Loneliness and Internet addiction of Polish adolescents
Samotność a uzależnienie od internetu polskiej młodzieży

Background and aims: Internet addiction in adolescents has been a growing problem over the recent years. The aim of the study was to assess the relationships between Internet addiction, loneliness (social and emotional) and adolescents' lower quality of life.

Methods: An anonymous survey was conducted in Poland in lower and upper secondary schools on a sample of 376 students, aged 14–19. The Young's Diagnostic Questionnaire, the De Jong Gierveld Loneliness Scale and KIDSCREEN-10 index were used. The statistical analysis of the data included χ² test, partial correlations (SPSS v. 23) and path analysis (AMOS v. 19).

Results: Of the participants, 11.6% were identified as addicted to Internet, and 8.2% – as being at risk of addiction; 37.8% of the participants were moderately lonely, and 2.5% – severely lonely. Partial correlations with age and gender as controlled variables revealed relationships between Internet addiction and overall and emotional loneliness, but not social loneliness nor quality of life. Path analysis confirmed significant associations between Internet addiction and emotional loneliness, and between emotional loneliness and quality of life. Emotional loneliness was a statistically significant mediator between Internet addiction and quality of life.

Conclusions: Internet addiction is a predictor of adolescents’ loneliness, and excessive use of the Internet indirectly lowers the quality of life of young people, causing emotional loneliness. Our study indicates a correlation, not a causal relation. Lonely individuals may use the Internet compensatively.

Keywords: loneliness, Internet addiction, adolescents
INTRODUCTION

Internet addiction

Internet addiction in adolescents has been a growing problem over the past several years (Fernández-Villa et al., 2015; Jiang and Shi, 2016; Jorgenson et al., 2016; Warberg et al., 2016). The issue of Internet addiction was first defined and described in the 1990s by Kimberly S. Young (1998). Currently, a growing number of researchers are interested in the phenomenon, identifying it as an addiction to the Internet and to the mobile, digital technologies that comprise cyberspace (Jenaro et al., 2007). It consists of a gradual reduction of control over one’s behaviour, abandoning everyday tasks and devoting one’s time to being active in cyberspace. Addicted individuals are constantly involved in unreal, delusive and deceptive actions, leading to gradual loss of their ability to make independent life choices. Over time, this activity destroys their interpersonal relations and hampers development and functioning (Young, 2007).

As far as Internet addiction is concerned, its most destructive form appears to be playing online games in real time (Hsu and Lu, 2004). It has its reflection in the Internet gaming disorder (included in DSM-5 classification) proposed for further analysis (Griffiths et al., 2016; Lemmens et al., 2015; Pontes et al., 2014b). There are also other addictions, such as gambling, pornography, Internet searching, and social media (Petry and O’Brien, 2013; Pincus et al., 2016). In the case of the latter, despite overusing Internet some people still have intensive interpersonal relations in reality, while others maintain only virtual ones. There is also a group that watches furtively the social activeness of others, or even escape from social contacts in cyberspace themselves.

The characteristic features of Internet addiction include not only the sheer fact of excessive use of cyberspace, but also a compulsive need to dissociate or even escape from reality (Peele, 2000). Many authors have emphasised that Internet addiction is no different from other addictions (Kim and Kim, 2002; Young, 1998). Similar to psychoactive substance addictions, it includes the following characteristics: (a) “overestimating” the subject of addiction (which becomes a priority), (b) an increase in the addicted individual’s mood swings, (c) increased tolerance for the preferred kind of activity in the digital world, (d) withdrawal symptoms comparable to those found in alcohol addiction, (e) increasingly frequent turning to the pathological form of activity in order to satisfy one’s needs.

The addiction leads to the loss of one’s ability to detach from the digital world, and radically increases one’s tendency to abandon everyday tasks, duties, games and contacts in social reality. Not only does this mean a change in proportions among various forms of activity in real and virtual worlds, but also a mental transformation of addicted individuals who gradually lose touch with reality and their families, neighbourhoods and schools (Griffiths, 2000). Compulsive Internet use is perceived as a negative predictor of happiness and self-esteem, and a positive predictor of depression, stress, and loneliness. Analyses conducted in different countries confirm associations between Internet addiction and loneliness of adolescents (Ayas and Horzum, 2013; Pontes et al., 2014a). However, there is disagreement as to whether Internet addiction is associated with each type of loneliness. Pontes et al. (2014a) revealed association between social loneliness and Internet addiction, but Hardie and Tee (2007) found that Internet addicts appear to be more emotionally lonely yet not socially lonely.

Loneliness

The literature of the subject features descriptions of various dimensions of loneliness as an important experience in terms of development in the process of creating one’s identity (Rokach, 2004). Usually, however, loneliness is defined as a subjective, disagreeable and unpleasant condition in which individuals perceive deficits in their social world (Rotenberg et al., 2004). Loneliness refers to the experience of isolation and to the feeling of deprivation in relation to others (Larose et al., 2002). This unpleasant state consists of quantitative and qualitative deficits in one’s interpersonal networks.

Loneliness is a common phenomenon during adolescence, and nearly 80% of those under the age of 18 feel lonely at least occasionally (Hawkley and Cacioppo, 2010). This high rate of loneliness may result from the developmental age and social changes that occur during adolescence (Stickley et al., 2014). An intensive physical, cognitive, or emotional developmental experience, an identity crisis, or the need for individualisation and autonomy may all render young people particularly susceptible to loneliness. In addition, there are individual features conducive to loneliness, including shyness, low self-esteem and poor social skills, erroneous expectations for social relationships, and frequent conflicts with parents.

Some studies differentiate between emotional and social loneliness (Quilter and Munn, 2002). Social loneliness refers to a person’s lack of company and is related to the absence or a low number of close friends. Emotional loneliness, in turn, indicates the lack of intimacy with close friends and has nothing to do with the number of friends. Some individuals may be socially isolated but not feel lonely, while other people feel lonely without feeling social isolation.

In terms of health effects, loneliness is connected with negative health self-assessment and poor well-being, somatic symptoms (such as headaches), mental disorders (such as anxiety and depression) as well as a greater risk for suicidal behaviours (Schinka et al., 2012). Loneliness can cause problematic Internet use, although this relationship may occur in both directions – with each side being either the cause, or the effect (Kim et al., 2009).
Current study

The aim of the presented study was to assess the relationships between Internet addiction, loneliness and adolescents’ quality of life, and to provide answers to the following questions: (1) What is the prevalence of Internet addiction and loneliness in Polish adolescents? (2) Is the association between Internet addiction, adolescents’ loneliness and quality of life different for different dimensions of loneliness (social or emotional)? (3) Is loneliness a mediator of the relationship between Internet addiction and adolescents’ quality of life?

METHODS

Sample and procedure

The paper discusses the results of the analysis of the data from the study Electronic media vs. family relations and the quality of life of children and teenagers – OPK 510-20-18. The study was approved by a Bioethics Committee (Ref. No. 32/2015).

An anonymous survey was conducted in Poland in 10 schools located in cities with various populations, including five schools at each stage of secondary education (lower secondary school, upper secondary school). The participants were 376 students, aged 14–19 (M = 16.04; SD = 0.9), including 65.1% male and 34.9% female. Each filled out a questionnaire containing key variables regarding loneliness and Internet addiction. The survey was approved by the Bioethics Committee of the Institute of Mother and Child, and informed consent was provided by the schools’ directors, the adolescents, and the participants’ parents. Most of the schools taking part in our study are either technical mixed-gender schools or multi-industry vocational schools. The students’ parents were informed about our research and asked for permission during parent–teacher conferences at school. Next, in classrooms, the adolescents were asked to participate. No refusals among parents or students were registered.

Measures

The questionnaire included questions and scales related to the following:

1. Internet addiction: the Young's Diagnostic Questionnaire (YDQ) – 8 items with answer possibilities: “yes” or “mostly yes” (1 point), “no” or “mostly no” (0 points). Five or more points indicated Internet addiction (Young, 1998). The particular questions are based on pathological gambling. In order to indicate the model of using the Internet by lower secondary school teenagers, particular questions from the scale were utilized. The relatively most popular test measuring Internet overuse is Internet Addiction Test (IAT) designed by Kimberly S. Young. The IAT questionnaire was adapted in Poland by Paweł Majchrzak and Nina Oginski-Bulik (2010).

2. Loneliness: the De Jong Gierveld Loneliness Scale (11 items: 6 for emotional and 5 for social loneliness with 5 answer possibilities ranging from “strongly agree” to “strongly disagree.” Three or more positive answers indicated loneliness (de Jong-Gierveld and Kamphuls, 1985). The scale by De Jong Gierveld is used to measure loneliness. It consists of 11 statements, and is partially balanced, with 6 items containing negative statements describing lack of fulfilment from social contacts, and the other 5 in the form of positive statements measuring satisfaction with interpersonal relations. The respondent is asked to indicate the level that best (11 state-

3. Quality of life: KIDSCREEN-10 index (10 items with 5 answer possibilities from “never” to “always”) (Ravens-Sieberer et al. and the KIDSCREEN Group Europe, 2006). KIDSCREEN-10 is a typical one-dimensional index sometimes defined as a mental health index or general index of HRQoL (Health-Related Quality of Life). The answers to KIDSCREEN questions are given according to standardised 5-level categories connected with frequency (never, rarely, pretty often, often, always). Psychometric analysis of the Polish version of the research questionnaires about the quality of children and teenagers’ life was carried out by the research team of the Institute of Mother and Child (Mazur et al., 2008).

Statistical analysis

The statistical analysis of the data included χ² test for the evaluation of the differences connected with gender and age (analyses for total sample on weighted data) as well as partial correlations for the evaluation of the relationships between analysed variables (SPSS v. 23). Path models were also established with the use of AMOS 19.0 software. The statistical significance of mediation was evaluated with Sobel’s test (Hayes, 2009), path analysis was conducted with the maximum likelihood method. The following like-

RESULTS

Of the participants, 11.6% were identified as Internet-addicted, and 8.2% were identified as being at risk of addiction (Fig. 1). Additionally, 37.8% of the participants were moderately lonely, and 2.5% were severely lonely (Fig. 2). Gender and age differences were statistically non-significant.

Partial correlations with age and gender as controlled variables revealed relationships between Internet addiction and overall loneliness and emotional loneliness, but not social loneliness nor quality of life (Tab. 1). The level of loneliness (overall, emotional and social) was negatively correlated with the quality of life.

DISCUSSION

The conducted study included adolescents aged 14–19, and aimed to discover the relationships between Internet addiction, loneliness and adolescents’ quality of life. The results revealed that 8.2% of adolescents were potentially addicted, while 11.6% were at risk of Internet addiction. These percentages seem very large. The findings of the European Union-funded research project “Research on Internet Addictive Behaviours among European Adolescents” (Tsitsika et al., 2012) showed that 1.2% of European adolescents were addicted, while 12.7% were at risk of developing Internet addictive behaviour. However, Poland showed a higher prevalence of Internet addiction than a broad range of European adolescents. Analyses conducted on

<table>
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<th>Total loneliness</th>
<th>Emotional loneliness</th>
<th>Social loneliness</th>
<th>Quality of life</th>
<th>Parental support</th>
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<tbody>
<tr>
<td>Internet addiction</td>
<td>0.260***</td>
<td>0.280***</td>
<td>0.072</td>
<td>−0.096</td>
<td>−0.001</td>
</tr>
<tr>
<td>Total loneliness</td>
<td>0.928***</td>
<td>0.595***</td>
<td>−0.410***</td>
<td>0.012</td>
<td>0.008</td>
</tr>
<tr>
<td>Emotional loneliness</td>
<td>0.255***</td>
<td>−0.426***</td>
<td>0.014</td>
<td>0.046</td>
<td></td>
</tr>
<tr>
<td>Social loneliness</td>
<td></td>
<td>−0.146*</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Quality of life</td>
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Bold indicates significant differences; * p < 0.05; *** p < 0.001.
Polish university students revealed that 10% of students showed Internet addiction, abstinence and “online” syndrome (Lićwinko et al., 2011). Given all these statistics, the percentage of young people at risk of Internet addiction is alarming. The measure used in the case of EU Kids Online test, conducted in 25 European countries among children and teenagers, was a set of questions about Internet overuse symptoms outlined by Mark Griffiths. Symptoms posing a threat for physical health (sleeping and eating disorders), study, hobbies, potential family conflicts and social functioning as well as difficulties in limitation or expropriation of addictive activeness were chosen (Kirwil, 2011). In Poland, 23% of the interviewed teenagers (between the age of 11 and 16) observed at least one of such symptoms. The most frequent symptom is Internet surfing even when it is “not interesting at all” (38%) as well as neglecting family, friends and study (35%) (Kirwil, 2011).

The prevalence of loneliness was also very high. Almost 40% of the young people covered by the study felt lonely, whilst severe loneliness was found in 2.5% of the adolescents. Analyses conducted in Portugal revealed up to 8.4% of severely lonely adolescents (Pontes et al., 2014a). Loneliness can be a developmental need (parallel to the need for attachment), and can promote psychological well-being when adolescents choose to be alone, but usually it is a risk factor for the adolescent's compromised well-being, caused by social refusal (Maryl and Korolczuk, 2008).

The results of correlation analysis showed that Internet addiction is correlated with overall loneliness and emotional loneliness (not social), and the level of loneliness (overall, emotional and social) is negatively correlated with quality of life. The results are consistent with previous studies showing associations between Internet overuse and loneliness (Amichai-Hamburger and Ben-Artzi, 2003; Kim et al., 2009; Kraut et al., 1998). Path analysis confirmed significant associations between Internet addiction and emotional loneliness, and between emotional loneliness and quality of life. The analysis confirmed that Internet addiction predicts adolescents’ quality of life indirectly, and emotional loneliness is a mediator of this relationship.

The debate whether it is Internet addiction that causes loneliness or loneliness that causes Internet addiction is reflected in the literature of the subject. Kraut et al. (1998) conducted a longitudinal study which concluded that Internet use leads to users' loneliness. Amichai-Hamburger and Ben-Artzi (2003) found that people who already feel lonely spend too much time online. In a study conducted by Chou and Hsiao (2000) it was found that an increase in Internet use reduced the time allocated for real-life social relations, and caused social isolation, resulting with an increased sense of loneliness. Our study has confirmed that Internet addiction can be a predictor of loneliness.

Ayas and Horzum (2013) tried to explain the bidirectional relationship between Internet addiction and loneliness, referring to the role of social support. Social support has a positive impact on individuals, protecting against depression and feeling lonely. Since Internet addicts usually abstract themselves from the social environment, they cannot benefit from social support. They spend more time in the virtual reality, and expect more, including help, from virtual friends as a consequence. This situation can increase the individual's Internet addiction.

The fact that our research was carried out in schools where boys were a majority can influence the results.

Fig. 3. A path analysis model of the relationships between Internet addiction, loneliness and quality of life
Over-representation of boys is undoubtedly the study’s limitation. Another limitation is the use of the 8-item scale of Internet addiction by Kimberly S. Young that contained texts of various length. The most popular scale by this author consists of 20 items. In this study, the shortened version of Young’s scale contained 8 questions (Young, 1998, 1999). Particular questions were formed on the basis of a questionnaire addressing pathological gambling. The link between social loneliness and Internet addiction has not been indicated at all, and correlation between addiction and emotional loneliness has been low, at the level of 0.28. No similar studies by other authors were found for comparative purposes.

CONCLUSIONS

The results of the presented study lead to the conclusion that Internet addiction lowers young people’s quality of life, causing emotional loneliness. Effective interventions based i.a. on increased social support should be undertaken to reduce the negative consequences of Internet addiction and loneliness on adolescents’ quality of life. The study has found a correlation, but has not determined a causative relationship. People suffering from loneliness might use the Internet as a form of compensation.

Conflict of interest

The authors do not report any financial or personal affiliations to persons or organisations that could adversely affect the content of this publication or claim rights thereto.

Funding/Support and role of the sponsor

Financial support for the research was provided by the Institute of Mother and Child (OPK 510-20-18).

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Podstawowy Kurs Psychoterapii Pozytywnej w SOPOCIE od 23 czerwca 2017 r.

Organizator:
Pracownia Pomocy Psychologicznej w Sopocie przy współpracy z Wrocławskim Centrum Psychoterapii Pozytywnej, pierwszym w Polsce akredytowanym ośrodkiem z ramienia Światowego Stowarzyszenia Psychoterapii Pozytywnej (WAPP).

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Opis:
Psychoterapia pozytywna jest formą terapii krótkoterminowej, zdobywającą popularność w Polsce i na całym świecie. Podejść do integracji rozumienia psychodynamicznych i poznanowych, a jednocześnie odwołuje się do modelu zdrowego. Twórcą i popularyzatorem tej metody był psychiatra, neurolog i psychoterapeuta Nossrat Peseschkian (1933–2010). Od móodu to integruje rozumienie psychodynamiczne i poznawczo-behawioralne, a jednocześnie odwołuje się do modelu zdrowego, a tym samym do pozytywnego wizerunku człowieka.

Psychoterapia pozytywna jako szkoła terapeutyczna jest akredytowana przez Europejskie Stowarzyszenie Psychoterapii, Światową Radę Psychoterapii i Międzynarodową Federację Psychoterapii.

Opis o psychoterapii pozytywnej może świadczyć fakt, że na świecie na kilku kontynentach istnieje już ponad 30 instytucji stosujących i propagujących tę metodę terapeutyczną.

Informacje o PSYCHOTERAPII POZYTYWNEJ zamieszczone na naszej stronie: http://pracownia-mm.pl/aktualnosci/aktualnosci-psychotherapy-pozytywnej/. 


Ukończenie poziomu podstawowego i zaawansowanego daje uczestnikom międzynarodowe uprawnienia do stosowania tej metody leczenia.


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