock).

Domagała-Zyśk, E. (2004). Wsparcie społeczne ze strony rówieśników jako warunek powodzenia szkolnego uczniów gimnazjum (Social support from peers as the precondition for school success among lower-secondary school children). In M. Deptuła (ed.), *Diagnostyka pedagogiczna i profilaktyka w szkole i środowisku lokalnym* (*Pedagogical assessment and prevention measures in schools and local communities*). Bydgoszcz: Wydawnictwo Akademii Bydgoskiej (Publishing House of Kazimierz Wielki University in Bydgoszcz), pp. 79–98.

Filip, M. (2013). Nowe uzależnienia XXI w. (New Addictions in the 21st Century). *Wszechświat* (*The Universe*), *114*(4–6), 87–94.

Griffiths, M. (2004). *Gry i hazard. Uzależnienia w okresie dorastania* (*Games and gambling. Addictions during adolescence*). Gdańsk: Gdańskie Wydawnictwo Psychologiczne (Gdańsk Psychological Publishing House).

http://wearesocial.com/uk/special-reports/digital-in-2016

Jarczyńska, J., & Orzechowska, A. (2014). Siecioholizm i fonoholizm zagrożeniem współczesnej młodzieży (Internet addiction and mobile phone addiction as threats for contem-

porary young people). In J. Jarczyńska, *Uzależnienia behawioralne i zachowania problemowe młodzieży. Teoria – Diagnoza – Profilaktyka – Terapia* (*Behavioural addictions and problem behaviour among young people. Theory – Assessment – Prevention – Treatment*). Bydgoszcz: Wydawnictwo Uniwersytetu Kazimierza Wielkiego (Publishing House of the Kazimierz Wielki University), pp. 121–146.

Kozak, S. (2014). *Patologia cyfrowego dzieciństwa i młodości. Przyczyny, skutki, zapobieganie w rodzinach i szkołach* (*Pathology of the digital childhood and adolescence. Causes, consequences, and prevention in families and schools*). Warsaw: Difin.

Kózka, M., & Lenartowicz, H. (2010). *Metodologia badań w pielęgniarstwie* (*Research methodology in nursing*). Warsaw: Wydawnictwo Lekarskie PZWL (PZWL Medical Publishing House).

Kurowska, K., & Frąckowiak, M. (2010). Wsparcie społeczne a radzenie sobie w przewlekłej chorobie na przykładzie cukrzycy typu 2 (Social support and coping with chronic diseases based on the example of type 2 diabetes). *Diabet Prakt*, *11*(3), 101–107.

Lelonek-Kuleta, B. (2014). Uzależnienia behawioralne – podstawy teoretyczne (Behavioural addictions – a theoretical background). In J. Jarczyńska, *Uzależnienia behawioralne i zachowania problemowe młodzieży. Teoria – Diagnoza – Profilaktyka – Terapia* (*Behavioural addictions and problem behaviour among young people. Theory – Assessment – Prevention – Treatment*). Bydgoszcz: Wydawnictwo Uniwersytetu Kazimierza Wielkiego (Publishing House of the Kazimierz Wielki University), pp. 15–29.

Makaruk, K., & Wójcik, S. (2013). Nadużywanie internetu przez młodzież. Wyniki badania EU NET ADB (Internet abuse by young people. Results of the EU NET ADB study). *Dziecko krzywdzone. Teoria, badania, praktyka* (*The abused child. Theory, research and practice*), *12*(1), 35–48.

Marszałek, L. (2009). Systemy wsparcia społecznego w procesie rehabilitacji osób niepełnosprawnych (Social support systems in the rehabilitation of people with disabilities). *Seminare*, *26*, 201–210.

Obuchowska, I. (2007). Adolescencja (Adolescence). In B. Harwas-Napierła, J. Trempała (eds.), *Psychologia Rozwoju człowieka. Charakterystyka okresów życia człowieka* (*The psychology of human development. A description of stages in human life*). Warsaw: Wydawnictwo Naukowe PWN (PWN Scientific Publishing House), pp. 163–201.

Olejniczak, P. (2013). Wsparcie społeczne i jego znaczenie dla osób starszych (Social support and its significance for the elderly). *Prace poglądowe. Pielęgniarstwo i Zdrowie Publiczne* (*Works supported with research examples. Nursing and Public Health*), *3*(2), 183–188.

Ostaszewski, K., Rustecka-Krawczyk, A., & Wójcik, M. (2009). *Czynniki ochraniające i czynniki ryzyka związane z zachowaniami problemowymi warszawskich gimnazjalistów: klasy I – III* (*Protective factors and risk factors associated with problem behaviour among class 1 to 3 lower-secondary school children in Warsaw*). Warsaw: Instytut Psychiatrii i Neurologii (The Institute of Psychiatry and Neurology).

Poprawa, R. (2011). Test problematycznego używania Internetu. Adaptacja i ocena psychometryczna Internet Addiction Test K. Young (The Problematic Internet use test. Adjustment and psychometric assessment of the Internet Addiction Test by K. Young). *Przegląd Psychologiczny* (*The Psychological Review*), *54*(2), 193–216, http://www.kul.pl/files/714/nowy_folder/2.54.2011_art.5.pdf.

Przybysz-Zaremba, M. (2008). *Uzależnienie młodzieży od współczesnych mediów* (*Addiction to contemporary technology among young people*). Olsztyn: Oficyna wydawnicza Prospekt ("Prospekt" Publishing House), 34–40.

Sęk, H. (2005). Rola wsparcia społecznego w sytuacji kryzysu. In D. Kubacka-Jasiecka, T. Ostrowski (eds.), *Psychologiczny wymiar zdrowia, kryzysu i choroby*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.

Sęk, H. (1993). Wybrane zagadnienia z psychoprofilaktyki. In H. Sęk (ed.), *Społeczna psychologia kliniczna*. Warsaw: Wydawnictwo Naukowe PWN.

Sęk, H., & Cieślak, R. (2004). Wsparcie społeczne – sposoby definiowania, rodzaje i źródła wsparcia, wybrane koncepcje teoretyczne (Social support – approaches to its definition, types, sources, and selected theoretical concepts). In H. Sęk, R. Cieślak (eds.), *Wsparcie społeczne, stres i zdrowie* (*Social support, stress and health*). Warsaw: Wydawnictwo Naukowe PWN (PWN Scientific Publishing House).

Steuden, S. (1997). *Dynamika zmian osobowości u osób z rozpoznaną schizofrenią*. Lublin: RW KUL.

Szczepaniak, P., Strelau, J., & Wrześniewski, K. (1996). Diagnoza stylów radzenia sobie ze stresem za pomocą polskiej wersji Kwestionariusza CISS Endlera i Parkera. *Przegląd Psychologiczny*, *1*, 188–189.

Szlachta, E. (2009). Próba adaptacji i walidacji polskiej wersji The Interpersonal Support Evaluation List (ISEL) – Kwestionariusz Spostrzeganego Wsparcia Społecznego [The Perceived Social Support Questionnaire (KSWS) – An attempt at the adjustment and validation of the Polish version of the Interpersonal Support Evaluation List (ISEL)]. *Przegląd Psychologiczny* (*The Psychological Review*), *52*(4), 433–451.

Szymańska, J., & Sienkiewicz, E. (2011). Social support. *Current Problems of Psychiatry*, *12*(4), 550–553.

Tomaszewski, T. (1984). *Ślady i wzorce* (*Traces and patterns*). Warsaw: Wydawnictwo Szkolne i Pedagogiczne (School and Pedagogical Publishing House).

Wąsowicz, W., & Styśko-Kunowska, M. (2014). *Młodzież w Internecie. Zagrożenie uzależnieniem. Podręcznik do MAWI* [*Young people on the Internet. Risk of addiction. A manual for the My Internet Activity (MAWI) questionnaire*]. Warsaw: Wydawnictwo Naukowe SCHOLAR ("SCHOLAR" Scientific Publishing House).

Chapter 8

Interpersonal behaviours and the risk of Internet addiction

Joanna Chwaszcz, Agnieszka Palacz-Chrisidis, Dominika Tomczyk

ABSTRACT

Based on an empirical study conducted among young people (307 individuals) aged 15–20, from the Lubelskie Province, it was established that 1) persons who are likely to develop Internet addiction establish interpersonal relations characterised by the aloof-introverted approach; 2) persons who are problem Internet users tend to establish interpersonal relations characterised by the cold-hearted approach; 3) there is a significant correlation between problematic Internet use and the arrogant-calculating approach to interpersonal relations.

Keywords: interpersonal behaviours, risk of addiction, internet addiction, young people

Introduction

In the 21st century, an era of innovative technologies and broadly defined computerisation, the world encourages people to take advantage of technological advancements at work, at school, and even during appointments with specialists and in State offices. What seems attractive is that when you go online, you leave behind all your problems and enter a different reality, where you are given a second life. But isn't this a trap people get caught in without even realizing it? Obviously, it is much easier to tell somebody you love them, make sexual advances, or use violent language when looking at a computer screen, and not face to face with somebody. While walking on the pavement and looking at passers-by, one can easily notice that every other young person is staring at their smartphone. No later than over a dozen years ago, you could hear the buzz of conversations in the public transport. Now, however, what you see when walking into a train compartment are people with headphones in their ears, staring at their tablets. Could technology have gone as far as to change interpersonal relationships?

The above considerations lead to the following question: Is the virtual world a perfect alternative for people who are shy but need interaction with others? Or is it the opposite? Perhaps extraverted, sociable and open individuals are more likely to develop Internet addiction? Does Internet addiction affect interpersonal behaviours among young people?

Interpersonal relationships play a significant role in the life of every person. The making of new acquaintances and maintaining of relationships are inherent in human nature. Some people feel a greater desire for having a large group of friends or acquaintances, while others feel satisfied when they interact with just a few friends. Regardless of their sociability or perceived need for establishing relationships, people continuously interact with one another to a greater or smaller degree. Positive interpersonal relationships have many benefits for human health. Interpersonal relationships can have various forms. They are developed in such contexts as family, friends, acquaintances and partners. People strike up acquaintances, tighten the bonds or even create relationships, to feel safe and unconditionally accepted, and to have a sense of belonging. What happens, then, if you are deprived of relationships with other people? People who have a small number of interactions with other people which are superficial in nature are more likely to experience stress and are less resilient to it. Negative emotions experienced as a result of the lack of social interactions can lead to the development of mental disorders. Rejection can cause anxiety and depression (Argyle, 2002). The reverse might also be true. Different disorders might worsen social skills and lead to withdrawal from interactions with other people. Neuroses can prevent people from developing relationships with other people. Schizophrenia, too, can affect social functioning (Argyle, 2002).

Relationships and interactions with other people play an important role in human life – they satisfy our needs, influence our self-esteem and well-being, and, in a way, decide about our survival. Diana Dweyer (2013) identifies the following types of interpersonal relationships: affiliation, friendship, relationships with relations, and romantic relationships.

Affiliation is about seeking interaction with other people; it is an instinctive behaviour. Since the dawn of time, people have worked and functioned in groups to increase the likelihood of their survival. Affiliation is the basic need for the company of others. However, individual people differ in their need for affiliation.

Friendship is a universal phenomenon, occurring regardless of gender, culture or religion. However, friendships made during adolescence and early adulthood tend to be the most enduring. Friendships support personal development. Requirements imposed on friends differ depending on the development stage the individual is at. At early stages of social life, children care only about loyalty, while teenagers focus on relationships in which they feel fully understood and accepted.

Relationships with relations teach people how to interact with others and feel comfortable around a wider circle of people. These are long-lasting relationships.

Romantic relationships are based on infatuation. Persons in such relationships are usually driven by emotions.

Using his interpersonal circumplex, based on Dominance and Affiliation, J. Wiggins (2000) identified the following types of interpersonal relationships:

Assured-Dominant – in interactions with others the individual describes himself/herself as strong, assertive, dominant and bold. They are happy to take the initiative and lead discussions. They attribute value (love) and importance (status) to themselves, but only value to other people. This relationship is based on control, manipulation, aggression towards

others and attempts to change their behaviour. What is characteristic of this behaviour is individualism, which can have the form of narcissism.

Arrogant-Calculated – this type describes people who tend to be egoistic, arrogant, deceitful, and cynical, exploit other people, easily become angry and irritated, are likely to humiliate others and take advantage of them. Persons who establish such relationships attribute value and importance to themselves, but not to others.

Cold-hearted – the individual is not likely to cooperate or support others, they believe that attributes such as kindness, warmth and understanding do not suit them. They value freedom and independence. Such people attribute status, but not love, to themselves, and neither of those to other people. Relationships established by such persons are devoid of love and affection. Such people find it difficult to keep their long-term commitments to other people, to cooperate and to forgive.

Aloof-Introverted – such individuals avoid interactions with others, and tend to reject friendly gestures. They have a limited social life, and consider themselves aloof, reserved and asocial. They feel embarrassed in the company of others and find it difficult to express their feelings and establish relationships. They do not attribute value or importance to themselves or others.

Unassured-Submissive – such relationships are characterised by submissiveness and fear in social situations. Individuals who represent this type have poor self-esteem, are timorous, shy and lack self-confidence. They avoid being the centre of attention (self-effacing). They do not consider themselves important or valuable, attributing importance, but not value, to others. During interactions with other people, such individuals find it difficult to express their needs, are not resolute or assertive.

Unassuming-Ingenious – this style describes modest, kind, and respectful people, who meet the needs of others. They describe themselves as good-natured, gentle, conventional, and non-egotistical people, who avoid quarrels and tolerate mistakes made by others. However, they are gullible, easily exploited by others, and rarely express anger. They do not attribute love or status to themselves, but attribute them to others.

Warm-Agreeable – this relationship is kind, caring and thoughtful in nature. Individuals who exhibit such behaviour describe themselves as compassionate, forgiving and polite. They are ready to provide other people with emotional and financial support. The negative aspect of this relationship is the excessive desire to satisfy others at any cost, even against their will. People who represent this type attribute love and status to others, but only love to themselves.

Gregarious-Extraverted – relationships characteristic of cheerful and sociable people, who look for harmonious relationships with others, and for activities that provide them with as many social interactions as possible. They describe themselves as outgoing, friendly, sociable and cheerful. They attribute love and status both to themselves and to others. Flaws of such relationships include excessive openness or attention seeking and difficulty being alone.

One's perception of the quality of interactions determines various motives for establishing interpersonal relations with others and preference for specific social behaviours. And conversely, each interpersonal relationship affects the individual, their self-perception and self-esteem, but it can also lead to interpersonal problems.

Table 1 *Types of interpersonal relationships and the corresponding possible interpersonal problems*

Type of interpersonal orientation	Interpersonal problems
Assured-Dominant	Dominance
Arrogant-Calculating	Envy
Cold-hearted	Coldness
Aloof-Introverted	Social withdrawal
Unassured-Submissive	Lack of assertiveness
Unassuming-Ingenuous	Gullibility
Warm-Agreeable	Excessive openness
Gregarious-Extraverted	Imposing

J. Wiggins identifies positive relationships co-occurring with satisfaction with human interactions and negative relationships resulting in the lack of satisfaction with human interactions.

TYPES OF INTERPERSONAL RELATIONSHIPS ASSOCIATED WITH THE HIGH QUALITY OF HUMAN INTERACTIONS	TYPES OF INTERPERSONAL RELATIONSHIPS ASSOCIATED WITH THE LOW QUALITY OF HUMAN INTERACTIONS
• WARM-AGREEABLE • GREGARIOUS-EXTRAVERTED • ASSURED-DOMINANT • UNASSUMING-INGENUOUS	• ARROGANT-CALCULATING • COLD-HEARTED • ALOOF-INTROVERTED • UNASSURED-SUBMISSIVE
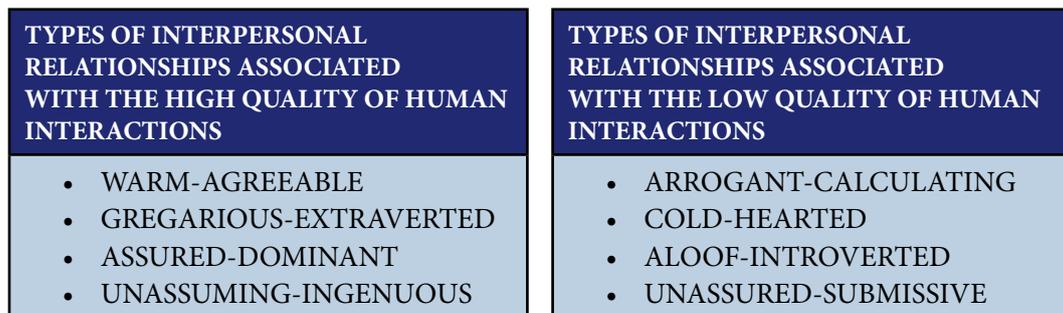
Diagram 1. Types of interpersonal relationships and satisfaction with human interaction.

In their study, Sanders, Field, Diego and Kaplan (2000) demonstrated that young people, who were involved in online activity for more than two hours a day, had worse relationships with their mothers and close friends, compared to their peers who were less involved in online activity.

Methodology

Based on the above theoretical considerations, the following research problem was formulated: **Is there a relationship between the preferred type of interpersonal relationships and the risk of Internet addiction?**

It was assumed that problem Internet users would prefer aloof-introverted and cold-hearted types of interpersonal relationships. And that the gregarious-extraverted relationship would be less characteristic of problem Internet users.

In order to examine the above-mentioned assumption, the study surveyed 307 young people from upper-secondary schools in the Lubelskie Province, Poland. The subjects were

aged 15–20, and their average age was 17. The study group included 221 girls and 86 boys. Participation in the study was voluntary. Interviewers were trained psychology students from the Catholic University of Lublin (KUL).

The study was conducted using a set of questionnaires, including socio-demographic data questionnaire, the Revised Interpersonal Adjective Scales (IAS-R) developed by J. Wiggins, and the Problematic Internet Use Test (TPUI22) by R. Poprawa.

The IAS tool, which comprises a list of 64 adjectives that describe interpersonal functioning, can have various applications, e.g., the assessment of social competence, interpersonal relationships, or personality. In the analyses conducted for the purposes of this project, the Interpersonal Adjective Scales were used for the assessment of the functioning of the subjects in interpersonal relationships. In order to achieve this, study participants were given the following instructions: "Below you will find a list of words used to describe relationships between people and their attitudes towards others. Circle a number from 1 to 5 next to each word. Using this method, answer how often each word from the list describes your relationships with other people". Next to each adjective, there were numbers describing the frequency of the relevant type of social perception 1 – never, 2 – very infrequently, 3 – sometimes, 4 – often, 5 – very often. The adjectives used in this method were grouped into 8 interpersonal dimensions (scales):

1. Assured-Dominant (PA),
2. Arrogant-Calculating (BC),
3. Cold-hearted (DE),
4. Aloof-Introverted (FG),
5. Unassured-Submissive (HI),
6. Unassuming-Ingenuous (JK),
7. Warm-Agreeable (LM),
8. Gregarious-Extraverted (NO).

Each of those dimensions comprises 8 adjectives of interpersonal nature. In each scale, the result of the subject is the sum of their frequency choices for each adjective grouped into a specific dimension. Results range from 8 to 40 points. Cronbach's alpha for a group of 1083 adults was a follows for the individual scales: 0.79 – PA; 0.86 – BC; 0.81 – DE; 0.84 – FG; 0.81 – HI; 0.75 – JK; 0.85 – LM; 0.83 – NO (Niewiadomska, Chwaszcz & Augustynowicz, 2010, p. 31).

The Problematic Internet Use Test (TPUI22) was developed by R. Poprawa on the basis of the Internet Addiction Test by K. Young, which operationalises the descriptive definition and criteria of Internet use. The test diagnoses 8 symptoms of addiction based on gambling addiction criteria used in the DSM-IV. The test comprises 22 questions to be answered by respondents using the following six-point scale:

0 – not applicable, 1 – sporadically, 2 – seldom, 3 – sometimes, 4 – often, 5 – always. The internal consistency of the test expressed using Cronbach's alpha is 0.94 (Poprawa, 2011, pp. 196–200).

Study results

Peer relationships among young people

Table 2 *Descriptive statistics characterising relationships with others (Wiggins' questionnaire)*

	N	Minimum	Maximum	Mean	Standard deviation
Assured-Dominant	303	1.00	5.00	3.2190	0.65245
Arrogant-Calculating	302	1.00	5.00	2.4660	0.76608
Cold-hearted	304	1.00	5.00	2.2910	0.84366
Aloof-Introverted	304	1.00	5.00	2.4029	0.76232
Unassured-Submissive	304	1.00	5.00	2.9199	0.70728
Unassuming-Ingenuous	304	1.00	5.00	3.2396	0.53367
Warm-Agreeable	303	1.00	5.00	3.7073	0.78495
Gregarious-Extraverted	304	1.00	5.00	3.6001	0.68132
N Valid (listwise)	300				

The studied young people showed a full spectrum of interpersonal relationships. The most frequently chosen included the following relationships: Warm-Agreeable, Gregarious-Extraverted, Unassuming-Ingenuous, and Assured-Dominant.

Correlation between problematic Internet use and the type of interpersonal relationships

Table 3 *Interpersonal relationships and problematic Internet use (Pearson's r)*

Interpersonal relationships	Problematic Internet use (Total Score)	
	r	p
Assured-Dominant	0.056	0.336
Arrogant-Calculating	0.262**	0
Cold-hearted	0.284**	0
Aloof-Introverted	0.219**	0
Unassured-Submissive	−0.04	0.491
Unassuming-Ingenuous	−0.094	0.104
Warm-Agreeable	−0.093	0.108
Gregarious-Extraverted	−0.074	0.2

* Correlation is significant at 0.05 (two-tailed).   ** Correlation is significant at 0.01 (two-tailed).

Problematic Internet use by young people shows positive correlation with such interpersonal relationships as Arrogant-Calculating, Cold-hearted, and Aloof-Introverted.

Young people who are problem Internet users show negative relationships with their environment – arrogant, calculating, and cold-hearted; and withdrawal relationships, such as aloof and introverted. Since this study focuses on correlations, it was impossible to address those interrelations in terms of causes and effects. There is no clear evidence confirming that poor quality of interpersonal relationships among young people is the reason for their excessive involvement with online activities. Moreover, there is no solid basis for concluding that the nature of the relationships showed by young people in their interactions with others has changed as a result of their Internet addiction. The obtained data suggest that problematic Internet use is associated with poor relationships, such as Arrogant-Calculating, Cold-hearted, and Aloof-Introverted.

Conclusions

The assumption that young people who are problem Internet users exhibit the Aloof-Introverted and Cold-hearted relationships proved correct. In addition, a significant correlation was found between problematic Internet use and the Arrogant-Calculating interpersonal style. In the study, the level of gregariousness and extraversion in interpersonal relationships among young people was not associated with problematic Internet use. The obtained results are consistent with the results of a study conducted by a team of scholars working under the guidance of Iwona Niewiadomska (2010), which discovered significant correlations between the high quality of interpersonal interactions and personal adjustment. In that study, positive correlation was found between personal adjustment and Warm-Agreeable interpersonal relationships, while negative correlations were observed between adjustment and the Arrogant-Calculating and Cold-hearted relationships. In addition, the study by Niewiadomska and her team established positive correlation between personal adjustment and the Gregarious-Extraverted relationship type. This correlation was not observed in this study. Differences between correlations might be due to such factors as the choice of the study group (the study by Niewiadomska covered adults, while this study focused on young people); gender representation within the group (the study by Niewiadomska included only males, while this study was dominated by females); the study by Niewiadomska and her team focused on correlations between interpersonal relationships and personal adjustment, while this study addressed correlations between interpersonal relationships and problematic Internet use (Niewiadomska, Chwaszcz & Augustynowicz, 2010). The notion of personal maladjustment (poor adjustment) covers problematic Internet use, but the former includes also other human activities and spheres (in addition to online activity), which were not verified in this study.

References

Argyle, M. (2002). *Psychologia stosunków międzyludzkich* (*Psychology of human relationships*). Warsaw: Wydawnictwo Naukowe PWN (PWN Scientific Publishing House).

Jackson-Dwyer, D. (2013). *Interpersonal relationships*. England: Routledge.

Niewiadomska, I., Chwaszcz, J., & Augustynowicz, W. (2010). *Więzi społeczne zamiast więzień – wsparcie pozytywnej readaptacji osób zagrożonych wykluczeniem społecznym z powodu konfliktu z prawem. Raport z badań z rekomendacjami* (*Social bonds instead of prisons – support for the positive rehabilitation of persons at risk of social exclusion as a result of their criminal record. A report from a study on recommendations*). Lublin.

Wiggins, J. S. (2000). *Interpersonalne skale przymiotnikowe* (*Interpersonal Adjective Scales*). Lublin: Chair of the Psychology of Individual Differences, Catholic University of Lublin (KUL).

Sanders, C. E., Field, T. M., Diego, M., & Kaplan, M. (2000). The relationships of internet use to depression and social isolation among adolescents. *Adolescence, 35*, 237–242.

Coping strategies and the risk of developing Internet addiction in young people – a study report

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ABSTRACT

The article addresses the following research question: What is the relationship between coping strategies used by young people and their involvement with the Internet. The study was conducted among upper-secondary school children. It covered 16 classes from 4 schools operating in the Lubelskie Province. It employed the following research methods: demographic data, Internet Activity Survey, Problematic Internet Use Test (TPUI22) by R. Poprawa, and the Strategic Approach to Coping Scale (SACS) by S.E. Hobfoll. Among the studied young people, problematic Internet use was found to coexist with their using, in difficult situations, of negative strategies, such as avoidance, indirect measures and aggression.

Keywords: coping strategies, Internet addiction, addiction risk, avoidance strategy, aggressive strategy, indirect actions

Research background

The problem of addiction has been present in societies since antiquity. However, over time, its types and scale have changed. The term *addiction* has now been associated mainly with alcoholism, nicotine addiction and drug abuse. This kind of thinking can be due to the fact that society has struggled with these addictions for a long time. There is a wide range of addictions, which include the aforementioned physiological addictions. Other types include behavioural addictions, such as gambling, Internet addiction and workaholism; and social addictions, which are developed as a result of socio-biological factors, such as the current fad, subculture or peer pressure. What all of the above-mentioned addictions have in common is that they negatively affect people's lives. Scientific literature, whether psychological, medical or sociological, has explored topics associated with addictions. It turns out

that there is a large group of people who find it difficult to say "No", stop doing an absorbing activity, or behave in a certain way. Internet addiction is a relatively new phenomenon. Whether due to its novelty or the fear of being able to resort to assertiveness alone as the only way to deal with it, the problem has not been sufficiently addressed in scientific research and publications.

In present times, there is no area of life that would not rely on the Internet to some extent. It has become a tool without which many people are unable to function normally. This worldwide network has also made it possible for a number of people to lead a double life, one in reality and one in the virtual world. Even though both of those lives provide comparable opportunities, many people find the conditions offered by the latter more appealing. Indeed, cyberspace offers greater freedom of speech, uninhibited expression of one's views, whether they are socially accepted or not, relationships with people across the globe, or anonymity, greatly desired by many. Young people are particularly at risk of developing this addiction. The EU Kids Online Study 2011 has shown that over 38% of teenagers "feel more themselves online" compared to face-to-face interactions with other people; as many as 35% of children neglect their family and friends as a result of spending their time online. This also results in their attention being diverted from learning and interests to the cyberspace. It is staggering that more than 32% of them have made unsuccessful attempts to limit their time online (Kirwil, 2011). As reported by the Institute of Health Psychology, Polish Psychological Association (IPSZ, PTS), as many as 80–85% of lower-secondary school children use the Internet every day or almost every day, including 30–40% doing so for at least four hours a day. About 60–70% of teenagers stay online at night-time (Makaruk & Wójcik, 2013, p. 39). It seems that the Internet is appealing for people at this age due to the constant availability of latest news, possibility of obtaining answers to their questions, opportunities for keeping in touch with peers and making acquaintances, and unrestricted access to various forms of entertainment. The Internet can also provide additional reinforcements, associated with positive online experiences, such as high scores in online games or sense of affiliation with Internet groups. All of the above-mentioned activities can lead to the development of dysfunctional Internet use.

However, problematic Internet use is found only in a fraction of the population, in which Internet use is so common. Therefore, the study addressed the issue of factors that determine pathological Internet use patterns. Special attention in this respect was given to coping strategies. S. Hobfoll argues that people try to obtain, maintain and protect what they consider valuable (Hobfoll, 1988; 1989). In other words, we not only want to obtain the resources we do not have yet, but also to take care of, and look after, the ones we already have. We also want to protect the available resources when they are in danger. Stress is a factor that puts our resources in danger. Hobfoll defines as stressful any situation that causes actual or potential loss of the available resources, whether external (work, house, other people) or internal (self-esteem, qualifications, health, etc.) (Hobfoll, 2006). When people find themselves in situations involving loss of resources, they develop an array of coping strategies, Individual people differ in terms of coping strategies. Some have a limited number of universal strategies, used regardless of the situation, while others have a broad range of coping behaviours and use them depending on the difficult situation they experience. S. Hobfoll bases his concept of strategic coping on the cultural paradigm. He argues that people develop coping methods during interactions with other people within a specific culture. He identifies nine coping behaviours:

- assertive action,
- avoidance,
- seeking social support,
- cautious action,
- social joining,
- instinctive action,
- aggressive action,
- antisocial action, and
- indirect action.

Individual coping strategies can be classified along several axes: active-passive, prosocial-antisocial, and direct-indirect (Monnier, Cameron, Hobfoll & Gribble, 2000).

Consequently, pathological internet use can be a manifestation of the avoidance coping strategy used by young people, or be the result of the limitation of, and changes in, coping strategies as a result of the increased involvement with Internet use. This claim has been corroborated by a number of studies. A study on a group of 587 Jordanian students showed that students who use problem-oriented coping strategies are less likely to develop Internet addiction (Al-Gamal, Alzavyat & Ahmad, 2016). French students with increased stress levels, and women in particular, compared to students with low stress levels, cope by regular smoking, drinking, increased Internet activity (increased risk of addiction) or eating disorders (Tavolacci et al., 2013). Women who use avoidance-emotional strategies are more likely to get involved in Internet activity when under stress (Deatherage, Servaty-Seib & Aksoz, 2013). A study on a group of children and teenagers (aged 8–18, $N = 717$) showed that there is a correlation between a high level of perceived stress and Internet activity (Leung, 2007).

Methodology

The purpose of this study was to find answer to the following question:

What is the relationship between coping strategies used by young people and their involvement with the Internet?

Two research hypotheses were formulated:

H1 – Young people at risk of Internet addiction are more likely to use avoidance strategies than young people who face a smaller risk of developing Internet addiction.

H2 – Young people at risk of Internet addiction are more likely to use aggressive coping strategies than young people who face a smaller risk of developing the addiction.

In order to examine the hypotheses, the study surveyed 307 children from upper-secondary schools in the Lubelskie Province, Poland. The study group included young people from four randomly selected schools, with 72% of the group being represented by girls, and 28% by boys. Average age in the group was 17 years. The majority of the children lived in cities (57%) or rural areas (31%). A significant majority of them assessed the financial situation of their families as good, very good or relatively good (93%). As many as 79% of children lived in complete families, and 21% in single-parent families. The usual reasons for family break-up was divorce (62% of single-parent families), death of a parent (12%) and emigration (14%).

The study used the following questionnaires: A demographic data survey, the Strategic Approach to Coping Scale (SACS) by S.E. Hobfoll (2006) and the Problematic Internet Use Test (TPUI22) by R. Poprawa (2011).

Results

Young people and Internet addiction

Individuals with problematic Internet use accounted for 8.5% of all respondents. The group of individuals at a high risk of developing Internet addiction included almost 29% of respondents. Moderate risk of Internet addiction was found in 46% of the subjects. Only 15% of young people were characterised by a low risk of developing Internet addiction.

Table 1 *Categories of problematic Internet use*

Risk of developing Internet addiction	Frequency	Percentage	Valid percentage
no or low risk	47	15.3	15.5
moderate risk	142	46.3	46.9
high risk	88	28.7	29.0
individuals with problematic Internet use	26	8.5	8.6
Total	303	98.7	100.0
Systemic lack of data	4	1.3	
Total	307	100.0	

Coping strategies used by young people

The studied group used a broad range of coping strategies. The most popular included seeking social support and assertive action. The least frequent strategies included aggressive action and social joining.

Table 2 *Descriptive statistics for coping strategies*

	N	Minimum	Maximum	Mean	Standard deviation
Assertive action	306	4.00	45.00	28.3366	5.47732
Social joining	304	5.00	23.00	14.2566	2.96180
Seeking social support	306	2.00	35.00	22.6830	5.79096
Cautious action	305	4.00	25.00	15.2230	3.37407
Instinctive action	306	6.00	30.00	18.0425	4.00592

	N	Minimum	Maximum	Mean	Standard deviation
Avoidance	306	1.00	30.00	16.1209	4.38796
Indirect action	306	2.00	20.00	11.2418	3.75832
Aggressive action	306	3.00	21.00	13.7941	2.92083
N – Valid (listwise)	304				

Correlations between Internet addiction and coping strategies

Table 3 *Coping strategies and problematic Internet use (Spearman's rho)*

	Problematic Internet use	
Coping strategies	*r*	*p*
Assertive action	0.019	0.736
Social joining	0.095	0.102
Seeking social support	0.051	0.374
Cautious action	0.027	0.637
Instinctive action	0.081	0.162
Avoidance	0.173***	0.003
Indirect action	0.182***	0.001
Antisocial action	−0.091	0.113
Aggressive action	0.217***	0.001

There are significant, positive correlations between problematic Internet use and the following coping strategies: avoidance, indirect action and aggressive action. In difficult situations, young people who are very likely to develop Internet addiction prefer to use negative coping strategies.

Conclusions and discussion

Among the studied young people aged 15–20 (307 individuals), the likelihood of developing Internet addiction was distributed as follows: 8.5% were individuals with problematic Internet use (probably addicted), 29% were individuals at a considerable risk of developing addiction, 46% were individuals at a moderate risk of developing Internet addiction, and 15% proved to be at a low risk of developing Internet addiction. In a study by B. Pawłowska and E. Potembska (2011), 3.5% of young people aged 13–24 met the criteria for Internet addiction, and 34% were characterised by a high risk of developing the addiction (Pawłowska, Potembska, Gleba, Kalinowska-Tomala & Krawczyński, 2011, p. 441). Research on young people made it possible to confirm addiction symptoms in 9% of subjects aged 9–16, 18% of

them were diagnosed with a high risk of developing addiction and symptoms such as eating and sleeping urge disorders; 38% of teenagers were included in the moderate Internet addiction risk group, and 41% of subjects showed no risk of developing Internet addiction (Kirwil, 2011, p. 16).

The most popular coping strategies used by young people included seeking social support and assertive action. There are significant, positive correlations between problematic Internet use and such coping strategies as avoidance, indirect action and aggressive action. Young people involved with risky Internet use cope with difficult situations mainly by withdrawing from them or engaging in activities that allow them to take their mind off of problems, such as using psychoactive substances, or escaping in the unreal world of virtual realit. Another strategy used by young people at risk of developing addiction is indirect action, a strategy characterised by passive aggression, involving manipulation of other people to achieve one's deferred goal. The obtained results are consistent with and complementary to the findings of other scholars. Individuals who play video games as a coping strategy are more likely to experience depression, anxiety or stress (Loton, Borkoles, Lubman & Polman, 2016). Problem-oriented coping strategies show negative correlation with gambling, and emotion-oriented strategies show positive correlation with gambling (Sung-Bong & Jung-Im, 2016). French students with increased stress levels, and women in particular, compared to students with low stress levels, cope by regular smoking, drinking, increased Internet activity (increased risk of addiction) or eating disorders (Tavolacci et al., 2013). Women who use avoidance-emotional strategies are more likely to get involved in Internet activity when under stress (Deatherage, Servaty-Seib & Aksoz, 2013).

References

Al-Gamal, E., Alzavyat, A., & Ahmad, M. (2016). Prevalence of Internet Addiction and Its Association With Psychological Distress and Coping Strategies Among University Students in Jordan. *Perspectives in Psychiatric Care*, *52*(1), 49–61.

Deatherage, S., Servaty-Seib, H., & Aksoz, I. (2013). Stress, Coping, and Internet Use of College Students. *Journal of American College Health*, *62*(1), 40–46.

Hobfoll, S. (1988). *The ecology of stress*. New York: Hemisphere.

Hobfoll, S. (1989). Conservation of resources. A new attempt at conceptualizing stress. *American Psychologist*, *44*(3), 513–24.

Hobfoll, S. (2006). *Stres, kultura i społeczność. Psychologia i fizjologia stresu* (*Stress, culture and community. The psychology and physiology of stress*). Gdańsk: GWP.

Kirwil, L. (2011). *Polskie dzieci w Internecie. Zagrożenia i bezpieczeństwo – część 2. Częściowy raport z badań EU Kids Online przeprowadzonych wśród dzieci w wieku 9-16 lat i ich rodziców* (*Polish children on the Internet. Risks and safety – Part 2. Partial report on the EU Kids Online study conducted among children aged 9–16 and their parents*). Warsaw, http://eprints.lse.ac.uk/46445/1/PolandReportPolish.pdf, accessed on 27 March 2016.

Leung, L. (2007). Stressful Life Events, Motives for Internet Use, and Social Support Among Digital Kids. *CyberPsychology & Behavior*, *10*(2), 204–214.

Loton, D., Borkoles, E., Lubman, D., & Polman, R. (2016). Video Game Addiction, Engagement and Symptoms of Stress, Depression and Anxiety: The Mediating Role of Coping. *International Journal of Mental Health and Addiction*, *14*(4), 565–578.

Makaruk, K., & Wójcik, S. (2013). Nadużywanie internetu przez młodzież. Wyniki badania EU NET ADB (Internet abuse by young people. Results of the EU NET ADB study). *Dziecko*

krzywdzone. Teoria, badania, praktyka (*The abused child. Theory, research and practice*), *12*(1), 35–48.

Monnier, J., Cameron, R. P., Hobfoll, A. E., & Gribble, J. R. (2000). Direct and Crossover Effects of Prosocial and Antisocial Coping Behaviors. *Journal of Family Psychology*, *14*(4), 570–584.

Pawłowska, B., Potembska, E., Gleba, E., Kalinowska-Tomala, J., & Krawczyński, K. (2011). Uzależnienie od Internetu a relacje z rodzicami dziewcząt będących dziećmi alkoholików (Internet addiction and relations with parents among girls whose parents are alcoholics). *Current Problems of Psychiatry*, *12*(2), 179–183.

Poprawa, R. (2011). Test problematycznego używania Internetu. Adaptacja i ocena psychometryczna Internet Addiction Test K. Young (Problematic Internet Use Test. Adaptation and psychometric assessment of K. Young's Internet Addiction Test). *Przegląd Psychologiczny* (*Psychological Review*), *54*(2), 193–216, http://www.kul.pl/files/714/nowy_folder/2.54.2011_art.5.pdf.

Sung-Bong, K., & Jung-Im, J. (2016). The Relationship between Adolescents' Stress Coping Behavior and Gambling Addiction: Mediating effect of irrational belief of gambling. *Journal of the Korea Academia-Industrial cooperation Society*, *17*(4), 85–91.

Tavolacci, M. P., Ladne, J., Grigoni, S., Richard, L., Villet, H., & Dechelotte, P. (2013). Prevalence and association of perceived stress, substance use and behavioral addictions: a cross-sectional study among university students in France, 2009–2011. *Public Health*, *13*, 724.

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