

THE PREVALENCE OF ONLINE HIGH-RISK PHENOMENA IN UNIVERSITY STUDENTS

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Abstract

The following paper focuses on the phenomenon of risk behaviour, which is particularly associated with young people and is perceived as potentially damaging to the biopsychosocial health of individuals behaving in a risky fashion, or as a potential danger to the integrity of their immediate social environment. In a strict sense, the paper endeavours to characterise issues regarding risk phenomena online/in cyberspace, which have become prominent and may be viewed as analogous to real world risk phenomena. The contribution also contains the results of a pilot screening of university students' online risk behaviour, which focused primarily on general categories of risk behaviour (rather than the individual risk phenomena within these categories).

Keywords

risk behaviour, online risk phenomena, cyberspace, online risk phenomena screening, university students

Introduction

"Risk" – "degree of risk" – "risk behaviour" are the main terms with which psychological, social, and pedagogical sciences work. The phenomenon of risk behaviour has gained in popularity recently, particularly in research terms. Hence, there has been an increase in the professional literature and research studies on this topic.

In general terms, risk behaviour can be seen as "such behaviour of an individual or group which brings about a verifiable increase in social, psychological, health, developmental, physiological, and other risks detrimental to the individual in question, his/her environment, or to society" (Dolejš, 2010, p. 9). Such conduct is often associated with adolescence (psychological term) or, more generally, with early youth (sociological term), although, we can also encounter other risk behaviours, such as those peculiar to drivers or senior citizens.

Adolescent risk behaviour is an assemblage of external manifestations, activities, and reactions of adolescents who expose themselves to, or are exposed to, certain risks – i.e., danger, menace, or activities highly likely to result in failure or loss. Risk can be real (interrelationship of possibilities and consequences in the real-world), perceived (based on expected benefits and profits without using physical models), or observed (through analysing possibilities and consequences, using physical models). As mentioned above, risk refers to:

1. Those who are acting in a risky fashion – an individual poses a danger to himself/herself;
2. The social environment – an individual poses a danger to society (Dolejš, 2010).

“Risk behaviour” is not the only term that appears in scientific literature. We may also encounter terms such as “problem”, “maladaptive”, “abnormal”, “dissocial”, “pre-delinquent”, “delinquent”, or “deviant” behaviour, and many others. While such terms are all-encompassing, adolescent behaviours are particularized by what is known as the “syndrome of risk behaviour in adolescence” (Dolejš, 2010).

The syndrome of risk behaviour in adolescence is based on research by Jessor and earlier theories concerning risk behaviour (Jessor, 1997; Šíručková, 2015). The syndrome of risk behaviour in adolescence provides an umbrella term for a range of socially unacceptable behaviours. According to this theory, adolescence is a significant period in psychosocial development, associated with risky experimentation. It can abate over time, or develop into a lifestyle which jeopardises the present and future health of individuals.

A risky lifestyle may lead not only to long-term, physical harm but also to death, hence a focus on adolescent morbidity and mortality rates. The World Health Organisation, in response, has declared adolescents an independent risk population group. Not only has it acknowledged the syndrome of risk behaviour in adolescence, but it has also described the health of young people in terms of the absence of risk/problem behaviours (Hamanová, Csémy, 2014). Three main areas of risk behaviour were determined. Within each group behaviours are interconnected – they have common causes and facilitate the nascency of other behaviours within the group. The three areas are as follows:

- abuse of addictive substances – risky behaviour associated with substances such as nicotine, alcohol, and illegal drugs; at first, behaviour is socially motivated, e.g., by peer pressure; long-term abuse may result in serious addiction;
- negative phenomena in the psychosocial sphere – i.e., issues such as maladaptation (manifesting itself in cruelty towards the vulnerable, vandalism, lying, larceny, failing at school, truancy, running away, aggression, auto-aggression, suicidality, delinquency, and criminality), injuries caused by acts of aggression or risk-taking, social phobias, and behavioural disturbances;
- risky sexual behaviour – premature sexual activity, non-use of contraceptives and other protection during sexual intercourse, unwanted pregnancy, promiscuity, venereal diseases, hazardous sexual practices, etc. (Hamanová, Csémy, 2014; Nielsen Sobotková et al., 2014; Pelcák, 2015).

A multitude of adolescent activities can involve risk, including: truancy or other misdemeanours at school (particularly among minors), participation in adrenaline

and extreme sports, the taking of risks connected with transport, involvement in religious sects, and the development of behavioural addictions (for example gambling, gaming, netholism) and dietary extremes (frequent monitoring of weight due to fear of weight gain, distorted body image, and poor eating habits (Cvečková et al., 2010)), which might lead to serious illnesses, such as anorexia nervosa and bulimia nervosa, or obesity).

The modern world, with its multifarious information technologies, has made it possible for individuals to escape from reality into the virtual world, opening up new possibilities for experimentation and exposure to risks and risky phenomena. According to Bělík and Hoferková, this online world or “cyberspace”, entered through various information and communication technologies is ubiquitous. It is recommended that research programmes, and efforts focusing on prevention and increasing public awareness should be aimed at the dangers of cyberspace (Bělík, Hoferková, 2018).

Online risk phenomena

The media, information and communications technology (ICT), and cyberspace rank among the most influential aspects of social life nowadays. The author's opinion is that the state of being online may be considered a social norm, with those not online are seen as special exceptions or social outsiders. Active use and familiarity with online space is vital to young people in many ways, for example, as a way of keeping up-to-date with current affairs, as a source of material for educational assignments, such as presentations, or as a way to socialise and spend leisure time.

However, individuals can also encounter many online dangers, including violence in the media or other detrimental content characterized by intolerance, pornography, manipulation, or the endorsement of negative values (violence, egocentrism), all of which may support imprudent behaviour in cyberspace. Risk behaviour in cyberspace is abetted to a large extent by what Suler (1998) describes as the “online disinhibition effect”, defined as the act of losing one's inhibitions, and the overcoming of one's embarrassment, bashfulness, and timidity. In its negative form (“toxic disinhibition”) it can be marked by the infringement of laws and prohibitions. Individuals commit acts on the Internet that they would not think of committing in real-life situations. Disinhibition is characterised by anonymity (nobody knows who I am), invisibility (nobody knows what I look like), communication asynchronism (I do not have to respond straight away, I can take my time), neutralization of social status (my actual status does not matter), solipsistic introjections (individuals are inclined to create an imaginary world), and interaction effects which are related to various types of online environments (Suler, 1998; Hulanová, 2012, p. 28–33).

The most frequent online risk phenomena include: cyberbullying, child grooming, cyber-stalking, cybercrime, sexting, cybersex (a type of communication through the Internet aimed at sexual arousal), netholism, gaming, online gambling, happy slapping (an unexpected physical attack where the aggressor's accomplice records the whole act on a mobile phone or camera), hate speech, hoaxing (spreading alarm and false messages), flaming (hostile behaviour on the Internet such as insults, threats, etc.), webcam trolling (a type of fraud in which a blackmailer uses a fake video-loop

to deceive the victim), phishing (fraudulent e-mail messages that appear to have been sent from your bank's e-mail address), and pharming (a malicious computer program focusing on stealing personal data of internet banking user), all of which behaviours may be interconnected (Kopecký, 2013; Kopecký et al., 2015).

These risk phenomena are collectively referred to as forms of online risk behaviour. Dulovics, in agreement with other authors, characterizes online risk behaviour as deviant behaviour

in a virtual space by which an individual consciously or unconsciously threatens himself/herself and his/her surroundings (Dulovics, 2018).

The author places online risk behaviour on two basic levels:

1. Risky use of the Internet: searching for inappropriate content; excessive time spent on the Internet; communication with strangers; participation in risky online groups (encouraging suicidal behaviour, self-harm, extremism, drug experimentation, etc.); reckless disclosure

of personal data; reckless distribution of visual materials (photographs, videos) and information about oneself. The first level relates mainly to negative content, including images of violence (in films, series, computer games), content presenting behaviour that goes beyond social norms and values (manifestations of intolerance such as xenophobia, racism, and extremism) and pornography, which is also commonly available even to children under the age of eighteen. It also includes excessive time spent online, which can result in addictive behaviour related to time spent on the Internet, social networks, computer games, pornography, or gambling. The communication of personal data is also a problematic aspect of this level.

2. Risky behaviour in the Internet environment: dissemination of inappropriate content (alarming or misleading messages, content defaming race, nationality, or religion); all known forms of cyberbullying; inappropriate sexual behaviour that results in moral or other threats to others; all known forms of cybercrime. The second level represents the risk phenomena that individuals can participate in online. In some instances, the perpetrator/aggressor/initiator may also become a victim. Such risk phenomena include cyberbullying, child grooming, and sexting (Dulovics, 2018, p. 8).

Cyberbullying is an overarching term for a number of forms of online risk behaviour. It involves intentional, aggressive, and recurrent behaviour towards an individual or a group, which is difficult to defend against and which enslaves its victims. It makes use of particular information or communication technologies, such as computers, mobile phones, tablets, and other devices for the manipulation of its victims (cf. Kopecký et al., 2015). One of the principal attributes of cyberbullying is its repeated nature. Cyberbullying can be perceived as a development of traditional bullying, and its manifestations overlap with "real" forms. According to scientific literature, widely known manifestations include:

- posting of humiliating messages and photos;
- humiliation and slander;
- impersonation, misuse of a person's identity, stealing of passwords;
- causing of embarrassment through the creation of fake accounts and posting of false information on social networks;

- happy slapping;
- flaming (provoking and abusing users in online conversations);
- disclosure – i.e., making another's secrets public, thereby bringing discredit to the victim;
- cyber-harassment (constant, repeated sending of messages to the victim which is perceived as unpleasant or unwanted);
- cyber-stalking (misuse of the Internet, mobile phones or other information and communication technologies for stalking) (Černá et al., 2013, p. 25–27; Kopecký et al., 2015, p. 14–15).

Child grooming is another risk phenomenon encountered on the Internet. Children constitute the most critically vulnerable group. The term designates the behaviour of an Internet user who uses manipulative techniques not only to engender a sense of confidence in his/her victims, but also to persuade the victim to agree to personal meetings, which might ultimately result in sexual abuse, physical violence, or child abuse through the dissemination of pornographic material featuring the victim. Child grooming is akin to other “social engineering” techniques (a set of strategies on how to manipulate Internet users, how to obtain personal data and other sensitive materials, etc.), which use a set of manipulative psychological strategies to acquire personal or sensitive data of a chosen individual (Kopecký, 2013).

Sexting is also considered to form an integral part of online risk phenomena. It can be characterised as the “electronic sending of text messages, photographs, or videos with sexual content which occurs in a virtual electronic environment, especially on mobile phones and on the Internet” (Kopecký et al., 2015, p. 43). Sexting is a phenomenon of the young generation (Hollá, 2016). Young people perceive this phenomenon as an opportunity for enjoyable, intimate rapprochement, part of being in a relationship, or as an opportunity for self-presentation. Such consensual sexting is voluntary and can be considered a natural part of sexual behaviour (Hollá, 2016). The opposite of this is coercive or aggravated sexting – which involves putting a certain degree of pressure on an individual to share sexual content. The risk of this type of sexting lies in the unsanctioned use and dissemination of the acquired sexual content (Hollá, 2016), the consequences of which can affect the current and future life of individuals:

- sensitive data provided by the victim may be misused to harm (cyberbullying, manipulation, extortion etc);
- sensitive data may remain available on the Internet long-term;
- injury to social reputation and prestige may occur (involving insults, affronts, attacks, difficulties retaining one's job or maintaining social relations);
- health problems, in particular anxiety (suicidal thoughts) may result (Kopecký et al., 2015; Hollá, 2016).

An argument against engaging in any form of sexting is the fact that anyone, regardless of age, acquiring or publishing material of a sexual nature may unwittingly commit criminal offences, such as the production of child pornography, the possession of child pornography, or even the dissemination of child pornography.

The breaking of legal norms is a further attribute of risk behaviour. Cybercrime is analogous to criminality and delinquency in the real world. In the broader sense

of the word, cybercrime is any criminal activity that is perpetrated in cyberspace or through a computer network. Thus, information and communication technologies may serve either as the tool or subject of a cyberattack (cf. Kolouch, 2016, p. 34). Sixty-five countries, the Czech Republic included, have acted upon a document entitled "The Convention on Cybercrime" (ETS No. 185), encompassing four areas:

- crimes against confidentiality, integrity, and accessibility of computer data and systems;
- crimes concerning infringement of copyright and intellectual property;
- computer-oriented crimes;
- crimes involving the creation and dissemination of prejudicial (illegal or undesirable) content (e.g., child pornography, sexting, violence and extremism, child grooming, cyberbullying, spamming etc.) (cf. Gřivna, Scheinost, Zoubková, 2014; Kolouch, 2016).

The convention reflects the fact that cyberbullying, aggravated sexting, cyber-stalking, and child grooming are considered significant in penal terms. Although Czech law does not recognise any of the aforementioned forms (with the exception of cyber-stalking). Nevertheless, there is a possibility to prosecute the above mentioned phenomena according to specific paragraphs of the Czech Criminal Law.

Another online risk phenomenon is netholism, defined as an addictive behaviour involving addiction to so-called virtual drugs, i.e., activities that are in some way so rewarding to individuals that they may develop a pathological need to keep repeating the activity, examples of which might include gaming, online gambling, excessive use of the Internet (and information and communication technologies in general), and dependence on social networks. It should, however, be noted that the idea of virtual drug addiction may be disputed. Linked to this phenomenon is the so-called FOMO or "fear of missing out" syndrome. It is

a syndrome that raises an individual's fear of missing phone calls, messages and other alerts. It is also possible to speak of dependence on television, which is now perceived as a convergent medium (cf. Ševčíková et al., 2014; Blinka et al., 2015; Dulovics, 2018).

The screening of online risk phenomena in university students

In 2019, we investigated the issue of the prevalence of risk phenomena in university students in a pilot study. University students were chosen as the target group, since, as Šmahaj (2011) points out, there is a dearth of studies focusing on university students and their risk behaviour (Šmahaj, 2011). Šmahaj refers, in particular, to the risk behaviour of cyberbullying. However, we wished to extend our research to encompass other domains of risk behaviour, both in an online and actual environment.

The investigation aimed to ascertain the current prevalence of risk behaviour in an online environment with regard to the gender of respondents. Areas such as addictive behaviour, negative phenomena in the psychosocial sphere, and risky sexual behaviour were investigated.

Firstly, in terms of addictive behaviour, we focused on use of the Internet and social networks; use of mobile phones, computers and other information and communication technologies; gaming; watching programmes, films, and series on television; and online gambling. Secondly, for negative phenomena in the psychosocial sphere, we focused

on cyberbullying, cyber-stalking, manifestations of intolerance on the Internet and social networks, and cybercrime. Lastly, for risky sexual behaviour, we focused on sexting (in the form of sharing erotic content on the Internet); sending of self-created erotic material, and cybersex.

Three statistical hypotheses were determined as follows:

- H1: There is a statistically important correlation between gender and addictive behaviour in cyberspace.
- H2: There is a statistically important correlation between gender and negative phenomena in the psychosocial sphere in cyberspace.
- H3: There is a statistically important correlation between gender and risky sexual behaviour in cyberspace.

The screening of online risk phenomena was conducted using a specially designed questionnaire, consisting of a preface and four parts. The preface contained an introduction by the author, followed by the purpose and aim of the questionnaire, and the code of ethics, guaranteeing the anonymity of all respondents. The subsequent four parts related to: sociodemographic information about the research, addictive behaviour, negative phenomena in the psychosocial sphere, and risky sexual behaviour. The aforementioned aspects of risk behaviour drew upon the concept of the syndrome of risk behaviour in adolescence.

As described in details in the following paragraph (The results of the screening) the respondents indicated how frequently they had participated in the risk areas mentioned above by selecting the appropriate option on a five-point scale whereby: 1 = "never", 2 = "just once", 3 = "occasionally", 4 = "often", and 5 = "regularly". In addition to this, there were two further options – "I do not know/I do not recall" (N). To work with the acquired data, we employed a statistical significance t-test, which "compares means of two groups of cases and shows whether the two parameters differ statistically (two population means)" (Mareš, Rabušic, Soukup, 2015, p. 214/217). The t-test is supplemented by the results of the f-test. The results are presented in the form of tables.

The results of the screening

As mentioned above, data collection was completed in 2019. We used the Google Forms tool, which allowed rapid distribution of the questionnaires and facilitated data collection. In addition, respondents were able to complete the questionnaires anonymously, at their own convenience. We deemed the online questionnaire appropriate for the target group of university students since they are accustomed to using information and communication technologies on a daily basis.

The selection of respondents was conducted by employing a snowball sampling method (also known as "chain sampling", "chain-referral sampling", or "referral-sampling").

A total of 1,853 respondents completed the online survey. After checking all collected responses, 111 respondents were excluded for not meeting inclusion criteria (e.g., not being within the required age limits) or failing to state the name of their university. We also excluded high school students or university alumni. The valid research sample

thus comprised of 1,742 respondents – 702 men (40.3%) and 1,040 women (59.7 %). The average age of the respondents was 22, and students aged 20–23 formed the largest group.

The results of research follow, showing the current state of risk behaviour prevalence in cyberspace in relation to the gender of respondents. A t-test was applied to obtain the results, which are presented in the form of tables. The following abbreviations are used: N = absolute frequency, M = mean, and SD = standard deviation.

**Table 1 The results according to sphere of online risk phenomena
(whole research unit)**

		Addictive behaviour	Negative phenomena in the psychosocial sphere	Risky sexual behaviour
N	Valid	1.725	1.729	1.738
	Missing	1	13	4
Mean		3.3724	1.1063	1.2244
Median		3.4000	1.0000	1.0000
Mode		3.40	1.00	1.00
Standard deviation		0.52948	0.36762	0.46707

Table 1 uses descriptive statistics to show the results according to the individual spheres of online risk phenomena concerning the whole research domain. It is immediately evident that, with minor exceptions, there is almost zero prevalence of online risk phenomena. Addictive behaviour has a mean of 3.374 and a median of 3.4, indicating that the most frequent responses were “occasionally” and “often”. However, in terms of relative frequency (see table 2) we can observe that the highest number of respondents chose the response “regularly” (36.4 %), followed by “never” (23.5 %). Generally, it can be stated that the target group rarely engages in risky behaviour in cyberspace, and if so, mostly as a one-off or sporadic activity (see tables 1 & 2).

**Table 2 Relative frequency according to the spheres of online risk behaviour
(whole research domain)**

Response	Addictive behaviour (5 risk phenomena)		Negative phenomena in the psychosocial sphere (4 risk phenomena)		Risky sexual behaviour (3 risk phenomena)	
	N	%	N	%	N	%
Never (1)	2.037	23.5	6.553	94.3	4.512	86.4
Just once (2)	438	5.0	169	2.4	343	6.6
Occasionally (3)	1.646	19.0	146	2.1	305	5.8
Often (4)	1.400	16.1	37	0.5	29	0.6
Regularly (5)	3.160	36.4	42	0.6	33	0.6
Total	8.681	100	6.947	100	5.222	100

Note: The table contains the absolute sums of the responses on the five-point assessment scales. Each category contains totals for individual risk phenomena (see previous text).

Table 3 The domains of online risk phenomena with regard to gender

Spheres of risk phenomena	Gender	N	M	SD
Addictive behaviour¹	Male	696	3.4868	0.56746
	Female	1.029	3.2950	0.48745
Negative phenomena in the psychosocial sphere²	Male	693	1.1685	0.46014
	Female	1036	1.0647	0.28240
Risky sexual behaviour³	Male	696	1.2480	0.54780
	Female	1029	1.2085	0.40328

Note: t-test: sig1. ,000; sig2. ,000; sig3. ,103

Table 3 shows the differences between male and female means regarding the occurrence of given behaviours. Through the testing of H1–H3 hypotheses, it was found that:

- H1: There is a statistically important correlation between gender and addictive behaviour in cyberspace.

The F-test of the means gave a result of 0.000 sig., and the subsequent t-test gave a result of 0.000 sig., which was lower than 0.05, allowing us to reject the zero hypothesis. The zero hypothesis, having thus been rejected, the H1 hypothesis could be accepted: i.e., there was a statistically important difference between gender and addictive behaviour in cyberspace.

- H2: There is a statistically important correlation between gender and negative phenomena in the psychosocial sphere in cyberspace.

The F-test of the means gave a result of 0.000 sig., and the subsequent t-test gave a result of 0.000 sig. The zero hypothesis could thus be rejected and H2 could be accepted: i.e., there was a statistically important difference between gender and negative phenomena in the psychosocial sphere in cyberspace.

- H3: There is a statistically important correlation between gender and risky sexual behaviour in cyberspace.

The F-test of the means gave a result of 0.000 sig.; thus enabling us to reject the zero hypothesis. However, the subsequent t-test gave a result of 0.103 sig. (higher than 0.05), making it impossible to reject the zero hypothesis. In consequence, the H3 hypothesis was rejected. There was no statistically important correlation between gender and risky sexual behaviour in cyberspace.

By testing H1, we found that gender had an effect on risky behaviour in an online environment in relation to addictive behaviour. The means indicated that detrimental behaviour was exhibited more frequently by male university students, although the difference was slight. Similarly, the t-test results corroborated a statistically significant relationship between the risk sphere of the online world and gender, leading us to also accept the H2 hypothesis. However, when the t-test was applied to the H3 hypothesis, no statistically significant difference was found; hence we can state that both male and female students engaged in online risky sexual activities to the same extent.

Due to the specific nature of the evaluation, the acquired data cannot readily be compared to other research. Extensive studies focus mainly on particular items of behaviour, rather than on the behavioural domain as a whole. Nevertheless, it is possible to state that a small degree of online risk behaviour in university students was confirmed, particularly in the areas of negative phenomena in the psychosocial sphere and risky sexual behaviour. It is also important to consider that had we employed a different method of evaluation, or chosen a different set of online risk phenomena, the outcome might have been different.

Conclusion

The online risk behaviour screening tested three statistical hypotheses which aimed to confirm whether there was a significant relationship between gender and risk domain in cyberspace. The research sample consisted of 702 male and 1,040 female university students aged 19–26. Although the overwhelming majority of respondents did not behave riskily, we ascertained and proved statistically significant relationships between variables by employing the t-test of statistical significance. Two of the three statistical hypotheses indicated a statistically significant difference, indicating that the occurrence of the given risk behaviours was, to a certain extent, determined by gender.

Generally, in the research sample, male university students were more prone to risk behaviours than female students. The highest degree of risk in male respondents was associated with online addictive behaviour. Meanwhile, the least dominant aspect was that of negative psychosocial phenomena in cyberspace.

When female university students did behave riskily, it was in the same areas in which male university students exhibited risk behaviour, i.e., in addictive behaviour in cyberspace, and the area of sexual behaviour. This outcome is in the agreement with the results of H3. A negligible minority of female respondents behaved riskily in the sphere of negative psychosocial phenomena, into which cyberbullying, cyber-stalking, etc. fall.

As mentioned above, the rejected hypothesis related to the statistical significance of risky sexual behaviour online. In this area, the difference in frequency between male and female university students was negligible. Our results resemble, to a certain extent, the findings of other research in the field of risk behaviour phenomena in the Czech Republic. Young men are initiators of risk behaviours more frequently than women, although the frequency levels are converging. Our research indicated a comparatively high occurrence of online addictive behaviour; however, we cannot state conclusively that respondents were "addicted" to the Internet and social networks etc. (see Table 1). The author is aware of the fact that the choice of items for this category may have contained different aspects aimed at forms of addictive behaviour.

In general, the sample did not exhibit a high level of risk behaviour in absolute terms. Risk behaviour in the university students usually occurred as a one-off incident, or, if recurrent, only in a small group of respondents. One of the main limits to the study might be the choice of items for individual risk domains represented in the questionnaire. Had we opted for a different array of risk phenomena, or if the risk areas had not been investigated as a group but in their individual forms, we may have achieved different results.

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