Subjective Attitudes of Student Teachers Towards Undergraduate Training in the Issue of Risk Phenomena in Cyberspace

Subjektivní postoje studentů učitelství k pregraduální přípravě v problematice rizikových jevů v kyberprostoru

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Abstract:

The contribution focuses on the subjective attitudes of student teachers towards undergraduate training in the issue of risk phenomena in cyberspace. The text briefly covers the topic of online risk phenomena and their position in education. The following are partial results of a quantitative investigation that focused on the subjective attitudes of student teachers towards the topic. Self-assessment scales were used to obtain and interpret the data with the help of Likert scale.

Keywords:

Online risk phenomena; cyberspace; teacher training students; undergraduate training

Abstrakt:

Příspěvek se zaměřuje na subjektivní postoje studentů učitelství k pregraduální přípravě v problematice rizikových jevů v kyberprostoru. Text stručně zahrnuje téma online rizikových jevů a jejich pozici ve výchově a vzdělávání. Následují dílčí výsledky kvantitativního šetření, které se zaměřilo na subjektivní postoje studentů učitelství k danému tématu. Ke získání a intepretaci dat byly využity sebeposuzovací škály s pomocí Likertovy škály.

Klíčová slova:

Online rizikové jevy; kyberprostor; studenti učitelství; pregraduální příprava

Introduction

In today's information age, life in society is characterised using digital technologies and social networks, which are supposed to make various areas of life easier for people, although this is not always the case. The closest relationship with technology is certainly with those who work with it extensively, whether in their studies, profession or leisure time. College students, who can be characterized as an older Generation Z group (e.g. Seemiller & Grace; Knytl, 2024), among others, are certainly among the leading users

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of digital technologies and cyberspace. This is one of the reasons why it is necessary to address the risks of digital technology use among the aforementioned target group as well.

1 Risk phenomena in cyberspace and their place in the field of education

Risk phenomena in cyberspace do not arise on their own, i.e. through the influence of digital technologies, the Internet and cyberspace itself. As Geerts (2022) argues, the problem is not the technology, but its users, i.e. people using modern technology, existing in a global world or cyberspace.

People themselves as creators and inhabitants of the online world are responsible for the fact that their cyberpersonality and even their personality in the real world comes or can be connected with online risks, i.e. with other personalities and cyberpersonalities and their negative motives and intentions. Indeed, one cannot ignore the psychosocial aspects of cyberspace that influence individuals and give them imaginary negative and positive power in online behaviour. Suler (2016) makes a similar point, suggesting that deviant people are finding clever ways to exploit dramatically changing technology to their advantage. This occurs primarily through their behaviour and psychological motives, which remain inherently negative and constant. The speed of change in technology, together with the psychosocial aspects of cyberspace, reinforces the motives of deviant people.

The very notion of risk phenomena in cyberspace is offered from the connection among risk, cyberspace and humans. They are available to be interpreted as phenomena that violate accepted social norms, arouse feelings of threat, and as a result can result in a demonstrable increase in social, educational, health and other risks to the individual, the group, and society (Urban, 2022).

The risk phenomena associated with cyberspace may be distinguished individually, but also according to the basic three areas in which they fall. Those mentioned are addictive behaviour, negative psychosocial phenomena and risky sexual behaviour (cf. Hamanová & Csémy, 2014).

However, regarding to possible risks, risk phenomena in cyberspace appears to be divided according to the existence of risks, which are defined in the 4C classification of online risks (Livingstone & Stoilova, 2021). In their classification, the authors distinguish aggressive, sexual and value risks in conjunction with the risk elements of content, contact, behaviour and contract. All online risks arise when a user of cyberspace:
- encounters and/or is exposed to potentially harmful content;
- experiences and/or is the target of potentially harmful contact;
- is a witness, participant and/or victim of potentially harmful behaviour;
- is a participant and/or is exploited by a potentially harmful contract, agreement or other commercial interest (Livingstone & Stoilova, 2021).

The interplay of risk types and risk elements might be used to distinguish different risk phenomena such as violent or hateful forms of communication, cyber harassment, cyberbullying, phishing attacks, harmful pornography, cyberbullying, online sexual coercion, online human trafficking, misinformation, online manipulation, harmful online communities, online gambling, and others. However, cross-cutting risks are also integral, which include privacy violations, risks to physical and mental health, and risks related to inequality and discrimination (Livingstone & Stoilova, 2021).

The topic of risk phenomena in cyberspace or online risk behaviour has taken part in strategic and conceptual materials in the field of education and training for many years. Since 2020, among other things, there have been gradual amendments and modernisation of the framework education programmes in regional education, which are based on the *Strategy for the Education Policy of the Czech Republic up to 2030+* (Ministry of Education, Youth and Sports of the Czech Republic, 2020), in which the topic of online risk phenomena also appears, but to a small extent. In relation to the changes in education, i.e. at the level of kindergartens, primary and secondary schools, it is disappointing that teacher education programmes at universities also show a very low level of the topic. It is also in those degree programmes that the changes are taking place at the lower levels of the education system need to be properly reflected.

As far as strategic and conceptual materials are concerned, in the Czech environment, one of the essential documents is the *National Strategy for the Primary Prevention of Risk Behaviour in Children and Youth for the period 2019-2027* (hereinafter also referred to as the National Strategy), which names specific risk phenomena in cyberspace in contrast to the framework educational programmes. In accordance with the National Strategy, these phenomena include cyberbullying and other risky forms of communication through multimedia, threats, online addictive behaviour and online risky sexual behaviour. Other online risks can also be found, but are not explicitly expressed in the National Strategy. They can be partly found in the individual annexes of the *Methodological Recommendation on Primary Prevention of Risky Behaviour among Children, Pupils and Students in Schools and Educational Institutions* (hereinafter also referred to as the Methodological Recommendation), which was issued by the Ministry of Education, Youth and Sports of the Czech Republic in 2010 and is gradually updating and supplementing its annexes. Examples include the posting of intimate photographs on the Internet or sending them by mobile phone, or sexting (Jonášová, 2015).

2 Subjective attitudes of student teachers towards undergraduate training in the issue of risk phenomena in cyberspace

The following text contains partial results from a research investigation that was conducted in 2021. The research problem of the investigation was the attitudes and experiences of student teachers with selected forms of risk phenomena. Regarding to the content of the investigation, several sub-objectives were set, and the results presented relate to the objective through which the attitudes from a subjective point of view of the teacher education students approached towards their undergraduate preparation in the context of the issue of online risk phenomena.

A quantitative approach was chosen for the research investigation. The research technique was in the form of an online questionnaire where data was collected through Google Forms. The research instrument contained 26 items, but for the purpose of the present paper, 14 items are presented. Partial results are analysed using the statistical software JASP.

2.1 Brief characteristics of the research population

The research study is represented by 436 respondents, respectively full-time and combined students of teaching. A total of 267 females (61.2%) and 169 males (38.8%) from 8 the Czech universities participated in the survey. The average age of the

respondents was 24 years. Bachelor, Master and post-master teacher training programmes are represented in the research population.

2.2 Survey items

The results, which are presented in the following section, are consisted of of 14 items or statements related to the issue of risk phenomena in cyberspace. Respondents were given the opportunity to respond through a Likert scale as follows: 1 = strongly disagree, 2 = rather disagree, 3 = neutral attitude, 4 = rather agree, 5 = strongly agree. The statements were worded as follows:

a) I have ICT subject(s) in my study plan.
b) My study plan includes a course focused on communication and risk phenomena in cyberspace.
c) I am educated about risk phenomena in cyberspace.
d) I am educated about prevention and safe behaviour on the Internet.
e) Through my studies, I am prepared to explain what risk phenomena in cyberspace are.
f) Through study, I am prepared to identify risk phenomena in cyberspace.
g) Through my studies I am prepared to prevent and inform students about safe behaviour on the Internet.
h) Through my studies I am prepared to solve problems related to risk phenomena in cyberspace.
i) Through my studies, I am prepared to inform about follow-up services that address risk phenomena in cyberspace.
j) During my studies I have attended an educational event on risk phenomena in cyberspace.
k) I see risk phenomena in cyberspace as an important topic in my teacher education studies.
l) I perceive prevention and safe behaviour on the Internet as important topics in the study of teaching.
m) I see risk phenomena in cyberspace as an important topic for teaching practice.
n) I perceive prevention and safe behaviour on the Internet as important topics for teaching practice.

2.3 Partial results of the research investigation

The following table (see Table 1) contains descriptive results for each item using the indicators of mean (average, median), minimum and maximum.

Table 1 *Descriptive results of the research investigation*

Items	Mean	Median	Min	Max
a) I have ICT subject(s) in my study plan.	2.6	2.0	1	5
b) My study plan includes a course focused on communication and risk phenomena in cyberspace.	2.1	2.0	1	5
c) I am educated about risk phenomena in cyberspace.	2.4	2.0	1	5
d) I am educated about prevention and safe behaviour on the Internet.	2.6	2.0	1	5

Items	Mean	Median	Min	Max
e) Through my studies, I am prepared to explain what risk phenomena in cyberspace are.	2.5	2.0	1	5
f) Through study, I am prepared to identify risk phenomena in cyberspace.	2.8	3.0	1	5
g) Through my studies I am prepared to prevent and inform students about safe behaviour on the Internet.	2.7	2.0	1	5
h) Through my studies I am prepared to solve problems related to risk phenomena in cyberspace.	2.4	2.0	1	5
i) Through my studies, I am prepared to inform about follow-up services that address risk phenomena in cyberspace.	2.4	2.0	1	5
j) During my studies I have attended an educational event on risk phenomena in cyberspace.	2.1	5.0	1	5
k) I see risk phenomena in cyberspace as an important topic in my teacher education studies.	4.2	5.0	1	5
l) I perceive prevention and safe behaviour on the Internet as important topics in the study of teaching.	4.3	5.0	1	5
m) I see risk phenomena in cyberspace as an important topic for teaching practice.	4.3	5.0	1	5
n) I perceive prevention and safe behaviour on the Internet as important topics for teaching practice.	4.5	5.0	1	5

N = 436

The selected items show a varying breadth of results. According to item (a), respondents mostly do not have (M = 2.6) items related to ICT. However, this result may be influenced by the research population from the first-year student teachers. In item (b), respondents expressed that they mostly do not have courses on communication and risk phenomena in cyberspace. The average is 2.1, with 309 (70.9%) respondents expressing that rating. Already in this case, the situation can be considered insufficient, since Internet communication and its risks have a firm place today not only in communication as such, but also in education.

The respondents' attitudes towards education about online risk phenomena [see item c)] differ slightly from the previous item. Although the average (2.4) is slightly higher, 271 respondents (62.1%) said that they do not educate themselves about risk phenomena during their schooling. A similar result holds for item (d), where negative attitudes towards education on prevention and safe online behaviour prevail [M = 2.6; 232 (53.2%) respondents], which is closely related to education on the risks of cyberspace.

Items (e)-(i) were related to respondents' preparedness in relation to risk phenomena in cyberspace. Trends in respondents' negative attitudes continued in these items as well. Most respondents [M = 2.4; 263 (60.4%) of respondents] perceived themselves unprepared to deal with online risks [item (h)]. Respondents also have similar attitudes or unpreparedness towards awareness of follow-up services [item (i)] that address the topic [M = 2.4; 239 (54.8%) of respondents]. Slightly higher mean values can be observed for readiness to explain, identify and prevent. Although 260 (59.6%) of respondents do not feel prepared to explain online risk phenomena, negative attitudes are lower for

identify [M = 2.8; 158 (36.3%) of respondents] and preventive action towards risk phenomena in cyberspace [M = 2.7; 201 (46.1%) of respondents].

Unfortunately, the low readiness of respondents is supported by low engagement in attending a particular educational event that addresses the research subject. The mean is 2.1, in other words, 295 (67.6%) respondents expressed a negative attitude, 45 (10.3%) respondents expressed a neutral attitude, i.e., they were likely to attend an educational event on the subject in the past; further, 96 (22.1%) respondents had ever attended an educational event on risk phenomena in cyberspace.

The last four items are dedicated to the topic of online risk phenomena in relation to teaching. 339 (77.8%) of the respondents perceived the importance of the topic when studying teaching [item (k); M = 4.2]. The remaining 97 (22.2%) respondents have a neutral or disagreeing attitude towards the topic. However, in terms of attitude towards prevention and safe online behaviour, 364 (83.5%) respondents perceive it as important. Also, 364 (83.5%) respondents have an agreeing attitude towards the importance of the topic for teaching practice. Even 409 (93.8%) respondents perceive the positive importance of prevention and safe online behaviour.

Conclusion

The issue of risk phenomena in cyberspace plays an important role not only in everyday life, or in the use of digital technologies, but also in the educational process at all levels of the education system. It needs to be given due attention so that all users of digital technologies are capable of protecting themselves, their rights, their money and, for example, their time.

It is clear from the sub-results of the research that there is a need to link pre-service teacher training more closely with the development of digital competences in such a way that not only future teachers themselves use technology in a critical and safe way. This is because their development creates an opportunity to develop and strengthen the digital competences of future generations. In most cases, respondents acknowledge the importance of the topic, but do not perceive that they are sufficiently prepared in it. Of course, the results should be taken with a grain of salt, as this is a presentation of data from 2021. Since then, teacher education programmes have been gradually updated to align with innovations and trends in digital education.

Project affiliation

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