Pedagogická orientace

Journal of the Czech Pedagogical Society

Vol. 30/4
2020

Pedagogická orientace, 2020, Vol. 30, No. 4, Date of issue: 31. 5. 2021

Journal of the Czech Pedagogical Society

Postal address: Pedagogická orientace, Institute for Research in School Education, Faculty of Education of Masaryk University, Poříčí 31, 603 00 Brno, Czech Republic, e-mail: minarikova@ped.muni.cz

Journal profile: Pedagogická orientace is a peer-reviewed scholarly journal which aims to support the development of pedagogical thinking. It comprises articles on current issues in theory and practice in education, curriculum and instruction, educational psychology, educational research, educational policy, and teacher education. The Journal provides a forum for distinguished authors as well as young researchers from within the Czech Pedagogical Society as well as from outside. Pedagogická orientace is an open access journal which means that all content is freely available at https://journals.muni.cz/pedor.

Instructions for authors: Pedagogická orientace publishes four types of articles; theoretical papers, research papers, review papers (ca 45 000 characters), letters (ca 27 000 characters), conference and other reports and book reviews (ca 9 000 characters). The articles should have the following structure: abstract (max 1 200 characters), key words, introduction, state-of-the-art, method, results and interpretations, discussion, conclusion and short information about the author/authors. Prior to publication, each paper (excluding discussion papers, reports and book reviews) is judged by the Editor and double-blind peer-reviewed by two anonymous experts. More detailed author guidelines and the information on the peer review process are available at https://journals.muni.cz/pedor.

The Journal accepts previously unpublished papers only.

Pedagogická orientace adheres to the principles outlined by COPE – Committee on Publication Ethics (http:/publicationethics.org/), the Ethical Code of the Czech Pedagogical Society, and the Ethical Code of the Czech Educational Research Association.

Pedagogická orientace (ISSN 1211-4669 print; ISSN 1805-9511 on-line; reg. No. MK ČR E 20166) is published by the Czech Pedagogical Society, Poříčí 538/31, 639 00 Brno, IČ 00444618, in cooperation with Masaryk university. Subscription orders: https://journals.muni.cz/pedor.
Pedagogická orientace is published quarterly. Typeset Mgr. Monika Foltánová, print: Papír a tisk, s. r. o., Heršpická 800/6, 639 00 Brno. Circulation: 350 copies.
The publishing of the journal is supported by the Council of Scientific Societes of the Czech Republic.
Pedagogická orientace has been listed in following academic databases: ERIH PLUS, DOAJ, Educational Research Abstracts Online (Taylor & Francis), EBSCO Education Source, CEJSH, ProQuest.

Contents

Obsah

Child in Network of Risks

The crisis development of post-modern society brings a number of impulses to school education. It forces all professions involved in the education of children and youth to increasingly concentrate on the manifestations of risk behaviour that threaten their originators as well as their surroundings. It leads to the necessity to implement topics and programmes in elementary and secondary school curricula that would systematically prevent this behaviour. It creates the need for intervention measures and a counselling system that would provide teachers, parents and pupils with protection and safety concerning the solutions adopted. It poses new demands on the teaching profession, makes some teachers specialize in preventive work as well as provides space for engagement of other professionals in education.

The increase in the severity of the manifestations of risk behaviour, the emergence of new forms of risk and the loss of integrity in pupils' social and personality competences are becoming a global issue. For this reason, the editors of the journal decided to dedicate the monothematic issue to this particular problem and publish an English version of the issue to open it to papers from all over the world. As a result, the editors shortlisted papers that describe the situation in Central and South-Eastern Europe including regions that have gone through an 'epidemic' of social risk behaviour as well as in Africa where risk behaviour is associated with the influx of 'modern' technology into traditional communities.

The studies share the professional focus on risk behaviour, its prevention and research experience with studying the correlations within the triad of the following concepts: behaviour – prevention – education. The first text presents an interesting view of video gaming in Nigeria. The research data obtained by analysing the responses of 850 adolescents reveal a considerable increase in gaming among secondary school students and point to a high number of individuals showing signs of game addiction. The final part of the text provides prevention recommendations, which are so reminiscent of the situation in Europe prior to the massive spread of social networks and the influx of social reality. The next study develops the previous theme and builds on it in a way. The authors emphasise the effects of the spread of social networks among pubescent children. Problematic internet use is correlated with the personality characteristics of pupils aged 11 to 14 years. Emphasising the effect of emotional instability on risk behaviour in relation to

the internet is an impulse for the prevention of such behaviour. The following text reveals the phenomenon of boredom. It identifies the risk potential of school boredom stemming from overall life dissatisfaction in the context of school success and the meaningfulness of education. Effective prevention of risk behaviour in schools can be achieved through thematization into areas that are related to the complex phenomenon of school boredom and that are directed towards the development of pupils' life skills. The last text in the Studies section addresses the conditions of school prevention. It analyses how teachers who hold the function of prevention methodologists assess the conditions in their schools for the performance of their coordination and conceptual actions. In this context, the research suggests that the mere provision of a special position of a 'teacher-preventionist' is not sufficient and that the establishment of a functional counselling department in schools is only possible through high-quality staffing.

The last two papers follow this study and partially develop it. In the Discussion section, attention is on the role of the social pedagogue in schools. First, focus is on the efforts to establish the profession in the Czech education system. Then, experience from Slovakia is reflected upon where the social pedagogue is responsible for preventive and educational work. This is another pedagogical professional which focuses, inter alia, on situations resulting from risk behaviour. The author again points out the importance of addressing risk behaviour on the Internet and social networks.

In a way, the texts are linked to one another and provide an account of the problems of current education. The risks discussed by the authors are of a global nature and therefore, the sharing of experience and formulation of conclusions requires a broader discourse as well as a broader experience base. We believe that the monothematic issue will become an incentive for further research, establishment of international research teams as well as further sharing of experience with the phenomena that are increasingly entering the world of school and family education.

Tomáš Čech, Simona Dobešová Cakirpaloglu, Miroslav Procházka
Editors of the monothematic issue

Prevalence and correlates of video gaming addiction among Nigerian in-school adolescents

Adams Ogirima Onivehu

Department of Social Sciences Education, Faculty of Education, University of Ilorin, Ilorin, Nigeria

Received 21. 7. 2020 / final version received 10. 1. 2021 / accepted 18. 3. 2021

Abstract: Video gaming has become a popular phenomenon among in-school adolescents in many parts of the world due to rapid development of the gaming industry in the 21st century. Resultantly, in-school adolescents have access to a broad spectrum of video games with diverse potentials and capabilities for maximal user experience. Whilst video gaming can provide some benefits for in-school adolescents, it can also pose some dire challenges. Thus, video gaming addiction has come to public attention and is gaining traction amongst stakeholders in the Nigerian school system. Hence, this study investigated prevalence rates and correlates of video gaming addiction among in-school adolescents randomly selected from public and private secondary schools in Kwara State, Nigeria. A total of 850 in-school adolescents were sampled from twenty secondary schools. The independent variables (gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function) were assessed using a bio-data form and standardized scales respectively while the dependent variable (video gaming addiction) was examined using the *Game Addiction Scale*. Data were subjected to frequency counts, percentage, correlation analysis and multiple regression. The results of this study showed that a majority of the respondents (74%) played offline and online video games, while 13.5% of the respondents were identified as having a video gaming addiction. Gaming addiction was significantly correlated with peer influence, gender, academic performance, executive function and life satisfaction. It was recommended that effective preventive measures should be put in place to curb the menace of video game addiction and its associated effects among Nigerian adolescents.

Keywords: video gaming addiction, in-school adolescents, prevalence, correlates

Education is the bedrock of individual and national development in any nation. Thus, the *National Policy on Education* (FRN, 2013), clearly indicates that Nigeria's philosophy of education is based on the belief that education is an integral tool for national development and social change. Hence, education is a fundamental right of every Nigerian, regardless of

https://doi.org/10.5817/PedOr2020-4-425

individual and socio-cultural differences. To this end, Nigeria currently runs the 9–3–4 system of education. By implication, formal education in Nigeria covers 9 years of basic education, 3 years of senior secondary education and 4 years of higher education. Specifically, the 9 years of basic education consist of three levels, which includes the lower basic education (primary 1–3), the middle basic education (primary 4–6) and the upper basic education (junior secondary school 1–3). Senior secondary education, which covers a duration of three years, is designed to develop the cognitive, psychosocial, and socio-economic abilities of Nigerian adolescents.

Essentially, the curriculum for senior secondary school education comprises of various fields of studies, such as science subjects, technology studies, humanities, business studies, and compulsory cross-cutting subjects that are tailored to achieve various objectives in line with the national goals of education (FRN, 2013). It is, however, an indisputable fact that, the extent to which the laudable objectives of secondary school education are being achieved in Nigerian secondary schools is a function of a broad spectrum of factors. For instance, digital technology has significantly changed the daily lives of many people in Nigeria, especially the in-school adolescent community, who are generally referred to as "digital natives". As such, there is no gainsaying that in-school adolescents in Nigeria utilize various forms of digital devices and gadgets within and outside the school environment for learning, entertainment, social networking, recreation, and a host of others (Ajike & Nwakoby, 2016; Ali & Aliyu, 2015; Alufohai, 2019; Okika & Agbasi, 2015; Okim-Alobi & Ogbu, 2017; Onivehu et al., 2018; Yusuf et al., 2012).

For instance, digital technology is increasingly being used for playing video games on gaming consoles, computers and mobile devices among in-school adolescents in contemporary Nigerian society. Essentially, in-school adolescents could play video games for academic, entertainment, fun, competition, companionship, emotional coping, and economic reasons. In other words, video games could contribute positively to the development of in-school adolescents in various ways. Nonetheless, many in-school adolescents could become excessively immersed in their video gaming behavior, which could result in video game addiction, with its associated physical, psychosocial, educational and career problems (Okika & Nwakasi, 2016; Onyemaka et al., 2017).

Video game addiction is a contemporary phenomenon among in-school adolescents in Nigeria, due to the popularity of video game playing as a trending form of recreation among Nigerians. Given the importance of the period of adolescence to the lifespan development of an individual, gaining a good insight into the prevalence and correlates of video game addiction among in-school adolescents in Nigeria, would play a germane role in the design of effective prevention programs to curb the menace of video game addiction in Nigerian society. Thus, the main purpose of this study was to examine the prevalence and correlates of video game addiction among in-school adolescents in Nigeria.

1 Statement of the problem

Nigerian society is undergoing a significant shift, which is largely attributed to technological explosion, accessibility of internet services, and digital technology. Video gaming appears to be a germane contributor to the technological shift in Nigerian society, acting as a powerful agent of entertainment, relaxation, education, and information. With the rapid advancement in video gaming technology, Nigerian in-school adolescents play a plethora of offline and online video games for diverse purposes. Nonetheless, uncontrolled playing of video games could lead to video gaming addiction among in-school adolescents, especially in view of the various undesirable effects of video gaming addiction on the cognitive, behavioural, physical, psychosocial, and moral development of in-school adolescents. It is, therefore, germane for stakeholders in the Nigerian school system, as well as mental health professionals from other fields, to gain an insight into the prevalence and correlates of video gaming addiction among Nigerian in-school adolescents, so as to facilitate the development of effective prevention and treatment measures. In this wise, Okika and Nwakasi (2016) focused on the violent video game screen time of children in Akwa Urban, Nigeria. Likewise, Onyemaka et al. (2017) investigated the relationship between undergraduate males' video game addiction and academic performance in a Nigerian private university. However, there is a paucity of related studies on the prevalence and correlates of video game addiction among in-school adolescents in Nigeria. Thus, in order to fill the identified problem in the extant literature, the present study investigated the prevalence and correlates of video game addiction among in-school adolescents in Nigeria.

1.1 Concept of Video Game

A video game could be defined as an electronic or digital based interactive entertainment system, which facilitates play or mutual interaction with a user interface, to produce audio-visual feedback on a plethora of display devices such as television screen, computer monitor, mobile devices (laptops, smartphone, tablet PCs), hand-held systems, such as the Game Boy, Nintendo DS and Playstation Portable and emerging forms of immersive interfaces, that are increasingly being developed to cover most of the sensual modalities of gamers, such as vision, hearing and tactile interaction, in ways similar to what is obtainable in the real or physical world (Gentile et al., 2012; Miezah et al., 2020). Traditionally, a video game consists of hardware and software. The hardware is often called a video game console. A video game console is a small box with game pads, which is often designed to display various forms of software. The commonest examples of video game consoles include the Sony's Playstation, Nintendo's Switch and Microsoft's Xbox. However, some specialized video games, like arcade games are typically coin-operated and housed in a large complex. Conversely, the software for a video game is designed with embedded forms of lighting, animation, graphics, colour and a host of other visual and sound effects, and it is usually available in the forms of direct internet downloads, standardized cartridges and Blu-ray discs. However, the new generation of games, such as the PS4, Xbox Series, as well as the handheld systems (PSP and DS), has in-built online functionality and wireless internet access, which enables gamers to play games virtually. Thus, gamers are enabled to engage in downloading of new game contents and entire games, as well as multiplayer gaming. More so, the exponential increase in the availability, accessibility, affordability and capability of mobile devices, has significantly improved the rate at which gamers leverage the use of smartphones, tablet PCs as modern forms of video game consoles to play several offline and offline games (Gentile et al., 2012; Kweon & Park, 2012; Miezah et al., 2020; Monke, 2009).

1.2 Concept and prevalence of video gaming addiction

The term "addiction" refers to the continued excessive use of a substance irrespective of detrimental personal, occupational, physical, health, or social consequences. Although addiction has been applied to other forms of behavioural addiction, video game addiction is a recent addition to the list of behavioural addictions. Given that video gaming addiction has similar

features, effects and neurophysiological characteristics with other forms of behavioural addictions, such as sex addiction, pathological gambling, substance addiction, and internet addiction, several attempts have been made by different scholars to define the meaning of video gaming addiction.

Nonetheless, the exact meaning of video gaming addiction is highly debated among various scholars in the extant literature (American Psychiatric Association, 2013; Kuss & Griffiths 2012). For instance, Lemmens et al. (2009) defined video gaming addiction as the excessive, compulsive, and uncontrolled use of video or computer games, even when it is obvious that the gamer is exposed to socio-emotional problems. Video gaming addiction also refers to the continued pattern of video gaming, which could result in maladaptive functioning. Video gaming addiction is, therefore, a maladaptive psychological dependence on video games, which is often manifested in an obsessive-compulsive pattern of gaming at the expense of other essential activities (King et al., 2013; Petry et al., 2018).

From a more professional standpoint, the American Psychiatric Association (2013) averred that video gaming addiction is the persistent and recurrent use of video games for at least a period of 12 months, which could result in clinically significant impairment or distress. Specifically, the proposed criteria for the inclusion of video gaming addiction or disorder in the DSM-5 includes excessive engagement with video games, tolerance, withdrawal symptoms, failed attempts to reduce the level of involvement with video games, continued use of video games, regardless of evident psychosocial problems, loss of interest in other forms of relaxation or leisure, use of video games as a form of escapism from stressful or challenging life conditions, loss of relationship and career opportunities and being deceptive about the extent of one's video gaming behavior (American Psychiatric Association, 2013).

There is a growing body of studies on the prevalence of video gaming addiction in different countries. Nonetheless, findings on the prevalence rates of video game addiction remain inconsistent and inconclusive across studies. For instance, Lenhart et al. (2008) carried out a nation-wide study to assess the level of teen video game play and of teen video gaming and civic engagement among American adolescents aged 12–17 years and found that 97% of the respondents played video games. In a related study, Boak et al. (2016) carried out a longitudinal study on the mental health and well-being of Ontario students from 1991–2015 and found that about 12.5% of Grades

7 to 12 students in Ontario, Canada were addicted to video games. Likewise, Achab et al. (2011) investigated the prevalence rate of massively multiplayer online role-playing games by comparing characteristics of addict versus non-addict online recruited gamers in a French adult population and found that 27.5% of subjects were addicted to video games in France. In another study carried out by Haagsma et al. (2012) among Dutch adolescents and adults aged from 14 to 81 years, the prevalence of video game addiction was found to be 1.3%. Suchá et al. (2019) examined the prevalence of digital game playing among adolescents, aged 11–19 years in the Czech Republic and reported that 36.49% of the respondents were addicted to computer video games.

Festl et al. (2013) investigated problematic game by administering the *Gaming Addiction Short Scale* (GAS) on 580 adolescents, 1866 younger and 1936 older adults, similar to the risk factors for video game addiction. In a related study, Pápay et al. (2013) revealed that 8.2% of secondary school students in Hungary were addicted to video games. In Australia, Porter et al. (2010), reported that 7.6% of the adolescents were problematic gamers. Tejeiro et al. (2012) investigated the psychosocial characteristics of adolescent video game abusers among Spanish adolescents aged between 12 and 17 years and found that 37.3% of the respondents were problem gamers.

In Hong Kong, Wang et al. (2014) administered the GAS to a sample of 920 respondents selected from four secondary schools across different districts in Hong Kong and found the prevalence of gaming addiction to be 13 %. Wittek et al. (2016) investigated the prevalence rates and predictors of video game addiction in a sample of gamers, randomly selected from the National Population Registry of Norway. Findings indicated that there were 1.4 % addicted gamers, 7.3% problem gamers, 3.9% engaged gamers, and 87.4 % normal gamers. Saquib et al. (2017) examined the video game addiction and psychological distress among expatriate adolescents in Saudi Arabia and found out that 16% of the respondents were addicted to video games.

In the African setting, Onyemaka et al. (2017) examined the relationship between undergraduate males' video game addiction and academic performance among 250 male undergraduates selected from a Nigerian private university. The study found that video game addiction had a significant effect on the academic performance of undergraduate students. Similarly,

Miezah et al. (2020) examined the prevalence of video game addiction and some of its correlates among university students in three public universities in Ghana and found that 12.2% of the respondents were addicted to playing video games, while 31.2% of the respondents were addicted to playing video games, when a monothetic approach (i.e., every criterion for video game addiction was met), and a polythetic approach (i.e., half of the criteria for video game addiction were met) were used respectively.

1.3 Correlates of video game addiction

Clearly, there is a growing body of literature on the prevalence of video game addiction among the adolescent population. It is, therefore, not surprising that several studies have been carried out by different scholars to explore the influence of a plethora of independent variables, such as bio-data characteristics, psychosocial factors, home-related factors, school-related factors and a host of others. Of great importance in this regard, is the roles being played by gender, self-esteem, life satisfaction, perceived level of stress, peer influence, academic performance and executive function in the formation of video gaming addiction among adolescents.

Gender is a major characteristic of an individual. Essentially, gender entails the socially constructed and accepted behaviours of men and women in a given society. Gender could also be viewed as the status, roles, responsibilities, duties, advantages, disadvantages, and power being accorded to men and their women counterparts in society. By and large, the influence of gender on the usage of a vast arsenal of technological devices has been the prime focus of many studies in extant literature. To this end, the gender-based evaluation of the phenomenon of video game addiction is saturated with a plethora of mixed findings.

On the one hand, a stream of findings indicated that male adolescents are more addicted to video games than their female counterparts. In other words, there is a significant or meaningful difference in video game addiction among adolescents based on gender (Kweon & Park, 2012; Miezah et al., 2020; Wittek et al., 2016). On the other hand, the findings of some studies indicate that gender has no significant difference on the prevalence of video game addiction (Demirtaş et al., 2015; Rehbein & Mößle, 2013).

Self-esteem is one of the prime or essential needs of humans. In other words, self-esteem is essential for the achievement of personal goals, success, and

social competence among humans, especially among adolescents, who are at the critical stage of identity formation (Sepahi et al., 2015). Given that adolescence is a time in which adolescents experience significant psychosocial changes, self-esteem plays a key role in the way adolescents carry out self-approval or disapproval. In other words, the self-esteem of an adolescent, which could be either positive or negative, is formed based on the mental evaluation of the abstract information related to the entirety of the adolescent's life. Hence, adolescents with a positive self-esteem have a greater likelihood to be better off psycho-socially (Adegunju et al., 2017). Conversely, adolescents with negative self-esteem could manifest greater levels of mental health challenges such as anxiety, depression, suicidal ideation, and video game addiction. For instance, extant findings indicate that video game addiction constitutes a significant challenge to the psychosocial development of adolescents, especially with regards to its related negative self-esteem (Beard & Wickham, 2016; Miezah et al., 2020; Van Rooij et al., 2011).

Life satisfaction is an individual's self-appraisal of his/her past and current living conditions. Life satisfaction, therefore, refers to the prime indicator of an individual's general wellness and positive functioning (Lewis et al., 2011). Life satisfaction plays an integral role in the quality of life, well-being, positive functioning and general mental health of adolescents, especially in view of the importance of the period of adolescence to the development of life satisfaction in an individual. Thus, among the in-school adolescent population, life satisfaction might be related, but not limited to, the extent of satisfaction with self, family, friends, environment and the generality of living. In the field of addiction research, life satisfaction is increasingly being reported to be linked to the prevalence of video gaming addiction (Forrest et al., 2016; Lemmens et al., 2009). Nonetheless, the findings of a longitudinal study carried out by Lemmens et al. (2011) indicated there was no significant relationship between internet game addiction and lower life satisfaction. In a similar manner, Miezah et al. (2020) found that there was no significant relationship between video game addiction and life satisfaction among public university students in Ghana.

Stress is an unavoidable component of human life. Thus, stress is a common phenomenon among adolescents. In other words, adolescents are generally prone to personal, physiological, emotional, and psychosocial reactions to a broad spectrum of stimulus from the environment, which could be internal

or external. Mróz (2015) defined perceived stress as the feelings or thoughts of an individual about the extent of stress they are experiencing at a specific time or over a period of time. Perceived stress is a broad concept that has to do with how a person feels about a stressful situation and how he/she is able to harness coping strategies to handle the stress. Thus, numerous studies indicated a significant relationship between stress and video game addiction (Griffiths et al., 2012; Wenzel et al., 2009).

Adolescence is a transitional period, which is generally characterized by an increased quest for independence among adolescents. Thus, adolescents tend to make more friends among their peers in order to improve their social capital. By so doing, the positive or negative effects of peer pressure become more pronounced or visible among in-school adolescents. In other words, peer pressure is a germane social factor or variable, which could mediate the behavior of in-school adolescents. For instance, in-school adolescents could benefit immensely from the effects of positive peer pressure, especially in terms of improved academic performance, study habits, prosocial behavior, physical activity, social competence, well-being and a host of others. However, the formation of addictive behaviours, such as video gaming addiction has been related to the negative effect of peer pressure (Wang et al., 2014).

Academic performance has played a prime role in the educational community for decades. Resultantly, the outcome of the teaching-learning process, which is generally called academic performance, has been of utmost concern to various stakeholders in the Nigerian educational system for decades (Adegunju et al., 2017; Onivehu et al., 2018; Onivehu & Ohawuiro, 2018; Onivehu, 2020). Given the propensity of Nigerian in-school adolescents, to engage in video game playing as a form of entertainment, relaxation and competition, the academic performance of in-school adolescents might be positively or negatively influenced by video games usage. From a positive perspective, non-excessive playing sessions have a positive influence on the mathematics and reading skills of in-school adolescents (Bowers & Berland, 2013; Blum-Dimaya et al., 2010). Nonetheless, several studies indicated that video game addiction has significant negative effects on the academic performance of adolescents, especially in terms of school attendance, class participation and study habits (Gentile, 2009; Haghbin et al., 2013; Onyemaka et al., 2017; Schmitt & Livingston, 2015). However, the findings of Drummond and Sauer (2014) indicated that increased playing of single player or multiplayer video games had no significant effect on academic performance

of students in science, mathematics and reading in a comprehensive study carried out in twenty-two countries. On the contrary, some findings indicate that video game addiction could cause decreased academic performance among adolescents (Anand, 2007; Gentile, 2009; Skoric et al., 2009).

Executive functioning plays an integral role in adolescent development, especially with regards to self-regulation, socio-emotional development, well-being and academic achievement. Executive function is a broad term for several neurologically-based skills that are essentially involved in mental control and self-regulation. Although, there is no universally accepted definition of executive functions, there is a consensus among scholars that executive functions are a set of related, but distinct, processes that consists of inhibitory control, working memory, and attentional control, which drives purposeful, goal-directed, and problem-solving behaviours (Toplak et al., 2013). Thus, executive functioning is an indispensable buffer against various forms of addictive behavior among adolescents. For instance, executive function could be harnessed by an adolescent to plan and control his or her actions, especially in the video gaming environment. While a significant body of research into the relationship between executive function and video gaming exists, findings appear to be inconclusive and mixed. Across various age cohorts, findings have indicated video gaming contributes positively to the development of executive function (Blumberg et al., 2008; Maillot et al., 2012). Conversely, others have found a decreased level of executive functioning among respondents due to video game playing and addiction (McDermott et al., 2014; Vallett et al., 2013).

1.4 Effects of video gaming addiction

With the invention of video games, a new channel of entertainment and relaxation has emerged. This new channel of entertainment and relaxation has significantly changed the daily lives of many people across the world. In this respect, students, especially in-school adolescents, are generally prone to dedicate a significant part of their time to playing video games for various purposes. Towards this end, the effects of video games among in-school adolescents are generally two-folded. Video games provide gamers with a plethora of benefits. Essentially, a video game is a form of entertainment or relaxation for in-school adolescents. More so, video games playing could lead to improved spatial visualization abilities; increased prosocial behavior; social capital; enhanced creativity; problem-solving skills; and

academic performance (Adachi & Willoughby, 2013; Calado et al., 2014; Green & Bavelier, 2012; Suchá et al., 2019; Utz et al., 2012; Wilms et al., 2013; Zhong, 2011).

Video games, however, could also pose dire risks for in-school adolescents, especially those who are addicted. Essentially, video game addiction causes some significant health issues for adolescents, such as musculoskeletal pains, sleep deprivation, insomnia, poor personal hygiene, sedentary lifestyle (American Psychiatric Association, 2013; Foti et al., 2011; Suchá et al., 2019).Video gaming addiction could also be associated with personality impairments, aggressive behaviours, hyperactivity, learning disorder, anti-social behavior, anxiety, depression, loneliness, social phobia, increased violence or crime incidence, substance abuse, low self-esteem, poor academic achievement, low life satisfaction and a host of others (Hsu et al., 2009; Lemmens et al., 2011; Suchá et al., 2019).

2 Methods

This study adopted the correlational method of descriptive research. The population for the study comprised all in-school adolescents in Ilorin, Kwara State, Nigeria while the target population was all in-school adolescents in public and private senior secondary schools. Simple random sampling technique of fish bow method was used to select the sample, which consists of 850 in-school adolescents. To collect data, the researcher approached selected schools in Ilorin Metropolis, Kwara State, Nigeria. Thereafter, permission was obtained from the principals to conduct the study. The researcher then sought the consent of the respondents to be a part of the study. The confidentiality of elicited responses was assured to the respondents. The instrument used in this study was a self-developed questionnaire which consisted of seven sections (A, B, C, D, E, F, G). Section A elicited students' biographic information (gender, school type, age), pattern of video gaming (years of video gaming, frequency of video gaming, gaming partners, categories of most played games and categories of most used gaming platforms) and academic performance.

Section B consisted of the *Game Addiction Scale*, which is a 21-item scale adapted to measure in-adolescents' degree of addiction to computer and video games. The scale is based on the criteria for pathological gambling found in the DSM-IV. The original scale consists of three items for each of

the following seven criteria: salience, tolerance, mood modification, relapse, withdrawal, conflict, and problems. However, the shortened 7-item version of the scale, which consists of the items with the highest measurement loadings from each of the seven first-order factors were used for the present study. Section B was patterned in a Likert scale format of *very often* (VO) = 5 points, *often* (O) = 4 points, *sometimes* (S) = 3 points, *almost never* (AN) = 2 points, *never* (N) = 1 point. The items included questions such as "how often during the last six months did you think about playing a game all day long?" The scale was evaluated according to the polythetic format as applied in the DSM-4. Hence, respondents who scored 5 points or ticked very often (VO) on at least four of the seven items were considered to be addicted to video games. By so doing, respondents who scored 1–19 points were adjudged to be low on video gaming addiction or non-video gaming addicts, while respondents who scored 20–35 points were classified as high on video gaming addiction or video gaming addicts. This scale is found suitable for this study as it yielded Cronbach Alpha of 0.75.

Section C consisted of the *Satisfaction with Life Scale* (SWLS) adapted from Diener et al. (1985), which is a five-term self-report. The SWLS asks respondents to indicate the extent to which they agree with statements about their life on a 7-point Likert style scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Example item: "In most ways, my life is close to my ideal". The scale is scored by summing scores on each item with the following cut-offs to be used as benchmarks; 31–35, extremely satisfied; 26–30, satisfied; 21–25, slightly satisfied, 20 neutral, 15–19, slightly dissatisfied; 10–14, dissatisfied; and 5–9, extremely dissatisfied. However, for the present study, the possible range of scores is 5–35, with a score 5–20 indicating the respondent is extremely dissatisfied with life, while scores between 21–35 indicate the respondent is extremely satisfied with life. The Cronbach alpha for the scale was .89, indicating that the scale has high internal consistency, thereby indicating a high level of suitability for the present study.

Section D consisted of the *Executive Skills Questionnaire for Students* (ESQS), which was adapted from Dawson and Guare (2010). The original scale, which measures 11 different executive skills consists of 33 items. However, the adapted version that was used for this study consists of 15 items which measure some executive skills, such as response inhibition, emotional control, sustained attention, time management and goal-directed persistence. Example item: "I don't jump to conclusions". Items are rated on a

7-point Likert-scale for a total point value of 105, with a high score indicating weaker executive functioning. For the purpose of this study, respondents who score 15–60 were deemed to have a high level of executive functioning, while respondents who score 61–105 were deemed to have a low level of executive functioning. This scale is found suitable for this study as it yielded Cronbach Alpha of 0.71.

Section E consisted of the *Peer Pressure and Conformity Scale* (Santor et al., 2000). Thus, the peer pressure sub-scale, which consists of 11 items, was adopted for the present study. Example item: "At times, I have broken rules because I have been urged to." Reponses are provided on a five-point Likert scale from *strongly agree* (1) to *strongly disagree* (5). The scale has Cronbach's Alpha coefficient of 0.74, which was deemed to be sufficiently reliable for the present study.

Section F comprised of the *Rosenberg Self-esteem Scale*, which is a 10-item self-report instrument to measure self-esteem. Example item: "On the whole, I am satisfied with myself." The items on the *Rosenberg Self-esteem Scale* are rated on a 4-point Likert scale format of *strongly agree* (SA) = 4 points, *agree* (A) = 3 points, *disagree* (D)= 2 points, *strongly disagree* (SD) = 1 point, with values ranging from 0–30, with 30 indicating the highest score possible. Thus, respondents who score 20–30 points were taken as high self-esteem respondents. On the other hand, respondents who score 1–19 points were deemed to have low self-esteem. This scale is found suitable for this study as it yielded a Cronbach Alpha of 0.82.

To measure the level of perceived stress, Section G consisted of the *Cohen Perceived Stress Scale*, which is a 14-item self-report measuring level of perceived stress among respondents during the past month. Thus, items in Section G were patterned in Likert scale format of *very often* (VO) = 5 points, *fairly often* (FO) = 4 points, *sometimes* (S) = 3 points, *almost never* (AN) = 2 points, *never* (N) = 1 point. Example item: "In the past month, how often have you been upset because of something that happened unexpectedly?" The items on the Cohen Perceived Stress Scale are rated on a 5-point Likert scale with values ranging from 14–70, with 70 indicating the highest score possible. Thus, in the present study, respondents who score 14–42 points had a low level of perceived stress, while respondents who score 43–70 had a high level of perceived stress. A Cronbach's Alpha coefficient of 0.85 was obtained for this study, which was deemed to be

sufficiently reliable. Frequency counts, percentage, correlation analysis and multiple regression were used for the analysis of data.

2.1 Research questions

The present study examined the prevalence and correlates of video game addiction among in-school adolescents in Nigeria. Specifically, the study sought to answer the following research questions: What is the pattern of video gaming among in-school adolescents in Kwara State, Nigeria?; what is the level of video gaming addiction among in-school adolescents in Kwara State, Nigeria?; what is the relationship among academic performance, life satisfaction, self- esteem, peer influence, perceived level of stress and executive function and video gaming addiction among in-school adolescents in Kwara State, Nigeria.

2.2 Research hypothesis

Ho1: There is no significant relationship between academic performance and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

H1: There is a significant relationship between academic performance and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

Ho2: There is no significant relationship between life satisfaction and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

H2: There is a significant relationship between life satisfaction and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

Ho3: There is no significant relationship between self-esteem and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

H3: There is a significant relationship between self-esteem and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

Ho4: There is no significant relationship between peer influence and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

H4: There is a significant relationship between peer influence and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

Ho5: There is no significant relationship between perceived level of stress and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

H5: There is a significant relationship between perceived level of stress and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

Ho6: There is no significant relationship between executive function and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

H6: There is a significant relationship between executive function and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

Ho7: Life satisfaction, self-esteem, peer influence, perceived level of stress and executive function cannot be used to predict video gaming addiction of in-school adolescents in Kwara State, Nigeria.

3 Results

Table 1

Demographic distribution of respondents by gender, class and age

Variables	Frequency	Percentage (%)
	Gender	
Male	435	51.18
Female	415	48.82
Total	**850**	**100.0**
	School Type	
Public School	472	55.53
Private School	378	44.47
Total	**850**	**100.0**
	Class	
SS1	385	45.29
SS2	252	29.65
SS3	213	25.06
Total	**850**	**100.0**
	Age	
Less than 15 years	398	46.82
15 years and above	452	53.18
Total	**850**	**100.0**

Table 1 shows respondents' gender, out of 850 respondents that were sampled, 435 (51.18%) of the respondents were males while 415 (48.82%) were females. Thus, male in-school adolescents and their female counterparts were fairly equally represented in the study. This finding could be attributed to the importance attached to the education of male and female children in secondary schools by parents and other caregivers in the metropolitan city of Ilorin, Kwara State, Nigeria, which is a city renowned for the availability of government-owned or public secondary schools. Furthermore, this fair gender representation of students in the present study could be as a result of the fact that the present study covered public and private secondary schools, which provide education for students of mixed gender. In other words, the study covered secondary schools that admit male and female students. However, it should be noted that some public and private secondary schools in Kwara State, Nigeria are designed to cater for the educational needs of a single sex of students. For instance, some government-owned or private secondary schools in Kwara State are for boys only or girls only.

Table 1 also indicates that 472 (55.53%) of the respondents are public school students while 378 (44.47%) of the respondents were private school students. Given that public secondary school education is highly subsidized by the Nigerian government, it is possible that parents and caregivers would give their in-school adolescents more opportunity to attend public secondary schools due to the fact that the school fees is generally more affordable than what is obtainable in private secondary schools.

With regards to the class representation of the respondents, Table 1 also shows that 385 (45.29%) of the respondents are Senior Secondary School 1 students; 252 (29.65%) of the respondents are Senior Secondary School 2 students while 213 (25.06%) of the respondents are Senior Secondary School 3 students. In the Nigerian educational system, Senior Secondary School 1 is the lowest level of the senior secondary school, which is often meant for students, who have passed the Basic School Certificate Examination (BECE). Hence, it is not surprising that most of the respondents were SS1 students.

In a like manner, SSS1 students who have passed and met the prescribed requirements at the SSS1 level get promoted to SSS2 and SSS3, respectively. Hence, the in-school adolescents in SSS2 and their counterparts in SSS3 are generally given more priority and responsibility in Nigerian secondary

schools. For instance, most of the school prefects, school assembly coordinators, intramural sports girls and boys, clubs and societies leaders in Nigerian secondary schools belong to the SSS2 and SSS3 classes. On the whole, it is deducible from Table 1 that SSS2 and SSS3 students also participated fairly in the study, with more respondents belonging to the Senior Secondary School 2 class.

Age wise, 398 (46.82%) of the respondents are less than 15 years old while 452 (53.18%) of the respondents are 15 years and above old. This finding might be attributed to the accelerated development of in-school adolescents and the propensity of some Nigerian parents to facilitate the educational progress of their children or wards, irrespective of age differences. In like manner, prior academic performance is given priority over age in the promotion of a student from one academic class to another in Nigerian secondary schools, and as such it is possible that the age distribution of students could vary from academic class to academic class.

3.1 Research question one: What is the pattern of video gaming among in-school adolescents in Kwara State, Nigeria?

Table 2 indicates respondents' video gaming pattern. Hence, 321 (37.77%) out of 850 respondents that were sampled, had played video games for 1–5 years, while 529 (62.33%) of the respondents have played video games for more than 5 years. This finding indicates that a sizeable percentage of in-school adolescents in Kwara State, Nigeria have been playing video games from the period of childhood. In a like manner, some of the in-school adolescents that have been playing video games for the past five years might have acquired some mobile devices, such as Smartphones, Tablet Pcs and Laptops in recent times.

Table 2 also shows that 409 (48.11%) of the respondents played video games for 5 or more times a week, 210 (24.71%) of the respondents have played video games for 1–4 times a week, while 231 (27.18%) of the respondents played video games once a month. Given that Nigerian in-school adolescents stay in school for about 8 hours on weekdays, it is possible that a significant part of the remaining 16 hours is used for playing video games. Similarly, the gaming time of in-school adolescents might increase in the weekends, outside the structured and controlled environment of the school.

Table 2

Demographic distribution of respondents by pattern of video gaming

Variables	Frequency	Percentage (%)
Years of Video Gaming		
1–5 years	321	37.77
More than 5 years	529	62.23
Total	**850**	**100.0**
Frequency of Video Gaming		
5 or more times a week	409	48.11
1–4 times a week	210	24.71
Once a month	231	27.18
Total	**850**	**100.0**
Gaming Partners		
Siblings	123	14.47
Friends	356	41.88
Solo Play	298	35.06
Others	73	8.59
Total	**850**	**100.0**
Categories of Most Played Games		
Sports	103	12.12
Action/Adventure	71	8.35
Puzzle	26	3.06
Fighting Games	109	12.82
First-Person Shooters	65	7.65
Strategy	48	5.65
Educational Games	58	6.82
Music/Party	30	3.53
Online	119	14.0
Others	221	26.0
Total	**850**	**100.0**
Categories of Games Platforms Used		
Mobile Phones	385	45.29
Desktop/Laptop computer	112	13.18
Tablet Pc	97	11.41
Gaming console (PSP, Xbox, PS4)	206	24.24
Others	50	5.88
Total	850	100.0

With regards to the gaming partners of the respondents, 123 (14.47%) of the respondents played video games with siblings, 356(41.88%) of the respondents played video games with friends, while 73 (8.59%) of the respondents played video games with others forms of partners. These findings show that in-school adolescents tend to engage in gaming with other people, which includes their family members and peers. However, some in-school adolescents might also play video games with other people in a broad spectrum of gaming shops that are available in the locality of the respondents.

Furthermore, Table 2 showed the categories of most played games among in-school adolescents in Kwara State, Nigeria. Thus, 103 (18.0%) of the respondents played sports games, 71(8.35%) of the respondents played action/adventure games, 26 (3.06%) played puzzle games, 109 (12.82%) played fighting games, 65 (7.65%) played first-person shooters, 48 (5.65% played strategy games, 58 (6.82%) educational games, 30 (3.53%) played music/party games, 119 (14.0%) played online games, while 221 (26.0%) played other forms of games.

In relation to the gaming platforms utilized by in-school adolescents in Kwara State, Nigeria, 385 (45.29%) of the respondents played video games on mobile phones, 112 (13.18%) played video games on desktop/laptop computer, 97 (11.41%) played video games on Tablet Pc, 206 (24.24%) played video games on a gaming console (PSP, Xbox, PS4), while 50 (5.88%) played video games on other forms of platforms.

3.2 Research question two: What is the level of video gaming addiction among in-school adolescents in Kwara State, Nigeria

Table 3

Distribution of respondents by levels of video gaming addiction

Levels of Video Gaming Addiction	Frequency	Percentage (%)
High	115	13.53
Low	735	86.47
Total	850	**100.0**

Table 3 shows that 115 (13.53%) of the respondents rated themselves within the high level of video gaming addiction while 735 (86.47%) of the respondents had low levels of video gaming addiction. This implies that about

13.53% of the respondents answered four or more of the seven items that measured video gaming addiction positively. In other words, approximately every 14th in-school adolescent in Kwara State, Nigeria is prone to the negative effects of video gaming addictions.

By implication, these are in-school adolescents who might think about playing a video game all day long, spend increasing amounts of time on video games, play video games to forget about real life, have made unsuccessful attempts to reduce the use of video games, have felt bad when they were unable to play video games, have had fights with family, friends and significant others over excessive video game playing, and have neglected other important activities, such as school, work, sports to play games. Given that video gaming addiction is a more subtle or invisible form of addiction, especially in relation to other forms of addiction, such as pathological gambling and substance addiction, it is possible that the in-school adolescents, parents, teachers and significant others in the environment of the respondents might not even be aware of the addictive implications of video games.

In a similar vein, this finding could be attributed to the fact that some of the respondents could be latch-key kids, who spent a significant part of the daytime on weekdays alone at home, without appropriate parental supervision. Hence, such in-school adolescents have a higher tendency to play video games as a form of relaxation or entertainment while their parents are at work. Given the propensity of adolescents to engage in risky behaviours in a group, some of the in-school adolescents who are addicted to video games, might be motivated to engage in excessive playing of video gaming by some of their peers in the school and the home environment. Many in-school adolescents in Nigeria have social media accounts and access the internet for various purposes. Thus, the reported level of video gaming addiction among the respondents might be attributed to accessibility of various video games on social media and the Internet.

3.3 Research question three: What is the relationship among, academic performance, life satisfaction, self-esteem, peer influence, perceived stress and executive function and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria?

Table 4

Pearson correlation matrix for the relationship among academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress,

executive function and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria

	1	2	3	4	5	6
Video gaming addiction	1					
Academic performance	.54**	1				
Life satisfaction	.35**	.53**	1			
Self-esteem	-45**	-.13**	- .38**	1		
Peer influence	.52**	.47**	.17**	.59**	1	
Perceived stress	-.38**	-.28**	-.33**	-.25**	-.34**	1
Executive function	. 41**	.32**	.51**	.33**	.29**	.32**

** = *Significance at p < 0.01*

Table 4 indicates the relationships among academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function and the risk of video gaming addiction among in-school adolescents in Kwara State, Nigeria. There was a significant positive correlation between video gaming addiction and some of the predictor variables (academic performance, life satisfaction, peer influence and executive function). However, self-esteem and perceived stress were negatively correlated with video gaming addiction. The interpretation for this is that if self-esteem and perceived stress increases, there is a corresponding decrease in the level of video gaming addiction among in-school adolescents in Kwara State, Nigeria. Therefore, it is possible that in-school adolescents have a high level of self-esteem, hence they deem it fit to stay focused in their academic pursuit rather than engaging in excessive and uncontrolled playing of video games. In a similar vein, it is possible that in-school adolescents in Kwara State, Nigeria tend to cope with higher levels of perceived stress by leveraging the social support of family members, peers, teachers, school counselors, engaging in religious activities, participating in others forms of relaxation that are not based on video games, such as watching movies, listening to music, sports and a host of others More so, all of the correlations are statistically significant at a 0.01 significance level.

3.4 Hypothesis testing

Table 5

Regression analysis showing relationship among gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress, executive function and video gaming addiction among in-school adolescents in Kwara State, Nigeria

Model	Sum of squares	df	Mean squares	Calculated F-value	Sig	Decision
Regression	2456.193	7	2715.64			
Residual	1413.743	842	316.18	57.13*	0.000	Rejected
Total	3869.93	849				

a. Critical level of sig = 0.05

b. Independent variables: gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function

c. Dependent variable: Video gaming addiction

Table 5 indicates that the calculated F-value is 57.13 with significant probability value of 0.000 which is less than the alpha value of 0.05. Since the probability value is lesser than the alpha value, the null hypothesis was rejected. Thus, gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function can predict video gaming addiction among in-school adolescents in Kwara State, Nigeria. To examine the contributions of the independent variables (gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function) to the model (video gaming addiction), R-square was computed, and the output reveals thus:

Table 6

Model summary showing the contributions of gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function to the video gaming addiction of in-school adolescents in Kwara State, Nigeria

Model	R	R square	Adjusted R square	Std Error of the Estimate
1	0.623	0.421	0.290	0.750

Table 6 revealed that the independent variables (gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function) jointly contributed a coefficient of multiple regression of 0.623 and a squared multiple correlation of 0.421. Implicit in this result is the fact that, the seven predictor variables (gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function) accounted for 42.1% variation the level of video gaming addiction among in-school adolescents in Kwara State, Nigeria, which is highly significant as also indicated by the F-value (57.13). In order to examine the contributions of each of the independent variables, Beta weight and t-values were computed and output is illustrated below:

Table 7

Contributions of the independent variables on the dependent variable

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	17.350	.312		32.031	.000
Gender	3.227	.814	.392	4.420	.000
Academic Performance	1.816	.945	.405	5.022	.000
Life Satisfaction	.371	.045	.347	3.285	.000
Self-Esteem	-.093	.531	-.361	-2.034	.006
Peer Influence	.067	.674	.450	5.395	.000
Perceived Level of Stress	-.196	.018	-.121	-1.374	.021
Executive Function	.391	.640	.356	3.634	.000

Table 7 shows the contributions of each independent variable (gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function) to video gaming addiction. The results of the relative contributions of the independent variables to the prediction of in-school adolescents' video gaming addiction was that peer influence accounted for the largest amount of unique variance in in-school adolescents' video gaming addiction (β = .450, t = 5.395, p < .001), while academic performance made the next largest contribution to the prediction of the dependent variable (β = .405, t = 5.022, p < .001). Gender (β = .392, t = 4.420, p < .001) also made a positive contribution to the prediction of video gaming addiction.

Executive function made the next positive contribution (β =.356, t = 3.634, p<.001) to the prediction of dependent measure. Life satisfaction made the next positive contribution (β =.347, t = 3.285, p < .001) to the prediction of dependent measure. Nonetheless, self-esteem made a negative contribution to the prediction of the model (β =-.361, t = -2.034, p = .006), while perceived level of stress accounted for the least amount of unique variance in prediction of the dependent measure (β =-.121, t = -1.374, p = .021). This indicates that peer influence contributed the highest t-value of 5.395, while perceived level of stress contributed the lowest t-value of -1.374. Thus, this implies that peer influence is the strongest predictor of video gaming addiction among in-school adolescents in Kwara State, Nigeria.

4 Discussion

Video gaming addiction is a contemporary mental health challenge that has been widely studied in various climes by different researchers. Nonetheless, there is a dearth of related studies on the prevalence and correlates of video gaming addiction among Nigerian in-school adolescents. Towards this end, the present study examined the prevalence and correlates of video gaming addiction among in-school adolescents in Kwara State, Nigeria. Based on the research questions answered and hypothesis tested, it was revealed that 13.53% of the respondents were addicted to video games.

The prevalence of video gaming addiction could be attributed to the availability of various mobile devices and other gaming platforms in the locality of in-school adolescents in Kwara State, Nigeria. Similarly, Nigerian in-school adolescents also have access to gaming consoles and sites in various commercial gaming shops that charge various fees from gamers. In a like manner, this finding might be attributed to the pervasiveness of online games on the internet and social media among Nigerian in-school adolescents. In any case, this finding concretizes extant findings on the prevalence of video gaming addiction among the adolescent population (Achab et al., 2011; Miezah et al., 2020; Saquib et al., 2017; Suchá et al., 2019; Wang et al., 2014).

The results displayed in Table 6 showed that 42.1% of the variance in in-school adolescents' video gaming addiction was accounted for by the predictor variables (gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function) taken together. Thus, the predictor variables, when taken together, predicted

to some extent, video gaming addiction among the respondents. In other words, the strength of the predictive power of the combined independent variables (gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function) on the dependent variable (video gaming addiction) was strong and significant to indicate the linear relationship between the seven predictor variables and the total variance in in-school adolescents' video gaming addiction.

In relation to contribution of each of the independent variables to the explanation of variance in in-school adolescents' video gaming addiction, Table 7 revealed that all the seven independent variables made a statistically significant contribution to the variance in in-school adolescents' video gaming addiction. However, peer influence was the best predictor of video gaming addiction, while the perceived level of stress was the weakest predictor of video gaming addiction among in-school adolescents in Kwara State, Nigeria. By implication, the level of video gaming addiction among Nigerian in-school adolescents would increase in tandem with an increase in the level or extent of peer influence (Wang et al., 2014). In other words, Nigerian in-school adolescents who are easily influenced by their peers tend to engage in excessive and uncontrolled sessions of video gaming within and outside the school environment.

It is pertinent to note that, academic performance also made a significant contribution, to the prediction of video gaming addiction among Nigerian in-school adolescents. Thus, it is possible that in-school adolescents, who are addicted to video games, might not dedicate adequate time and efforts, to effectively participate in various academic activities, such as attendance of regular school classes or extra-mural lessons, personal study, completion of assignments and a host of others. This result is consistent with previous findings (Onyemaka et al., 2017; Schmitt & Livingston, 2015). Nonetheless, this finding is at variance with that of Drummond and Sauer (2014), who found no significant effect of increased playing of single player or multiplayer video games on academic performance of students in science, mathematics and reading in a comprehensive study carried out in twenty-two countries. The discrepancy in these findings could be attributed to the differences in the socio-cultural profiles of the respondents, as well as the benchmark used for measuring academic performance in the various studies.

The results also indicated that gender made a positive contribution to the level of video game addiction among Nigerian in-school adolescents. It is plausible that this finding is as a result of the gender roles that are attached to being male or female in Nigerian society. For instance, male in-school adolescents in Nigeria are characterized by independent living, while their female counterparts are protected with more direction, rules and supervision by parents, elders, family members, teachers, school administrators, religious institutions and the generality of the society. Hence, male in-school adolescents in Nigeria might play more video games in commercial video gaming shops, cybercafés, and even on mobile devices or personal gaming consoles than females, and therefore face higher levels of video gaming addiction. This result is in line with extant findings (Miezah et al., 2020; Suchá et al., 2019; Wittek et al., 2016). Conversely, this finding contradicts that of some studies, which found that gender had no significant difference on the prevalence of video game addiction (Demirtaş et al., 2015; Rehbein & Mößle, 2013).

The findings in Table 7 further show that there was a significant relationship between executive function and the level of video gaming addiction among Nigerian in-school adolescents. This finding corroborates findings of some studies in extant literature which indicates that there is a relationship between executive functioning and video game playing and addiction (McDermott et al., 2014; Vallett et al., 2013). Thus, it is expected that Nigerian in-school adolescents, who are addicted to video games might not make a judicious use of cognitive resources, such as executive functioning to regulate their behavior in the gaming environment. Nonetheless, moderate and appropriate usage of video games could also develop the executive functioning of Nigerian in-school adolescents (Blumberg et al., 2008; Maillot et al., 2012).

Table 7 also indicates that life satisfaction had a significant positive relationship with the level of video gaming addiction among Nigerian in-school adolescents. These results are consistent with previous findings (Forrest et al., 2016; Lemmens et al., 2009). Nevertheless, this finding is at variance with the finding of Miezah et al. (2020), which found no significant relationship between video game addiction and life satisfaction among public university students in Ghana. The differences in these findings could be attributed to the differences in the demographic and academic profiles of the respondents.

As it is shown also in Table 7, self-esteem made negative contribution to the prediction of the level of video gaming addiction among in-school adolescents in Kwara State, Nigeria. In support of this finding, a plethora of studies have found a negative relationship between self-esteem and video gaming addiction (Beard & Wickham, 2016; Miezah et al., 2020; Van Rooij et al., 2011).

As Table 7 shows, there was a negative relationship between perceived level of stress and video gaming addiction among in-school adolescents in Kwara State, Nigeria. Thus, the level of video gaming addiction among Nigerian in-school adolescents tends to increase as the perceived level of stress decreases. This finding could be as a result of the fact that some in-school adolescents who use video games to escape from stressful life situations, might become addicted to video gaming (Griffiths et al., 2012; Wenzel et al., 2009).

4.1 Implications of findings for prevention and treatment of video gaming addiction

This study has revealed that video gaming is a common behavior among in-school adolescents in Nigeria, video gaming addiction is a prevalent mental health challenge among Nigerian in-school adolescents, and gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function are robust predictors of video gaming addiction among in-school adolescents in Nigeria. Since the prevalence of video gaming addiction among Nigerian in-school adolescents was found to be 13.5%, it shows that more emphasis should be placed on preventing the menace of video gaming addiction among the adolescent population in Nigerian secondary schools. In a like manner, it is germane for stakeholders in the Nigerian educational system to make concerted efforts towards the treatment of video gaming addiction among in-school adolescents.

Therefore, the prevention of video gaming addiction among Nigerian adolescents could be achieved through the use of abstinence-based contingency management programmes. In other words, a system of rewards and punishments could be used by parents, teachers and school administrators to make a video gaming addiction-free lifestyle more rewarding than addictive lifestyle for in-school adolescents in Nigeria. Another possible approach to the prevention of video gaming addiction among Nigerian in-school adolescents is the use of cognitive-behavioural relapse prevention strategies to enable in-school adolescents to deal with the underlying causes

of video gaming addiction. Information campaign, social norms marketing and advocacy on mass/social media could also be leveraged to raise the level of awareness of video gaming addiction, especially with the intent of motivating in-school adolescents to avoid high risk video gaming.

Given that video gaming addiction, is a novel form of addiction in the Nigerian educational system, it is germane for decision makers in the ministry of education, as well as owners of private secondary schools to provide capacity building training on video gaming addiction for in-service and prospective teachers and other school personnel who work with in-school adolescents in Nigeria. Therapy and counseling could also be used to boost the coping skills as well as to facilitate the effective use of executive function to regulate video gaming behavior. Given that peer influence was the best predictor of video gaming addiction among Nigerian in-school adolescents, there is an urgent need for parents, teachers, school administrators and other stakeholders in the Nigerian educational system to strengthen the social support network of in-school adolescents in Nigeria. This could be achieved through the provision of effective and vibrant team-based extracurricular activities such as sports, clubs and societies, as well the utilization of group-based learning methods and assessment practices. By so doing, Nigerian in-school adolescents would be more motivated to reduce their video gaming time.

For the treatment of video gaming addiction among Nigerian in-school adolescents, there is a need for psychologists, counselors and other mental health professionals to employ a broad spectrum of psychotherapies, counseling techniques. At the family level, more emphasis could be placed on the role of family, siblings and peers in motivating in-school adolescents with pathological video gaming to get into treatment and stay in treatment. To this end, a family or community-based approach could play a great role in the treatment of video gaming addiction among Nigerian in-school adolescents.

5 Conclusion

Based on the data collected, analyzed and interpreted, it is the submission of the researcher that video gaming addiction is prevalent among Nigerian in-school adolescents. It is also concluded that gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function are significant predictors of video gaming addiction among in-school adolescents in Nigeria.

5.1 Recommendations

Based on the findings of this study, it is recommended that:

1. School psychologists, guidance counselors, parents, teachers, and school administrators should provide assistance to Nigerian in-school adolescents in all areas of self-regulation, prevention and treatment of video gaming addiction.
2. The school administrators and teachers should leverage the forum of the Parents Teachers Association (PTA) meetings to give in-depth talks on the causes, consequences, correlates and prevention of video gaming addiction among Nigerian in-school adolescents. This would enable, parents, teachers, school administrators and significant others to know or modify various misconceptions about video gaming addiction and thus advise their children/wards on how to deal with menace of video gaming addiction.

5.2 Limitations of the study

1. The results of this study should be considered with several limitations. This study covered a relatively small sample of in-school adolescents in a Nigerian state. It is therefore imperative for future studies to cover a larger sample across states in all the geo-political zones of Nigeria, so as to provide a more accurate estimation of the association of the outcome variable with other predictors in the model.
2. Given that self-report measures were adopted for the study, it is plausible that a certain degree of bias is introduced by the respondents. Thus, future studies could employ the use of robust methods in order to provide more detailed information on the dynamics of video gaming addiction among Nigerian in-school adolescents.
3. This study was cross-sectional in nature, thereby limiting the ability of the researcher to carry out a detail study of video gaming addiction among Nigerian in-school adolescents for a long period of time. To remedy this limitation, future studies should consider studying the prevalence and correlates of video gaming addiction among Nigerian in-school adolescents in a longitudinal manner. More so, the focus of future studies should be tailored towards adolescents in other settings apart from the school.

4. Extant literature had indicated a broad spectrum of variables that could mediate the development of video gaming addiction among in-school adolescents. However, the present study focused on the role being played by gender, academic performance, life satisfaction, self-esteem, peer influence, perceived level of stress and executive function in the formation of video gaming addiction among Nigerian in-school adolescents. It is therefore germane for future studies to focus on other correlates or predictors of video gaming addiction, such as personality, depression, loneliness, social competence, internet addiction, substance abuse, sleep quality, subjective well-being, emotional intelligence, self-regulation strategies and a host of others.

Acknowledgments

I would like to thank the respondents for participating in the study. I am also very grateful to the editorial team for your germane contribution and suggestions.

References

Achab, S., Nicolier, M., Mauny, F., Monnin, J., Trojak, B., Vandel, P., ... & Haffen, E. (2011). Massively multiplayer online role-playing games: Comparing characteristics of addict vs non-addict online recruited gamers in a French adult population. *BMC psychiatry*, *11*, 144–155.

Adachi, P. J. C., & Willoughby, T. (2012). Do video games promote positive youth development? Journal of Adolescent. *Research*, *28*, 155–165.

Adegunju, K. A., Onivehu, A. O., Odetunde, A. O., & Oyeniran, A. O. (2017). Cognitive and psychosocial predictors of academic achievement among pre-service teachers in University of Ilorin, Nigeria. *Asia Pacific Journal of Multidisciplinary Research*, *5*(3), 84–92.

Ajike, A. K., & Nwakoby, N. P. (2016). The impact of social networking sites on teenagers in Nigeria. *International Journal of Public Policy and Administrative Studies*, *11*(1), 35–64.

Ali, F. A., & Aliyu, U. Y. (2015). The use of social networking among senior secondary school students in Abuja municipal area of federal capital territory, Nigeria. *Journal of Education and Practice*, *6*(15), 15–23.

Alufohai, P. J. (2019). The effect of social networking on secondary schools students in Edo State, Nigeria. *International Journal of Scientific and Educational Research*, *3*(2), 41–50.

American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders, 5th edition (DSM-5).* Arlington: American Psychiatric Association.

Anand, V. (2007). Study of time management: The correlation between video game usage and academic performance markers. *CyberPsychology& Behavior*, *10*(4), 552–559.

Beard, C. L., & Wickham, R. E. (2016). Gaming-contingent self-worth, gaming motivation, and Internet gaming disorder. *Computers in Human Behavior*, *61*, 507–515.

Blum-Dimaya, A., Reeve, S. A., Reeve, K. F., & Hoch, H. (2010). Teaching children with autism to play a video game using activity schedules and game-embedded simultaneous video modeling. *Education & Treatment of Children*, *33*(3), 351–370.

Blumberg, F. C., Rosenthal, S. F., & Randall, J. D. (2008). Impasse-driven learning in the context of video games. *Computers in Human Behavior*, *24*, 1530–1541.

Boak, A., Jamilton, H. A., Adlaf, E. M., Henderson, J. L., & Mann, R. E. (2016). *The mental health and well-being of Ontario students, 1991-2015: Detailed OSDUHS findings* (CAMG Research Document Series No. 43). Toronto: Centre for Addiction and Mental Health.

Bowers, A. J., & Berland, M. (2013). Does recreational computer use affect high school achievement? *Educational Research and Development*, *61*, 51–69.

Calado, F., Alexandre, J., & Griffiths, M. D. (2014). Mom, dad it's only a game! Perceived gambling and gaming behaviors among adolescents and young adults: An exploratory study. *International Journal of Mental Health and Addiction*, *12*(6), 772–794.

Dawson, P., & Guare, R. (2010). *Executive skills in children and adolescents.* New York: The Guilford Press.

Demirtas, Z. S., Ulas, O., & Kizildag, S. (2015). Relation between video game addiction and interfamily relationships on primary school students. *Educational Sciences: Theory & Practice*, *15*(2), 489–497.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49*, 71–75.

Drummond A & Sauer, J. D. (2014). Video-games do not negatively impact adolescent academic performance in science, mathematics or reading. *PLoSONE*, *9*(4), e87943.

FRN – Federal Republic of Nigeria (2013). *National Policy on Education.* Lagos: NERDC Press.

Festl, R., Scharkow, M., & Quandt, T. (2013). Problematic computer game use among adolescents, younger and older adults. *Addiction*, *108*(3), 592–599.

Forrest, C. J., King, D. L., & Delfabbro, P. H. (2016). The gambling preferences and behaviors of a community sample of Australian regular video game players. *Journal of Gambling Studies*, *32*, 409–420.

Foti, K. E., Eaton, D. K., Lowry, R., & McKnight-Ely, L. R. (2011). Sufficient sleep, physical activity, and sedentary behaviors. *American Journal of Preventive Medicine*, *41*(6), 596–602.

Gentile, D. (2009). Pathological video-game use among youth ages 8 to 18: A national study. *Psychological Science*, *20*, 594–602.

Gentile, D. A., Swing, E. L., Lim, C. G., & Khoo, A. (2012). Video game playing, attention problems, and impulsiveness: Evidence of bidirectional causality. *Psychology of popular media culture*, *1*(1), 62–70.

Green, C. S. & Bavelier, D. (2012). Learning, attentional control and video games. *Current Biology*, *22*(6), 197–206.

Griffiths M. D., Kuss D. J., & King D. L. (2012). Video game addiction: Past, present and future. *Current Psychiatry Reviews*, *8*, 308–318.

Haagsma, M. C., Pieterse, M. E., & Peters, O. (2012). The prevalence of problematic video gamers in the Netherlands. *Cyberpsychology, Behavior, and Social Networking*, *15*(3), 162–168.

Haghbin, M., Shaterian, F., Hosseinzadeh, D., & Griffith, M.D. (2013). A brief report on the relationship between self-control, video game addiction and academic achievement in normal and ADHD student. *Journal ofBehavioral Addictions*, *2*(4), 239–243.

King, D. L., Haagsma, M. C., Delfabbro, P. H., Gradisar, M., & Griffiths, M. D. (2013). Toward a consensus definition of pathological video-gaming: A systematic review of psychometric assessment tools. *Clinical psychology review*, *33*(3), 331–342.

Kuss, D. J., & Griffiths, M. D. (2012). Internet gaming addiction: A systematic review of empirical research. *International Journal of Mental Health Addiction*, *10*, 278–296.

Kweon, Y. R., & Park, M. S. (2012). Effects of school adjustment on higher grade elementary school students' internet game addiction: Focused on gender difference. *Journal of Korean Academy of Psychiatric and Mental Health Nursing*, *21*(2), 99–107.

Lemmens, J. S., Valkenburg, P. M., & Peter, J. (2009). Development and validation of a Game Addiction Scale. *Media Psychology*, *12*(1), 77–95.

Lemmens, J. S., Valkenburg, P. M., & Peter, J. (2011). Psychosocial causes and consequences of pathological gaming. *Computers in Human Behavior*, *27*(1), 144–152.

Lenhart, A., Kahne, J., Middaugh, E., Macgill, A. R., Evans, C., & Vitak, J. (2008). Teens, video games, and civics: Teens' gaming experiences are diverse and include significant social interaction and civic engagement. Pew internet & American life project. Available from http://www.pewinternet.org/2008/09/16/teens-video-gamesand-civics/

Lewis, A. D., Huebner, E. S., Malone, P. S., and Valois, R. F. (2011). Life satisfaction and student engagement in adolescents. *Journal of Youth & Adolescence*, *40*, 249–262.

Maillot, P., Perrot, A., & Hartley, A. (2012). Effects of interactive physical-activity video-game training on physical and cognitive function in older adults. *Psychology and Aging*, *27*, 589–600.

McDermott A. F., Bavelier D., & Green C. S. (2014). Memory abilities in action video game players. *Computers & Human Behaviour, 34*, 69–78.

Miezah, D., Batchelor, J., Megreya, A. M., Richard, Y., & Moustafa, A. A. (2020). Video/computer game addiction among university students in Ghana: Prevalence, correlates and effects of some demographic factors. *Psychiatry and Clinical Psychopharmacology*, *30*(1), 17–23

Monke, L. (2009). Video games: A critical analysis. *Encounter*, *22*(3), 7–20.

Mróz, J. (2015). Predictive roles of coping and resilience for the perceived stress in nurses. *Progress in Health Sciences*, *5*(2), 77–83.

Okika, C. C., & Nwakasi, G. I. (2016). Violent videogame screen time of children: Assessing parental awareness, effects observation and exposure moderation in Akwa Urban, Nigeria. *African and Global Perspectives*, *2*(1), 1–41.

Okika, C. C., & Agbasi, J. C. (2015). Teachers' perception of television screen time as an influence on academic performance of secondary school students in Akwa Edcational Zone, Nigeria. *International Journal of Advanced Multidisciplinary Research Reports*, *1*(1), 1–27.

Okim-Alobi, O., & Ogbu, S. (2017). Television content censorship: The impact of violent content on the developmental stages in the personality of the Nigerian child. *Advanced Journal of Social Science*, *1*(1), 30–39.

Onivehu, A. O. (2020). The relationship between psychological capital and academic performance of social work students. *Socialni pedagogika/Social Education*, *8*(1), 53–67.

Onivehu, A. O., Adegunju, A. K., Ohawuiro, E. O., & Oyeniran, J. B. (2018). The relationship among information and communication technology utilization, self-regulated learning and academic performance of prospective teachers. *Acta Didactica Napocensia*, *11*(1), 69–85.

Onivehu, A. O., & Ohawuiro, O. E. (2018). Effect of PowerPoint presentation on students' cognitive achievement in Geography. *Romanian Review of Geographical Education*, *7*(1), 46–60.

Onyemaka, S. B., Igbokwe, D. O., Adekeye, O. A., &Agbu, J. (2017). "I failed because I was playing video games": An examination of undergraduate males videogame addiction and academic performance. *Covenant International Journal of Psychology*, *2*(1), 35–45.

Pápay, O., Urbán, R., Griffiths, M. D., Nagygyörgy, K., Farkas, J., Kökönyei, G., ... & Demetrovics, Z. (2013). Psychometric properties of the problematic online gaming questionnaire short-form and prevalence of problematic online gaming in a national sample of adolescents. *Cyberpsychology, Behavior, and Social Networking*, *16*(5), 340–348.

Petry, N.M., Zajac, K., & Ginley, M.K. (2018). Behavioural addictions as mental disorders: To be or not to be. *Annual Review of Clinical Psychology*, *7*(4), 399–423.

Porter, G., Starcevic, V., Berle, D., & Fenech, P. (2010). Recognizing problem video game use. *Australian & New Zealand Journal of Psychiatry*, *44*(2), 120–128.

Rehbein, F., & Mößle, T. (2013). Video game and Internet addiction: Is there a need for differentiation? *SUCHT-ZeitschriftFürWissenschaft Und Praxis / Journal of Addiction Research and Practice*, *59*(3), 129–142.

Santor, D. A., Messervey, D., & Kusumakar, V. (2000). Measuring peer pressure, popularity, and conformity in young adolescent boys and girls: Predicting school performance, sexual attitudes, and substance use. *Journal of Youth and Adolescence*, *29*, 163–182.

Saquib, N., Saquib, J., Wahid, A., Ahmed, A. A., Dhuhayr, H. E., Zaghloul, M. S., ... & Al-Mazrou, A. (2017). Video game addiction and psychological distress among expatriate adolescents in Saudi Arabia. *Addictive behaviors reports*, *6*, 112–117.

Schmitt, Z. L., & Livingston, M. G. (2015). Video game addiction and college performance among males: Results from a 1 year longitudinal study. *Cyberpsychology, Behavior, andSocial Networking*, *18*(1), 25–29.

Niroumand, E., Keshavarzi, F., & Khoshay, A. (2015). The relationship between self-esteem and academic achievement in pre-clinical and clinical medical students. *Biannual Journal of Medical Education Education Development Center (edc) Babol University of Medical Sciences*, *3*(1), 32–38.

Skoric, M. M., Ching Teo, L. L., & Neo, R. L. (2009). Children and video games: Addiction, engagement and scholastic achievement. *CyberPsycology & Behavior*, *12*(5), 565–572.

Suchá, J., Dolejš, M., Pipová, H., Maierová, E., & Cakirpaloglu, P. (2019). *Playing digital games in Czech adolescents. Unpublished monograph.* Olomouc: Department of Psychology, Palacky University in Olomouc.

Tejeiro, R. A., Gómez-Vallecillo, J. L., Pelegrina, M., Wallace, A., & Emberley, E. (2012). Risk factors associated with the abuse of video games in adolescents. *Psychology*, *3*(4), 310–314.

Toplak, M. E., West, R. F., & Stanovich, K. E. (2013). Practitioner review: Do performance-based measures and ratings of executive function assess the same construct? *Journal of Child Psychology and Psychiatry*, *54*, 131–143.

Utz, S., Jonas, K. J., & Tonkens, E. (2012). Effects of passion for massively multiplayer online role-playing games on interpersonal relationships. *Journal of Media Psychology*, *24*(2), 77–86.

Vallett, D. B., Lamb, R. I., & Annetta, L. A. (2013). The gorilla in the room: The impacts of video-game play on visual attention. *Computers in Human Behavior*, *29*, 2183–2187.

Van Rooij, A. J., Schoenmakers, T. M., Vermulst, A. A., Van Den Eijnden, R. J., & Van De Mheen, D. (2011). Online video game addiction: Identification of addicted adolescent gamers. *Addiction*, *106*(1), 205–212.

Wang, C. W., Chan, C. L., Mak, K. K., Ho, S. Y., Wong, P. W., & Ho, R. T. (2014). Prevalence and correlates of video and internet gaming addiction among Hong Kong adolescents: A pilot study. *The Scientific World Journal*, *2014*.

Wenzel, H. G., Bakken, I. J., Johansson, A., Götestam, K. G., & Øren, A. (2009). Excessive computer game playing among Norwegian adults: Self-reported consequences of playing and association with mental health problems. *Psychological reports*, *105*(3_suppl), 1237–1247.

Wilms, I. L., Petersen, A., & Vangkilde, S. (2013). Intensive video gaming improves encoding speed to visual short-term memory in young male adults. *Acta Psychologica*, *142*, 108–118.

Wittek, C. T., Finserås, T. R., Pallesen, S., Mentzoni, R. A., Hanss, D., Griffiths, M. D., & Molde, H. (2016). Prevalence and predictors of video game addiction: A study based on a national representative sample of gamers. *International journal of mental health and addiction*, *14*(5), 672–686.

Yusuf, M. O., Gambari, A.I., & Olumorin, C. O. (2012). Effectiveness of computer-supported cooperative learning strategies in learning physics. *International Journal of Social Sciences & Education*, *2*(2), 94–109.

Zhong, Z. J. (2011). The effects of collective MMORPG (Massively Multiplayer Online Role-Playing Games) play on gamers' online and offline social capital. *Computers in Human Behavior*, *27*(6), 2352–2363.

Author

Adams Ogirima Onivehu, University of Ilorin, Faculty of Education, Department of Social Sciences Education, Ilorin, Nigeria, e-mail: adamsonivehu@gmail.com

Výskyt a korelace závislosti na videohrách mezi nigerijskými školu navštěvujícími adolescenty

Abstrakt: Hraní video her se stalo populárním fenoménem mezi školu navštěvujícími adolescenty po celém světě, především z důvodu rychlého rozvoje herního průmyslu v 21. století. Proto má tato populace přístup k širokému spektru videoher s rozdílným potenciálem a možnostmi pro maximální hráčský zážitek. Na jedné straně mohou videohry přinést adolescentům jisté výhody, na straně druhé s sebou nesou i nebezpečí. Závislost na videohrách se dostala do popředí zájmu veřejnosti i aktérů v rámci nigerijského vzdělávacího systému. Tato studie má za cíl prozkoumat výskyt a korelace závislosti na videohrách mezi školu navštěvujícími adolescenty, kteří byli náhodně vybráni ze státních a soukromých škol ve státě Kwara (Nigerie). Studie se zúčastnilo 850 adolescentů z 20 středních škol. Nezávislé proměnné (gender, akademický výkon, životní spokojenost, sebevědomí, vliv vrstevníků, vnímaná hladina stresu a kognitivní exekutivní funkce) byly zachyceny pomocí standardizovaných škál. Nezávislá proměnná (závislost na videohrách) byla zkoumána pomocí *Game Addiction Scale*. Data byla zpracována do podoby absolutních a relativních četností, dále byla provedena korelační a regresní analýza. Výsledky studie ukazují, že většina

respondentů (74%) hraje online i offline videohry. 13,5% respondentů spadají do kategorie závislých na videohrách. Závislost na videohrách významně koreluje s vlivem vrstevníků, genderem, akademickým výkonem, kognitivními exekutivními funkcemi a životní spokojeností. Na základě těchto zjištění lze doporučit využití preventivních opatření proti vzniku závislosti na videohrách a s ní souvisejícími jevy mezi nigerijskými adolescenty.

Klíčová slova: závislost na videohrách, školu navštěvující adolescenti, výskyt, koreace

The relationship between personality dimensions and problematic Internet use in children aged 11 to 14 years

Marijana Markovikj, Eleonora Serafimovska

Institute for Sociological Political and Juridical Research, University of Ss Cyril and Methodius, Skopje, Macedonia

Received 27. 5. 2020 / final version received 9. 11. 2020 / accepted 10. 3. 2021

Abstract: Problematic Internet Use (PIU) is defined as a person's inability to self-regulate Internet usage. This addiction can have a negative influence on mental and physical health, as well as on quality of life. This phenomenon of PIU has arisen as a result of technological development and has become a worldwide issue. As a form of addictive behaviour, PIU manifests itself through poorly controlled behaviour concerning computer use, Internet access, online gambling, gaming, etc., which leads to distress. Children and young people are particularly susceptible to this type of addiction. Relevant research in the field has identified several risk factors that may influence the occurrence of this type of addiction. Personality traits may be one of the risk factors. The aim of this study is to explore the interconnection between personality traits based on the *Five-Factor Personality Model* (FFM) and problematic Internet use and to explore which personality traits may be protective and which may be considered risk factors. Research data were collected for the purpose of standardization and cultural adaptation of psychological instruments for children. The research is based on an extracted number of 102 respondents from a representative sample of primary school students aged 11 to 14 years. Research is ongoing, and partial data is presented in this paper. Problematic Internet usage was measured with the short version of the *Youth Version of the Problematic Internet Use Questionnaire*, which includes 9 questions (PIUQ-9). The full version of this instrument has 18 questions. This scale is on 5-point Likert scale, with a minimum total score 9 and a maximum of 45. It was developed by Demetrovics, Szeredi, & Rózsa (2008). This scale has three subscales: obsession, neglect, and control disorder. The Big Five Questionnaire for children (BFQ-C) has been used for measuring personality traits. This instrument was developed by Barbaranelli et al. (2003). This is a 65-item questionnaire, 5-point Likert scale with 13 items related to each of the five dimensions of openness/intellect, conscientiousness, extraversion/energy, agreeableness, neuroticism (OCEAN). Findings from this Macedonian study identify the relevant influence of personality traits on problematic Internet usage (PIU). Four personality traits can be considered as protective factors (extraversion, openness, agreeableness, conscientiousness), and one (emotional instability) as a risk factor for problematic usage of the Internet.

Keywords: children, five factor personality model, problematic Internet use

https://doi.org/10.5817/PedOr2020-4-460

This study, which aimed to explore the interconnection between personality dimensions and problematic Internet use among children, was conducted before the global COVID-19 pandemic. Therefore, the novel epidemiological situation did not affect the findings of this study. Scientists expected that the current pandemic situation would have an impact on the problematic use of the Internet as it intensifies the period of Internet use (*Has the coronavirus turned us all into Internet addicts?*, 2020) as people become reliant on many different online services that replace office work, education, sport activities, etc. Recommended social distancing replaces offline human communication with virtual communication. "Will the coronavirus turn us into Internet addicts?" may become a pertinent research topic these days, and this relevance may continue after the coronavirus pandemic.

New technologies, such as the Internet, have become an inseparable component of all aspects of modern life. The Internet has been defined as "a worldwide system of computer networks – a network of networks in which users at any one computer can, if they have permission, get information from any other computer" (Rouse, 2019). The Internet connects billions of computers around the world in a non-hierarchical way. It is the product of a combination of media, computers and telecommunications. The Internet is a product of technological and scientific progress as well as result of social, economic and political processes (*Funkcija Internet*, n.d.). The Internet has become an integral part of contemporary life because of its three main functions: very fast communication between people and companies anywhere in the world (e-mail, or mailing lists, newsgroups, chat sessions, instant messaging, Internet telephone, etc.); download capability (easy access to data and information) and easy buying and selling (*Osnove internteta*, n.d.).

The use of the Internet has been increasing in the world (for example, the number of computers on the Internet in 1981 was 213, and in 1998, 29,670,000, according to Glowniak, 1998). The trend toward increasing online activity may be observed in Macedonia, too. According to the data of the Macedonian State Statistical Office, in the first quarter of 2019, 81.8% of the households had access to the Internet at home. 81.4% of the total population aged 15–74 used the Internet, and 72.9% used the Internet every day or almost every day (State Statistical Office, 2019). This expansion of rapid Internet use can be followed by overuse or misuse. Reasonable use of the Internet is necessary, but a certain segment of the population manifests

behavioral problems, such as excessive and uncontrolled usage. Children and the young are more attracted to new technologies. They are using Internet more frequently making them the population at the highest risk of Internet misuse (Cakmak & Gul, 2018). Young people are using the Internet as a channel for communication and socialization, and they prefer using this channel regularly for sharing emotions and thoughts (*Children and the Internet*, n.d.).

According to the Addiction Centre, a website for the general population, Internet addiction is described as a "range of behaviours and impulse-control problems involving the Internet, personal computer, and mobile technology and there is yet no officially accepted criteria to diagnose Internet addiction" (*What is Internet Addiction?*, n.d.). Internet addiction was first recognized as a new type of addiction in the 1990s. Young (1998) was among the first researchers of this disorder, and according to her (2004), several factors predispose young people to Internet addiction: free and unlimited Internet access; unstructured time; freedom from parental control; no monitoring or censoring of online behaviour, etc. Although Young has claimed these factors to be relevant to the age range of university students, they can be equally applied to younger ages, such as elementary and secondary school students. Internet addiction has been explained as an inability to stop using the Internet, perception of offline experience as meaningless, and excessive irritation and aggression during deprivation (Young, 2004). There is an increasing interest among researchers regarding the effects of intensive Internet use on mental health. The number of studies increased in the years following the first paper published by Young (1998) and in 2018, more than 1,600 scientific papers about Internet misuse could be found on PubMed (Wiederhold, 2018). Besides extensive research interest, there are still debates about the terminology, diagnosis, and measurement of Internet misuse or abuse (Demetrovics et al., 2008). Concerning terminology, a few concepts can be identified: Internet addiction (Young, 1998), problematic Internet use (Caplan, 2002), pathological Internet use (Davis, 2001), as well as many other concepts.

Debates among researchers concern mostly the appropriateness of two concepts: Internet addiction and problematic Internet use (Fernardes, Rodrigues, & Pontes, 2019).

The concept of Internet addiction faces two types of challenges: is it addiction, and is the Internet a medium to which one is expected to be addicted? First, according to Starcevic (2010) there is "no evidence that this is really an addictive disorder which is typical for substance addiction such as tolerance and withdrawal". Second, it is hard to declaim that Internet as media in itself can cause addiction. In general, the Internet can be seen to have an indirect benefit on overall human wellbeing (Kearns & Whitley, 2019).

This concept has received numerous criticisms among researchers. Particularly, critics cite the lack of a theoretical concept, international consensus concerning diagnosis and relevant empirical findings (Fernardes, Rodrigues, & Pontes, 2019). Some researchers consider that excessive use of the Internet reflects a unique mental disorder, while for others it is merely a symptom of other mental health issues (Shaffer, Hall, & Bilt, 2000).

At the end of this short elaboration, it can be concluded that the term *Internet addiction* should be used only in the case of extensive usage of the Internet with clinical significance. We consider the term *problematic Internet use* more appropriate (Fernardes, Rodrigues, & Pontes, 2019) as it describes behaviour on the Internet more broadly including different types of behavior, with different level of disturbance (Ang et al., 2012).

Problematic Internet use is not a disease, pathology, or clinical disturbance, but it can have mental and physical health consequences (Fineber et al., 2018). It is seen more as behaviour which has a negative impact on everyday life such as a decrease in productivity, school achievement, and social relations (Caplan, 2002). Davis (2001) draws a distinction between generalized and specific pathological Internet use. Specific pathological Internet use refers to specific types of Internet use (for example online gaming, gambling, and shopping). Generalized use means extensive usage of many different possibilities provided by the Internet, sometimes not necessarily tied to a specific activity, but merely to spending time online (Davis, 2001). It is a multidimensional overuse of the Internet, frequently accompanied by time-wasting and non-directed use of different Internet applications, such as YouTube, music sites, social networking sites (SNS), information-searching sites, etc. (Brand, Young, & Laier, 2014). Specific use refers to pathological use of particular features of the Internet (online gaming, gambling, pornography and online shopping). Therefore, it can be assumed that Internet addiction is related to specific uses of certain Internet features and not to its general

use. In this situation, people manifest addictive behaviour to one or several specific online activities (Billieux, 2012). Usually, specific Internet addiction is associated with similar problematic behaviour outside (without) the Internet (Brand et al., 2014).

PIU as an umbrella term encompasses all potentially problematic Internet-related behaviours, such as excessive online gambling, online gaming, online shopping, cybersex and prolonged viewing of pornographic content, to exceedingly frequent email checking, social media use and cyber-bullying, all of which can cause significant impairment of everyday functioning in some individuals (Fineberg et al., 2018). It is a type of behaviour which cannot be controlled and this uncontrolled use of the Internet leads toward an inability to accomplish daily activities (Shapira et al., 2000).

1 Problematic Internet use and Internet addiction

Different terms can be found in literature to describe excessive internet use. The most frequently used terms are: Internet addiction, problematic Internet use, pathological Internet use (Yellowlees & Marks, 2007). To provide a more broad perspective, in this section we will look at research connected to both PIU and Internet addiction. According to some authors, PIU is defined as an impulse control disorder, it is a condition in which an individual loses control over the use of the Internet and continues to use it excessively to the point of experiencing problematic outcomes with negative impact. As the Internet is a highly used medium, it is very important to establish criteria which will differentiate between normal Internet use and Internet abuse (Young, 2004).

Internet addiction is an emergent disorder, it is still controversial, and there are several diagnostic criteria, no widely accepted unique diagnostic criteria and various measurement instruments. According to the American Psychiatric Association (2014) problematic or pathological Internet use, is based on the criteria for substance dependence or pathological gambling. It is characterized by an individual's lack of control over his or her use of the Internet. In recent years, the term addiction has been expanded beyond substance dependence to include non-substance behaviours (Poli, 2017). The most important behavioural symptoms characterizing Internet addiction are: a need to extend time spent on the Internet; lack of interest in other activities; wasting time being on the Internet; when there is no possibility to be on the Internet, anxiety, depression or obsessive thinking

can occur; negative influence on social relations (Salicetia, 2015). From a cognitive-behavioural prospective (Davis, 2001), Internet-addicted people have: distorted thoughts about the self and the world; low self-confidence; relationship problems, mood disorders, anxiety, and inability to control impulse, sleeping problems, back aches, headaches, etc. (Davis,2001). The difference between abuse and addiction is that in a case of abuse, the user has more control over the behavior (Young, 2004).

The discussion among researchers has two directions – one that claims that Internet addiction is, or should be, established as a psychiatric disorder, and the other that posits it is merely problematic internet use (not addiction) that may, however, lead to some mental health issues. According to the European research network into problematic usage of the Internet, PIU "encompasses all potentially problematic Internet related behaviours, including those relating to gaming, gambling, buying, pornography viewing, social networking, 'cyber-bullying,' 'cyberchondria', among others. PIU may have mental and physical health consequences" (Fineberg et al., 2018, p. 1234).

Intensive research on PIU led to the need to construct measurement tools. Several instruments have been designed to measure problems associated with extensive use of the Internet. Goldberg (1995, in Salicetia, 2015) published one of the first tests for Internet Addiction Disorder with seven questions as indicators for seven symptoms. This was more a questionnaire which was not used as a diagnostic tool, as its author in fact did not believe in the existence of Internet addiction (Gregory, n.d). Brenner (1997) constructed a 32-item true-false questionnaire (*Internet-Related Addictive Behavior Inventory*) assessing experiences similar to those associated with substance abuse as defined in the DSM-IV. Young (1998) developed a brief eight-item *Diagnostic Questionnaire* (DQ), which modified criteria for pathological gambling assuming that it can be used as a screening instrument. Young (2004) constructed another scale with 20 items (*Internet Addiction Test*) and sufficient inner consistency (Widyanto & McMurran, 2004). Caplan (2002) designed *Generalized Problematic Internet Use Scale* (GPIUS) to operationalize Davis's theoretical construct of generalized PIU and identified seven unique sub-dimensions: mood alteration, perceived social benefits available online, negative outcomes associated with Internet use, compulsive Internet use, excessive amounts of time spent online, withdrawal symptoms

when away from the Internet, and perceived social control available online. Davis, Flett, and Besser (2002) constructed multidimensional measure of problematic Internet use – *Online Cognition Scale* (OCS). Confirmatory factor analysis indicated four dimensions: diminished impulse control, loneliness/depression, social comfort, and distraction. Nichols and Nicki (2004) constructed a 36-item *Internet Addiction Scale* (IAS). They added two items (salience and mood modification) to the seven DSM–IV criteria for substance use dependence. A principal-components analysis indicated that the IAS consists mainly of one factor. Meerkerk et al. (2009) created a questionnaire measuring a single factor, which is known as *Compulsive Internet Use Scale* (CIUS) and contains 14 items on a 5-point Likert scale.

Demetrovics, Szeredi, and Rozsa (2008) created a scale available to measure problematic Internet use or Internet addiction (PIUQ). This instrument was constructed on the basis of *Young's Internet Addiction Test*. This test has 18 items grouped in three subscales: obsession, neglect, and control disorder. The short form of this instrument was used in this research, so detailed explanation of the metrics characteristic can be found below.

It can be concluded that although there are several studies, a widely accepted assessment instrument for problematic Internet use has not yet been created.

2 Risk factors for problematic Internet use

A relatively large number of studies on the problematic use of the Internet has shown that several risk factors can be identified. Findings suggest that problematic Internet use shows significant variation depending on gender. Namely, men have a higher presence of abuse/misuse or excessive use of the Internet than women (Islam & Hossin, 2016; Lee et al., 2018; Serin, 2011). Boys spend more time on the Internet than girls. Girls manifest intense use of social networks and boys are intensive users of multiplayer online role-playing games, online games, and adult sites (Dufour et al., 2016). Age was also identified as a risk factor for PIU. A study conducted in Croatia, Finland, and Poland (Karacic & Oreskovic, 2017) showed that adolescents aged 15–16, especially male adolescents, are the most prone to the development of Internet addiction, whereas adolescents aged 11–12 show the lowest level of Internet addiction. A study conducted in the Czech Republic (Dobešová Cakirparoglu et al., 2020) showed that members of generation Z (born between 1996 and 2000 and later) are significantly more

addicted to the Internet compared to Generation Y (born after 1980). A similar finding was identified in a Chinese study among children and youth between 9 and 24. In this study, high school students were significantly more likely to be PIUs than college students and elementary school students (Cao et al., 2011). The age when the child was exposed to the Internet can also be a risk factor. Namely, the earlier a child is exposed to the Internet, the higher the probability for PIU (Lee et al., 2018).

Concerning socioeconomic status, it was found that children of families with a high socioeconomic level have a higher likelihood of becoming addicted to the Internet (Islam & Hossin, 2016; Kayri & Günüç, 2016). In a Hong Kong study (Lai & Kwan, 2017) it was found that parental education and family socioeconomic status has influence on association between the amount of Internet use and the severity of PIU.

Beside demographic variables such as gender, age, and socioeconomic status, personality, as well as mental and physical health factors were also identified in several studies. Some studies identify the interconnection between physical activity and PIU. Low physical activity (Islam & Hossin, 2016) as well as poor physical energy (Cao et al., 2011) were found to be risk factors.

Recent studies found that all Big Five personality traits had a significant relationship with Internet addiction. Personality is considered to be the most important factor related to Internet addiction. Openness to new experiences, conscientiousness, agreeableness and extraversion were negatively correlated with Internet addiction whereas neuroticism was positively correlated with it (Hussain & Pontes, 2018; Kayisa et al., 2015; both studies are meta analyses of empirical research). Personality traits can be evaluated as protective (conscientiousness, extraversion, openness) or as risk factors (neuroticism; Kuss et al., 2013 – sample consisted of university students). Extraversion and openness to experience are relevant in the use of interactive social media (Correa et al., 2010, based on a national sample of US adults). Beside personality traits defined by the five-factor personality model, other personality traits can be considered predictor variables for PIU: life satisfaction and loneliness (Serin, 2011; sample consisted of university students).

Some mental health issues were connected with PIU (Zhang et al., 2018). Co-morbidity was found between PIU and substance (alcohol, drug) abuse

(Lee et al., 2013), attention deficit / hyperactivity disorder (Cakmak & Gul, 2018), anxiety (Dobesova Cakirpaloglu et al., 2019a,b; Weinstein et al., 2015) and depression. It was found that depression can be a risk factor for PIU, but it can also be the result of intensive Internet usage. Depression was identified as a risk factor for PIU (Lee et al., 2018) among the young between ages 13 and 18. Depressive symptoms among college students were associated with spending increased time doing online activities, namely shopping and gambling (Morgan & Cotten, 2003). Adolescents with PIU are at a relatively high risk of depression and poor social adaptation. Lam and Peng (2010) found that intensive usage of the Internet can be a risk for developing depression; young people (13–18 years) who are initially free of mental health problems but use the Internet pathologically may be prone to developing depression. Mental health of the parents, particularly depression has impact on Internet intensive usage/abuse among their children (Lam, 2015).

Stress coping strategies (Wegmann & Brand, 2016), low self-esteem, self-criticism, negative self-evaluation (Błachnio et al., 2016) as well as negative self-concept mediated by parent-children relationship (Huang et al., 2019), low social support from significant others such as family and friends (Cevik & Yilidiz, 2017) are identified as risk factors for extreme and maladaptive Internet usage.

3 Personality (Five-factor personality model)

The Five-Factor Model (FFM) is an empirical approach toward explanation of personality traits (McCrae & Costa, 1999). This model is a hierarchical organization of personality traits derived from research examining the structure of personality-descriptive language and personality inventories. FFM makes distinction between basic tendencies and characteristic adaptations. Personality traits as basic tendencies are biologically given potentials of the individual which remain stable over time. Characteristic adaptations are defined by the interactions between the basic tendencies and the environment (McCrae et al., 1998).

Research based on the usage of instruments with FFM background identified that each dimension develops during the life span as a result of interaction between biological and environmental factors (Soto et al., 2016). Results from cross-cultural studies suggest that the FFM is a biologically based human universal (McCrae et al., 1998). Measures of the Big Five have shown

considerable metric characteristics and can be used to predict a variety of important social, occupational, psychological, and health outcomes (Soto et al., 2016). The five basic dimensions are: extraversion, agreeableness, neuroticism, conscientiousness, and openness to experience (McCrae & John, 1992). Each Big Five dimension is defined by a number of more-specific facet traits. Extraversion can be defined as the extent to which an individual is outgoing in social situations. Agreeableness concerns the extent to which someone behaves pro socially toward others. Conscientiousness describes an individual's capacity to organize things, complete tasks, and work toward long-term goals. Neuroticism is the tendency to be prone to experiencing negative emotions and moods. Openness to experience is about the individual's intellectual, artistic, and experiential life (Soto et al., 2016).

The applicability of the FFM in the study of childhood personality has been the focus of recent research (Markos & Kokkinos, 2017). It is well known that self-report tests about personality traits are widely used in understanding and measuring personality in adulthood, but there are very few studies which can give an answer to how self-perceptions of personality during lifespan develop.

The study of Maesselle et al. (2005) conducted among children from ages 5 to 7 demonstrated that children of this age are able to describe themselves on all dimensions according to the Five-Factor model of personality. Children within this age range are going through cognitive changes which are linked with capacities for self-representation. Another survey (Soto et al., 2008) among children between 10 and 20 years also supports the findings from the previous study. Findings of the presented studies provide an argument that self-report tests can be a valuable approach in understanding the personality development during childhood and adolescence.

The most common approach in personality assessment among children and adolescents is the modification of item wording of adult questionnaires. This strategy was adopted in the construction of a children's version of the *Big Five Questionnaire*, BFQ-C; constructed by Barbaranelli et al. (2003).

4 Method

4.1 Participants and procedure

In the period from October 2019 to February 2020, field research was conducted with the aim to collect data for cultural adaptation, standardization and preparation of norms for several tests for children aged 8 to 14 years. To conduct the research, the Ministry of Education of Macedonia issued a permission which was submitted to school principals and mayors. The sample was constructed to be stratified, to include children from all regions and municipalities of the Republic of Macedonia. Unfortunately, the emergence of the COVID 19 virus disrupted the planned course of research and the research was not finished but relevant amount of data had already been collected. In order to conduct the research, school psychologists from schools that agreed to engage in the research were trained by the research team. Psychologists selected the children to be included in the sample. Criteria for selection were the age and sex of the child and the consent of the parents. Parental authorization was obtained for each child who took part in this research. Psychologists were asked to include children who had different school performance. The students completed the tests in groups in the presence of the school psychologist. The children were given the opportunity to answer all tests at once or, if they were tired, to finish the next day. In order to prevent anxiety in students that may occur due to the nature of the instruments, psychologists were instructed to talk to the children after the test. During the period of the research, it was not reported that any kind of anxiety appeared in the children. On the contrary, the children were interested and ready to cooperate.

4.2 Research sample

The sample which was drawn from the standardization study comprised 102 schoolchildren speaking the Macedonian language (Macedonians), from a non-clinical population, ranging in age from 11–14 years. Subjects were selected from different elementary schools in Macedonia. The sample comprised 51 boys (50%) and 51 girls (50%).

4.3 Research question and hypotheses

Main research question of this study was as follows: Is there an interconnection between personality traits (defined according to FFM model) and problematic Internet use in children aged 11–14?

The General hypothesis is:

Personality traits have an influence on the intensity of problematic Internet use (PIU) among children aged between 11 and 14 years.

From the general hypothesis, there are 5 particular hypotheses:

H1: Openness is negatively associated with PIU.

H2: Conscientiousness is negatively associated with PIU.

H3: Extraversion is negatively associated with PIU.

H4: Agreeableness is negatively associated with PIU.

H5: Neuroticism is positively associated with PIU.

4.4 Instruments

Two instruments were used for the purposes of this study. One is a personality test according to the Five-Factor model: *Big Five Questionnaire for children*, BFQ-C (Barbaranelli et al., 1998), and the other one is the scale of problematic Internet use (*Problematic Internet Use Questionnaire* – PIUQ with 9 items, Demetrovic et al., 2008).

Problematic Internet Usage Questionnaire with nine items (PIUQ-9)

The nine-item *Problematic Internet Use Questionnaire* (PIUQ-9) is a brief self-report screening instrument for problematic Internet use. It is a short form of the original PIUQ which has 18 items. On the basis of Young's (1998) *Internet Addiction Test*, the authors created a 30-item questionnaire PIUQ (Demetrovic, 2008). As a result of reliability analysis and factor analysis, the number of items was reduced to 18. PIUQ has three subscales (obsession, neglect, and control disorder). Cronbach's alpha of the original form consisting of 18 items is 0.87 in adult sample and 0.87 in adolescent sample (of the three subscales respectively 0.85, 0.74 and 0.76). Five-point scale is used (*never*, *rarely*, *sometimes*, *often*, *always*). The obsession subscale concerns obsessive thinking about the Internet. The neglect subscale refers

to the neglect of everyday activities and essential needs. The control disorder subscale is about difficulties in controlling Internet use (Koronczai et al., 2011). *Problematic Internet Use Questionnaire* (PIUQ) has two short forms, with 9 and with 6 items. The 9-item scale will be used as a tool to identify the intensity of Internet abuse among children in this study. The short nine-item version was constructed by the same authors (Demetrovic et al., 2008) to retain the original three-factor structure assessed by three items each. A 5-point Likert scale (1 = *never* to 5 = *always*) was used (Laconi et al., 2019). The obtained score can range between 9 and 45. The higher the score, the higher the risk of PIU. PIUQ-9 is available in Italian, German, French, Polish, Turkish, Hungarian, English, and Greek (Laconi et al., 2019). With this study, this instrument will also be available in Macedonian language.

PIUQ scale satisfied five of six criteria that one instrument for PIU should achieve. It is comprehensive (it assesses three basic aspects of PIU), concise (has versions of 18, 9 and 6 items), with reliable factor structures, and proven validity, the scale is applicable for different age groups and appropriate for different cultures. The last criterion, to incorporate a cut off score, was not achieved as there are still no consensual diagnostic criteria, so these tools are not validated on clinical samples (Koronczai et al., 2011).

Big Five Questionnaire – Children (BFQ)

The instrument used for the measurement of personality traits was the BFQ-C (Barbaranelli et al., 1998, 2003). This questionnaire is derived from the BFQ for adults designed by Caprara et al. (1993) and consists of five scales developed from lexical analysis (Holado et al., 2007). The *Big Five Questionnaire for Children* (BFQ-C) was developed by Barbaranelli, Caprara, Rabasca, and Pastorelli (1998, 2003) specifically to measure children's personality dimensions according to the FFM.

The original version was in Italian, but it has been translated and used in Dutch, German, and Spanish samples, and with this survey a Macedonian language version will become available too. It is a new FFM inventory specifically aimed at addressing child or adolescent traits. The *Big Five Questionnaire for Children* (BFQ-C) is a scale that purports to resolve the deficits found in other personality scales for children (Barbaranelli et al., 2003). The BFQ-C was developed to explore and measure the big five personality factors through parent, teacher, and self-report with children ranging in age from

8 to 14 years. It has two versions: one for children aged 8–10 (three-point scale: *almost never*, *sometimes*, *a lot of times*) and second one for children aged 11–14 (five-point scale: *almost never*, *few times*, *sometimes*, *a lot of times*, *almost always*). The BFQ-C is a phrase-based questionnaire consisted of 65 items equally distributed across the five factors.

Compared to the test for the measurement of the Big Five in adults, the BFQ-C has a lower number of sentences (65) which responds to the need to simplify the instrument as much as possible. For the same reason only, the fundamental dimensions of the personality (the five major factors) are taken into consideration in the BFQ-C and not the sub-dimensions or facets. The term neuroticism which defines this dimension is not used as it has psychopathological meaning. This dimension is named *Emotional Instability* (in the BFQ for adults it is named *Emotional Stability*; Barbaraneli et al., 1998).

The five factors referred to in the BFQ-C are presented in Table 1.

Table 1

Dimensions according to FFM

Energy/Extraversion	Refers to traits such as an individual's sociability, assertiveness, and enthusiasm, sociability, loquacity, assertiveness, level of activity, dynamism
Agreeableness	Refers to traits that reflect concern toward others; friendliness, altruism, taking care, giving support, cooperation, trust
Emotional Instability	Related to moods, such as being prone to anger, depression, or anxiety. Emotional stability is the ability to control emotional reactions, mood stability, absence of negative affect, ability to control anger and irritation
Conscientiousness	Ability to self-regulate, precision, accuracy, scrupulousness, tenacity, perseverance
Intellect/Openness	Openness to experience is concerned with imagination, creativity, and intelligence as well as openness to new experiences, to novelty, broad cultural interests, originality, creativity

Reliability of the BFQ-C was calculated with Cronbach's alpha: Conscientiousness (.87), Extraversion (.77), Openness (.82), Neuroticism (.77), and Agreeableness (.71). Principal components analysis (PCA) revealed five clear components for all respondents (Barbaranelli et al., 2003).

The reliability and validity of the BFQ-C have been explored in few studies. In the Dutch study (Muris, Meesters, & Diederen, 2005) results showed that the BFQ-C had a five-factor structure, good internal consistency, and validity. The Spanish study (Holgado et al., 2009) found overlap between factors Openness, Conscientiousness and Extraversion. In the American version (Gaio, 2012), the results indicate that in contrast to the Italian study, six components were loaded. These data confirm the need for further research.

5 Results

Statistical procedures were carried out with SPSS 19.0 for Windows (IBM SPSS Statistics).

5.1 Metric characteristic of BFQ-C

Cronbach's alpha coefficient for all five scales of Macedonian translation of BFQ-C is very high. Cronbach's alpha for extraversion is 0.79, for agreeableness 0.77, conscientiousness 0.82, openness 0.81, and emotional insecurity 0.80.

Correlation between the five scales is presented below in Table 2.

Table 2

Pearson's coefficients of correlation among five scales in BFQ-C

	E	A	C	N	O
E	1	0.51**	0.53**	-0.21*	0.43**
A	0.51**	1	0.70**	-0.42**	0.51**
C	0.53**	0.70**	1	-o.32**	0.64**
N	-0.21*	-0.42**	-o.32**	1	-0.22*
O	0.43**	0.51**	0.64**	-0.22*	1

**Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

As can be seen from table 2, a positive correlation exists between the dimensions Extraversion, Openness, Conscientiousness and Agreeableness. Negative correlation was found between the dimension Emotional instability and all other dimensions. This correlation among dimensions corresponds to the structure of psychological tests constructed on the basis of the FF model (McCrae & Costa , 1999)

5.2 Metric characteristic for Problematic Internet Use Questionnaire (PIUQ)

In the study (Laconi et al., 2019) the main goal of which was to explore the psychometric properties of the PIUQ-9 (conducted in nine languages: Italian, German, French, Polish, Turkish, Hungarian, English, and Greek), the internal consistency ranged from 0.81 (German sample) to 0.90 (Turkish sample). It should be noted that respondents in the study were aged between 23 and 32 years on average. In the Macedonian study, Cronbach's Alpha coefficient of total score was 0.79, on three sub-scales it is lowest for sub-scale control (0,38) and highest for obsession (0,84). Cronbach's Alpha of subscale Neglect is 0,60. Correlation between total score and scores of each of three subs-scales demonstrated high coefficient of correlation, all of them are on 0,01 level of significance (see table below). Application of principal component analysis extracted one main factor (see Table 4).

Table 3

Pearson's coefficients of correlation

Pearson Correlation Sig. (2-tailed)	Total score of PIUQ	Obsession	Neglect	Control
Total score of PIUQ	1	.819**	.833**	.736**
Obsession	.819**	1	.497**	.399**
Neglect	.833**	.497**	1	.468**
Control	.736**	.399**	.468**	1

** Correlation is significant at the 0.01 level

Table 4

Principal component analysis of the Macedonian translation of PIUQ – 9

No of item	Component	
	1	2
1	.688	.249
2	.091	.782
3	.513	.349
4	.659	.429
5	.781	-.303
6	.549	-.174
7	.761	-.214
8	.763	-.330
9	.594	.071

As can be seen from Table 4, item 2 ("How often do you feel tense, irritated, or stressed if you cannot use the Internet for several days?") stands out from the others and forms a second component. Further research will show which factors influenced this issue, maybe the formulation of this question is not clear enough for the children and it should be reformulated.

Findings from the principal component analysis suggest that one general factor explains most of the variance in PIUQ-9, so in this study we will consider PIUQ-9 a scale with one total score (and no three sub scores).

5.3 Linear regression analysis

Linear regression analysis was calculated to estimate the relationships between the dependent variable (problematic Internet use) and independent variables (five personality dimensions). In the general hypothesis, it was assumed that there is a connection, i.e. influence of personality dimensions on problematic Internet use among children aged between 11 and 14 years of age.

It was assumed that personality dimensions openness, conscientiousness agreeableness and extraversion are negatively associated and that neuroticism is positively associated with PIU.

Beta coefficients of linear regression with the level of statistical significance are presented in table 5.

Table 5

Beta coefficients of regression analysis between the total score of PIUQ and five personality dimensions from BFQ-C

	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
PIUQ total score	.319**	-.272**	-.311**	-.381**	-.467**

Statistical analysis of the interconnection between two variables: personality traits (defined according to the Five Factorial Model) and problematic Internet use showed that these variables are connected in the way that dimensions extraversion, agreeableness, openness, and conscientiousness are found to be protective factors, and neuroticism is a risk factor for intensive usage/ misuse of Internet.

6 Discussion

The appearance of Internet influenced global change in the 21st century, penetrating in every aspect of life and changing the culture. Its use among population has a wide spectrum, from moderate, controlled to intensive, uncontrolled or maladaptive. This newly appearing phenomenon in mid-1990s was a trigger factor for scientists and practitioners to focus their interest on identifying and defining Internet maladaptive behavior and its influence on mental health. Different concepts and definitions were provided. In this paper the term problematic Internet use (PIU) is used for repetitive and impairing Internet behavior (Fineberg et al., 2018) and focus on research is on generalized PIU. Target population are adolescents, aged 11–14, as children and young are group at a higher risk of extensive Internet use. Many factors have been deemed to be either risk or protective factors, but this study explored the influence of personality traits on problematic usage of Internet, namely which one are protective, and which ones are risk factors.

Two instruments have been used to explore the interaction between personality traits and PIU: a personality test based on FF Model – *Big Five Questionnaire for Children* (BFQ-C) (Barbareneli et al., 2003) and the short version of a scale for measuring the intensity of inappropriate Internet use – *Problematic Internet Use Questionnaire* (PIUQ-9) (Demetrovic et al., 2008).

The outcome of the applied regression analysis showed that four dimensions can be considered protective factors (extraversion, openness, agreeableness, conscientiousness) and one a risk factor (emotional instability). Findings obtained in this study are similar to other studies. Öztürk et al. (2014) found that the risk of Internet addiction is connected with the level of extraversion and openness to experience among adolescents from high schools. In Öztürk's study, students who are not at risk of PIU scored higher on scale of extraversion, but students who are higher on openness dimension have higher scores on Internet addiction scale. Contrary to Öztürk's study, and in favor of this study, are the findings of Lavin's et al. study (1999) where respondents who scored lower in the sensation and excitement seeking dimension (openness) were intensive Internet users.

Many studies provided evidence that emotional instability (neuroticism) has a positive correlation with problematic Internet use. Neuroticism

emerged as a significant associated factor with Internet abuse. Higher levels of neuroticism can be considered a risk factor for intensive, inappropriate Internet use (Othman, 2017; Saini et al., 2016).

Findings of all studies which explore the interconnection between personality traits and PIU provided results that conscientiousness is in a negative correlation with PIU (Błachnio et al., 2016). Conscientious individuals are more disciplined which make them capable of taking control over time spent on the Internet. Agreeableness can also be assumed as a protective factor in terms of Internet addiction; individuals with low levels of agreeableness are more prone to use Internet excessively. The negative relation between Internet addiction and agreeableness was found in other studies (McElroy et al., 2007).

Interpretation and explanation of the impact of personality dimensions according to the Five-Factor Model are mainly based on the description of the five dimensions given by Costa and McCree in the description of the NEO PI test of personality (McCrae et al., 1998).

Extroverts are more comfortable in social activities, make friends easily, and are cheerful, they prefer companionship and social activities. This predisposition makes those with a high level of extraversion less prone to spend their time online. People high on agreeableness dimension are more willing to believe in cooperation, friendship. Conscientious people have a sense of purpose and a high level of aspiration, they are organized and have long term plans. People who have high intensity of neuroticism (or emotional instability) are more hopeless, with low self-esteem. It can be said that individuals with high levels of neuroticism refrain from face-to-face communication which makes Internet communication more acceptable for them as it can reduce anxiety and feeling of insecurity. Those who are open to new experiences (openness) have a need for novelty, change, they want to travel, have different hobbies; they are open toward new ideas and attitudes (McCrae & Costa, 1999).

Some studies found that there was a negative correlation between openness to new experiences and Internet addiction while others found that this correlation is positive. The negative correlation can be explained through the fact that life experiences offline are more realistic and exciting which makes these individuals prefer real life settings more than virtual life settings. The

positive correlation can be explained by their tendency to be attracted by novelty.

The results obtained from many studies, including the Macedonian study, showed that openness, conscientiousness, extraversion, and agreeableness are personality dimensions which are negatively related with problematic Internet use whereas neuroticism (emotional instability) is positively related with PIU.

Finally, if a general conclusion is to be drawn on PIU, then it can be said that there is no difference between offline and online life. Both are merely different manifestations of personality expression. Human behavior is determined by established emotional stability and a positive self-concept, so emotionally stable people will be self-accepting, and they will restrain from any type of risk behavior, including PIU.

7 Limitation of the study

The situation with COVID 19 made it impossible to conduct and finish the field research. Findings in this study are based on only a limited segment of the planned stratified sample, which allowed exploring the correlation and regression between variables.

References

American Psychiatric Association. (2014). *New research press briefing: Internet addiction: Review of neuroimaging studies.* Available from https://www.psychiatry.org/newsroom/news-releases/internet-addiction-review-of-neuroimaging-studies

Ang, R. P., Chong, W. H., Chye, S., & Huan, V. S. (2012). Loneliness and generalized problematic Internet use: Parents' perceived knowledge of adolescents' online activities as a moderator. *Computers in Human Behavior*, *28*(4), 1342–1347.

Barbaranelli, C., Caprara, G. V., Rabasca, A., & Pastorelli, C. (2003). A questionnaire for measuring the Big Five in late childhood. *Personality and Individual Differences*, *34*(4), 645–664.

Barbaranelli, C., Caprara, G. V., Rabasca, A., & Pastorelli, C. (1998). *BFQ-C BIG five questionnaire children, Manual.* Firenze: Giunti O.S. Organizzazioni Speciali.

Billieux, J. (2012). Problematic use of the mobile phone: A literature review and a pathways model. *Current Psychiatry Reviews*, *8*(4), 299–307.

Błachnio, A., Przepiórka, A., Senol-Durak, E., Durak, M., & Sherstyuk, L. (2016). The role of self-esteem in Internet addiction: A comparison between Turkish, Polish and Ukrainian samples. *The European Journal of Psychiatry*, *30*(2), 149–155.

Brand, M., Young, K. S., & Laier, C. (2014). Prefrontal control and Internet addiction: A theoretical model and review of neuropsychological and neuroimaging findings. *Frontiers in human neuroscience*, *8*, 375.

Brenner, V. (1997). Psychology of computer use: XLVII. Parameters of Internet use, abuse and addiction: The first 90 days of the Internet Usage Survey. *Psychological reports*, *80*(3), 879–882.

Cakmak, F. H., & Gul, H. (2018). Factors associated with problematic internet use among children and adolescents with Attention Deficit Hyperactivity Disorder. *Northern clinics of Istanbul*, *5*(4), 302–313.

Cao, H., Sun, Y., Wan, Y., Hao, J., & Tao, F. (2011). Problematic Internet use in Chinese adolescents and its relation to psychosomatic symptoms and life satisfaction. *BMC public health*, *11*(1), 1–8.

Caplan, S. E. (2002). Problematic Internet use and psychosocial well-being: Development of a theory-based cognitive–behavioral measurement instrument. *Computers in Human Behavior*, *18*(5), 553–575.

Caprara, G. V., Barbaranelli, C., Borgogni, L., & Perugini, M. (1993). The "Big Five Questionnaire": A new questionnaire to assess the Five Factor Model. *Personality and Individual Differences*, *15*, 281–288.

Çevik, G. B., & Yildiz, M. A. (2017). The roles of perceived social support, coping, and loneliness in predicting Internet addiction in adolescents. *Journal of Education and Practice*, *8*(12), 64–73.

Children and the internet. (n.d.). Available from from https://www.internetsociety.org/wp-content/uploads/2017/11/bp-childrenandtheinternet-20129017-en.pdf

Correa, T., Hinsley, A. W., & De Zuniga, H. G. (2010). Who interacts on the Web?: The intersection of users' personality and social media use. *Computers in human behavior*, *26*(2), 247–253.

Davis, R. A., Flett, G. L., & Besser, A. (2002). Validation of a new scale for measuring problematic Internet use: Implications for pre-employment screening. *Cyberpsychology & behavior*, *5*(4), 331–345.

Davis, R. A. (2001). A cognitive-behavioral model of pathological INTERNET use. *Computers in Human Behavior*, *17*(2), 187–195.

Demetrovics, Z., Szeredi,B., & Rózsa, S. (2008). The three-factor model of Internet addiction: The development of the Problematic Internet Use Questionnaire. *Behavior Research Methods*, *40*(2), 563–574. doi: 10.3758/BRM.40.2.563

Dobešová Cakirpaloglu, S., & Kvintová, J. (2019a). The relationship between personality and internet addiction among pre-service teachers. In *EDULEARN19 Proceedings 11th International Conference on Education and New Learning Technologies*, Palma, Spain. 1–3 July, 2019 (pp. 1000–1006). IATED Academy.

Dobešová Cakirpaloglu, S., Kvintová, J., & Hájková, R. (2019b). Relationship between Internet addiction and self-esteem with anxiety in pre-service teachers. In *ICERI2019 Proceedings* (pp. 1664–1669). Madrid: International Association of Technology, Education and Development (IATED).

Dobešová Cakirpaloglu, S., Kvintová, J., Lemrová, S., & Hájková, R. (2020). Internet addiction and personality among college students of generation Y and Z. Proceedings of EDULEARN20 Conference 6th–7th July 2020 (pp. 2959–2968). Madrid: International Association of Technology, Education and Development (IATED).

Dufour, M., Brunelle, N., Tremblay, J., Leclerc, D., Cousineau, M. M., Khazaal, Y., Légaré, A. A., Rousseau, M., & Berbiche, D. (2016). Gender difference in Internet use and Internet problems among Quebec high school students. *Canadian journal of psychiatry. Revue canadienne de psychiatrie*, *61*(10), 663–668.

Fernandes, B. M., Rodrigues, B., & Pontes, H. M. (2019). Internet addiction or problematic Internet use? Which term should be used. Psicologia USP, 30. Available from https://doi.org/10.1590/0103-6564e190020

Fineberg, N. A., Demetrovics, Z., Stein, D. J., Ioannidis, K., Potenza, M. N., Grünblatt, E., ... & Chamberlain, S. R. (2018). Manifesto for a European research network into Problematic Usage of the Internet. *European Neuropsychopharmacology*, *28*(11), 1232–1246.

Funkcija internet [Function of internet]. (n.d.). Available from https://sites.google.com/site/funkcijeinterneta123/

Gaio, V. M. (2012). Psychometric properties of the Big Five Questionnaire-Children (BFQ-C) in American adolescents. Doctoral thesis. Arizona State University.

Glowniak, J. (1998). History, structure, and function of the Internet. *Seminars in Nuclear Medicine*, *28*(2), 135–144.

Gregory, C. (n.d.). *Internet addiction disorder.* Available from https://www.psycom.net/iadcriteria.html

Has the coronavirus turned us all into Internet addicts? (2020, April 18). The Star. Retrieved from https//www.thestar.com.my/tech/tech-news/2020/04/18/has-the-coronavirus-turned-us-all-into-internet-addicts?fbclid=IwAR2-g5cv2wFgK2Dp9k6rHiCXUkzBZ2RVz-Qb6CMuGc5iQI9F0N-IHrKiLGET

Holgado, F. P., Carrasco, M. A., del Barrio, M. V., & Chacón, S. (2009). Factor analysis of the Big Five Questionnaire using polychoric correlations in children. *Quality & Quantity*, *43*, 75–85.

Huang, S., Hu, Y., Ni, Q., Qin, Y., & Lü, W. (2019). Parent-children relationship and internet addiction of adolescents: The mediating role of self-concept. *Current Psychology*, 1–8.

Hussain, Z., & Pontes, H. M. (2019). Personality, internet addiction, and other technological addictions: An update of the research literature. In *Multifaceted approach to digital addiction and its treatment* (pp. 46–72). Hershey: IGI Global.

Islam, M. A., & Hossin, M. Z. (2016). Prevalence and risk factors of problematic internet use and the associated psychological distress among graduate students of Bangladesh. *Asian journal of gambling issues and public health*, *6*(1), 11.

Karacic, S., & Oreskovic, S. (2017). Internet addiction through the phase of adolescence: A questionnaire study. *JMIR mental health*, *4*(2), e11.

Kayiş, A. R., Satici, S. A., Yilmaz, M. F., Şimşek, D., Ceyhan, E., & Bakioğlu, F. (2016). Big five-personality trait and internet addiction: A meta-analytic review. *Computers in Human Behavior*, *63*, 35–40.

Kayri, M., & Günüç, S. (2016). Comparing Internet addiction in students with high and low socioeconomic status levels. *Addicta, The Turkish Journal of addictions*, *3*(2), 177–183. https://www.addicta.com.tr/Content/files/sayilar/9/2.pdf

Kearns, A., & Whitley, E. (2019). Associations of internet access with social integration, wellbeing and physical activity among adults in deprived communities: Evidence from a household survey. *BMC Public Health*, *19*(1), 1–15.

Koronczai, B., Urbán, R., Kökönyei, G., Paksi, B., Papp, K., Kun, B., ... & Demetrovics, Z. (2011). Confirmation of the three-factor model of problematic internet use on off-line adolescent and adult samples. *Cyberpsychology, Behavior, and Social Networking*, *14*(11), 657–664.

Kuss, D. J., van Rooij, A. J., Shorter, G. W., Griffiths, M. D., & van de Mheen, D. (2013). Internet addiction in adolescents: Prevalence and risk factors. *Computers in Human Behavior*, *29*(5), 1987–1996. https://doi.org/10.1016/j.chb.2013.04.002

Laconi, S., Urbán, R., Kaliszewska-Czeremska, K., Kuss, D. J., Gnisci, A., Sergi, I., ... & Király, O. (2019). Psychometric evaluation of the nine-item Problematic Internet Use Questionnaire (PIUQ-9) in nine European samples of Internet users. *Frontiers in psychiatry*, *10*, 136.

Lai, F. T. T., & Kwan, J. L. Y. (2018). Socioeconomic determinants of internet addiction in adolescents: A scoping review. In B. Bozoglan (Ed.), Advances in human and social aspects of technology (AHSAT) book series. Psychological, social, and cultural aspects of internet addiction (pp. 127–145). Information Science Reference/IGI Global.

Lam, L. T, (2015). Parental mental health and Internet addiction in adolescents. *Addictive Behaviors*, *42*, 20–23.

Lam, L. T., & Peng, Z. W. (2010). Effect of pathological use of the internet on adolescent mental health: a prospective study. *Archives of pediatrics & adolescent medicine*, *164*(10), 901–906.

Lavin, M., Marvin, K., McLarney, A., Nola, V., & Scott, L. (1999). Sensation seeking and collegiate vulnerability to internet dependence. *Cyberpsychology & behavior: The impact of the Internet, multimedia and virtual reality on behavior and society*, *2*(5), 425–430.

Lee, Y. S., Han, D. H., Kim, S. M., & Renshaw, P. F. (2013). Substance abuse precedes Internet addiction. *Addictive behaviors*, *38*(4), 2022–2025.

Lee, J. Y., Kim, S. Y., Bae, K. Y., Kim, J. M., Shin, I. S., Yoon, J. S., & Kim, S. W. (2018). Prevalence and risk factors for problematic I nternet use among rural adolescents in Korea. *Asia-Pacific Psychiatry*, *10*(2), e12310.

Measelle, J. R., John, O. P., Ablow, J. C., Cowan, P. A., & Cowan, C. P. (2005). Can children provide coherent, stable, and valid self-reports on the big five dimensions? A longitudinal study from ages 5 to 7. *Journal of personality and social psychology*, *89*(1), 90.

Markos, A., Kokkinos, C.M. (2017). Development of a short form of the Greek Big Five Questionnaire for Children (GBFQ-C-SF): Validation among preadolescents. *Personality and Individual Differences*, *112*, 12–17.

McCrae, R. R., & Costa, P. T., Jr. (1999). A Five-Factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 139–153). Guilford Press.

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality*, *60*(2), 175–215.

McCrae, R. R., Costa, P. T., Del Pilar, G. H., Rolland, J.-P., & Parker, W. D. (1998). Cross-cultural assessment of the Five-Factor Model: The revised NEO personality inventory. *Journal of Cross-Cultural Psychology*, *29*(1), 171–188.

McCrae, R. R., & Costa, P. T., Jr. (1999). A Five-Factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 139–153). New York: Guilford Press.

McElroy, J. C., Hendrickson, A. R., Townsend, A. M., & DeMarie, S. M. (2007). Dispositional factors in internet use: personality versus cognitive style. *MIS Quarterly*, *31*(4), 809–820.

Meerkerk, G. J., Van Den Eijnden, R. J., Vermulst, A. A., & Garretsen, H. F. (2009). The Compulsive Internet Use Scale (CIUS): Some psychometric properties. *Cyberpsychology & behavior: The impact of the Internet, multimedia and virtual reality on behavior and society*, *12*(1), 1–6.

Morgan, C., & Cotten, S. R. (2003). The relationship between internet activities and depressive symptoms in a sample of college freshmen. *CyberPsychology & Behavior*, *6*(2), 133–142.

Muris, P., Meesters, C., & Diederen, R. (2005). Psychometric properties of the Big Five Questionnaire for Children (BFQ-C) in a Dutch sample of young adolescents. *Personality and Individual Differences*, *38*(8), 1757–1769.

Nichols, L. A., & Nicki, R. (2004). Development of a psychometrically sound internet addiction scale: A preliminary step. *Psychology of addictive behaviors: Journal of the Society of Psychologists in Addictive Behaviors*, *18*(4), 381–384.

Osnove internet. Predavanje 2 [Basics of internet. Lecture 2]. 2009/2010. (n.d.). Available from http://ttl.masfak.ni.ac.rs/21IT/Predavanje_2_INTERNET-2010.pdf

Othman, Z. (2017). Internet addiction and personality: Association with impulsive sensation seeking and neuroticism-anxiety traits. *International Medical Journal*, *24*(5), 375–378.

Öztürk, C., Bektas, M., Ayar, D., Özgüven Öztornacı, B., & Yağcı, D. (2015). Association of personality traits and risk of internet addiction in adolescents. Asian nursing research, 9(2), 120–124.

Poli, R. (2017). Internet addiction update: Diagnostic criteria, assessment and prevalence. *Neuropsychiatry*, *7*(1), 4–8. http://www.jneuropsychiatry.org/peer-review/internet-addiction-update-diagnostic-criteria-assessment-and-prevalence.pdf

Rouse, M. (2019). DEFINITION Internet. Available from https://searchwindevelopment.techtarget.com/definition/Internet

Saini, V. K., Baniya, G. C., Verma, K. K., Soni, A., & Kesharwani, S. (2016). A study on relationship of internet addictive behavior with personality traits among medical students. *Journal of Mental Health and Human Behaviour*, *21*(2), 108.

Salicetia, F. (2015). Internet Addiction Disorder (IAD). *Procedia – Social and Behavioral Sciences*, *191*, 1372–1376.

Serin, B. N. (2011). An examination of predictor variables for problematic internet use. TOJET: *The Turkish Online Journal of Educational Technology*, *10*(3), 54–62.

Shaffer, H. J., Hall, M. N., & Vander Bilt, J. (2000). „Computer addiction": A critical consideration. *The American journal of orthopsychiatry*, *70*(2), 162–168.

Shapira, N. A., Goldsmith, T. D., Keck Jr, P. E., Khosla, U. M., & McElroy, S. L. (2000). Psychiatric features of individuals with problematic internet use. *Journal of affective disorders*, *57*(1–3), 267–272.

Soto, C. J., John, O. P., Gosling, S. D., & Potter, J. (2008). The developmental psychometrics of Big Five self-reports: Acquiescence, factor structure, coherence, and differentiation from ages 10 to 20. *Journal of personality and social psychology*, *94*(4), 718–737.

Soto, C. J., Kronauer, A., & Liang, J. K. (2016). Five-factor model of personality. In S. K. Whitbourne (Ed.), *Encyclopedia of adulthood and aging* (pp. 506–510). Hoboken: Wiley.

Starcevic, V. (2010). Problematic Internet use: A distinct disorder, a manifestation of an underlying psychopathology, or a troublesome behaviour? *World psychiatry: official journal of the World Psychiatric Association (WPA)*, *9*(2), 92–93.

State Statistical office. (2019). *Information society.* Available from http://www.stat.gov.mk/pdf/2019/8.1.19.32.pdf

Wegmann, E., & Brand, M. (2016). Internet-Communication Disorder: It's a matter of social aspects, coping, and internet-use expectancies. *Frontiers in psychology*, *7*, 1747.

Weinstein, A., Dorani, D., Elhadif, R., Bukovza, Y., Yarmulnik, A., & Dannon, P. (2015). Internet addiction is associated with social anxiety in young adults. *Annals of Clinical Psychiatry*, *27*(1), 4–9.

What is Internet Addiction? (n.d.). Available from https://www.addictioncenter.com/drugs/internet-addiction

Widyanto, L., & McMurran, M. (2004). The psychometric properties of the internet addiction test. *Cyberpsychology & behavior*, *7*(4), 443–450.

Wiederhold, B. K. (2018). Stop scrolling, start living: The growing reality of Internet addiction disorder. *Cyberpsychology, Behavior, and Social Networking*, *21*(5), 279–280.

Yellowlees, P. M., & Marks, S. (2007). Problematic Internet use or Internet addiction? *Computers in Human Behavior, 23*(3), 1447–1453.

Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. *CyberPsychology & Behavior*, *1*(3), 237–244.

Young, K. S. (2004). Internet Addiction: A new clinical phenomenon and its consequences. *American Behavioral Scientist*, *48*(4), 402–415.

Zhang, S., Tian, Y., Sui, Y., Zhang, D., Shi, J., Wang, P., Meng, W., & Si, Y. (2018). Relationships between social support, loneliness, and Internet addiction in Chinese postsecondary students: A longitudinal crloss-lagged analysis. *Frontiers in psychology*, *9*, 1707.

Authors

Marijana Markovikj, University of Ss Cyril and Methodius, Skopje, Institute for Sociological Political and Juridical research, „Klenoec", No. 69, 1/3, 1000, Skopje, Republic of Macedonia, e-mail: marijana@isppi.ukim.edu.mk

Eleonora Serafimovska, University of Ss Cyril and Methodius, Skopje, Institute for Sociological Political and Juridical research, „Gjorgji Abadziev" No.10, Skopje, 1000 Republic of Macedonia, e-mail: eleonora@isppi.ukim.edu.mk

Vztah mezi osobnostními charakteristikami a problémovým užíváním internetu mezi dětmi ve věku 11 až 14 let

Abstrakt: Problematické užívání internetu (*problematic Internet use*) je definováno jako neschopnost regulovat vlastní užívání internetu. Tato závislost může mít negativní vliv na duševní i fyzické zdraví i na kvalitu života. Zmíněný fenomén je spojen s technologickým pokrokem a stal se celosvětovým problémem. Projevuje se omezenou kontrolou chování ve vztahu k přístupu k a užívání internetu, online hazardním hrám, online hrám apod. Děti a mládež jsou obzvláště náchylní k tomuto typu závislosti. Výzkum ukázal několik rizikových faktorů, jedním z nichž jsou osobnostní charakteristiky. Cílem předkládané studie je prozkoumat vztah mezi charakteristikami osobnosti definovanými podle Velké Pětky (pětifaktorový model

osobnosti) a problematickým užíváním internetu a to, které z charakteristik mohou být považovány za rizikové a které za ochranné faktory. Data byla sbírána za účelem standardizace a kulturní adaptace psychologického měřícího nástroje pro děti. Výsledky této studie jsou založeny na analýze dat od 102 respondentů z reprezentativního vzorku žáků základních škol ve věku 11 až 14 let. Výzkum dále pokračuje a další data jsou sbírána. Problematické užívání internetu bylo zkoumáno pomocí krátké verze dotazníku problematického užívání internetu pro mládež (PIUQ-9; Demetrovics, Szeredi, & Rózsa, 2008), která má devět položek. Plná verze instrumentu je založena na 18 položkách. Využita je pětistupňová Likertova škála; minimální skóre ve zkrácené verzi je 9, maximální 45. Instrument má tři sub-škály o třech položkách: škála obsese (abstinenční symptomy při nedostatečném přístupu k internetu), škála zanedbávání potřeb (zanedbávání osobních potřeb a každodenních činností), škála poruchy kontroly (nedostatek kontroly ve spojení s užíváním Internetu). Pětifaktorový osobnostní inventář pro děti (BFQ-C; Barbaranelli et al., 2003) se zaměřil na osobnostní charakteristiky. Nástroj obsahuje 65 položek s pětistupňovou Likertovou škálou. 13 položek se zaměřuje na každou z následujících oblastí: otevřenost vůči zkušenostem / intelekt, svědomitost, extraverze/energie, přívětivost, neuroticismus. Zjištění makedonské studie naznačují faktory relevantní pro rozvoj problematického užívání internetu – čtyři osobnostní charakteristiky lze považovat za ochranné faktory (extraverze, otevřenost vůči zkušenosti, přívětivost a svědomitost) a jeden za rizikový faktor (neuroticismus).

Klíčová slova: děti, pětifaktorový model osobnosti, problematické užívání Internetu

Boredom coping in the context of secondary education [1]

Denisa Urbanová, Isabella Pavelková

Charles University, Faculty of Education, Department of Psychology

Received 2nd July 2020 / final version received 28th November 2020 / accepted 16th March 2021

Abstract: The article concerns the problematics of the boredom experience and especially boredom coping in Czech secondary school students (n = 460). The relationships between, on the one hand, reported boredom frequency, various aspects of state boredom experienced at school, trait boredom, grade point average and learning motivational characteristics and, on the other hand, different types of boredom coping strategies have been examined. Data were obtained using the *Boredom Proneness Scale, Multidimensional State Boredom Scale, Coping with Boredom Scale, Learning Motivation Inventory* and closed questions. Descriptive and inductive statistics were used to process the data. More and less risky boredom coping strategies were identified with regard to the boredom experience at school and grade point average. A key factor facilitating adaptive boredom coping appears to be the capability to find personal value in potentially boring tasks and to exert cognitive effort together with high levels of positive achievement motivation and conscientiousness with regard to schoolwork. Additionally, at least a certain level of cognitive motivation, which seems to be a key supportive factor, is needed. A risk factor with regard to rather maladaptive boredom coping appears to be the tendency to systematically employ avoidance or even escaping behavior. The results indicate that school boredom coping issues are very complicated and have numerous implications for further research.

Key words: boredom, school boredom, boredom coping, learning motivation

Boredom is described as a complex, subjectively strong aversive experience of lack of sense, will paralysis and perception of one's own situation as unsatisfactory that can be accompanied by a variety of mostly negative affective states of different intensity, such as sadness, anhedonia, apathy, agitation, frustration, and anger (Pavelkova & Urbanova, 2018). However, the boredom experience also includes a certain potential for personal growth when it is well-managed. According to a certain group of researchers,

[1] The study was supported by Charles University, project GA UK No. 846119.

https://doi.org/10.5817/PedOr2020-4-486

boredom can motivate individuals to search for the resolution of their dissatisfactory situation and thus cultivate creativity (Bench & Lench, 2013; van Tilburg & Igou, 2012).

On the other hand, the impacts of the long-term use of poor boredom coping strategies at both the individual and societal levels are continually underestimated, although a number of studies document that boredom is related to a variety of negative and pathological phenomena, e.g., depression, neuroticism, somatization, emotional eating, gambling, addictive drug abuse, risky car driving, risky sexual behavior, hostility, delinquency and other forms of risky and unhealthy behavior (e.g., Blaszczynski, McConaghy, & Frankova, 1990; Caldwell & Smith, 1994, 1995; Dahlen et al., 2004; Heslop et al., 2010; Mercer-Lynn et al., 2011; Miller et al., 2014; Newberry & Duncan, 2001; Sommers & Vodanovich, 2000).

At school, neglected boredom is one of the most serious motivational problems complicating the entire educational process for both students and teachers, having a negative impact on the attitudes towards school and education of students across the globe. Neglected boredom problems and maladaptive coping strategies are transferred by students from school to their future work environment, and the long-term use of poor boredom coping strategies may have a negative impact on their quality of life.

Numerous research findings consistently show that boredom is the most frequently experienced emotion in the school environment (Goetz & Hall, 2014). Pekrun (2006) outlines negative factors that are frequently connected with school boredom: low levels of cognitive resources, reduced learning motivation, incapability to continue task work and to use effective cognitive and especially meta-cognitive learning strategies, reduced capacity to regulate own working effort in order to reach goals, etc. Other studies confirm a negative relationship between boredom and various achievement characteristics, e.g., educational involvement (Watt & Vodanovich, 1999) or the use of meta-cognitive strategies (Ahmed et al., 2013). Goetz and Hall (2014) refer to the consistent incidence of negative correlations between boredom and school results across different domains.

Even though boredom is a highly current research topic (it seems to be increasingly addressed across different domains), many questions remain unanswered, especially regarding the analysis of boredom sources and

possible means of boredom coping. In the following text, we focus on boredom in a specific school environment, in which situations with certain types of constraints are often present, as happens later in working life. It seems that school boredom as a frustrating, stressful experience is an important part of so-called hidden curricula. In this sense, school can be perceived as a place where effective boredom coping could be cultivated (early recognition of boredom feelings, adequate coping strategies with respect to different school situations, awareness of one's own propensity to respond to certain boredom sources and/or to react to boredom in a specific way, etc.).

Most of the research in the field of educational boredom concerns academic issues. According to Farmer & Sundberg (1986), the most boredom-prone population is adolescents, which is why we conducted our research with a population sample of secondary school students. We follow up with the earlier work of Pavelkova (2009), Goetz et al. (2013), Larson & Richards (1991), Goetz et al. (2007), Nett, Goetz, & Hall (2011), Caldwell, Darling, & Payne (1999) and others.

In psychology, boredom has been conceptualized within a number of theoretical paradigms, such as psychodynamic (e.g., Fenichel, 1951), existential (e.g., Frankl, 1997), cognitive (e.g., Harris, 2000) or social-cognitive (e.g., Pekrun, 2006) paradigms. Different approaches can also be found across various psychology fields: social psychology (e.g., van Tilburg & Igou, 2011), work psychology (e.g., Fisher, 1993), clinical psychology (e.g., Todman, 2003) or counseling psychology (e.g., Watt & Ewing, 1996). Within the educational context, boredom is a subject addressed by Pavelkova (2002, 2009), Pekrun (2006), Vogel-Walcutt et al. (2012), Goetz et al. (2013), etc.

Even though a range of boredom factors has been examined, e.g., reduced attention capacity (Farmer & Sundberg, 1986), monotony and routine aversion (Zuckerman, Eysenck, & Eysenck, 1978), motivation and time work deficits (Vodanovich & Rupp, 1999), many questions remain unanswered, especially those connected with causal relationships between the factors anticipating boredom and boredom consequences (Goetz & Hall, 2014). Researchers also do not agree on the conceptualization of this complex psychological phenomenon, although particular accordance exists concerning the basic distinction between boredom proneness as a specific personal disposition (trait or chronic boredom) and reactive boredom linked to a specific situation (state boredom) (e.g., Vogel-Walcutt et al., 2012).

It seems obvious that boredom cannot be simply defined as an absence of positive emotions or interest (Goetz & Hall, 2014). Boredom rather seems to be a very complicated psychological construct that could be conceptualized as a specific emotion with a unique constellation of at least five components: physiological, affective, cognitive, motivational and behavioral/expressive (e.g., Pavelkova, 2009; Pekrun et al., 2010). However, even within this conceptualization, there is no accordance among researchers. While some researchers define boredom as a low-arousal emotion, others refer to it as a high-arousal affective state (Harris, 2000). Discussions also exist with regard to the valence of this experience, although the majority of researchers agree that boredom is rather negative than positive (Vogel-Walcutt et al., 2012).

Across research studies, we can find various attempts to define boredom in contrast to related psychological constructs: disinterest and dislike (Hill & Perkins, 1985), fear and anxiety on one side and joy and pride on the other side (Pekrun, 2006), apathy, anhedonia and depression (Goldberg et al., 2011). Differences also exist in the theoretical and/or empirical understanding of boredom as a one-dimensional (e.g., Farmer & Sundberg, 1986; Pekrun, 2006) or a multidimensional construct (e.g., Fahlman et al., 2013).

Research studies on boredom coping can be categorized according to different aspects, such as genre, methodology, context, and thematic focus (Pavelkova & Urbanova, 2018). Within a specific school environment, little research attention has been given to this topic so far. There exist only a few boredom coping conceptualizations with different theoretical backgrounds. The conceptions of Hamilton, Haier, & Buschbaum (1984) and Nett, Goetz, & Daniels (2010) seem to be especially relevant and valuable for educational settings.

In the conceptualization of Hamilton et al. (1984), boredom coping is closely related to the ability to generate intrinsic enjoyment. While the intrinsic enjoyment construct is characterized by intensive concern, interest and absorbed attention, the construct of boredom coping reflects a certain disposition to restructure one's own perception and participation in potentially boring activities to reduce boredom and/or maximize the intrinsic enjoyment experience.

Boredom in this conception can be understood as a lack of engagement and enjoyment that appears when the attention of an individual must be

strengthened by external incentives, such as salary or prestige. Boredom emerges in reaction to the presence of constraints that are typical of situations when an individual must do something that he does not want to or when he cannot do what he wants to. Following the theoretical boredom conception adopted from arousal theories (Csikszentmihalyi, 1975), the authors claim that individuals can cope with boredom effectively when they discover qualities similar to games within the boring task and are able to create specific rules for what they are doing. For example, someone may focus on the rhythm of his own movements when performing some monotonous physical activity. From this point of view, boredom coping does not consist of merely creating pictures and possibilities of what one could do but lies mainly in the personal capability to choose those that are constructive with regard to the current situation, can lead to a positive mood or can boost well-being. The type of activity is therefore irrelevant because we can project meaning onto it and make it a source of our intrinsic enjoyment, and if we do not, we may fall into boredom. Boredom coping in this conception reflects specific attentional capacity (ability to effectively control attention) across a variety of situations in different contexts (school, work, free time, etc.) (Hamilton et al., 1984).

The authors developed the *Boredom Coping Scale*, which is often used for research purposes, with subtle changes to the original scale (e.g., Fahlman, 2009; Game, 2007), but it seems that rather than measuring specific coping strategies, it measures general abilities that help individuals avoid the boredom experience, such as the capacity to remain attentive or think up interesting activities (Vodanovich, 2003). What seems to be of key value in this conception is the accent on the role of attentional control in the boredom experience as well as the boredom coping process.

In their boredom coping conceptualization, Nett et al. (2010) adapted existing, theoretically-grounded classification systems of stress coping strategies. This seems to be well-reasoned if we consider the boredom experience, especially in the school context, as potentially a highly frustrating and stressful experience[2]. Boredom is defined here as a specific emotion that is qualitatively different from the absence of joy and interest and that significantly relates to low levels of the perceived value of an activity or situation. In accordance with the above-mentioned component model of

[2] About long-term boredom as a source of stress, refer to, e.g., Plummer (2010).

emotions, boredom is described as an aversive state (affective component), within which the perception of time passing changes (cognitive component), accompanied by low arousal (physiological component), specific facial, vocal and postural expressions (expressive component) and motivation to change activities or leave the situation (motivational component)[3].

The classification system adapted by Nett et al. (2010) consists of four types of coping strategies that can be differentiated along two dimensions. The first dimension reflects the main focus of strategies (approach versus avoidance), while the second dimension is related to the character of the strategy (cognitive versus behavioral). While approach strategies consist of the orientation towards solving a problem (boring situation), avoidance strategies are focused on avoidance or escape from a problem (boring situation).

Cognitive approach strategies include the change in perception of the current situation. A student uses this type of strategy when she says that even if the task is boring, it is important for her to do. Behavioral approach strategies consist of attempts to change the actual boring situation. For example, the student may ask the teacher to change the topic or activity in favor of more interesting topics. If the teacher complies with this requirement, the student can stop being bored. However, this strategy can have an effect even if the teacher does not comply because the teacher receives the information that students may be bored by the current activity. Cognitive avoidance strategies enable students to employ their mind with something different from the current boring task or activity (thinking of something that does not relate to the current task or activity, e.g., preparing homework in advance). Students using behavioral avoidance strategies do something else in a boring situation, for example, talk to a schoolmate or a person sitting next to them (Nett et al., 2010).

Based on this classification, Nett et al. (2010) constructed a *Coping with Boredom Scale* that is frequently used in current educational research (e.g., Nett et al., 2011; Daniels, Tze, & Goetz, 2015; Eren & Coskun, 2015; Tze et al., 2013). The scale was constructed for use in mathematics, but with subtle changes in instruction, it can also be used in other school domains. Boredom coping strategy types relate to the frequency of boredom at school

[3] The physiological component is especially disputable in this regard since boredom could be connected also with high arousal (e.g., Fahlman et al., 2013).

and other academic, emotional, motivational and cognitive aspects of school situations. The authors also identified three student groups using a specific combination of boredom coping strategies (Nett et al., 2010).

1 Methods

The purpose of this study is to contribute to a more comprehensive understanding of the boredom experience and especially boredom coping among Czech secondary school students. The main aim is to examine what types of boredom coping strategies students use in a specific educational environment and how these types of strategies relate to various aspects of students' state boredom experience and/or trait boredom. Additionally, relationships between, on one side, the preference for certain types of boredom coping strategies and grade point averages and, on the other side, some of the motivational characteristics of students are examined.

There are two groups of research questions:

Boredom experience: What aspects of the boredom experience at school are most salient for students in the research sample? How often do students experience boredom at school and in their free time? Is there a relationship between state boredom and the frequency of boredom at school and during free time? Is there a relationship between trait boredom and the frequency of boredom at school and during free time? Is there a relationship between trait and state boredom? Are there any differences between men and women in trait boredom, state boredom at school and boredom experience frequency at school and during free time?

Boredom coping: What types of boredom coping strategies do students use the most/the least? Is there a relationship between different coping types? Are there gender differences in boredom coping behavior at school? Is there a relationship between boredom frequency at school/during free time and different types of boredom coping strategies? Is there a relationship between various aspects of state boredom and different types of boredom coping strategies? Is there a relationship between trait boredom and different types of coping strategies? Is there a relationship between grade point average and different types of coping strategies? Is there a relationship between the types of learning motivation and different types of boredom coping strategies?

The research sample consists of secondary school students (n = 460) (two grammar schools and two vocational secondary schools with different specializations: technical and educational), with a balanced representation of men (n = 192) and women (n = 268) with an average age of 17.3 years (SD = 1.36; range 15 to 24).

To measure endogenous and exogenous boredom, an empirically constructed *Boredom Proneness Scale* (n = 457) (Farmer & Sundberg, 1986) and a multidimensional state boredom scale (n = 432) based on an integrative theoretical framework were used (Fahlman et al., 2013). Boredom coping strategies were measured using the *Coping with Boredom Scale* (n = 328)[4] (Nett et al., 2010). Motivational structure was assessed using the *Learning Motivation Scale* (n = 460) (Hrabal & Pavelkova, 2010). The frequency of the boredom experience in the school and leisure context was assessed by two closed questions (n = 460). Regarding the foreign scales, existing Czech versions were used (Urbanova, 2016; Urbanova, 2018).

The *Boredom Proneness Scale* (BPS) captures the general disposition to experience boredom across a wide range of situations (trait boredom). According to authors, the scale emphasizes "one's connectedness with one's environment on many situational dimensions as well the ability to access adaptive resources and realize competencies" (Farmer & Sundberg, 1986, p. 10). The BPS seems to be the first scale constructed exclusively for the purpose of boredom diagnostics. It contains 28 items with propositions, and respondents mark the level of their agreement on a seven-point Likert scale, where 1 = *strongly disagree* and 7 = *strongly agree*. Example items are as follows: *I have so many interests, I don't have time to do everything.*; *I often find myself with nothing to do – time on my hands.* The scale consists of items with reverse coding. The original scale consists of 28 items with either yes or no responses, with internal consistency of $\alpha = 0.79$, and retest reliability after one week was $\alpha = 0.83$. Vodanovich & Kass (1990) transferred the system of responses to a seven-point Likert scale. The internal consistency of this version across research studies ranges from $\alpha = 0.79$ to $\alpha = 0.91$ (Vodanovich & Watt, 2016).

The *Multidimensional State Boredom Scale* (MSBS) captures five aspects of exogenous boredom, and the total score reflects the level of situational boredom. Scale construction is based on a theoretically and empirically

[4] The CBS questionnaire could not be administered at one school due to time issues.

grounded boredom definition that integrates psychodynamic, existential, attentional and arousal approaches to boredom. The scale includes these factors/subscales: disengagement, low arousal, high arousal, inattention and time perception (Fahlman et al., 2013). In the original study, the internal consistency was adequate for subscales (α = 0.80 to α = 0.88) and for the total score (α = 0.94), with similar results in other studies (α = 0.91 to α = 0.95) for the total score and (α = 0.65 to α = 0.92) for subscales (Vodanovich & Watt, 2016).

The MSBS consists of 29 items, and respondents mark the level of their agreement with the propositions on a seven-point Likert scale, where 1 = *strongly disagree* and 7 = *strongly agree*. The disengagement subscale measures the unsatisfied desire to engage in satisfactory activity and consists of ten items, e.g., *I am wasting time that would be better spent on something else.* The low arousal subscale captures certain apathy and detachment and consists of five items, e.g., *It appears that there's no one around me to talk to.* The high arousal subscale also includes five items and measures feelings of strong agitation, e.g., *Everything seems to be irritating me right now*. The innate subscale reflects certain problems with attention in the boredom experience and consists of four items, e.g., *My attention span is shorter than usual*. The last subscale, time perception, measures the subjective perception of time passing slowly and includes five items, e.g., *Time is passing slower than usual.* The scale does not consist of items with reverse coding, and it can be used in experimental research because it is related to a concrete situation (Fahlman et al., 2013). In our study, respondents were asked to specifically describe boring situations in the school context and to keep this situation in their mind while working on this scale.

The *Coping with Boredom Scale* (CBS) includes 20 items divided into four subscales with adequate internal consistency (α = 0.83 to 0.92). Each subscale measures one of the above-described types of boredom coping strategies and consists of five items (Nett et al., 2010). Each item offers a proposition that completes the same introductory statement[5]: *When I am bored with mathematics*, …. Respondents mark the level of their agreement on a five-point Likert scale, where 1 = *strongly disagree* and 5 = *strongly agree*. Examples of items for subscales are as follows: cognitive approach: *I make*

[5] For the purpose of this study, the introductory statement has been changed to the school context in general.

myself focus again because the issue is important. Cognitive avoidance: *…I think about my homework or something I have to study.* Behavioral approach: *…I ask my instructor if we can do something else.* Behavioral avoidance: *…I talk to the person sitting next to me.*

The *Learning Motivation Scale* (LMS) consists of eight items capturing learning motivational structure. Each item measures different aspects of learning motivation and offers a proposition that completes the same introductory statement: *When I exert an effort at school, it is because…*. Respondents mark the level of their agreement on a five-point Likert scale, where 1 = *strongly disagree* and 5 = *strongly agree*. The learning motivation aspects measured are social motivation (need for affiliation on one side and prestige on the other), cognitive motivation, moral motivation (school work perceived as a natural commitment), achievement motivation (both positive, characterized by the need for success, and negative, reflecting the need to avoid failure), instrumental motivation (connected to future advantages) and global motivation (reflecting the motivational push of the family; Hrabal & Pavelkova, 2010).

Closed questions assessing the frequency of the boredom experience in different contexts were formulated as follows: *Try to judge how often you experience boredom at school/in your free time*. Respondents were asked to answer in both cases using a five-point Likert scale, where 1 = *never* and 5 = *almost always*.

Data were processed using a combination of descriptive and inductive statistical methods with the use of the SPSS program (ver. 26). With the exception of the BPS, in other methods and closed questions, there was no confirmed normal data distribution (Kolmogorov-Smirnov test). Therefore, nonparametric methods were employed, such as correlation analysis using Spearman's correlation coefficient and the Mann-Whitney test. To examine latent relationships among the variables, factor analysis using the principal components method was performed.

Data were processed using the following variables: boredom coping strategies subscales of the CBS (cognitive approach (CAP), cognitive avoidance (CAV), behavioral approach (BAP) and behavioral avoidance (BAV)); measured aspects of boredom: boredom proneness (BPS score), level of state boredom (MSBS total score), dimensions of state boredom at school (MSBS subscales: disengagement (DIS), low arousal (LA), high arousal (HA), time perception

(TP) and inattention (IN)), frequency of the boredom experience at school (B_SCH) and during free time (B_FRT), type of learning motivation (social/affiliation (LMS 1), social/prestige (LMS 2), cognitive (LMS 3), moral (LMS 4), positive achievement (LMS 5), negative achievement (LMS 6), instrumental (LMS 7) and global (LMS 8)), and grade point average (GPA).

2 Results

The results concerning the first group of research questions are shown in Table 1. Regarding students' boredom experience at school (MSBS), the research sample appears to be quite variable. The mean scores in most of the state boredom subscales as well as the total score indicate that boredom is experienced at school. The main boredom problems manifest in altered time flow perception, feelings of disengagement and attentional deficits. In contrast, neither of the aspects related to the level of arousal (high or low) seem to be salient. The MSBS subscales and total score values range from 1 to 7, and the internal consistency for the subscales and the total score is adequate.

A statistically significant gender difference in state boredom experience appears within the total score ($Z = -2.074$, $p = 0.038$), with a larger mean rank of women (227.08) than men (201.83). Subscale score differences between men and women follow the same trend but without statistical significance.

In the research sample, students also differ in how often they experience boredom at school (B_SCH), while during free time (B_FRT), their scores are rather similar. Students experience boredom much more frequently at school than in their free time. While boredom at school is more commonly experienced by men, women score higher during free time boredom. These gender differences are not statistically significant but indicate an interesting trend.

For dispositional trait boredom (BPS), the research sample appears to be very consistent, without distinctive orientation or opposition (values range from 2.3 to 5.3) and adequate internal consistency, without statistically significant differences between men and women.

Table 1

Boredom variables: basic psychometric information (M, SD), internal consistency (α) and correlations (Spearman's rho)

	M	SD	A	MSBS	DIS	HA	LA	IN	TP	BPS	B_FRT
MSBS	4.74	1.03	0.94	1	0.88**	0.78**	0.69**	0.73**	0.73**	0.25**	X
DIS	5.03	1.11	0.85		1	0.55**	0.47**	0.64**	0.67**	0.19**	X
HA	4.12	1.34	0.79			1	0.64**	0.49**	0.38**	0.24**	X
LA	3.63	1.4	0.81				1	0.35**	0.28**	0.24**	X
IN	4.91	1.26	0.75					1	0.57**	0.22**	X
TP	5.76	1.45	0.93						1	0.12*	X
BPS	3.7	0.55	0.73							1	X
B_SCH	3.69	0.92	X	0.22**	0.23**	0.14**	0.13**	0.27**	0.14**	0.39**	0.13**
B_FRT	1.89	0.74	X	0.10*	0.10*	0.09	0.13**	0.06	-0.01	0.26**	X

Note. MSBS = state boredom total score; dimensions of situational boredom: DIS = disengagement, LA = low arousal, HA = high arousal, IN = inattention, TP = time perception; BPS = dispositional boredom; B_SCH = boredom frequency at school, B_FRT = boredom frequency during free time
** $p < 0.01$, * $p < 0.05$

All of the significant relationships between boredom variables are positive. A weak to moderate correlation exists between trait boredom and boredom frequency at school ($\rho = 0.39$). Trait boredom also relates to the frequency of free time boredom ($\rho = 0.26$) (for which this is the only salient correlation) and all of the aspects of state boredom, especially the total score and both arousal subscales ($\rho = 0.24$ to $\rho = 0.25$). School boredom frequency also relates to the state boredom total score and all state boredom subscales, especially to inattention ($\rho = 0.27$) and free time boredom frequency.

In the following text, the results connected to the second group of research questions are discussed. Table 2 shows the basic psychometric characteristics and intercorrelations of the CBS. The research sample seems to be quite variable, which indicates possible differences across individuals in boredom coping behavior at school. The students in this research sample appear to be mostly oriented toward behavioral avoidance strategies. In contrast, the type of coping preferred the least is the behavioral approach. It seems that when students in this research sample get bored at school, they start talking to their schoolmates rather than asking the teacher to change the topic. Values of both cognitive strategies types appear to be slightly above the average

(avoidance higher than approach). Minimal and maximal values range from 1 to 6, except regarding the behavioral approach, with a maximal value of 4.6. The internal consistency of the subscales ranges between α = 0.76 and α = 0.92, with the highest values for behavioral avoidance and the lowest values for behavioral approach.

Table 2

Coping with Boredom Scale – basic psychometric information (M, SD), internal consistency (α), scale intercorrelations (Spearman's rho)

	M	SD	A	CAP	BAP	CAV	BAV
CAP	2.81	1	0.86	1	0.03	0.07	-0.21**
BAP	1.91	0.8	0.76		1	0.20**	0.26**
CAV	2.94	0.99	0.8			1	0.27**
BAV	3.66	1.11	0.92				1

Note. CAP = cognitive approach, BAP = behavioral approach, CAV = cognitive avoidance, BAV = behavioral avoidance
** $p < 0.01$

Regarding the scale intercorrelations, there were positive significant weak to moderate relationships between behavioral avoidance and, on the one hand, behavioral approach (ρ = 0.26) and, on the other hand, cognitive avoidance (ρ = 0.27). This indicates certain relationship between both behavioral strategies (tendency to interact with others) and between both avoidance strategies (tendency to escape from a boring situation). Additionally, a weakly to moderately significant negative relationship between cognitive approach and behavioral avoidance was detected (ρ = -0.21). Between the behavioral approach and cognitive avoidance, a weakly to moderately significant positive correlation also seems to exist (ρ = 0.2).

Significant gender differences appear within the cognitive approach scale (Z = -2.614, p = 0.009), with larger mean rank of women (178.58) than men (151.25); the cognitive avoidance scale (Z = -2.685, p = 0.007), with larger mean rank of women (178.97) than men (150.89); and the behavioral approach scale (Z = -2.119, p = 0.034), with larger mean rank of men (175.2) than women (153.13). Men also scored higher on the behavioral approach, but the difference was not significant. These results indicate an interesting trend: women tend to react more to cognitive levels, and men prefer behavioral strategies.

The correlations between the different types of boredom coping strategies and boredom frequency within different contexts, aspects of state boredom at school and trait boredom are shown in Table 3. The most and the strongest significant relationships were found between various boredom aspects and behavioral avoidance strategies. This type of strategy relates positively to reported frequency of boredom at school (ρ = 0.27) and state boredom at school (MSBS) (ρ = 0.34), especially the subscales of disengagement (ρ = 0.39), inattention (ρ = 0.37), time perception (ρ = 0.35) and high arousal (ρ = 0.19). This coping type seems to be the only one related to problems with attention and high arousal aspects of the boredom experience. It also seems that with regard to boredom occurrence at school, behavioral avoidance is a rather risky type of coping strategy.

On the other hand, the least risky type with regard to boredom occurrence at school appears to be the cognitive approach, with only negative relationships of weak to moderate significance with reported boredom frequency at school (ρ = -0.27), total state boredom at school (MSBS) (ρ = -0.14) and its subscales of time perception (ρ = -0.19) and disengagement (ρ = -0.18).

Table 3

Types of boredom coping strategies and different boredom aspects (Spearman's rho)

	BPS	MSBS	DIS	HA	LA	IN	TP	B_SCH	B_FRT
CAP	-0.03	-0.14*	-0.18**	-0.05	-0.03	-0.10	-0.19**	-0.27**	0.07
BAP	-0.03	-0.02	0.00	0.08	0.03	-0.02	-0.10	0.09	-0.01
CAV	-0.08	0.16**	0.17**	0.11	0.11	0.11	0.14*	0.02	0.07
BAV	0.07	0.34**	0.39**	0.19**	0.07	0.37**	0.35**	0.27**	-0.04

Note. CAP = cognitive approach, BAP = behavioral approach, CAV = cognitive avoidance, BAV = behavioral avoidance; MSBS = situational boredom total score, DIS = disengagement, LA = low arousal, HA = high arousal, IN = inattention, TP = time perception; BPS = dispositional boredom; B_SCH = boredom frequency at school, B_FRT = boredom frequency during free time
** p < 0.01, * p < 0.05

Another rather risky type of coping with regard to boredom at school seems to be the second avoidance strategy type, which is cognitive avoidance. In this coping type, we can see positive relationships of weak to moderate significance with the total state boredom score (MSBS) (ρ = 0.16) and its subscales of disengagement (ρ = 0.17) and time perception (ρ = 0.14). The

perception of time passing slowly and feelings of disengagement seem to be of key importance in both cognitive boredom coping types (positive relation to avoidance, negative relation to approach).

The behavioral approach type of boredom coping does not seem to be related to any aspect of the boredom experience. As shown in Table 4, this is also the only coping type that is significantly related to school performance. With its positive[6] relation to grade point average (GPA), this type of coping behavior appears to be rather risky.

It seems interesting that low arousal does not appear to fit the state boredom experience related to any type of boredom coping. Additionally, neither trait boredom (BPS) nor free time boredom frequency had a significant relation to any of the boredom coping types.

Table 4 also shows the relationships between the boredom coping types and learning motivational characteristics of students in our research sample. Most of the positive relationships of weak to moderate significance between coping via a cognitive approach and positive achievement motivation ($\rho = 0.27$), moral motivation ($\rho = 0.27$), cognitive motivation ($\rho = 0.16$), instrumental motivation ($\rho = 0.16$), and achievement motivation in its negative, fear form ($\rho = 0.15$). It seems that students scoring high in coping via the cognitive approach need to be successful in what they do and tend to perceive schoolwork as their natural duty. The cognitive approach also seems to be related to the need to think and learn and to the ability to see further advantages of schoolwork. To a certain extent, the need to avoid failure plays the role of a risky characteristic connected to this coping type.

What seems to be of key importance in both cognitive coping types is the actualized need for success (positive significant relationship between positive achievement motivation and cognitive avoidance coping ($\rho = 0.12$)).

In contrast, the only negative significant relationship appears between coping by behavioral avoidance and cognitive motivation ($\rho = -0.12$). It seems that students who tend to communicate with their classmates when they get bored also have a very low need to learn new things and think.

[6] Negative values indicate higher scores in grade point average.

Table 4

Types of boredom coping strategies, grade point average and learning motivational characteristics (Spearman's rho)

	GPA	LMS_1	LMS_2	LMS_3	LMS_4	LMS_5	LMS_6	LMS_7	LMS_8
CAP	0.02	0.06	0.10	0.16**	0.27**	0.27**	0.15**	0.16**	0.08
BAP	0.16**	-0.04	0.05	-0.02	0.01	-0.01	0.06	0.05	0.06
CAV	-0.05	-0.08	-0.02	-0.02	0.05	0.12*	0.05	0.07	-0.03
BAV	0.08	-0.05	-0.01	-0.12*	-0.03	0.04	0.02	0.00	0.00

Note. CAP = cognitive approach, BAP = behavioral approach, CAV = cognitive avoidance, BAV = behavioral avoidance; GPA = grade point average; learning motivation types: LMS 1 = social/affiliation, LMS 2 = social/prestige, LMS 3 = cognitional, LMS 4 = moral/diligence, LMS 5 = achievement/positive – need for success, LMS 6 = achievement/fear – need for failure avoidance, LMS 7 = instrumental, LMS 8 = global/family motivational pressure
** $p < 0.01$, * $p < 0.05$

In addition to these findings, a factor analysis based on the principal component method was used to obtain a more complex view of data with an insight into possible latent relationships among the variables. Based on the Scree plot, seven factors accounting for 63% of the total variance were detected. Rotation was not suitable in this case. Factor loadings of a value higher than 0.3 are shown in Table 5.

The boredom and disturbance at school factor explains 19% of the variance and is saturated by a specific disposition to become bored (trait boredom) together with high levels of school state boredom and a high frequency of the boredom experience reported at school. In state boredom, all of the measured aspects seem to be experienced (feelings of not being able to engage in a satisfying activity, problems with attention, perception of time passing by slowly, high arousal and agitation, as well as low arousal and apathy). This boredom picture seems to be related to behavioral avoidance coping behavior (talking to classmates, etc.). Saturation by grade point average and learning motivation needs is missing.

Table 5

Factor matrix

	Boredom and disturbance at school	Motivational	General passivity	Compliance with school	Fear of failure	On the surface or disconnection	Need for contact
CAP		0.39		0.41	0.32		
BAP				-0.37	0.39	0.48	0.37
CAV			-0.47			0.45	
BAV	0.50		-0.30	-0.48			
BPS	0.42		0.61				
DIS	0.85						
HA	0.75						
LA	0.69			0.34			
IN	0.81						
TP	0.71						
B_SCH	0.47		0.37	-0.35			
B_FRT			0.36	0.43		0.40	-0.35
LMS 1		0.41			-0.47		0.34
LMS 2		0.43			-0.37	0.45	
LMS 3			-0.41	0.38	0.44		
LMS 4		0.72					
LMS 5		0.64					
LMS 6		0.37			0.43		
LMS 7		0.64					
LMS 8		0.55					
GPA				-0.35	0.41		0.50

Note. CAP = cognitive approach, BAP = behavioral approach, CAV = cognitive avoidance, BAV = behavioral avoidance; BPS = dispositional boredom; situational boredom dimensions: DIS = disengagement, LA = low arousal, HA = high arousal, IN = inattention, TP = time perception; B_SCH = boredom frequency at school, B_FRT = boredom frequency during free time; learning motivation types: LMS 1 = social/affiliation, LMS 2 = social/prestige, LMS 3 = cognitional, LMS 4 = moral/diligence, LMS 5 = achievement/positive – need for success, LMS 6 = achievement/fear – need for failure avoidance, LMS 7 = instrumental, LMS 8 = global/family motivational pressure; GPA = grade point average

The motivational factor explains 12% of the variance and combines most of the learning motivational indicators with coping via the cognitive approach. Strong motivation for schoolwork seems to be dominant within this factor,

especially high levels of conscientiousness related to school work, the need to achieve success and the capacity to perceive remote advantages of current activities (e.g., better school results will lead to a good job in the future) rather than the cognitive motivation to think and learn new things. High levels of positive learning motivation together with awareness of the importance of the current school task or activity seem to be supportive of coping with boredom even before it appears (there is no saturation by any boredom variable in this factor). Again, this factor is not saturated by the grade point average.

The general passivity factor, explaining 8% of the variance, is associated with high levels of declared boredom frequency indicators both at school and during free time, together with the personal disposition to be bored (trait boredom). This factor is also saturated by negative loadings of cognitive learning motivation and both types of boredom coping by avoidance behavior. This factor is not saturated by school state boredom and school performance.

The compliance with school factor explains 7% of the variance and consists of high levels of, on one side, declared boredom during free time and low arousal in the boredom experience and, on the other side, cognitive motivation in terms of the need to think and learn, cognitive approach coping and good grade point average, together with negative loadings of both behavioral coping types and reported boredom frequency at school. This factor is not saturated by trait boredom.

The fear of failure factor, explaining 7% of the variance, is saturated by none of the boredom variables but offers an interesting picture of learning motivation, boredom coping and grade point average: high levels of cognitive motivation, negative (fear of failure) achievement motivation and both approach coping strategies together with negative loadings of both social motivations (need for prestige and need for affiliation) and school performance.

The surface or disconnection factor explains 6% of the variance and is associated with high levels of reported boredom frequency during free time, the need for social prestige as a motivational factor for schoolwork, and the behavioral approach and cognitive avoidance boredom coping strategies. This factor is not saturated by school or trait boredom and school performance.

The need for contact factor, explaining the last 5% of the variance, is associated with poor school performance, high levels of the need for affiliation as a source

of learning motivation and boredom coping via the behavioral approach, and negative loadings of declared frequency of boredom during free time, with no other (either positive or negative) boredom variables saturated.

Discussion

The research results indicate that school boredom problems exist among secondary students in our research sample and that those problems are both situational and dispositional. Feelings of boredom are more frequently experienced at school than free time. School boredom manifests mostly in an unsatisfied desire to engage in satisfactory activity, altered time flow perception and attentional problems.

For boredom coping, the students in the research sample are mostly oriented toward behavioral avoidance coping, while behavioral approach strategies seem to be used the least. These two main tendencies are in concordance with the study of Nett et al. (2010). However, in our research sample, we can see lower levels of cognitive approach strategies and higher levels of all other coping types than observed in the original German study. It seems that compared to students in the German study, students in the Czech research sample prefer not only behavioral but also cognitive avoidance (escape from the boring situation either by talking to schoolmate or by thinking about something else) to cognitive "reappraisal" of the boring task.

In this study, significant intercorrelations between the subscales (negative between the cognitive approach and behavioral avoidance and positive between the two behavioral scales) were detected that were not confirmed in the original study (Nett et al., 2010) but seem to follow the theoretically expected directions.

Correlation analysis also indicates that with regard to boredom occurrence at school, the least risky coping type appears to be the cognitive approach, while the most risky coping type seems to be behavioral avoidance. Additionally, the second avoidance coping type (cognitive) relates positively to boredom. It seems that one of the most serious maladaptive school boredom coping problems within the Czech sample is the tendency to systematically employ avoidance and escape behavior that does not help students solve their problem and in fact makes the situation worse.

If we consider the relationship with grade point average, the behavioral approach seems to be a rather risky coping type. Factor analysis confirms these trends and further indicates a positive relation of the grade point average to the cognitive approach (students who prefer the cognitive approach have better school results) and a negative relation to behavioral avoidance (students who prefer the behavioral approach have worse school results).

From the perspective of learning motivation, it seems that the key characteristics of good school boredom coping are high levels of positive achievement motivation in terms of the need for success, conscientiousness with regard to schoolwork, the capability to successfully overcome tasks that are not very interesting, instrumental motivation in terms of the capability to perceive future advantages of schoolwork and especially cognitive motivation (which seems to have a key supportive role in boredom coping at school). The paradox with cognitive motivation consists of that it does not need to be always highly actualized, but it must be at least present to a certain level.

The results of factor analysis further indicate that different constellations of measured boredom aspects and coping strategies together with motivational characteristics may be associated with various types of students. For example, the preference of the cognitive approach seems to associate different groups of students with a specific capability to search for and find personal value in schoolwork and to exert certain cognitive effort, but these students differ in various characteristics; e.g., some report no boredom occurrence at all and are strongly motivated to do schoolwork, others show the need for (and compliance with) the school structure and report being bored in their free time, and for another group, fear of failure seems to be a salient school motivational factor.

This diversity within certain types of boredom coping behavior can also be seen in other coping types. For example, the behavioral approach also seems to be associated with different groups of students. Students may prefer to ask the teacher to change the boring topic or activity when they get bored because they fail to find personal value in it and are no longer able to exert further cognitive effort, because they perceive that the source of boredom is outside of themselves and are simply not willing to exert any cognitive effort (if the problem is not solved for them, they tend to escape the boring situation at least in their thoughts), or because what is the most important for them at school is contact with the teacher.

It seems obvious that students do not use only one type of boredom coping across various situations, but they dispose of certain repertoires of coping behavior. When examining this problem, Nett et al. (2010) used latent profile analysis to identify three groups of students with similar compositions of boredom coping strategies related to different emotional, motivational, cognitive and other characteristics distributed within the research sample. This seems to be a valuable approach to examine interindividual differences in coping behavior, although it has certain limitations.

What seems to be of key importance here and what complicates the whole issue is the fact that within each boredom coping behavior type, positive and negative connotations may be present. For example, regarding coping by behavioral avoidance: what do students talk to their schoolmates about during a boring class? Their discussion could be either on or off the lesson topic. In some cases, talking to a schoolmate during the classes can represent a form of provocation towards the teacher. Students can also differ not only in how many strategies they use but also in how often and in what types of situations they use them to cope with boredom at school.

Although the boredom coping strategies classification of Nett et al. (2010) seems functional in this study, it appears to be reductive to a certain extent. Some of the important and interesting aspects of reality cannot be captured using this classification. A more comprehensive examination of what is happening against a background of different reactions to boredom in an effort to cope with this mainly aversive experience at school is needed.

For the purpose of this study, quantitative methodology was used to obtain some basic insight into the mutual relationships between various aspects of boredom, which is to a certain extent reductive. Although the questionnaire is the most often used method in this field of research, this method entails a number of limitations (the need to choose among the predefined claims, social desirability, retrospective assessment of past experience, etc.). To capture the boredom experience and specific boredom coping mechanisms in its broader complexity, a qualitative approach or even an experimental design or other "in vivo" methods (e.g., experience sampling) should also be employed.

The possibilities to empirically grasp the boredom experience and boredom coping mechanisms are very complicated in general because there is no conformity between various conceptualizations of these issues. It is also

very complicated, especially in the school context, to distinguish between the cases where boredom truly occurs and where it is just a part of certain broader, mostly negative general attitude.

Further systematic research in the field of boredom coping is needed. For example, different types of coping strategies should be examined with regard to related types of school situations. Additionally, different factors on both sides of the situation (presence of constraints, impossibility of leaving the situation, teaching style, personality of the teacher, ambitiousness and attractivity of the subject matter, etc.) and personality (volitional, motivational and attitudinal characteristics, actual experience, attentional problems, temperament, capability to find the value in potentially boring tasks, etc.) in their mutual, reciprocal relationship should be examined.

Additionally, the question of possible relationships between the preference of behavioral coping strategies and externalizing problems related to boredom (e.g., disturbance in class, behavior malfunction, delinquency) and between the preferred cognitive coping strategies and internalizing problems connected with boredom (apathy, emotional eating, depression) should be answered.

References

Ahmed, W., van der Werf, G., Kuyper, H., & Minnaert, A. (2013). Emotions, self-regulated learning, and achievement in mathematics: A growth curve analysis. *Journal of Educational Psychology*, *105*(1), 150–161.

Bench S. W., & Lench H. C. (2013). On the function of boredom. *Behavioral sciences*, *3*(3), 459–472.

Blaszczynski, A., McConaghy, N., & Frankova, A. (1990). Boredom proneness in pathological gambling. *Psychological Reports*, *67*(1), 35–42.

Caldwell, L. L., & Smith, E. A. (1994). Leisure and mental health of high risk adolescents. *Leisure and Mental Health*, 1, 330–345.

Caldwell, L. L., & Smith, E. A. (1995). Health behaviors of leisure alienated youth. *Society and Leisure*, *18*(1), 143–156.

Caldwell, L. L., Darling, N., Payne, L. L., & Dowdy, B. (1999). "Why are you bored?": An examination of psychological and social control values of boredom among adolescents. *Journal of Leisure Research*, *31*(2), 103–121.

Csikszentmihalyi, M. (1975). A theoretical model of enjoyment. In M. Csikszentmihalyi, *Beyond boredom and anxiety* (pp. 35–54). San Francisco, CA: Jossey-Bass.

Dahlen, E. R., Ryan, M. C., Ragan, K., & Kuhlman, M. M. (2004). Boredom proneness in anger and aggression: Effects of impulsiveness and sensation seeking. *Personality and individual differences*, *37*(8), 1615–1627.

Daniels, L. M., Tze, V. M., & Goetz, T. (2015). Examining boredom: Different causes for different coping profiles. *Learning and Individual Differences*, *37*, 255–261.

Eren, A., & Coskun, H. (2015). Time perspectives and boredom coping strategies of undergraduate students from Turkey. *Educational Research for Policy and Practise*, *14*(1), 53–75.

Fahlman, S. A. (2009). Does a lack of life meaning cause boredom? Results from psychometric, longitudinal and experimentlal analyses. *Journal of Social and Clinical Psychology*, *28*(3), 307–340.

Fahlman, S. A., Mercer-Lynn, K. B., Flora, D. B., & Eastwood, J. D. (2013). Development and validation of the multidimensional state boredom scale (MSBS). *Assessment*, *20*(1), 68–85.

Farmer, R., & Sundberg, N. D. (1986). Boredom proneness – The development and correlates of a new scale. *Journal of Personality Assessment, 50*(1), 4–17.

Fenichel, O. (1951). On the psychology of boredom. In D. Rappaport (Ed.), *Organization and pathology of thought* (pp. 349–361). New York, Columbia University Press.

Fisher, C. D. (1993). Boredom at work: A neglected concept. *Human Relations*, *46*(3), 395–417.

Frankl, V. (1997). *Vůle ke smyslu: vybrané přednášky o logoterapii.* Brno: Cesta.

Game, A. M. (2007). Workplace boredom coping: Healh, safety, and HR implications. *Personnel Review*, *36*, 701–721.

Goetz, T., Frenzel, A., Pekrun, R., Hall, N.C., & Ludtke, O. (2007). Between and within domain relations of students' academic emotions. *Journal of Educational Psychology*, *99*(4), 715–733.

Goetz, T., Frenzel, A., Hall, N. C., Nett, U. E., Pekrun, R., & Lipnevich, A. A. (2013). Types of boredom: An experience sampling approach. *Motivation and Emotion*, *38*(3), 401–419.

Goetz, T., & Hall, N. C. (2014). Academic boredom. In R. Pekrun & L. Linnenbrink-Garcia (Eds.), *International Handbook of Emotions in Education* (pp. 311–330). Routledge.

Goldberg, J. K., Eastwood, J. D., LaGuardi, J., & Danckert, J. (2011). Boredom: An emotional experience distinct from apathy, anhedonia, or depression. *Journal of Social and Clinical Psychology*, *30*(6), 647–666.

Hamilton, J. A., Haier, R. S., & Buchsbaum, M. S. (1984). Intrinsic enjoyment and boredom coping scales: Validation with personality, evoked potential, and attention measures. *Personality and Individual Differences*, *5*(2), 183–193.

Harris, M. B. (2000). Correlates and characteristics of boredom proneness and boredom. *Journal of Applied Social Psychology*, *30*(3), 576–598.

Heslop, S., Harvey, J., Thorpe, N., & Mulley, C. (2010). Factors that comprise driver boredom and their relationships to preferred driving speed and demographic variables. *Transportation Planning and Technology*, *33*(1), 75–89.

Hill, A. B., & Perkins, R. E. (1985). Towards a model of boredom. *British Journal of Psychology*, *76*(2), 235–240.

Hrabal, V. & Pavelkova, I. (2010). *Jaký jsem učitel.* Praha: Portál.

Larson, R. W., & Richards, M. H. (1991). Boredom in the middle school years: Blaming schools versus blaming students. *American Journal of Education*, *99*(4), 418–433.

Mercer-Lynn, K. B., Flora, D. B., Fahlman, S. A., & Eastwood, J. D. (2011). The measurement of boredom: Differences between existing self-report scales. *Assessment*, *20*(5), 585–596.

Miller, J., Caldwell, L., Weybright, E. H., Smith, E. A., Vergnani, T., & Wegner, L. (2014). Was Bob Seger right? Relation between boredom in leisure and (risky) sex. *Leisure Science*, *36*(1), 52–67.

Nett, U. E., Goetz, T., & Daniels, L. M. (2010). What to do when feeling bored? Students' strategies for coping with boredom. *Learning and Individual Differences*, *20*(6), 626–638.

Nett, U. E., Goetz, T., & Hall, N. C. (2011). Coping with boredom in school: An experience sampling perspective. *Contemporary Educational Psychology*, *36*, 49–59.

Newberry, A. L., & Duncan, R. D. (2001). Roles of boredom and life goals in juvenile delinquency. *Journal of Applied Social Psychology*, *31*(3), 527–541.

Pavelková, I. (2002). *Motivace žáků k učení. Perspektivní orientace žáků a časový faktor v žákovské motivaci.* Praha: PedF UK.

Pavelkova, I. (2009). Nuda ve škole. In R. Váňová & H. Krykorková (Eds.), *Učitel v současné škole* (pp. 107–118). Prague: Karolinum.

Pavelkova, I., & Urbanova, D. (2018). Nuda v edukačním kontextu: teoretické konceptualizace a výzkumné metody. *Československá psychologie*, *62*(4), 350–365.

Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, *18*(4), 315–341.

Pekrun, R., Daniels, L. M., Goetz, T., & Stupnisky, R. H. (2010). Boredom in achievement settings: Exploring control-value antecedents and performance outcomes of a neglected emotion. *Journal of Educational Psychology, 102*(3), 531–549.

Plummer, D. M. (2010). *Helping children to cope with change, stress and anxiety: A photocopiable book paperback.* London: Jessica K. Publishers.

Sommers, J., & Vodanovich, S. J. (2000). Boredom proneness: Its relationship to psychological- and physical-health symptoms. *Journal of Clinical Psychology*, *56*(1), 149–55.

Todman, M. (2003). Boredom and psychotic disorders: Cognitive and motivational issues. *Psychiatry*, *66*(2), 146–167.

Tze, V. M., Daniels, L. D., Klassen, R. M., & Li, J. C.-H. (2013). Canadian and Chinese university students' approaches to coping with academic boredom. *Learning*, *23*, 32–43.

Urbanova, D. (2016). *Časová perspektiva a nuda.* (Unpublished bachelor's thesis). Prague: Charles university in Prague, Department of Education.

Urbanova, D. (2018). *Copingové strategie u nudy.* (Unpublished diploma's thesis). Prague: Charles university in Prague, Department of Education.

Van Tilburg, W. A., & Igou, E. R. (2011). On boredom and social identity. A pragmatic meaning-regulation approach. *Personality and Social Psychology Bulletin*, *37*(12), 1679–91.

Van Tilburg, W. A., & Igou, E. R. (2012). On boredom: Lack of challenge and meaning as distinct boredom experiences. *Motivation and Emotion*, *36*(2), 181–194.

Vodanovich, S. J. (2003). Psychometric measures of boredom: A review of the literature. *Journal of Psychology*, *137*(6), 569–595.

Vodanovich, S. J., & Kass, S. J. (1990). A factor analytic study of the Boredom Proneness Scale. *Journal of Personality Assessment*, *55*(1–2), 115–123.

Vodanovich, S. J., & Watt, J. D. (2016). Self-Report measures of boredom: An updated review of the literature. *The Journal of Psychology*, *150*(2), 196–228.

Vodanovich, S. J., & Rupp, D. E. (1999). Are procrastinators prone to boredom? *Social Behavior and Personality: An International Journal*, *27*(1), 11–16.

Vogel-Walcutt, J. J., Fiorella, L., Carper, T., & Schatz, S. (2012). The definition, assessment, and mitigation of state boredom within educational settings: A comprehensive review. *Educational Psychology Review*, *24*(1), 89–111.

Watt, J. D., & Ewing, J. E. (1996). Toward the development and validation of a measure of sexual boredom. *Journal of Sex Research*, *33*(1), 57–66.

Watt, J. D., & Vodanovich, S. (1999). Boredom proneness and psychosocial development. *The Journal of Psychology*, *133*(3), 303–314.

Zuckerman, M., Eysenck, S. B., & Eysenck, H. J. (1978). Sensation seeking in England and America: Cross-cultural, age and sex comparisons. *Journal of Consulting and Clinical Psychology, 46*(1), 139–149.

Authors

Mgr. Ing. Denisa Urbanová, Charles University, Faculty of Education, Department of Psychology, Myslíkova 7, 110 00 Prague 1, e-mail: asined.urbanova@gmail.com

doc. PhDr. Isabella Pavelková, CSc., Charles University, Faculty of Education, Department of Psychology, Myslíkova 7, 110 00 Prague 1, e-mail: jfpavelka@volny.cz

Zvládání nudy v kontextu středoškolského vzdělávání

Abstrakt: Článek se zabývá problematikou nudy a zejména jejího zvládání u žáků českých středních škol (n = 460). Byly prověřovány vztahy mezi uváděnou frekvencí nudy, různými aspekty situační nudy ve škole, skłonem k nudě, studijním průměrem a učebně motivačními charakteristikami na straně jedné a různými typy strategii zvládání nudy na straně druhé. Data byla získána s využitím *Škály sklonu k nudě* (BPS), *Multidimenzionální škály situační nudy* (MSBS), *Škály zvládání nudy* (CBS), *Dotazníku učební motivace* (DUM) a uzavřených otázek. Data byla zpracována s využitím metod popisné a induktivní statistiky. Vzhledem k prožívání nudy ve škole a studijnímu průměru byly identifikovány více a méně rizikové skupiny copingových strategií. Klíčovými faktory podporujícími adaptivní způsoby zvládání nudy se ukazují být schopnost nalézat osobní hodnotu v potenciálně nudných aktivitách a vyvíjet určité kognitivní úsilí spolu s pozitivní výkonovou motivací a svědomitostí při školní práci. Jako hlavní podpůrný faktor se navíc jeví alespoň určitá míra rozvinutosti poznávací motivace. Rizikovým faktorem vzhledem ke spíše maladaptivním typům reakcí na nudu se jeví tendence systematicky zapojovat vyhýbavé či dokonce únikové chování. Výsledky naznačují, že problematika školní nudy a jejího zvládání je velmi komplikovaná, a přinášejí četné implikace pro budoucí výzkum v této oblasti.

Klíčová slova: nuda, školní nuda, zvládání nudy, učební motivace

Barriers to the implementation of primary prevention of risky behaviour in school in the context of teacher/ school prevention methodologist activities

Miroslav Procházka

University of South Bohemia in České Budějovice, Faculty of Education

Received 15. 8. 2020 / final version received 1. 2. 2021 / accepted 9. 3. 2021

Abstract: This research article is related to the issue of risky behaviour of elementary and high school pupils from the point of view of teachers responsible for implementing school-based primary prevention programs. The author aims at the perspective of teachers who serve as school prevention methodologists and who organize, realize, and assess school prevention programs. The text describes discursive questions related to prevention and the potential of the teachers leading to the effective implementation of school-based prevention programs. The presented research outcomes show the teachers' evaluation of conditions provided for the realization of prevention programs in schools; it then analyses interviews with the teachers about behaviour issues they encounter in their students.

Risky behaviour prevention is an obligatory component of education in the Czech Republic. Schools create prevention strategies and programs as part of the school curriculum. The key questions related to creating these documents include clarifying the general topics that the school should address within the theoretical bases, defining the key priorities and specifying the main topics in the prevention program. School prevention methodologists have a lack of confidence, which prevents them from preparing and evaluating the programs properly. Teachers must contend with a number of issues, yet they are not certain enough about the effective conditions and processes needed for the successful realization of prevention programs.

The first part of the research design is based on data obtained from the mind maps analysis. These mind maps are the outcome of the school prevention methodologists' participation in focus groups (n = 28). Within these groups, participants captured the issues and conditions related to their personal view of the realization of prevention programs in their schools. The subsequent content analysis of the text, according to Klapko (2013), provides an interesting use of the connection between the primary overall mapping of the issue of the distribution of variables using a selected categorical key and the in-depth data analysis within the context of the qualitative research study. The analysis of mind maps was realized in accordance with the research method

https://doi.org/10.5817/PedOr2020-4-511

described by Gavora (2010): the basic set of texts was determined (in this particular case, the mind maps), then the semantic units were classified into several analytic categories, and these units were finally quantified and described. The interpretation of the results (by the technique of "laying cards on the table") is based on the research data obtained during the second phase of the research. This part concerns the interviews with teachers about their mind maps. The participants were asked to explain their personal attitude reflected in the selection of given categories and in the formulation of the logic chains. Research outcomes show important knowledge related to the realization of prevention programs in 28 schools in the South Bohemia region, all of which require support in this respect.

Keywords: primary prevention, risky behaviour, elementary school, school prevention methodologist

Primary prevention is a very broad topic that encompasses a number of current and sensitive areas. Current Czech legislation imposes the obligation on schools, in relation to pupils, to "create conditions for their healthy development and to prevent the emergence of socially pathological phenomena" (Act No. 561/2004 Coll., § 29 [1]). After a series of contradictory steps and often non-conceptual decisions that accompanied the implementation of such prevention in schools, the responsibility for implementation was de facto transferred to the schools themselves; this was done by creating a specialized pedagogical position: School prevention methodologist. The aim of this study is to describe selected aspects of the implementation of prevention in school conditions, and to examine this issue in connection with the activities of the school prevention methodologist. In the research study, the aim is to uncover what barriers the prevention methodologists perceive that inhibit the execution of their activities. We assume that the methodological and advisory activities of these members of the teaching staff will require a supportive and collegial approach on both the horizontal and vertical levels. Even though school prevention methodologists are perceived as specialized pedagogical personnel, their normal teaching duties are in no way eliminated. Identifying the barriers and the difficulties that these teachers have to overcome in practice may indicate the areas in which their managerial and mentoring support should be directed.

1 Selected aspects of the implementation of prevention in school

The current strategy of primary prevention declared by the Ministry of Education, Youth, and Sports of the Czech Republic (hereinafter MŠMT) for the years 2019–2027 (MŠMT, 2019) avers an important change in the education paradigm. In accordance with foreign knowledge (e.g. Gallà, et al., 2005; Otto & Thiersch, et al., 2005; Telka et al., 2003), students, and their competences and development needs are becoming the key target area. The accentuated change of the prevention strategy is a very important moment and starting point for development of the school prevention programs and is aligned with conceptual changes in the Czech education system (Čech, 2011). These embodied changes, for example, in the concept of the educational strategy until 2030 (MŠMT, 2020), accentuate the development of key competencies needed for proactive civil and professional life. Prevention is implemented within learning triangles defined, on one part, by the school and its program and environment, on the second part, by the teacher and their competencies and responsibilities, and on the third part, by the students and their development aspects, needs, and difficulties.

In relation to the school, primary prevention is based on the general curricular documents, i.e. at the national level in the Czech Republic in the so-called *Framework Educational Programme* developed into a model of primary and secondary education (MŠMT, 2017). At the school level, prevention is included in the school curriculum (e.g. Miovský et al., 2015b,c). The conceptual framework of prevention is associated with the development of the so-called school prevention strategy and the minimum prevention program of each school (Miovský et al., 2015a; Miovský et al., 2012). School prevention is therefore currently included in the goals and objectives of the school education to respond to the importance of a competency-based approach (e.g. Exnerová et al., 2012). The basis for the implementation of this approach is a committed teacher facing the task of being available, helpful, and advising, activating, and supervising (Bakic et al., 2008). Teachers, together with parents, are the witnesses of the child's development, accompanying them during their most sensitive periods in schooling. In terms of the present research, in which teacher respondents described their work with students in the higher primary and secondary school (age category from about 11 to 18 years), the key for discursive consideration of school prevention is to have a look at the tasks of this development stage.

Pubescence and adolescence together are a period of accelerated and dynamic physical, cognitive, emotional, and social development (Steinberg, 2010). During this transition period, the student is exposed to pressures that often lead to an increased suicide rate and various forms of psychopathology (Wong et al., 2011); risky behaviours are developed such as alcohol and drug abuse (Chen et al., 2009), trouble with the law, or leaning towards extremist thoughts and beliefs (Ecarius et al., 2011). The opinion of Piaget and Inhelder (1997) who notice the continuity of development stages and suggest the possibility of transferring problems from one period of life to another is inspiring in understanding the situation. The situation is described by Erikson's view of the conflict between child and adult identity, and the internal conflict between rejected childhood and yet immature and insecure adolescence. Erikson (2002) emphasizes the ethical dimension of this transformation in which the learned child spirit is to reach the ethics of an adult. In this respect, the author also introduces the context of risky behaviour. He describes how crucial it is for an adolescent to rely, in his search, on their experience and certainty based on self-knowledge. Preventing risky behaviour has the potential for personal and social development of the student and the formation of their life skills and self-knowledge.

The key to the child's development in adolescence is an environment where they come into contact with their peers and face other adult authorities. Many authors have studied the connection of the social environment and more general characteristics of behaviour (positive or social risky) having regard to various aspects of this influence (Krech et al., 1962). In the context of this paper, the inspiration comes from Helus (2007) who studied the problems of the socialization process of children and youth and also addressed the socio-psychological moments of the influence of the environment on personality. Pelikán (1997, 2002) long studied the importance of school education and the relationship between education and the environment. His accent on the role of the life situation in education as well as the relationship between education, person, and the social group is especially important. Šafářová (2002) put the occurrence of risky behaviour in a broader context of negative trends in society. Dzierzbicka (2008) refers to risky behaviour in the context of the crisis of discipline in Foucault's disintegration of disciplinary society. Deleuze (1993) describes the pressure mechanisms of social control which, in a society of permanent training and retraining, lead to the individual dependence on taking tests as proof of them being good and sufficient.

Štech (2015) presents an interesting context of prevention in relation to the socialization influences of the school environment. The author emphasizes the importance of the school as a wider social world. In this world, the appropriate educational (and therefore preventive) acts can make visible, explicitly named, and shown in public such conditions and situations in which children and youth involved in education begin to perceive and understand the meaning of all words such as *rules*, *forgiveness*, *empathy*, *compassion*, *responsibility*, *fellowship*, and *cooperation*. The school receives a large and socially important role. Consequently, those whose work is most involved in this kind of educational act become very important.

2 School prevention programs

Minimum prevention programs are currently a mandatory part of the primary and secondary school curriculum. Preventive educational activities should then become an *integral* part of teaching and school life. The program's efficiency highly depends on how it is integrated into the daily school life (Čech, 2011). Only this way can we assist children in the long period of schooling to gradually acquire the key competencies and mindsets and the core values of a healthy lifestyle. Therefore, it is necessary for prevention to become a natural part of the educational work of all teachers and other teaching staff of the school and to be comprehensible to students' parents as well. It must not become an "extra" program outside the main course of the school's educational work.

The aim of the school prevention is to comprehensively change the patterns of behaviour. Therefore, the purpose is not to implement random activities. It is also not about ad hoc response to individual signs of risky behaviour, but the aim is to achieve an overall change in the school climate. Prevention may therefore include the following teacher activities to support (MŠMT, 2001):

- the development of students' healthy lifestyle;
- the development of students' ability to cope with their free time in a positive way;
- an increase of the social competence of students (for example, activities and approaches leading to the development of social skills that help children establish themselves in social relationships and understand their responsibility for behaviour and actions related to themselves and others);

- a strengthening of students' communication skills (teaching students how to solve specific problems and conflicts, teaching them to bear criticism, apply assertive behaviour, not suffer from stress, and cope with their emotions);
- in promoting a positive social climate in the school and classroom (building trust in the classroom, teaching students to work with other peers in the group); and
- the formation of students' attitudes to socially accepted values (cultivating democratic habits, humanistic attitudes, morals and moral values).

We mention the above-cited document because, for the first time, it clearly specifies the activities that should be a priority for schools. The aforementioned target areas were defined to construct the minimum prevention programs in an effort to set up an educational framework for building the preventive protective competence of students at the beginning of the 21st century (MŠMT, 2001). In connection with a change of the primary and secondary school curriculum, prevention is discussed in topics that describe the areas for the development of competencies and creation of life skills (Miovský et al., 2015c).

The current national prevention strategy (MŠMT, 2019) respects the division of activities and programs into "specific" (focused on specific risk manifestations of behaviour), and "non-specific". Schools have a wide range of opportunities within this area to support a healthy lifestyle, initiate positive social behaviour, activate the use of leisure time, and to develop the pupil's personality in relation to himself and to others.

Risky behaviour is the key term on which to focus prevention activities at school (Dolejš, 2010; Macek, 1999; Miovský et al., 2015a; MŠMT, 2010). This term replaced the previously used key term of *socially pathological phenomenon*. The discursive shift makes it possible to stop thinking about how to prevent the impact of pathological phenomena of "social nature" on teaching and rather focuses educational activities on the student and their behaviour in the social context. The relationship between the individual and a social group, the life of the individual in a school class, and the social climate of the school class is becoming the key point. The importance of clarifying the individual group standards comes into play again. An important goal of prevention will be to strengthen the desirable ideas and values and the effort to denormalise the beliefs that spread through the group, e.g. relative

to so-called legal drugs and their frequency in the population (Miovský et al., 2015a).

3 Teacher activities – prevention methods

The educational aspect is an important internal condition for the effectiveness of school prevention. In this context, Štech (2015) refers to the educational act which brings into prevention the internalization of a situation experience that has come close to, or exceeded, the risk threshold. Therefore, the important basis for prevention is to achieve a state where real educational situations are used for educational activities at school. These can be both staged preventive activities and solutions to a real challenge in the classroom. Only this way will prevention succeed in delivering the necessary educational impact.

This means that the implementation of a prevention program in school will depend on the attitude and erudition of teachers and their ability to use difficult situations in school for the goals and objectives in education and prevention. However, monitoring the readiness of teachers to solve educationally challenging situations at school showed that teachers feel very insecure in this respect (Vítečková, 2018; Vítečková & Gadušová, 2015; Vítečková et al., 2016a,b). According to the TALIS 2018 study (ČŠI, 2020), Czech teachers are very sceptical about their competencies in the field of education; it can then be concluded that the ability to take advantage of discipline problems and conflicts with children in the educational and preventive sense will be difficult.

The effective implementation of school prevention is to be helped by the creation of a specialized position of a school prevention methodologist. This is an appointed school employee, usually a teacher who has completed compulsory qualification studies of 250 hours in lifelong learning courses. The standard activities of a school prevention methodologist are defined in *Decree No. 72/2005 Coll., on the provision of counselling services in schools and school guidance facilities, as amended* (MŠMT, 2005). The decree classifies three types of obligations:

- methodological (guidance) and coordination activities;
- information activities;
- consulting activities.

The current definition of the position of a school prevention methodologist is defined by the *National Strategy for Primary Prevention of Risky Behaviour of Children and Youth for the Period 2019–2027* (MŠMT, 2019). The strategic document provides a list of activities where the concepts of coordination, participation, and methodological guidance dominate. The list of a wide range of essentially mentoring and managerial activities attributed to one of the school teachers shows the challenges of this function and high expectations associated with this special work. When analysing the above list, however, it should be noted that most of it involves coordination tasks. Therefore, such a trained teacher is expected to be able to create and lead (coordinate) relationships inside and outside the school. They will then use their competencies acquired through specialized studies not only to pursue the specified activities, but also to promote personal and social attitudes towards students to influence the positive social climate at school.

4 Research Objectives and Research Questions

The general aim of the study is to examine the issue of barriers to the implementation of school prevention in connection with the activities of the prevention methodologist. With a view to the responsibility of the school prevention methodologist for the coordination and implementation of the school's prevention program, it is important to map those teachers' view of the obstacles and barriers to prevention in the school. The coordination basis of the methodological activities will be analysed based on the opinions regarding the quality of the school prevention methodologist's relationship with other key partners in the school. Prevention is understood as specific teaching and educational activities both specifically focused on the prevention of risky behaviour and non-specific activities devoted to the development of personal or social competencies of students. The conditions for the implementation of a prevention program are understood as procedural and personnel circumstances that provide the basis for real chances to promote prevention in school. The educational situation in our research is represented by the situation in which the teacher plays the educational role in relation to the students. Cooperation is understood as relationships created by the teacher appointed for prevention counselling with their colleagues or experts who, as external co-workers, participate in the implementation of a school prevention program.

Based on the aforementioned main goal of the research, specific research questions were formulated. We set out with an interest to answer the following research question: *What are the challenges and barriers to the implementation of a prevention program in school?* We then want to record the circumstances perceived by school prevention methodologists as obstacles to their work; how they can be specified, and what their characteristics are in relation to the personnel, material, and program conditions of the school and the role of the methodologist as a *prevention coordinator*. We also want to determine: *What specific obstacles to the implementation of a prevention program are identified by prevention methodologists at school?* Our assumption is that school prevention methodologists, as members of the school counselling centre, are invited to address a number of educational situations. To this end, they would start to work together with other partners in and out of school. We want to identify how they feel about the conditions for this work, and how they evaluate the background provided by the school in this respect. The research interest in the activities of the methodology of prevention, and in the definition of research questions, are related to a broader research plan that involves monitoring the functioning of the school in the conditions of inclusion.

5 Research Design

The nature of research questions that are open-ended and based on general concepts rather than specific variables (Šeďová, 2007) offers the use of qualitative research. The source of data is on the one hand, written materials in the form of mind maps and written documents in which the participants recorded the concepts they associated with challenges during the implementation of a prevention program. Other sources are provided by the analysis of data obtained from interviews with informants / school prevention methodologists.

5.1 Data Collection Technique

The data collection took place in two stages. A survey was conducted in the first stage using the created conceptual data, while interviews took place in the second stage. The defined research problem: "What general topics are considered by prevention methodologists as challenges and barriers in their work?" was reflected in a specific instruction to create a mind map

that was subsequently analysed. Participants were informed as follows: "Create an individual mind map in which you record the barriers and challenges you face during implementation of a prevention program at your school." Following individual work, the resulting data was used for further discussion in the group. The additional instruction was: "Divide into groups and discuss together the topics you have recorded in your mind maps." For the assignment, the graphical representation was emphasized in which "prevention challenges and barriers" is placed in the middle of the mind map, and the importance of each topic depends on the distance from the centre.

As mentioned above, the method of the mind (mental) map was chosen for the research survey. The reason for this was that the graphic processing of opinions is non-traditional and, in most cases, unknown to the informants. Furthermore, this method was used because this technique is excellent for the nonlinear recording of keywords and for capturing the motives and links between them, as described by Buzan (2007). The consequent content analysis of the text, as Klapko (2013) states, allows for an interesting possibility of connecting the initial mass mapping of the topic represented by variables according to a categorical key, and then conducting an in-depth data analysis of a qualitative research study. The procedure mentioned by Gavora (2010) was followed in the analysis of mind maps: at first, the basic set of texts was defined (in our case, mind maps) to identify semantic units that were consequently classified into analytical categories, quantified, and described. The interpretation of results (using the technique of "laying cards") (Šeďová, 2007), is also based on the subsequent interview and discussion of each mind map. In the interview, the informants explained their points of view reflected in the choice of categories and in the formulation of logical chains.

The task was given to participants of the lifelong learning course, namely the basic qualification study program for school prevention methodologists (group of novice methodologists) and the extension optional course for experienced methodologists (the second group of participants). The research was conducted after the course introduction, when the content was presented to participants. Each participant was instructed to capture the areas, in their opinion and based on their experience, where they see barriers to the successful implementation of a school prevention program. It was also specified that challenges or barriers are understood to be specific phenomena and challenges that they face during the implementation of a prevention program at their school that prevents achieving the prevention

goals and objectives. In the introduction, the principles of the mind map were recounted and explained to participants. After they created their individual mind maps, each person presented the result of their work in the group and clarified or explained their results in a controlled interview with the author, the instructor of the course. Based on the categories recorded in the individual mind maps, questions were formulated for the subsequent interview. Presentations and interviews and the responses of informants in the interview were recorded with a video camera and consequently used to supplement the data collected from mind maps.

The research set was established on the basis of intentional selection, with two sets of informants created. The first group included 14 informants, experienced prevention methodologists who had completed a specialized study and further expanded their knowledge in the lifelong learning course. The average length of experience in school prevention programs was six years. The second group consisted of 14 informants who were also participants in the compulsory course for school prevention methodologists, so their compulsory education was not completed. The average length of experience in school prevention programs was two years. There were 28 mind maps created and used in research.

6 Results

In view of the fact that we analysed mind maps consisting of keyword records, those were semantic units that were subsequently quantified and classified into categories. The basic keywords emerged from the individual mind maps of school prevention methodologists and were graphically connected directly with the term *prevention challenges and barriers* (located in the middle of the mind map). These keywords were further subcategorized. All the above keywords pointing to the central term were then processed to define the common parent categories and graphically displayed as shown in Figure 1. The size of the subcategory boxes reflects the frequency of the phenomenon captured in partial mind maps.

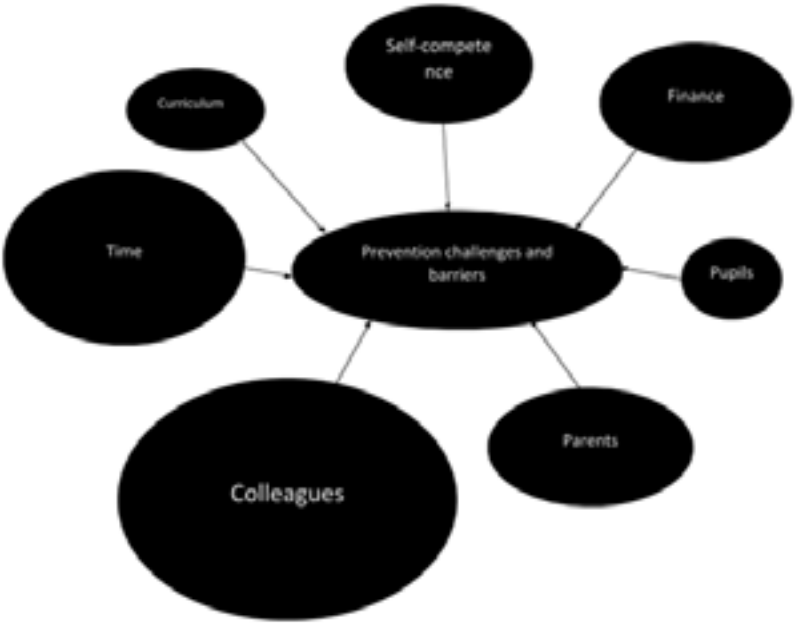


Figure 1. Major areas pointing to the concept of "*prevention challenges and barriers*" (the size of each picture indicates the frequency of use).

Figure 1 shows the most frequent statements in mind maps combined into the following categories: *Colleagues*, *Time*, *Parents*, *Self-competence*, *Finance*, *Curriculum*, *and Students.* In the mind maps, each statement was elaborated using a broader phrase (e.g. *lack of cooperation* and *bad example* in the category of *Parents*) or additional sub-terms in the category (e.g. subcategories such as *they do not believe*, *they do not understand*, *they are not interested* were identified in the *Parents category*). A summary table was created using Microsoft Excel when further analysing the statements to concentrate the individual terms and additional statements. The semantic order was determined by the number of statements in each category.

The *Colleagues* category was included in 27 maps, and it was identified as a dominant challenge. This category was associated with a number of subcategories. According to methodologists, the barrier lies in a *negative attitude*, *reluctance*, *lack of interest*, *disagreement*, or even repeatedly *resistance*. But the phenomenon of cooperation is the key issue regarding the coordination basis of the activities. Participants used the mind mapping tool repeatedly to extend their feelings into broader statements, and the supportive approach in the teaching staff became the leading topic of subsequent interviews. Part of the problem is the generally negative approach to the preventive and educational component of the teacher's work. For example, the informant feels that "not every teacher in our school is willing to attend to their class". We can see the opinion that resistant teachers are those who either "do not want extra work", "do not want to spend time on further preparation", or they only focus on teaching their subject: "colleagues resistant to doing anything else but teaching". According to our research, the approach of another group of teachers to prevention is clearly negative. For example, the informant stated: "it is just a marginal issue for many teachers, they do not believe in the idea of it – they feel it is about nothing anyway". The research also identified the still-prevailing low level of teamwork and isolation in the teaching staff. Participants described the inconsistency between lower and higher primary school teachers. However, most of the statements showed the general reluctance to work as a team and share information with each other. The disunity is seen in the context of lack of "management support", but also in the reluctance to "discuss things with others, share information, pretending they do not have any problems". The research indicates that some teachers tend to not solve difficult things or keep them only for themselves.

The Time category appeared in 24 maps as the second most important challenge in the implementation of a prevention program. Following a further analysis, the statements were semantically divided into two subcategories. The first can be described as subjective lack of time for the school prevention methodologist's work. Informants pointed out their "high number of teaching hours", and they feel a "collision with the function of a class teacher" with an increasing administration. For example, one informant put it this way: "I am a teacher; when I am supposed to do a preventive activity for other classes, I lack the 'free' hours to do it." The second dimension of the perceived time barrier can, to some extent, be referred to as objective. It is

the time in the overall school curriculum. The participating methodologists feel that "the school schedule is tight, or there are many events in the school, teaching gets slowly out of play". This category is logically connected to a specific Curriculum category. In nine cases, informants commented on the lack of interfaces between the school curriculum and prevention. School work is characterized as the "implementation of the educational program in school" and prevention as "release from class". The informant said the program includes "other school priorities", or the program reflects a "well-established system that works". Prevention is then something that is not part of the school's program, but always "at the expense of something else". One opinion is that you should primarily teach lessons in school, and according to another participant, there is "little time in school for activities that promote cooperation" between students.

The categories of *Parents*, *Finance*, and *Self-competence* were mentioned in 19 cases. *Cooperation with parents* was used to reflect on the more general relationships between school and family as well as the specific perception of prevention by parents. At the first level, statements described the family's general lack of interest in educational issues. For example, the informant provided statements describing the parents' attitude that "the school must take care of everything for us", or hyper-protective parents were mentioned who consider risky behaviour to be something that "does not have to do with their child". The participating prevention methodologists pointed out that parents do not understand prevention. It is partly because "there is no opportunity to tell them 'why' and what the benefits are", parents then "do not believe, do not understand, or play it down".

The *Finance* category was closely linked to the *Parents* category. The recorded statements confirmed the reality of the Czech school where educational programs implemented by external instructors are not covered by the school's current budget. Teachers have to collect course fees from students, so they are co-financed by the students' parents. Therefore, the experience of prevention methodologists is logically related to the above point as the parents are reluctant to "participate in the payment". However, the informants also admit that good quality programs are expensive, for example, because their school is "difficult to access", it is a "village school with a low budget, or a small school with few students". The culprits identified by the methodologists are the "education authorities", but in four cases also the school principals.

The category of *Prevention Methodologist and Their Competencies* had different relationships in the set of data obtained from experienced prevention methodologists (eight statements) and from novice methodologists (11 statements). The experienced prevention methodologists would rather choose categories referring to objective circumstances and obstacles, e.g. the conflict between the role of teacher and the role of methodologist, the interference with the duties of the class teacher, or the bad conditions for work resulting from the non-reduced number of teaching hours, but also to their own limitations such as "procrastination", "lack of knowledge of activities", "failure to evaluate the effectiveness of activities", or "their own abilities". The group of novice methodologists had a tendency to comment on this area more often, with dominant feelings that could be summarized in categories: *little respect in the teaching staff, lack of experience – sharing materials*, *lack of good practice databases and underestimation of the prevention methodologist's work*. In four cases, the prevention methodologists also mentioned the lack of back office. It was also interesting to follow the recorded problems associated with students. The *Student* category was mentioned in five cases by experienced prevention methodologists and only once by novice methodologists with a rather positive connotation, where the prevention methodologist mentioned the lack of opportunities for *greater contact with children*.

The keywords shown in Figure 1 directly related to the concept of *prevention challenges and barriers* being further broken down. A detailed analysis of each mind map showed some interconnection of the categories. The problem of the prevention methodologist's relationship with other teachers is also linked to communication with parents. These are known to the teacher – prevention methodologist primarily as related to the class they teach, while their other contacts are strongly dependent on others. The *Curriculum* category is also connected with the phenomenon of *cooperation* in school. If the prevention program is not included in the school curriculum, it becomes a burden to other teachers, thus losing its connection with the teaching activities of other teachers. At the same time, the conditions set up for a teacher-prevention methodologist will depend on finances, time, and the school environment as an *organisation*. The last broader category is the own perception of the prevention methodologist, their sense of readiness for this role, and the respect and authority they enjoy in this position, i.e. *self-reflection*. In this context, more general categories were created from all the semantic units listed in the mind maps. They are summarized in Table 1 below.

Table 1

Created Analytical Categories and Related Keywords

Cooperation	Colleagues	Available time, approach, little interest, inconsistency, reluctance, lack of interest, colleagues' attitude, disagreement with the program, resistance of some colleagues, they do not want extra work, non-unification, they do not believe in the idea, lack of support, substitution, inconsistency, not sharing information, reluctant to discuss things with others, unwillingness to cooperate
	Parents	Disagreement of parents, attitude of some parents, lack of support from parents, bad example in the family, lack of family interest, inadequate assumptions, they do not believe, they do not understand, they do not have time, playing it down, misunderstanding, there is no opportunity
	Curriculum	Thematic planning, little time for activities, fulfilment of the educational program, lessons must be taught, at the expense of hours, limited number of hours, many other events, time schedule, busy program, other school priorities
Organisation	Time	Teaching hours, administration, little time, collision, available time, limits, inconsistent timetables
	Finance	No school funds, financial hardship of parents, poor social level of parents, expensive programs, unwillingness to participate in payment, principal, pay, educational authorities, small school, few students, financial limits
	Environment	Space, facilities, place for an individual interview, classroom equipment, separate office
Self-reflection	Knowledge	I didn't graduate in "this", sharing materials, lack of knowledge of activities, lack of know-how
	Experience	Good practice database, program offer, procrastination, lack of abilities, competence, low self-esteem, stress, fatigue
	Respect	Underestimation of the methodologist's work, little respect in the staff

7 Discussion and Conclusion

In the research, we examined the implementation of school prevention programs in the context of the prevention methodologist's work. This specially qualified teacher is responsible for the overall prevention process at school. We identified that their role primarily consists of coordination, guidance, and support, or information background of the implementation

of a prevention program. It should be part of the educational program at school and consequently incorporated in the overall educational strategy of the school. The definitions of the national strategic documents mentioned above are put in practice through the engagement of the teacher trained in methodology. Therefore, the key for us was to identify the obstacles and barriers as perceived by those teachers at work.

Three groups of challenges were identified by the analysis of mind maps. The *coordination and methodological role* of this teacher proved to be crucial. Participants consider the cooperation with colleagues as a fundamental problem. They meet some members of the school teaching team who refuse to participate in educational and preventive activities. Some of them are described by the participants as teachers who consider teaching their subjects as the core of their educational work and other activities as an undesirable disruption of this process. This opinion corresponds with research that suggests a role conflict of teachers. For example, Havlík and Koťa (2007) speak about internal conflicts in which the fulfilment of one role disrupts the management of requirements arising from the other role. In the postmodern era, the psychological challenges associated with the transfer of knowledge to students interfere with the requirements for the ethical and educational component of school education. Research describes the feelings of future, beginning, and experienced teachers (e.g., Vítečková, 2018; Hanušová et al., 2017) showing a negative experience of the situation faced in school in connection with the growing resistance of students to the dominant forms of education still applied in practice (Kartous, 2019; Feřtek, 2015) and the related explosion of educational problems. New phenomena are created that are very difficult for teachers to understand. As a result, there is a growing number of experienced teachers showing burnout symptoms as well as a high dropout rate of beginning teachers (Vítečková, 2018; Hanušová et al., 2017), or a declining interest in teaching studies or becoming a teacher in practice after graduation (Pravdová, 2014). One of the reasons is that teachers are worried about failing to cope with the specific requirements of working with children newly included in class groups as part of the inclusion project and the related educational, teaching, and disciplinary problems.

Our research shows that while a team of teachers should come together to focus on the development of students' key competences and promote a positive classroom climate, a part of it remains in opposition. In this respect,

the informants mentioned the disunity of teachers, low management support and the *reluctance of teachers to share information with others and discuss problems in "their" classroom with colleagues.* These findings are in line with the climate characteristics of teaching staff by Urbánek's current research (2005). However, we identified the problem does not only have relational root causes but is also related to the orientation of the primary school curriculum. In a situation where the need for school orientation to transfer values and develop skills (Spilková et al., 2004) and to develop students' competencies towards cooperation (Kasíková, 2010) are ever more emphasized, the barrier to these efforts lies in some teachers who aim at *teaching their subject* in the first place.

The methodological and coordinating role of the prevention methodologist further includes ensuring that parents are informed and that cooperation with them has been initiated. In this regard, research findings confirmed that school and teachers are continuously uncertain about working with parents. The research identified an opinion of prevention methodologists regarding the ever more difficult communication with families from different social and cultural backgrounds, perceived as families that *do not cooperate and set a bad example where there is nothing to build on*. At the same time, some statements underlined the overall discrepancy between school expectations and the parents' opinions or requirements similar to what is suggested by Rabušicová et al. (2004), Šeďová (2009), Majerčíková (2015), and others.

In terms of *organisational conditions* for the implementation of prevention programs, the participants mainly referred to time pressure. This is in some way related to the previous phenomenon. If the teacher - prevention methodologist remains isolated in the team, it will be very difficult to coordinate their normal teaching duties with another function. This tension was concisely mentioned by the informants when they explained the collision of duties between working with "their" class and activities for other students and other teachers. In this respect, they saw their situation as very difficult to manage. The results then largely uphold the experience with the negative effects of accumulated functions and responsibilities of teachers. Specifically in the field of prevention, foreign experience proves to be positive where an external expert who is responsible for prevention becomes a member of the school team. For example, in Slovakia, a social education worker has been included in the school team as an expert in preventive and social and educational work (Hroncová et al., 2020). Similar experience with the

application of social work teachers in school prevention, educational work with children and youth from social risk environment, or communication with families from different social and cultural backgrounds can be found in schools in Hungary, Norway, Finland, and Spain. When applying the inclusive education approach and with regard to the increasing social, cultural, and economic diversity of children, a social work teacher in the Czech school can be a kind of imaginary bolt and provide full support for students, parents, and colleagues in the school counselling centre (Procházka, Paroubková, & Šimerová, 2019). Another aspect of the organizational barriers identified by research is the lack of background for counselling and support activities. The informants mentioned that they miss a dedicated area where they could solve the students' problems and carry out their work in a discreet environment.

The last area perceived as a barrier to prevention was self-reflection on competencies. The participants explained they do not feel ready enough to implement a prevention program and deal with educational problems they encounter in this respect. Thus, the research findings showing that teacher's educational work is one of the biggest challenges and teachers feel they are not well trained and qualified in this area (Vítečková, 2018) were confirmed. Doubts about their own competencies also resonate with the underestimation of the prevention methodologist's work and little respect among the teaching staff. In this respect, we consider as relevant the perception of the corrosion of teachers' authority as such, and we tend toward the conclusions of Vališová et al. (1999) who give evidence of how a growing chaos in the social hierarchy, norms, and values hinders the possibility of maintaining consensus in school on mutual support-based behaviour.

The results of the qualitative research survey do not aspire to generalize the results; instead, they rather reflect the opinions of the teachers involved. Nevertheless, the research has opened several questions that suggest how complex the position of prevention methodologists actually is. Although they are team members of the school counselling centre and have a clearly defined role and responsibilities, they do not receive appropriate support. Where their role is crucial, i.e. coordination and methodology and guidance of prevention, they encounter insufficiently defined powers and underestimation of the educational and preventive role of the school. Compliance problems are growing, and students engage in risky behaviour. A school without discipline

then becomes ineffective and dangerous for its staff (Bendl, 2011). In this situation, cooperation among teachers, and the focus of school educational programs on new development priorities, are very important.

References

Act No. 561/2004 Sb. Act No. 561/2004 Coll. on pre-school, primary, secondary, higher vocational and other education (School Act). (2004).

Bakic, J., Diebäcker, M., & Hammer, E. (Eds.) (2008). *Aktuelle Leitbegriffe der socialen Arbeit. Ein kritischen Handbuch.* Wien: Erhard Löcker.

Buzan, T. (2007). *Mentální mapování.* Praha: Portál.

Chen C-Y, Storr C. L, & Anthony J. C. (2009). Early-onset drug use and risk for drug dependence problems. *Addictive behaviors*, *34*(3), 319–322.

Čech, T. (2011). Škola a její preventivně-výchovná strategie jako předpoklad rozvoje kompetencí dětí. *Prevence*, *8*(7), 4–7.

ČŠI. (2020). *Mezinárodní šetření TALIS 2018. Zkušenosti, názory a postoje učitelů a ředitelů škol. Národní zpráva.* Praha: ČŠI, MŠMT.

Deleuze, G. (1993). Postskriptum über die Kontrollgesellschaften. In *Unterhandlungen 1972–1990* (pp. 254–262). Frankfurt/M.: Suhrkamp.

Dolejš, M. (2010). *Efektivní včasná diagnostika rizikového chování adolescentů.* Olomouc: Univerzita Palackého v Olomouci, Filozofická fakulta.

Dzierzbicka, A. (2008). Prävention und Disziplinierung. In J. Bakic, M. Diebäcker, & E. Hammer (Eds.), *Aktuelle Leitbegriffe der socialen Arbeit. Ein kritischen Handbuch* (pp. 170–184). Wien: Erhard Löcker.

Ecarius, J., Eulenbach, M., Fuchs, T., & Walgenbach, K. (2011). *Jugend und Sozialisation.* Wiesbaden: VS Verlag für Sozialwissenschaften / Springer.

Erikson, E., H. (2002). *Dětství a společnost.* Praha: Argo.

Exnerová, M., Kaufová, T., & Skácelová, L. (2012). *Kočičí zahrada. Rozvoj sociálních dovedností dětí v rámci prevence rizikového chování.* Praha: Univerzita Karlova v Praze & Togga.

Feřtek, T. (2015). *Co je nového ve vzdělávání.* Praha: Nová Beseda.

Gallá, M., Aertsen, P., & Daatland, C., DeSwert, J., Fenk, R., … Sannen, A. (2005). *Jak ve škole vytvořit zdravější prostředí: Příručka o efektivní školní drogové prevenci.* Praha: Úřad vlády České republiky.

Gavora, P. (2010). *Úvod do pedagogického výzkumu.* Brno: Paido.

Hanušová, S., Píšová, M., Kohoutek, T., Minaříková, E., Janík, M., Janík, T., ... & Ježek, S. (2017). *Chtějí zůstat nebo odejít? Začínající učitelé v českých základních školách.* Brno: Masarykova univerzita.

Havlík, R., & Koťa, J. (2007). *Sociologie výchovy a školy.* Praha: Portál.

Helus, Z. (2007). *Sociální psychologie pro pedagogy.* Praha: Grada.

Hroncová, J., Niklová, M., Hanesová, D., & Dulovics, M. (2020). *Sociálna pedagogika na Slovensku a v zahraničí – teoretická reflexia a prax.* Banská Bystrica: Belianum, Univerzita Máteje Bela v Banské Bystrici.

Kartous, B. (2019). *No Future.* Praha: Nakladatelství 65. pole.

Kasíková, H. (2010). *Kooperativní učení, kooperativní škola.* Praha: Portál.

Klapko, D. (2013). Obsahová analýza textu. In L. Gulová & R. Šíp R. (Eds.), *Výzkumné metody v pedagogické praxi* (pp. 139–167). Praha: Grada.

Krech, D., Crutchfield, R. S., & Ballachey, E. L. (1962). *Individual in society: A textbook of social psychology.* McGraw-Hill.

Macek, P. (1999). *Adolescence. Psychologické a sociální charakteristiky dospívajících.* Praha: Portál.

Majerčíková, J. (2015). Sporné aspekty úzkych vzťahov rodiny a školy na začiatku vzdelávania. *Studia Paedagogica*, *20*(1), 29–44.

Miovský, M., Adámková, T., Barták, M., Čablová, L., Čech, T., … Zapletalová, J. (2015a). *Výkladový slovník základních pojmů školské prevence rizikového chování.* Praha: Klinika adiktologie 1. LF UK a VFN v Praze v Nakladatelství Lidové noviny.

Miovský, M., Aujezká, A., Burešová, I., Čablová, L., Červenková, E., … Žaloudíková, I. (2015b). *Programy a intervence školské prevence rizikového chování v praxi* (2nd ed.). Praha: Klinika adiktologie 1. LF UK a VFN v Praze v Nakladatelství Lidové noviny.

Miovský, M., Skácelová, L., Zapletalová, J., Novák, P., Barták, M., … Veselá, M. (2015c). *Prevence rizikového chování ve školství.* Praha: Klinika adiktologie 1. LF UK a VFN v Praze v Nakladatelství Lidové noviny.

Miovský, M., Skácelová, L., Čablová, L., Veselá, M., & Zapletalová, J. (2012). *Návrh doporučené struktury minimálního preventivního programu prevence rizikového chování pro základní školy.* Praha: Univerzita Karlova v Praze & Togga.

MŠMT. (2000). *Strategie prevence společensky nežádoucích jevů u dětí a mládeže v působnosti resortu MŠMT na období 2001–2004.* Praha: MŠMT.

MŠMT. (2001). *Školní preventivní program pro mateřské a základní školy a školská zařízení.* Praha: MŠMT.

MŠMT. (2005). *Vyhláška č. 72/2005 Sb., o poskytování poradenských služeb ve školách a školských poradenských zařízeních.*

MŠMT. (2010). *Metodické doporučení k primární prevenci rizikového chování u dětí a mládeže.* Dostupné z http://www.msmt.cz/vzdelavani/socialni-programy/metodicke-dokumenty-doporuceni-a-pokyny.

MŠMT. (2017). *Rámcový vzdělávací program pro základní školství.* Praha: MŠMT.

MŠMT. (2019). *Národní strategie primární prevence rizikového chování dětí a mládeže na období 2019–2027.* Dostupné z http://www.msmt.cz/uploads/narodni_strategie_primarni_prevence_2019_27.pdf

MŠMT. (2020). *Hlavní směry vzdělávací politiky ČR do roku 2030.* Dostupné z https: http://www.msmt.cz/vzdelavani/skolstvi-v-cr/strategie-2030

Otto, H.-U., & Thiersch, H. (Eds.). (2005). *Handbuch. Sozialarbeit. Sozialpädagogik.* München: Ernst Reinhardt Verlag.

Pelikán, J. (1997). *Výchova pro život.* Praha: Nakladatelství ISV.

Pelikán, J. (2002). *Pomáhat být.* Praha: Karolinum.

Piaget, J., & Inhelder, B. (1997). *Psychologie dítěte.* Praha: Portál.

Pravdová, B. (2014). *Já jako učitel: profesní sebepojetí studenta učitelství.* Brno: Masarykova univerzita.

Procházka, M., Paroubková, A., & Šimerová, K. (2019). Sociální pedagog. In M. Najmonová, K. Faltová, M. Garabiková-Pártlová, M. Faltová, J. Hynek, E. Nevoralová, R. Falta …, & M. Váchová, *Školní poradenské pracoviště v praxi.* České Budějovice: Pedagogická fakulta JU.

Spilková, V. et al. (2004). *Současné proměny vzdělávání učitelů.* Brno: Paido.

Steinberg, L. (2010). A behavioral scientist looks at the science of adolescent brain development. *Brain and Cognition*, *72*(1), 160–164.

Šafářová, M. (2002). Rizikové chování v adolescenci. In V. Smékal & P. Macek (Eds.), *Utváření a vývoj osobnosti. Psychologické, sociální a pedagogické aspekty* (pp. 191–208). Brno: Barrister & Principal studio.

Šeďová, K. (2007). Proces kvalitativního výzkumu a jeho plánování. In: Švaříček, R., & Šeďová, K., et al., *Kvalitativní výzkum v pedagogických vědách* (pp. 51–81). Praha: Portál.

Šeďová, K. (2009). Tiché partnerství: vztahy mezi rodiči a učitelkami na prvním stupni základní školy. *Studia Paedagogica*, *14*(1), 27–52.

Štech, S. (2015). Školní socializace, disciplinizace a prevence rizikového chování. In M. Miovský, L. Skácelová, J. Zapletalová, P. Novák, M. Barták, & P. Bártík, P. et al., *Prevence rizikového chování ve školství* (pp. 145–152). Praha: Klinika adiktologie 1. LF UK a VFN v Praze v Nakladatelství Lidové noviny.

Rabušicová, M., Šeďová, K., Trnková, K., & Čiháček, V. (2004). *Škola a (versus) rodina.* Brno: Masarykova univerzita.

Telka, L. (Ed.). (2003). *Programy profilaktyki uzależnień z doświadczeń autorow.* Katowice: Biblioteha Pracownika Socialnego, Śląsk Wydawnictwo naukowe.

Urbánek, P. (2005). *Vybrané problémy učitelské profese: Aktuální analýza.* Liberec: Technická univerzita v Liberci, Fakulta pedagogická.

Vališová, A. (Ed.). (1999). *Autorita ve výchově.* Praha: Univerzita Karlova, Karolinum.

Vítečková, M., & Gadušová, Z. (2015). Vysokoškolské studium učitelství z pohledu začínajícího učitele a identifikace jeho problematických oblastí. *Edukácia*, *1*(1), 266–275.

Vítečková, M., Procházka, M., Gadušová, Z., & Stranovská, E. (2016a). Identifying novice teacher needs – the basis for novices' targeted support. In G. Chova, L. Martínez, & C. Torres, *ICERI2016 Proceedings* (pp. 7731–7738). Valencia: IATED Academy.

Vítečková, M., Procházka, M., Gadušová, Z., & Stranovská, E. (2016b). Teacher at the start of his career and his personal needs. In M. Flégl, M. Houška, & I. Krejčí (Eds.), *Proceedings of the 13th international conference efficiency and responsibility in education* (pp. 624–632). Praha: Czech University of Life Sciences Prague.

Vítečková, M. (2018). *Začínající učitel: jeho potřeby a uvádění do profese.* Brno: Paido.

Wong, M. M., Brower, K. J., & Zucker, R. A. (2011). Sleep problems, suicidal ideation, and self-harm behaviors in adolescence. *Journal of Psychiatric Research*, *45*(4), 505–511.

Author

PhDr. Miroslav Procházka, Ph.D., University of South Bohemia in České Budějovice,
Faculty of Education, Jeronýmova 10, 370 15, České Budějovice, e-mail: mproch@pf.jcu.cz

Překážky implementace primární prevence rizikového chování ve škole v kontextu činností metodika školní prevence

Abstrakt: Výzkumný článek řeší problematiku rizikového chování žáků základních a středních škol z pohledu učitelů odpovědných za realizaci primární prevence ve školách. Autor se zaměřuje na reflexi učitelů, kteří zastávají pozici školního metodika prevence a kteří organizují, realizují a hodnotí školní preventivní programy. Text nejprve popisuje diskurzivní otázky týkající se koncepce prevence a komentuje potenciál učitelů, který je základem pro efektivní realizaci prevence ve školách. Prezentované výsledky výzkumu ukazují, jak učitelé hodnotí podmínky pro realizaci preventivních programů ve školách; poté analyzuje rozhovory s učiteli o problémech, se kterými se ve školách potýkají při výkonu svých povinností metodika. Prevence rizikového chování je v České republice povinnou součástí vzdělávání. Školy vytvářejí preventivní strategii a preventivní program, který je součástí školního vzdělávacího programu. Klíčovou otázkou související s tvorbou těchto školních dokumentů je vyjasnit, jakými výchovnými tématy by se měla škola zabývat, jaké si formuluje teoretické základy definující hlavní priority prevence a specifikující hlavní témata naplňující preventivní program. Ukazuje se, že metodici školní prevence nemají dostatečnou oporu v učitelském sboru, což jim brání v adekvátní přípravě a hodnocení programů. Tito učitelé se musí vypořádat s řadou problémů, přesto si nejsou jisti, jaké jsou účinné podmínky a procesy potřebné pro úspěšnou realizaci preventivních programů. První etapa výzkumu je založena na datech získaných z analýzy myšlenkových map. Tyto mapy jsou výsledkem zapojení školních metodiků prevence v ohniskových skupinách (n = 28). V rámci těchto skupin účastníci zachytili problémy a podmínky související s jejich osobním pohledem na realizaci preventivních programů na svých školách. Následná obsahová analýza textu podle Klapka (2013) poskytuje zajímavé využití spojení mezi primárním hromadným mapováním problematiky, distribucí proměnných díky následně stanovenému kategorickému klíči a hloubkovou analýzou dat v kontextu kvalitativní výzkumná studie. Analýza myšlenkových map byla provedena pomocí výzkumné metody popsané Gavorou (2010): byla stanovena základní sada textů (v tomto konkrétním případě myšlenkové mapy), poté byly sémantické jednotky rozděleny do několika analytických kategorií a tyto jednotky byly nakonec kvantifikovány a popsány. Interpretace výsledků (technikou „vyložení karet“) je založena na výzkumných datech získaných během druhé etapy výzkumu. Ta byla realizována sběrem dat formou rozhovorů s učiteli nad jejich myšlenkovými mapami. Participanti výzkumu byli požádáni, aby vysvětlili svůj osobní náhled na problémy ve škole odrážející se ve výběru daných kategorií a ve formulaci logických řetězců. Výsledky výzkumu přinášejí zajímavé informace související s realizací preventivních programů ve 28 školách v Jihočeském kraji, přičemž získaná data pojmenovávají bariéry bránící efektivní práci metodika prevence ve školách.

Klíčová slova: primární prevence, rizikové chování, základní škola, metodik školní prevence

The role of social pedagogues in the school environment – a topic for professional and social discussion [1]

Tomáš Čech

Palacky University in Olomouc, Faculty of Education, Institute of Education and Social Studies

When designing the monothematic issue of *Pedagogická orientace* entitled *Child in Network of Risks* we encountered a recurring social need for systematic prevention and management of risk behaviour in children and adolescents. This is mentioned, for example, in a paper by M. Procházka (2020) who analyses the cooperation between the school prevention methodologist and the teacher. In the Czech system of education, the establishment of the position of a school prevention methodologist (*Decree No. 72/2005 Coll. on the provision of counselling services in schools and educational counselling centres*) has been a clear benefit. However, we could speculate that the development of society calls for a more conceptual and systematic approach to addressing risk behaviour in schools and that the position of a school prevention methodologist, which is performed by a teacher with an accredited course and a slight relief in teaching duties, is no longer sufficient.

Reflections on who could take this role in Czech schools and provide the necessary support to teachers and learners in the development of competences concerning risk behaviour management have been considered for many years. The social pedagogue. A professional who is trained in supporting the process of socialization of children and youth as well as prevention and intervention in the event of risk behaviour. Specific experience with the establishment of this position in Slovakia is summarized in the following discussion paper by M. Niklová (2020). The social pedagogue position is also established in schools in other countries, for example in Germany or Russia. However, in the Czech Republic, only few educational counselling centres have the social pedagogue position. This is due to an insufficient legislative definition of the profession and its role in the school environment.

[1] Author's note: Regarding the fact that this is a discussion paper concerning the role of social pedagogues in schools, we will appreciate any suggestions and experiences, not only from Czech schools but also from abroad. Please send any suggestions and reactions to tomas.cech@upol.cz.

https://doi.org/10.5817/PedOr2020-4-534

The first thoughts about establishing the social pedagogue profession in Czech education (cf. Soják & Čech, 2010) appeared at least twenty years ago. The authors Lorencová and Poláčková (2001) based their reflections on the status of the school as a social institution which should develop pupils' life competences, specifically the ability to live with people from different classes and cultures, understand life in other countries, lead a healthy lifestyle as well as develop the precondition for becoming a good citizen and for lifelong learning.

The authors also looked at specific considerations on the role of the social pedagogue in schools, which they see in offering prevention and integrating social services. We do not agree with the opinion of both authors that social pedagogues should stand outside the school hierarchy. On the contrary, we believe that the position of the social pedagogue should be integrated in the school system and should have a clearly defined professional job content. The job content should be based on a general framework, including the standard tasks expected in the school environment, but in terms of function it should be based on the needs of the specific location and educational institution. However, we agree with the statement that the social pedagogue could be a link between the school, parents and other institutions including the Department of family and child care and the Department of social prevention and social-legal protection.

The role of the social pedagogue is outlined by the authors Lorenzová and Poláčková (2001) as follows:

- "Pupil's assistant and advocate (concerning the pupil's rights and dignity);
- Mediator in conflicts with pupils and parents;
- Coordinator with public administration;
- Initiator of cooperation with local educational institutions;
- Organizer of leisure activities and projects."

The authors suggest that "the social and educational approaches are based on a multidisciplinary concept, emphasise the educational aspects and focus primarily on the prevention of social deviations of children and youth, focusing on leisure activities, social education and social counselling in school, this in the sense of supporting self-help and the role of the counsellor as an educational facilitator".

The role of the social pedagogue was also considered in the work of B. Kraus. In the first place, the author thought about the importance of school for an adolescent in parallel with the possible role of the social pedagogue in most school functions including socialization, education, care, counselling, recreation, professionalization and selective (cf. Kraus, 2008). The author also considered the context of the school environment including the material and spatial aspects but primarily the social-psychological climate of the school, which he, with reference to Lašek (2007), defines as "a more permanent social and emotional tuning of all participants who create it and experience it in interaction. This is a specific manifestation of the life of the school, reflecting the level of the whole environment including all of its participants." B. Kraus distinguishes the following areas of the work of the social pedagogue in the socio-psychological climate: relationships and processes inside the institution, pupil-teacher relationships, relationships between pupils, classroom climate, relationships between teachers, level and style of management of the whole institution, etc. From the perspective of the external environment, where the school plays an important role in the context of its location, the author emphasises the need for supporting the position of the school and cooperation with other local institutions (Kraus, 2008).

Similar conclusions were presented by Čerstvá and Čech (2009) who based their ideas on a qualitative research study conducted among elementary school directors. In view of the previous reflections of Kraus, directors perceive the climate of the school as a social institution as the key factor in terms of the school functioning. They claim that both internal and external functioning of the school as an educational and socializing institution is dependent on its relationships and climate which needs to be positively supported while providing the desired conditions and eliminating any negative effects. At the same time, the school must not work in isolation but must be perceived as an open institution and as part of the cultural and social life in the area. Other problems as reported by directors included a lack of professionals to address specific issues, difficult cooperation with external departments, excessive pressure on teachers and their competences (early risk of burnout) as well as the role of the school in extra-curricular education. In defining the social pedagogue and his/her competences, elementary school directors agreed that they would welcome this type of employee in order to ensure a comprehensive approach to addressing many of the previously mentioned social and educational issues. They believe that the problem

with hiring of this professional lies in insufficient legislative definition of the social pedagogue, lack of funding for the establishment of this position and a clear definition of school competences (Čerstvá & Čech, 2009).

The authors further specify the professional responsibilities of the social pedagogue in schools including the existing professional positions (school prevention methodologist, educational counsellor, school psychologist, special needs teacher). The aim should therefore be to "make the school environment healthier" and introduce a conceptual approach to resolving educational and social issues in schools (Čech, 2007).

Similar conclusions were also formulated by Procházka (2012). An analysis of increased risk behaviour and the implementation of primary prevention resulted in the need for the coordination of educational and preventive measures in schools. The preparation, implementation and evaluation of the school's prevention programme by one of the specialized teachers is limited by the real possibilities for their communication with all teachers as well as the chances for initiation of school-wide cooperation. The relatively independent position of the social pedagogue could help resolve the situation.

An important step towards the establishment of the social pedagogue position in the school environment is the project *Social pedagogue in practice* (Soják & Čech, 2010) conducted at the Faculty of Education, Masaryk University. The aim of the project was to identify the benefits of the social pedagogue position in elementary schools. The project funded several positions in elementary schools for which students and graduates of Social education were selected by means of competition. These social pedagogues analysed the conditions and graduate opportunities in schools by means of several methods – reflective diaries, self-assessment questionnaires measuring the development of students' core competences as part of their practice and focus groups with trainee students and partner experts. The research identified the opportunities for social pedagogues in elementary schools.

The inclusion of social pedagogues in schools was also addressed by Mikulková (2007) who considered the problem from the perspective of a social pedagogue in practice. According to the author, social pedagogues would be useful in schools in many respects but again the problem is the absence of the social pedagogue position in the catalogue of professions, thus limiting the opportunities of social pedagogues, especially in education.

The author defined social education as education of socialization the objective of which is "a good life". This concept makes it easier to understand the differences between social education and other disciplines, including its unique position in the system of educational and helping professions.

In terms of the absence of social pedagogues in schools, the author considers a similar problem—the work of a methodologist of preventive activities in educational and psychological counselling centres. According to the author (2007), this position is fully based on the competences of social pedagogues and their theoretical knowledge, but since this is not an existing position in terms of legislation, the social pedagogue position cannot be established in counselling centres. So even here, the position is still lacking. The practical skills and theoretical knowledge of a social pedagogue were used by Mikulková (2007) in her private social and educational counselling practice.

In this sense, she focuses on the following:

- preventive and intervention programmes in schools;
- social-educational programmes;
- field educational counselling;
- social activation services for families with children;
- lecturing, consultations and methodological activities;
- counselling services;
- individual counselling, etc.

The author shows the directions in which social education competences can be developed in the context of schools. The implementation of the principles of joint education has provided a new space for the opportunities of social pedagogues in schools. The authors Čech and Hormandlová (2020) outline the possible ways of cooperation between social pedagogues and other professionals in school counselling centres, including special needs teachers and school psychologists. Good practices concerning the employment of a social pedagogue in a school counselling centre were presented by Tomková et al. (2020). These inspirational examples of good practice have confirmed that social pedagogues can be useful in working with groups of learners, both in diagnosing the classroom climate as well as in the preparation and implementation of preventive or intervention programmes. The interviews

with teachers also suggest the opportunity for supporting pupils from a socially disadvantaged or culturally different background. In addressing these issues, the social pedagogue becomes an intermediary between the school and the family or other institutions providing support to disadvantaged pupils or their families.

The efforts to establish the social pedagogue profession in the Czech society and specifically in schools have, in the long run, been supported by the Association of Educators in Social Pedagogy which brings together professionals and institutions involved in the training of social pedagogues. In 2020, the association issued the document *Job content of a social pedagogue in elementary school* (*Náplň*..., 2020) which defines the position and responsibilities of the social pedagogue in the school environment at multiple levels. The job content defines the work of a social pedagogue:

- *in relation to the school management* (responsibility for the work performed);
- *in relation to teachers and other educational staff* (development of the school climate and classroom climate, counselling for teachers);
- *in relation to pupils* (individual work with pupils, group work with pupils, crisis intervention);
- *in relation to parents* (interviews with parents, field work, educational boards);
- *in relation to other actors* (communication with the authority for social and legal protection of children, police of the Czech republic, communication with counselling and diagnostic institutions (in the Czech system these include educational and psychological counselling centres and educational care centres), communication with field social workers as well as low-threshold establishments for children and youth, etc.);
- *in relation to the members of the school counselling centre* (school prevention methodologist, educational counsellor, school psychologist, special needs teacher);
- *in relation to the community* (cooperation with the community, development of the community, promotion of social cohesion).

The detailed proposals of the association gave rise to an innovation of undergraduate study programmes aimed at future social pedagogues in order for them to gain the required competences. It can therefore be concluded that social pedagogues are provided with the necessary competences for work in school counselling centres and may become their fully-fledged members. In this way, they can contribute to the achievement of the principles of joint education and the implementation of the strategies of the *Czech Education Policy 2030+* (MEYS, 2020). We can only hope that the many years of efforts will be reflected in the forthcoming amendment to the *Act on Educational Staff* and that social pedagogues will find a stable and strong position of professionals capable of providing systematic support to all the actors in the process of education.

References

Asociace vzdělavatelů v sociální pedagogice. Retrived from: http://asocped.cz/.

Čech, T. (2007). Vision of the role of social pedagogue in making school healthier. In E. Řehulka et al., *School and Health 2* (pp. 499–507). Brno: Paido.

Čech, T., & Hormandlová, T. (2020). *Profesní obraz školního speciálního pedagoga v podmínkách základní školy.* Olomouc: Palacký University Olomouc.

Čerstvá, L., & Čech, T. (2009). Sociální pedagog a vize jeho uplatnění v základní škole. In P. Soják (Ed.), *Symposium sociální pedagogiky na PdF MU 2* (pp. 65–73). Brno: Masaryk Univerzity.

Kraus, B. (2008). Základy sociální pedagogiky. Praha: Portál.

Lašek, J. (2007). *Sociálně psychologické klima školních tříd a školy.* Hradec Králové: Gaudeamus.

Lorencová, J., & Poláčková, V. (2001). Specifika pomáhání v podmínkách školy. In B. Kraus & V. Poláčková et al., *Člověk – prostředí – výchova. K otázkám sociální pedagogiky* (pp. 190–197). Brno: Paido.

Mikulková, M. (2007). Sociální pedagogika a její místo ve školství . In *Sociální pedagogika v teorii a praxi.* Brno: Institut mezioborových studií.

MŠMT (2020). *Strategie vzdělávací politiky ČR do roku 2030+.* Praha: MŠMT. Retrieved from https://www.msmt.cz/vzdelavani/skolstvi-v-cr/strategie-2030

Náplň práce sociálního pedagoga v základní škole (2020). Asociace vzdělavatelů v sociální pedagogice. Retrived from: http://asocped.cz.

Niklová, M. (2020). Prevention of online risk behaviour in schools with regard to the socio-educational activity of the school social pedagogue. *Pedagogická orientace*, *30*(4).

Procházka, M. (2020). Barriers to the implementation of primary prevention of risky behaviour in school in the context of teacher/ school prevention methodologist activities. *Pedagogická orientace*, *30*(4).

Procházka, M. (2012). *Sociální pedagogika.* Praha: Grada.

Soják, P., & Čech, T. (2010). Cesta do školy aneb výzkum potřebnosti a uplatnitelnosti sociálního pedagoga ve škole. In J. Němec et al., *Výzkum zaměřený na... Základní směry výzkumu katedry sociální pedagogiky PdF MU* (pp. 109–119). Brno: Masaryk University.

Tomková, A., Hejlová, H., Procházka, M., & Najmonová, M. (2020). *Spolupráce učitele s dalšími odborníky v realitě společného vzdělávání.* České Budějovice: Pedagogická fakulta Jihočeské univerzity v Českých Budějovicích.

Vyhláška č. 72/2005 Sb., o poskytování poradenských služeb ve školách a školských poradenských zařízeních.

Author

doc. PhDr. Tomáš Čech, Ph.D., Palacky University in Olomouc, Faculty of Education, Institute of Education and Social Studies, Žižkovo nám. 5, 771 40 Olomouc, e-mail: tomas.cech@upol.cz

Prevention of online risk behaviour in schools with regard to the socio-educational activity of the school social pedagogue [1]

Miriam Niklová

Matej Bel University, Faculty of Education, Department of Pedagogy

1 Online risk behaviour

Currently, online risk behaviour is one of the negative socio-pathological phenomena identified by various research studies and surveys of experts in Slovakia and abroad. The Europe-wide survey *EU Kids Online* (Izrael et al., 2020) investigated the online experience of children aged 9–16. The survey focused on the occurrence of cyberbullying among pupils, contact with harmful content, the issue of data misuse, excessive use of the Internet, sexting, etc. Compared to other countries in Europe, Slovakia is one of the countries with a lower level of children's access to the Internet and at the same time with a lower level of risk experience of children and adolescents in the online environment. The results of the research showed that one in five young people aged 9–16 spend more than 4 hours a day on the Internet, and 47% of children use the Internet daily to communicate with family or friends. Most children who spend more than 7 hours on the Internet were between the ages of 13 and 14, and there were no significant differences in the gender of the pupils. Almost 65% of children and adolescents visit social networks daily. 84% of children and adolescents use the Internet for school-related activities at least once a week. 55% of children and adolescents use the Internet to play online games every day (Izrael et al., 2020).

There are several variations of online risk behaviour associated with the use of electronic media. As part of the EU Kids Online project, experts specified the most common types of online risk behaviour documented in the following table (See Table 1).

[1] The paper is one of the ongoing outputs of the research task VEGA no. 1/0396/20 under the title *The influence of electronic media on the behaviour and development of cross-sectional skills of the Z generation*.

https://doi.org/10.5817/PedOr2020-4-542

Table 1

Classification of online threat children and youth are exposed to

Alternatives	content: child as a recipient (of mass products)	contact: child as a participant (of adult-initiated activity)	action: child as a perpetrator (perpetrator / victim)
aggression	violent / aggressive behaviour	harassment, stalking	bullying, hostile behaviour against peers
human sexuality,	pornographic content	grooming, sexual harassment in meetings with strangers	sexual harassment, sexting
values	racism / harmful content	ideological beliefs	potential harm within user-generated content
commerce	build-in marketing	misuse of personal data	gambling, infringe copyright

Online risk behaviour is determined by the child's interaction with the digital environment, which differentiates between the individual forms. In general, opportunities for threats and online threats themselves include, in particular, manifestations of aggression and violence in various forms, sexual threats, problems associated with inappropriate or harmful content and values, commercial risks or misuse of personal data (Livingstone, Davidson, & Bryce, 2017).

Cyberbullying is among the most common forms of online risk behaviour; therefore, we pay special attention to it. Extensive research focused on the occurrence of cyberbullying was carried out by Chrienová et al. (2019, pp. 7–9) in 2019 in the Lučenec district. 11 primary and secondary schools were involved in the research. The research sample consisted of 1,495 respondents aged 10–17 years. The research authors performed a comparative analysis of the incidence of problematic behaviour among pupils in the period between 2011 and 2019. Research results show that bullying is one of the most frequent and serious manifestations of problematic behaviour among pupils. The most common manifestations of psychological bullying include ridicule and name-calling (1,033 pupils – 69.1%). An interesting finding was also the increase in cyberbullying of teachers by pupils through the Internet (discussion groups on social networks, sharing of photographs, videos).

In the Czech Republic, research was carried out in 2016 by the Centre for Prevention of Risk Virtual Communication at the Faculty of Education, Palacký

University in Olomouc, which was also supported by the E-Safety project of O2 Czech Republic. They used online questionnaires as a research method, and the research sample consisted of 5,136 respondents. Kindergarten, primary, secondary and tertiary schoolteachers were represented. Research has shown that up to 21.73% of teachers surveyed have already been victims of cyberbullying by their pupils. Cyberbullying most often took the form of harassment by calling a teacher's mobile phone, threats via phone or the Internet, sending humiliating and ridiculing photos, or misusing a teacher's identity. The most frequent cyber-aggressors were pupils with whom teachers were in regular contact (Kopecký & Szotkowski, 2016, pp. 5–10).

2 Prevention of online risk behaviour

Cyberbullying represents a serious socio-pathological phenomenon. We consider it important to strengthen preventive action in schools, taking into consideration pedagogical, but especially vocational training employees in order to minimize cyberbullying and make the effectiveness of preventive and curative measures more effective.

The increase in risk behaviour in cyberspace and abusive use of the Internet are also discussed in the *Strategy of prevention of criminal and other antisocial activity in Slovakia in 2016–2020* (*Stratégia*…, 2016) within two of the main priorities. The first priority *Reduction of criminal and other antisocial activities* draws attention to cybercrime and „the elimination of the promotion of crime through all types of media (film, TV, radio, the Internet, printed matter)". The 5th priority entitled *Responding to new trends and threats in the field of security and public order* points to the need to prevent crime in the online environment and to prevent addictive dependence on information and communication technologies.

The problems of bullying and cyberbullying are elaborated in *Directive 36/2018 on the prevention of and solutions to the bullying of children and pupils in schools and school facilities* (*Smernica*…, 2018). For the first time, *Directive 36/2018* also defines cyberbullying, pointing out the possibilities and sequence of preventing and addressing both serious phenomena in schools and school facilities.

At the beginning of 2020, the Government of the Slovak Republic approved the *National Concept of Child Protection in the digital space* for the period 2020–2025 (*Národná*…, 2020), the main goal of which is to support effective

measures in the area of prevention and raising awareness to achieve healthy mental, physical and moral development of children and their protection in the digital space and cybercrime including education, research, rights, political and institutional action, cooperation and coordination at national and international level. The concept is divided into three priorities – prevention, intervention and aftercare. The first priority focuses on prevention: Systematic implementation and coordinated support of prevention in the context of child protection in the digital space in Slovakia. A significant priority in the context of child protection in the digital space is the prevention and management of threats present in the digital space. The key role is played by the family, school and other institutions of formal, non-formal and lifelong learning and culture and society as well as the technical security of the digital space in order to create a safe environment for children. It is also necessary to focus prevention on raising awareness of the possibilities of effective solutions to specific dangerous situations. One of the priorities is systematic support for school psychologists, social pedagogues, and school prevention coordinators in schools.

According to Hroncová (2017, p. 80):

> A social pedagogue in school as a vocational training employee represents a relatively new profession in Slovakia with the Education Act which defines their relatively wide possibilities of employment in schools and school facilities, but in practice, they are used only to a minimal extent. If there is a social pedagogue in a primary or secondary school, he/she has to deal with many problems and is still a member of an unknown profession compared to other pedagogical and vocational training employees.

The following projects have brought better prospects for the employment of a social pedagogue as a professional employee in schools.

- The PRINED[2] project was a national inclusive education project with the goal of influencing the kindergarten and primary school inclusive environment and thus ensuring the prevention of unauthorized placement of pupils in the special education system.
- The ŠOV project[3] (School open for everyone). The aim of the project is to facilitate equal access to quality education and to improve the results

[2] http://prined.mpc-edu.sk/
[3] www.minedu.sk/narodny-projekt-skola-otvorena-vsetkym/

and competencies of children and pupils with the support of inclusive education and the improvement of the professional competencies of pedagogic employees and vocational training employees.

- The national project *Helping professions in the education of children and pupils*.[4]

We divide online risk (Dulovics, 2018) behaviour prevention in terms of the level and development of risk behaviour into primary, secondary and tertiary. Primary prevention focuses on all pupils regardless of whether or not they have engaged in risk behaviour. As part of primary prevention, the social pedagogue influences the pupil in both the victim and in the assailant roles. On the first level, the task of a social pedagogue is to provide students with e.g., basic information on the safe use of the Internet, as well as information on the importance of following the rules of conduct in virtual communication and to inform them about possible health consequences. He can also inform pupils about the advantages of electronic media and internet in daily life. On the second level, it is important to inform pupils about the possible negative effects associated with electronic media, about the consequences of their potential anti-social behaviour in cyberspace and about the dangers that may arise with their usage.

Secondary prevention is directed to at-risk groups of pupils who are at an increased probability of risk behaviour or of becoming victims of online risk behaviour. As part of secondary prevention, the social pedagogue should pay attention to pupils who are closed, marginalised, come from disadvantaged social backgrounds, but also those affected by certain psychological problems, behavioural problems, or who spend too much time using electronic media.

In tertiary prevention, the role of the social pedagogue is to work with pupils whose chances of risk behaviour or becoming a victim of such online behaviour are increased, with those who have been either victims or aggressors of cyberbullying or some form of cyberbullying, with pupils who have experience with sexting, and as a result have additional problems and with students who exhibited any other form of deviance related to cyberspace.

[4] https://www.minedu.sk/narodny-projekt-pomahajuce-profesie-v-edukacii-deti-a-ziakov-ii-umozni-skolam-obsadit-3-011-pracovnych-pozicii/

Miovský (2015) distinguishes three levels of specific primary prevention, which differs from how we had defined it in the context of the issue. General primary prevention focuses on the general population of children and youth without division into more or less risk groups, it takes into account only its age composition and possible specifics given e.g., due to social or other factors.

Selective primary prevention targets groups of people in whom risk factors for the emergence and development of various forms of risky behaviour are present in a more intensive extent.

Indicated primary prevention is aimed at individuals who are exposed to significant risk factors, or in whom manifestations of risky behaviour have already occurred. The aim here is to catch the problem as soon as possible, correctly assess and evaluate the need for specific interventions and start these interventions immediately.

According to Hollá & Hanuliaková (2015, p. 239), online risk behaviour prevention in schools should be implemented in two ways:

- formal way – during lessons, especially media education and informatics, as well as organizing discussions and lectures, idea exchanges and various workshops. Pupils' media literacy development should focus on working with digital technologies, providing information and making information materials related to online risk behaviour available, and the school climate should be surveyed as part of its development.
- non-formal way – taking the informal, hidden school curriculum represented by the school climate into account and thus implementing non-teaching activities for pupils, developing and supporting the quality of relationships in the school, setting up „boxes of trust" and the like.

The prevention of online risk behaviour and the support of cyber security should be approached systematically from a macro to a micro level – from the national security level, through individual organizations and institutions, individual professionals and pedagogic employees, to the family, which plays a very important role in prevention.

The educational and social environment of the school is referred to as a space in which systems that have a chance to increase resilience to negative phenomena can be applied. On the other hand, school is a space where new problems can be formed and deepened even further, as claimed by Procházka

(2012, p. 126). The school has an important place in the prevention of all socio-pathological phenomena and there are possibilities to prevent and eliminate negative phenomena that may occur at school.

The educational process belongs to the important forms of prevention of all socio-pathological phenomena in schools. Educational subjects (Ethics as an academic subject, civic education...) have the potential and ability to implement prevention. Within the teaching process, it is important to point out media education. Media education is based on a non-directive approach in the form of a cross-sectional topic or a separate subject; its aim is to teach pupils to evaluate, select and use information as well as to develop their social skills, especially their critical thinking (Niklová, 2015, p. 59). According to the *Concept of media education in the Slovak Republic in the context of life-long learning* (*Koncepcia*..., 2009), the goal of media education in primary schools is to increase the media literacy of pupils, form responsible critical thinking in relation to the media, understand the rules of media, critically view its content, be able to understand negative influences and be able to eliminate them, and at the same time the aim is to develop the ability to handle different types of media responsibly.

The Concept of media education in the Slovak Republic in the context of lifelong learning (*Koncepcia*..., 2009) shows that presently there is no mutual interconnection of activities in the area of media education in Slovakia. Individual activities or projects in the area of media education, which can be assigned the attribute of non-formal education, are aimed primarily at children and adolescents, are implemented by independent institutions, civil associations, church associations or independent experts independently of each other. In many cases they are not mutually informed about their activities and their results, the results of individual partial projects are not subject to any comparison and are not used in a broader and nationwide context. Despite the fact that the concept was developed in 2009, we think that in terms of the overall risk behaviour prevention coordination in the cyberspace environment, no specific unified prevention concept for schools has been created which would ensure optimal and balanced prevention throughout the country. An interdisciplinary approach is important in creating preventive measures against online risk behaviour. Besides cooperation with teaching staff and vocational training employees in prevention, it is relevant to cooperate with police forces, with free time centres, but also with non-profit organisations and civil associations devoted to prevention.

3 Prevention of online risk behaviour from the aspect of a social pedagogue

In this paper, we pay attention to the prevention of online risk behaviour in children and youth with regard to the tasks of the school social pedagogue. According to *Act No. 318/2019 on teaching staff and professional employees* (*Zákon č. 318/2019*..., 2019), a social pedagogue is categorized as a professional employee[5] of a school. He or she is an expert who not only provides preventive activities, but also provides counselling, diagnoses and re-educates pupils with problematic behaviour. From 1st January 2022, Act No. 414/2021 Coll., amending Act No. 138/2019 Coll. on pedagogical employees and professional employees states that a social pedagogue:

a) carries out preventive activities aimed at prevention and elimination of risky behaviour of children and pupils and prevention and elimination of socio-pathological phenomena;

b) provides counselling and intervention focusing on children and pupils with risk behaviour, at risk of socio-pathological phenomena and children and pupils from socially disadvantaged backgrounds;

c) provides advice and consultation to legal representatives, pedagogical staff and professional staff;

d) carries out socio-pedagogical diagnostics of the environment and relations, awareness-raising activities and other activities in the socio-educational field;

e) supports the cooperation of pedagogical employees and professional staff with legal representatives, employees of social-legal protection of children and social curatorship institutions and other natural persons and legal entities.".

Preventive-educational activities and tasks are performed by a social pedagogue within the competencies declared by the *Professional standard of social educators issued as the Instruction of the Minister of Education no. 39/2017* (Pokyn ministra..., 2017). Competencies are divided into three areas:

[5] Other professional employees in a school according to this Act include school psychologist, special needs educator, career advisor or speech and language therapist.

1. area: "Child/pupil" competencies:

- identify the developmental and individual characteristics of the child/pupil;
- identify and analyse the socio-cultural environment and its influence on the child/pupil;
- identify the specifics of the child/pupil's social and emotional development, social learning and behaviour of the child/pupil;

2. area: "Process of professional activity" competencies:

- possess the knowledge pertaining to the social pedagogy as a study field;
- plan and design socio-pedagogic activities;
- provide prevention;
- provide social education, counselling and consulting;
- provide intervention, re-education and social therapy;
- evaluate the progress and results of the social-pedagogic activity performed with an individual and a group;

3. area: "*Career development*" competencies:

– Plan and pursue one's own professional growth and self-development; a

– Identify themselves with a professional role and school facility.

Prevention competence is one of the key competencies of a social pedagogue. The social educator has special roles in the prevention of online risk behaviour, including cyberbullying in schools.

The school social pedagogue's socio-pedagogical care for pupils with online risk behaviour is conceived in the following steps:

1. Identification and classification of pupils' online risk behaviour – this is carried out by targeted monitoring and mapping of pupils' online risk behaviour in school. Because online risk behaviour takes place in a virtual environment, it is very difficult to identify it and determine the aggressor(s) and the victims. The manifestation of risk behaviour can be pointed out by the pupils themselves, the teacher, the parent or other pedagogical or professional staff of the school. It is important to examine

the severity of manifestations of online risk behaviour and its progress. Depending on the severity of pupils' behaviour, other experts are to be contacted.

2. Socio-pedagogic diagnostics – individual diagnoses of pupils for the purpose of an overall diagnosis and creating a full view of the causes and development of online risk behaviour. The pupil's personal history, family history, analysis of the social (family and school) environment, the level of social relations in the class, family, etc. are examined. Within these diagnostic methods, the social pedagogue can apply in particular the method of individual conversation with the involved parties (pupil – aggressor, pupil – victim, pupils' parents...), observation, questionnaire, sociometry, etc.

3. Early intervention – selection of adequate methods for working with the student, as well as working with other actors in online risk behaviour (e.g., in cyberbullying, it is a victim, aggressor...). Emphasis is placed on the timeliness of applied professional interventions as a prevention of more seriously delinquent forms of pupil behaviour. After the intervention, which is usually the first choice and is of a short-term nature, a counselling process begins that is regular and long-term.

4. Socio-pedagogical counselling and proposal of specific measures – depending on the extent and nature of the pupil's risk behaviour, the social pedagogue continues in individual and group forms of work (individual counselling, training groups, club activities, etc.). The forms and work methods of a social pedagogue or other experts (depending on the nature of the problem, or if other severe manifestations of the child's behaviour a psychologist or child psychiatrist can be contacted...) are determined by the nature and severity of the problem and the overall course of the counselling process. Counselling groups in which there are pupils with similar problematic behaviour are important. When dealing with the pupil's online risk behaviour, it is also necessary to work with the pupil's parents (legal guardians) in an individual or group form and to provide consultations to teachers at school.

5. The feedback and catamnesis – intervention methods applied when working with the pupil and his family and proposal of other preventive measures to maintain adequate behaviour of the pupil. If problems in the pupil's behaviour persist, more intensive and long-term care is needed in

centres of pedagogical-psychological counselling and prevention and later in special educational facilities (diagnostic centre, re-education centre) in the form of short-term re-education stays or long-term placement in re-education centres, possibly in a medical-educational sanatorium. The catamnesis or the proposal of further measures is important.

Határ also pays attention to the opportunities of the socio-educational care of cyberbullying participants (2018, pp. 176–178).

A prerequisite for effective primary prevention is its regular, systematic implementation, conceived with respect for the age and developmental specifics of pupils. The approach to the prevention of online risk behaviour should be consistent and coordinated with the participation of all actors – teaching staff and professional employees, pupils, and last but not least also the pupils' parents. Prevention should be implemented in an attractive way and, in particular, in a form that actively involves pupils.

According to the Internet portal *Prevention of Risk Behaviour*[6], one-off events with pupils are considered ineffective by experts; lectures and discussions in which pupils are only passive observers, attending such cultural, sporting and other events in which pupils are only passive participants and after which there is no discussion and analysis of the issue of the event with pupils, are deemed ineffective by experts as well.

Nowadays there are many Slovak projects and programmes which are focused on the prevention of online risk behaviour in relation to the Internet. Bezinternetu.sk project is one of them. Its aim is to regulate the excessive use of the Internet by children and young people. Through the project, pupils are supposed to learn certain principles and guidelines that will reduce the impact of the Internet and digital ICT. Another very interesting project in the field of cyberbullying prevention is the Ktojedalsi.sk project. The project includes a film documentary called Who's Next? which is also a follow-up to previous projects Cookie.sk, Ovce.sk, SÍDLISKOVÝSEN.sk. The film *Who's Next?* deals with 3 main topics: cyberbullying, killie-selfies related to injuries and death and online sexual abuse. The film is based on real events and reflects today's real-world Internet and its negative effects on children, young people and adults. This film is not intended for all pupils and after the screening of the film, there should be a discussion about the film with the

[6] http://www.prevence-info.cz/p-prevence/neucinna-primarni-prevence

pupils about what the message of the film is and to reflect on the individual parts of the film. Under the auspices of the civic association eSlovakia, the Zodpovedne.sk project was established in 2007, the main task of which was to spread awareness in relation to the safe and responsible use of modern ICT and the Internet. The project should raise awareness in the use of mobile phones and the Internet, especially among children and young people, and thus prevent crime through ICT. Zodpovedne.sk also implemented a few more projects aimed at the prevention, solution and elimination of cyberbullying in children and youth. More information about these projects can also be found on the following Internet portals: *Zodpovedne.sk*, *Kybersikanovanie.sk*, *neZavislost.sk*, *Stopline.sk*, *Pomoc.sk*, *Detinanete.sk*, *Preventista.sk*, *Nehejtuj.sk* and other.

Since electronic media are part of the daily life of children and youth, it is necessary to strengthen the preventive-educational influence of school through professional employees. Pupils should learn the principles of safe use of information and communication technologies, with an emphasis on the prevention of cyberbullying, as well as other forms of online risk behaviour. Pupils should be informed about what to do and how they should behave if they or someone around them encounter online risk behaviour, to whom they can turn to for help, and also how to prevent it effectively. A social pedagogue is such an expert in the school environment. However, it is important to emphasize that the cooperation of the whole school community is a prerequisite for effective prevention.

References

Dulovics, M. (2018). *Online rizikové správanie u detí a mládeže a možnosti jeho prevencie prostredníctvom mediálnej výchovy.* Banská Bystrica: Belianum.

Hanuliaková, J. & Hollá, K. (2015). School Social Climate – Cyberbullying Prevention. In A. Szczurek-Boruta & B. Chojnacka-Synarszko (Eds.), Szkola – kultura – środowisko lokalne pp. 233–242. Toruń : Adam Marszalek.

Határ, C. (2018). Sociálno-edukačná starostlivosť sociálneho pedagóga o aktérov kyberšikanovania (pp. 173-181). E-Świat bez granic i uprezedń. Dabrowa Górnicza: WSB, 173-181.

Hroncová, J. (2017). Sociálny pedagóg v škole v teoretickej reflexii a jeho problémy v praxi. *Edukácia*, *2*(1), 80–88.

Chrienová, M., Majerová Kropáčová, K., Oster, J., & Osterová, I. (2019). Výskyt nežiadúcich javov v základných školách v okrese Lučenec. Available from http://preventista.sk/info/prieskum-lucenec-2019/

Izrael, P., Holdoš, J., Ďurka, R., & Hasák, M. (2020). Správa z výskumu EU Kids Online IV na Slovensku – Slovenské deti a dospievajúci na internete. Ružomberok: Katolícka univerzita v Ružomberku. 2020. Available from http://www.ku.sk/images/dokumenty/ff/Sprava_z_vyskumu__EU_Kids_Online_Slovensko_2018_-_2020.pdf

Koncepcia mediálnej výchovy v Slovenskej republike v kontexte celoživotného vzdelávania schválená uznesením vlády Slovenskej republiky č. 923/2009. (2009). Available from http://195.49.188.210/uploads/9z/9U/9z9UuLgW-4Iwh72hQv9adw/vlastny_material.pdf

Kopecký, K., & Szotkowski, R. (2016). Národní výzkum kyberšikany českých učitelú – výzkumná zpráva. Olomouc: PF UP.

Livingstone, S., Davidson, J., & Bryce, J. et al. (2017). Children's online activities, risks and safety. London: LSE Consulting. Available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/650933/Literature_Review_Final_October_2017.pdf

Miovský, M. (2015). *Prevence rizikového chování ve školství.* Praha: UK.

Procházka, M. (2012). *Sociální pedagogika.* Praha: Grada.

Národná koncepcia ochrany detí v digitálnom priestore schválená uznesením vlády Slovenskej republiky č. 63/2020. (2020). Available from https://rokovania.gov.sk/RVL/Material/24504/1.

Pokyn ministra č. 39/2017, ktorým sa vydávajú profesijné štandardy pre jednotlivé kategórie a podkategórie pedagogických zamestnancov a odborných zamestnancov škôl a školských zariadení. (2017). Available from https://www.minedu.sk/pokyn-ministra-c-392017-ktorym-sa-vydavaju-profesijne-standardy-pre-jednotlive-kategorie-a-podkategorie-pedagogickych-zamestnancov-a-odbornych-zamestnancov-skol-a-skolskych-zariadeni/

Smernica č. 36/2018 k prevencii a riešeniu šikanovania detí a žiakov v školách a školských zariadeniach. (2018). Available from https://www.minedu.sk/20471-sk/smernica-c-362018-k-prevencii-a-rieseniu-sikanovania-deti-a-ziakov-v-skolach-a-skolskych-zariadeniach/

Stratégia prevencie kriminality a inej protispoločenskej činnosti schválená uznesením vlády Slovenskej republiky č. 513/2016. (2016). Available from https://rokovania.gov.sk

Zákon č. 318/2019 Z. z. o pedagogických zamestnancoch a odborných zamestnancoch a o zmene a doplnení niektorých zákonov v znení neskorších predpisov. (2019). Available from https://www.zakonypreludi.sk/zz/2019-138

Zákon č. 245/2008 Z. z. o výchove a vzdelávaní a o zmene a doplnení niektorých zákonov v znení neskorších predpisov.

Author

doc. PhDr. Miriam Niklová, PhD., Matej Bel University, Faculty of Education,
Department of Pedagogy and Andragogy
Ružová 13, 974 11 Banská Bystrica, Slovakia, e-mail: miriam.niklova@umb.sk

SOCIAL PATHOLOGY AND PREVENTION

SILESIAN UNIVERSITY
FACULTY OF PUBLIC POLICIES IN OPAVA

- ★ *The SPP journal is indexed in scientific international peer-reviewed databases*

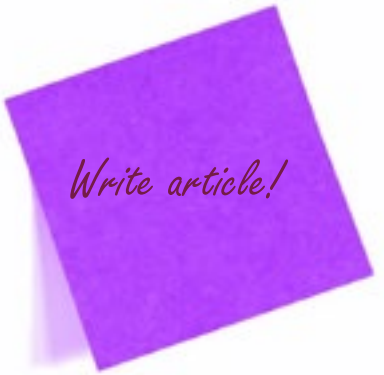
  E.B.S.C.O a C.E.E.O.L!

- ★ *Topics are primarily focused on social inclusion, problem or risk behavior and its prevention.*

- ★ *It is published twice a year in printed and electronic versions in English.*

- ★ *The SPP journal is multidisciplinary oriented.*

- ★ *We welcome texts and articles of related disciplines, such as pedagogy and psychology, sociology, social work, special education, social pedagogy, criminology, penology, addictology, geronto pedagogy etc.*



For more information see:

www. spp.slu.cz .

Pedagogická orientace, 2020, roč. 30, č. 4, vychází 31. 5. 2021

Vědecký časopis České pedagogické společnosti

Adresa: Pedagogická orientace, Institut výzkumu školního vzdělávání PdF MU, Poříčí 31, 603 00 Brno, e-mail: minarikova@ped.muni.cz

Pokyny pro autory: Pedagogická orientace uveřejňuje příspěvky spadající do kategorií: teoretické studie, empirické studie, přehledové studie (přibližně 45 000 znaků včetně mezer), diskusní příspěvky (27 000 znaků), zprávy (9 000 znaků) a recenze (9 000 znaků). Studie jsou strukturovány do podkapitol a sestávají zpravidla z těchto částí: abstrakt (v délce max. 1 200 znaků včetně mezer), klíčová slova, abstract v anglickém jazyce (v délce max. 1 200 znaků včetně mezer), key words, úvod, stav řešení problematiky, použité postupy a metody, výsledky a jejich interpretace, diskuse, závěry a stručná informace o autorovi/autorech příspěvku.

Jednotlivé studie procházejí recenzním řízením typu „double-blind peer review". Studie jsou recenzovány vždy dvěma odborníky na dané téma, redakce uchovává autory i recenzenty ve vzájemné anonymitě. Ostatní příspěvky (diskuse, zprávy, recenze) posuzuje redakce. Podrobné pokyny pro autory a informace k recenznímu řízení jsou k dispozici na https://journals.muni.cz/pedor

V časopise jsou uveřejňovány pouze původní práce, které dosud nebyly publikovány a nejsou odevzdány jinde k publikování (např. v jiném časopisu, sborníku nebo monografii).

Pedagogická orientace respektuje mezinárodní Kodex jednání a pokyny pro dobrou praxi pro editory vědeckých časopisů Komise pro publikační etiku (COPE), Etický kodex České pedagogické společnosti a Etický kodex České asociace pedagogického výzkumu.

Pedagogická orientace (ISSN 1211-4669 print; ISSN 1805-9511 on-line; reg. č. MK ČR E 20166). Vydává Česká pedagogická společnost, o. s., Poříčí 538/31, 639 00 Brno, IČ 00444618, ve spolupráci s Masarykovou univerzitou. Vychází 4 čísla ročně. Sazba: Mgr. Monika Foltánová; písmo: Cambria, NimbusSanL, Syntax; tisk: Papír a tisk, s.r.o., Heršpická 800/6, 639 00 Brno; jazyková korektura: Mgr. Tereza Češková. Předplatné je možné objednat prostřednictvím formuláře na https://journals.muni.cz/pedor. Vydávání časopisu je podporováno Radou vědeckých společností ČR. Náklad: 350 výtisků.
Cena jednotlivého výtisku: 120 Kč. Cena ročního předplatného (4 čísla): 460 Kč, pro předplatitele ze zahraničí 30 EUR, obojí je včetně poštovného. Cena inzerce: 6 000 Kč / 1 tisková strana.
Plné texty studií (od roku 2005) jsou k dispozici na https://journals.muni.cz/pedor
Časopis je zařazen mimo jiné v následujících databázích: Seznam recenzovaných neimpaktovaných periodik vydávaných v ČR, ERIH PLUS, DOAJ, Educational Research Abstracts Online (Taylor & Francis), EBSCO Education Source, CEJSH, ProQuest.

Pedagogická orientace

Journal of the Czech Pedagogical Society

Pedagogická orientace is a peer reviewed scholarly journal which aims to support the development of pedagogical thinking. It comprises articles on current issues in theory and practice in education, curriculum and instruction, educational psychology, educational research, educational policy and teacher education. The Journal provides a forum for distinguished authors as well as young researchers from within the Czech Pedagogical Society as well as from outside.

Vol. 30, No. 4, 2020
ISSN 1211-4669 (Print)
ISSN 1805-9511 (Online)
http://www.ped.muni.cz/pedor