

SEXTING, FEAR OF MISSING OUT (FOMO), AND PROBLEMATIC SOCIAL NETWORK USE AMONG ADOLESCENTS

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Abstract: *The article is part of the current discussion on the scale and mechanisms of selected threats of the digital world to which adolescents are exposed. The text presents data on three e-risks: FOMO, Problematic Use of Social Networks, and sexting. The study covered adolescents aged 13-17 in Poland (N=1053) in 2020. Based on analyses of the quantitative data, it was noted that: 1) Almost half of the adolescents use SNS daily just before going to sleep; 2) Every fourth respondent has multiple features of problematic Internet use (PUI); 3) The majority of adolescents use the Internet in ways not classified as PUI; 4) The age and gender (female) of the respondents is associated with higher levels of PUI; 5) The vast majority of adolescents have no experience of sexting; 6) Adolescents are much more often recipients of materials classified as sexting than creators; 7) Girls receive erotic messages, much more often than boys.*

Keywords: *FOMO, problematic social network use, problematic internet use, sexting, youths, Poland.*



INTRODUCTION

Undoubtedly, more and more is known about risk behaviours mediated by new media among young people. This is the result of research conducted worldwide by psychologists, sociologists, and media educators (Smahel et al., 2020; Pyżalski et al., 2019; Velicu et al., 2019). Emerging research findings reveal not only the scale of the phenomenon of selected risk behaviours, but also the mechanisms hidden behind typical e-risks, such as cyberbullying, cyberaggression (Del Rey et al., 2015; Dvoryanchikov et al., 2020), online image protection, digital piracy (Ciesielska & Jemielniak, 2021), and problematic use of smartphones (Kopecký et al., 2021). The analysis of individual phenomena usually takes place within the framework of diagnostic research assigned to the risk paradigm of media pedagogy, where individual e-risks constitute a separate pool of risk behaviours. Each of the negative phenomena is subjected to very detailed measurements, carried out by specialists in the given area. Such research is usually aimed at showing how often a given e-risk occurs and at the same time provides a basis for designing prevention activities among children and young people (Zych et al., 2019). Other research related to cyber risks can be seen in the longitudinal studies carried out in many countries using standardised research tools (e.g. EU KIDS Online, Global Kids Online, PEW Research) (Livingstone, 2019; Velicu & Marinescu, 2019; Kachingwe et al., 2020), studies aimed at showing the co-occurrence of e-risks (Romera et al., 2021), and universal protective factors against particular groups of risk behaviours mediated by new media (Zych et al., 2018). Nevertheless, given the number of studies conducted to date on the co-occurrence of individual e-risks, the differentiation in the scale of the phenomena, and the variability of e-risks due to cultural conditions, it seems particularly valuable and justified to conduct further research to understand to what extent risk behaviours in cyberspace interact. This type of research has not been sufficiently carried out so far in selected countries.

Both risk behaviours mediated by new media are typical of the information society, in which ICTs play a significant role in shaping different types of behaviour (Korjonen-Kuusipuro & Wojciechowski, 2023). It is ICTs that are the main channel for the transmission of information, being the main source for shaping behaviours associated with diverse forms of PUI. In the case of sexting, on the other hand, it is the rapid and apparently secure transmission of intimate material that is also made possible by digital technologies. It is therefore not surprising that many of the risk behaviours typical of the information society are identified with the dynamic development of IT hardware and software capabilities (Siegle, 2010; Sánchez Vega et al., 2016). However, it is important to be aware that the technological layer relating to the increasingly fast and almost unlimited Internet, as well as profiled software (e.g. Snapchat), is only one of many determinants of risk behaviour among young people (Gregg et al., 2018). Technological stratification is an insufficient factor to explain the scale of this type of behaviour, however, it becomes a starting point for high-speed data phenomena.

This text attempts to fill the gap in revealing to what extent two forms of problematic Internet use - FOMO and inappropriate use of social networks - are related to sexting. The first two risk behaviours associated with problematic Internet use are currently heavily debated in terms of diagnostic criteria (Atroszko et al., 2022; Marengo et al., 2022), while the third behaviour, sexting, is a phenomenon fraught with many stereotypes and

overinterpretations (Ng et al., 2022; Maes et al., 2022). Both groups of e-violence are closely linked to the psychosocial functioning of adolescents. Therefore, the basic analyses that relate to the co-occurrence of e-risks in this text are extended to include well-being issues. This study fills a gap in this type of research on risky behaviours among adolescents in Poland.

RESEARCH OVERVIEW

The digital safety of children and young people has of late become an important area of research into the psychosocial functioning of young people. Among the various e-risks, issues related to problematic Internet use (PUI) occupy a special position. This phenomenon is manifested by the loss of control over time spent on the Internet, and the constant consumption of content, photos, and videos, all of which have a bearing on the relationship with loved ones, school and home responsibilities, and psychosocial functioning more broadly (Spada, 2014; Donati et al., 2022). PUI is combined with loss of control over the use of phones and the internet, and is classified as a behavioural addiction (Talis, 2022). Due to the fact that addiction is a negative diagnostic term that carries many medical and preventive connotations, and is characterised by clear diagnostic criteria, the term problematic internet use has become more and more appropriate. The category of PUI encompasses many different types of challenges related to the uncontrolled use of smartphones and social networks, and the redundant and uncontrolled consumption of information (FOMO) (Arrivillaga et al., 2022; Franchina et al., 2018). The issue of PUI is also an increasingly important one due to the social changes associated with the pandemic period, which increase the involuntary time spent using ICTs across age and occupational groups (Adamec & Šimáně, 2021). PUI and other negative phenomena related to cyberspace are characterised by a discrepancy in terms of diagnosing the scale of the phenomenon. The lack of consensus on a single definition of PUI, along with the wealth of measurement tools, has meant that researchers disagree on the scale of PUI among different groups, including young people. For example, in Poland in recent years it has been noted that PUI involving only social media (SNS) counts just 2.2% of young people as characterised by the highest level of this type of "addiction" (Tomczyk, 2019). On the other hand, researchers gathered around the EU KIDS Online research network have found that all of the diagnostic criteria used for the diagnosis of PUI occurring in maximum intensity concern only 0.1% of the sample studied in Poland (Pyżalski et al., 2019). Research conducted within the EU NET ADB, in turn, brings the information that only 1.3% of young people were characterized by a high level of Internet addiction (Makaruk & Wójcik, 2013). In turn, analyses conducted using K. Young among high school students in the vicinity of Rzeszów showed that 11% of young people have problems with the appropriate (intentional) use of the Internet (Rębisz et al., 2016). Polish research on PUI is characterised by the use of a wide range of research methods. Longitudinal analyses are extremely rare. There are also many discrepancies among Polish media educators and psychologists in defining PUI, as well as in defining a closed selection of diagnostic criteria. Therefore, there is a need for an expert debate, involving the use of international tools, which would allow the scale of PUI in Poland to be related to other countries that are more advanced in research in this key area.

Sexting, like problematic Internet use, raises many questions of interpretation. Sexting, defined as sharing one's own intimate photos, videos or text messages, is a phenomenon

considered by many experts in digital safety as extremely dangerous and harmful. Currently, a debate is still visible in the literature: to what extent does sexting among adolescents result from developmental needs? Is it a harmful activity (assuming the materials will not be made available to a wider audience)? Is it an activity associated with breaking the law? (Jenkins & Stamp, 2018). Sexting is a relatively well understood phenomenon. Much is now known about the reasons for sharing one's own intimate photos with others (Baiden et al., 2020); however, the scale of the phenomenon is still a matter of debate. Research on sexting also brings different reports related to the different forms of involvement in sharing and receiving intimate photos, as well as the differentiation of the phenomenon in terms of sociodemographic strata depending on the country in which the research is conducted (Lucić et al., 2019; Van Ouytsel et al., 2021; Holt et al., 2021). Existing data on sexting also offer knowledge about mechanisms related to peer pressure, how to deal with this threat, and how to conduct effective preventive actions to reduce sexting (Vandoninck et al., 2013). The phenomenon itself, despite the fact that it has been examined repeatedly in the context of different countries, still arouses interest due to the ambiguities regarding the scale of the phenomenon in selected countries (in this case Poland) and the link between the activities of sharing and receiving this type of content and the well-being of young people (Barrense-Dias et al., 2017; Strohmaie et al., 2014; Van Ouytsel et al., 2018). Of course, the issue of well-being in crisis situations resulting from the abuse of sharing intimate material is obvious, and also forms a central argument in the prevention of this type of behaviour (Van Royen et al., 2015; Ojeda & Del Rey, 2021). Nevertheless, taking into account the state of knowledge to date, it seems reasonable to ask whether the phenomenon of sexting has an impact on well-being. Moreover, is this type of behaviour linked to other e-risks, such as, for example, problematic Internet use?

RESEARCH METHODOLOGY

Objective, research focus and research problems

The aim of the study is to reveal the extent of sexting and two forms of problematic Internet use (FOMO and SNS abuse) among young people in Poland. The indirect aim is to show the mutual co-occurrence of the aforementioned e-risks and also to predict the well-being of young people depending on changes in the scale of the two selected forms of problematic Internet use and sexting. The subject of the study takes the form of survey responses of young people aged 13-17. The following research problems were assumed in this study:

- RQ1: What is the scale of FOMO, SNS abuse, and sexting among Polish adolescents?
- RQ2: To what extent is FOMO, SNS abuse, and sexting conditioned by sociodemographic variables?
- RQ3: Do FOMO, SNS abuse, and sexting co-occur?
- RQ4: To what extent is wellbeing linked to FOMO, SNS misuse, and sexting?

Selection of the research sample and characteristics of the respondents

The study was conducted in Poland in 2020. Adolescents aged 13-17 participated in voluntary surveys. The research was carried out using an online questionnaire, which was

prepared by a Polish-Czech research team. The research was conducted in three provinces bordering the Czech Republic: Śląskie, Dolnośląskie, and Opolskie. The data were collected by interviewers (K12 teachers and university teachers) cooperating with the Centre for the prevention of risky virtual communication in the Palacký University. The interviewers had expertise in social research among adolescents due to their pedagogical education and their work in educational institutions.

A total of 1053 young people participated in the study. The mean metric age of the subjects was 14.97 (median=15, with a standard deviation of 1.31). The sample was divided between 35.99% boys and 64.01% girls. More than half of the respondents (52.99%) came from the Dolnośląskie voivodeship, while the remaining part came from the Śląskie (27.16%) and Opolskie (19.85%) voivodeships. The respondents most often lived in rural areas (60.49%), towns up to 50 thousand inhabitants (22.89%), and cities over 50 thousand inhabitants (16.62%). The respondents attended the following schools: secondary school (55.37%), primary school (39.41%), technical secondary school (4.27%), and vocational secondary school (0.95%).

Research tool

The study used a triangulation of four stand-alone survey instruments. The triangulation of the tests allowed for the creation of an appropriate length of test battery, which was merged and made available as an online form. The tool also had a standard sociometric section containing questions regarding metric age, gender, place of residence, and type of school attended by the respondents. The entire online survey consisted of:

- Summary of social media use (Hetz, Dawson, & Cullen, 2015) consisting of 5 questions measuring SNS use during meals and just before and after waking up. Scale responses were constructed using a 5-point Likert scale from 1- never to 5 - daily. Internal consistency for the Cronbach alpha tool was 0.860.
- FOMO scale - a shortened version of an earlier instrument (Abel et al., 2016) consisting of four questions that could be answered on a 5-point Likert scale from 1 - never to 5 - daily. The internal consistency for the tool was 0.809.
- A sexting scale developed by a team of researchers from Palacký University consisting of 6 questions, 3 of which were related to sending intimate photos and videos, and 3 related to receiving this type of material. Scale responses were given on a 5-point Likert scale ranging from 1 - never to 5 - very often. The internal consistency for this measurement tool was 0.873.

The internal consistency (Cronbach's alpha) for the whole tool was 0.849.

Research ethics

The research project was approved by experts from the PRVOK, who have been conducting diagnostic research on the risky behaviour of children and adolescents for more than a decade in the three Visegrad countries - Czech Republic, Slovakia, and Poland. The present research is therefore a continuation of the long-term projects carried out so far in the field of the diagnosis and prevention of risk behaviours mediated by digital media. The present text, in addition to the typical procedures of tool acceptance by the PRVOK, required several levels

of approval from the stakeholders participating in the study to be obtained. The data collection was preceded by the approval being obtained of the subjects managing the educational institution (school directors), who were shown the research tool. The tool was then handed over to the guardians of the individual classes, who also verified the survey questions in digital form. The interviewers, who obtained permission from both the headmasters and the teachers, presented the purpose of the research to the students, provided a link to the survey, and asked them to answer the questions. The completion of the survey was voluntary. Each student was able to opt out of completing the questionnaire at any time. No questions were included in the tool to identify individual students, classes, or schools.

RESULTS

The scale of problematic SNS, FOMO, and sexting

Less than half of the respondents use SNS daily just before bedtime (49%). Almost one in four (23%) launches SNS every day just after waking up. Every tenth young person also browses SNS resources while eating breakfast. From the data collected, it was also noted that over half (58%) check what is happening on the internet when they are alone. One in three very often or often check online resources for no reason at all. Detailed data - descriptive statistics for the indicators of the two types of problematic Internet use - are included in Table 1.

Table 1. Descriptive statistics for problematic use of SNS and FOMO.

Factors of Problematic Internet Use	Mean	Std. Deviation
SNS1: How often do you use social media 15 minutes after waking up?	3.101	1.439
SNS2: How often do you use social media during lunch?	2.396	1.325
SNS3: How often do you use social media during dinner?	2.573	1.384
SNS4: How often do you use social media 15 minutes before bedtime?	3.916	1.382
SNS5: How often do you use social media during breakfast?	2.291	1.306
FOMO1: I impulsively check electronic media when I am with other people.	2.315	1.148
FOMO2: I check what is going on in electronic portals whenever I can log on, for example, for no reason at all.	2.449	1.296
FOMO3: I check social media when I have school activities.	2.188	1.240
FOMO4: I check what is happening on the Internet when I am lonely.	3.453	1.464

Using the k-means cluster analysis technique, three groups of young people were identified. The first group (Cluster 1; N=237; 22.50%) are those with low levels of FOMO and problematic SNS use. Cluster 1 confirms that the majority of young people use new media in an appropriate manner and are not burdened by the need to constantly consume information. The second group (Cluster 2, N=528; 50.15%) consists of young users with mostly low PUI values. In this group, only two activities occur frequently - this is using SNS just before going to bed and checking Internet resources when alone. For Cluster 2, the occurrence of selected PUI factors is only the form taken by a certain habit, or a desire to use cyberspace resources in leisure time. The last group (Cluster 3, N=288; 27.35%) are those

with elevated levels of PUI, in particular problematic SNS use. In Cluster 3, it was also noted that the first activity that is performed during the absence of contact with other people is the use of Internet resources. The detailed distribution of the indicators in each group is shown in Figure 1.

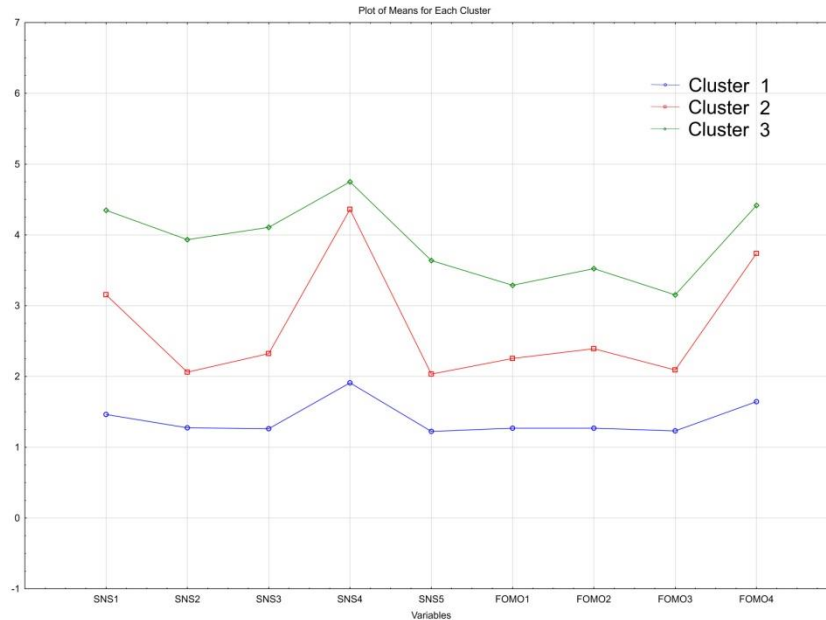


Figure 1. Problematic Internet Use - Cluster Analysis.

The vast majority of respondents have no experience with sexting. Among Polish adolescents, over 95% have never sent a video in which they are naked or partially naked. Almost 90% have never sent a photo of themselves that was erotic in nature. More than two-thirds of the respondents have never sent an erotic text message either. It is clearly the case that adolescents are more often the recipients than the creators of various forms of messages classified as sexting. The frequent phenomenon of sexting in the form of sending sexual content (e.g. SMS messages or instant messaging) has affected less than 6% of respondents, while photographs account for 3%, and videos less than 2%. Therefore, the phenomenon of sexting among Polish adolescents should be considered in the category of risky behaviours atypical for the whole population. As mentioned earlier, young people are much more often the recipients than the creators of this type of content. Detailed data on the scale of the phenomenon can be found in Figure 2, while descriptive statistics for individual components of the phenomenon are presented in Table 2.

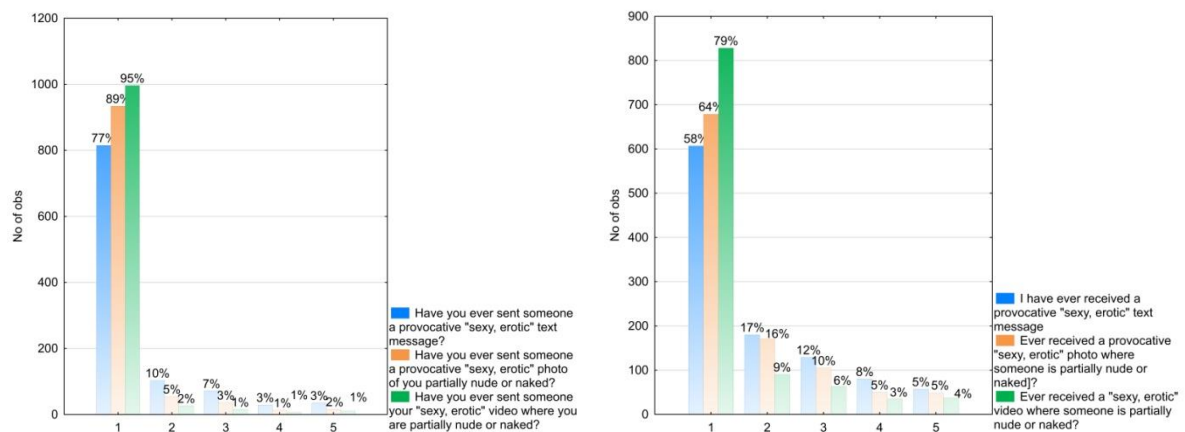


Figure 2. The scale of the phenomenon of sexting among Polish adolescents (on the left sending content, on the right receiving content).

Table 2. Descriptive statistics for sexting.

Factors	Mean	Std. Deviation
Have you ever sent someone a provocative "sexy, erotic" text message?	1.448	0.973
Have you ever sent someone a provocative "sexy, erotic" photo of you partially nude or naked?	1.217	0.704
Have you ever sent someone your "sexy, erotic" video where you are partially nude or naked?	1.108	0.523
Ever received a provocative "sexy, erotic" text message?	1.860	1.213
Ever received a provocative "sexy, erotic" photo where someone is partially nude or naked?	1.687	1.117
Ever received a "sexy, erotic" video where someone is partially nude or naked?	1.445	0.994

Problematic SNS, FOMO, and sexting, and sociodemographic variables

On the basis of the Mann-Whitney U test, it was noted that all almost the problematic SNS and FOMO factors were slightly more frequent among girls than among boys. In particular, a significant gender difference can be observed for the factors SNS checking before going to bed (SNS 4) and FOMO checking alone (FOMO 4). Detailed differences are presented in Table 3.

Table 2. Problematic SNS, FOMO, and gender.

	Group	N	Mean	SD	W	p
SNS1	Boys	379	2.828	1.485	106603.500	< .001
	Girls	674	3.254	1.390		
SNS2	Boys	379	2.245	1.328	113372.500	0.002
	Girls	674	2.481	1.316		
SNS3	Boys	379	2.409	1.376	113735.000	0.002
	Girls	674	2.665	1.380		
SNS4	Boys	379	3.501	1.579	99859.500	< .001
	Girls	674	4.150	1.197		
SNS5	Boys	379	2.211	1.300	119722.000	0.079
	Girls	674	2.335	1.307		
FOMO1	Boys	379	2.084	1.112	104503.500	< .001
	Girls	674	2.445	1.148		
FOMO2	Boys	379	2.127	1.228	98879.000	< .001
	Girls	674	2.631	1.299		
FOMO3	Boys	379	1.992	1.158	110521.500	< .001
	Girls	674	2.298	1.272		
FOMO4	Boys	379	2.887	1.510	84869.000	< .001
	Girls	674	3.772	1.337		

The Mann-Whitney U test provides interesting results, showing that girls are much more likely to receive sexually explicit messages and images than boys. This is the only element that distinguishes the two genders. The detailed discrepancy due to gender for the variable sexting is presented in Table 4.

Table 3. Sexting and gender.

	Group	N	Mean	SD	W	p
Have you ever sent someone a provocative "sexy, erotic" text message?	Boys	379	1.472	1.027	128327.000	0.862
	Girls	674	1.435	0.942		
Have you ever sent someone a provocative "sexy, erotic" photo of you partially nude or naked?	Boys	379	1.245	0.794	128072.500	0.893
	Girls	674	1.202	0.648		
Have you ever sent someone your "sexy, erotic" video where you are partially nude or naked?	Boys	379	1.132	0.603	129073.000	0.467
	Girls	674	1.095	0.472		
Ever received a provocative "sexy, erotic" text message?	Boys	379	1.734	1.164	115875.000	0.005
	Girls	674	1.932	1.235		
Ever received a provocative "sexy, erotic" photo where someone is partially nude or naked?	Boys	379	1.615	1.096	120362.500	0.068
	Girls	674	1.727	1.128		
Ever received a "sexy, erotic" video where someone is partially nude or naked?	Boys	379	1.441	1.012	126702.500	0.764
	Girls	674	1.448	0.985		

Co-occurrence of Problematic SNS, FOMO, and Sexting

On the basis of calculations using Spearman's correlation coefficient, it was noted that all Internet-mediated risk behaviours are in a positive relationship with each other. The co-occurrence of individual behaviours differs only in the strength of the correlation. Taking into account the type of risk behaviour, it was noted that the phenomenon of sexting shows strong interrelationships. Receiving and sending pictures is characterised by a strong to medium strength of relationship. This means that it is highly likely that people who send or receive one type of erotic material (e.g. a photo) will also receive and send other types of material (e.g. videos, text messages). Furthermore, it was noted that the factors of problematic Internet use are strongly interrelated. All the factors of problematic use of SNS and FOMO are correlate to a medium or large degree. Thus, the occurrence of one phenomenon, e.g. eating meals in the "company" of SNS, may cause that person to also use SNS very often in inappropriate situations. Analyses with a correlation coefficient also showed that the relationship between PUI and sexting does not exceed low correlation strength, which means that there is no regularity associated with sexting automatically co-occurring with intensive and uncontrolled Internet use. Details related to the correlation coefficients among the studied phenomena are presented in Table 3 (Appendix).

DISCUSSION

The idea of internet addiction among young people is controversial among experts in media pedagogy and psychology. In this group, there are both researchers claiming that it is a serious problem involving a large group of adolescents (Tran et al., 2017; Seabra et al., 2017) as well as those who emphasise that with careful analysis and the use of incisive and appropriate measurement items and scales, it turns out that the problem is typical of a very small group (Pyżalski et al., 2019). Therefore, when conducting analyses on the scale of problematic Internet use, also often controversially referred to as Internet addiction (Yellowlees & Marks, 2007; Kuss & Lopez-Fernandez, 2016), it is important to bear in mind the differences that can be observed in the literature, which is mainly due to different measurement concepts. The scale of PUI is related to the complexity and diversity of the phenomenon. For example, this text presents only two forms of PUI, namely FOMO and problematic use of SNS (Tomczyk, 2019). Nevertheless, this phenomenon encompasses many more different processes (e.g. problematic use of smartphones, addiction to e-gambling and gaming etc.). The collected data and analyses (descriptive statistics and cluster analysis) make it clear that the issue of inappropriate and uncontrolled use of digital media covers only a narrow group of adolescents who use digital resources very intensively. One should also be aware that depending on the adopted criteria, measurement scales, means of analysing and compiling data or the setting of thresholds (borders), the scale of the PUI phenomenon may be interpreted in a wide variety of ways.

It seems somewhat easier to determine the scale of sexting among young respondents. Generally, this group of studies is characterised by low levels of sexting. The data collected in this study are consistent with previous reports from Poland, e.g. within the EU KIDS Online study (Pyżalski et al., 2019). Sexting is a phenomenon that occurs sporadically.

Young people are much more often the recipients of sexual content than the creators. However, the following facts are interesting: boys are much more likely to send erotic content. In addition, text messages with this type of content are the most common form of sexting. The first phenomenon – the gender difference – is difficult to explain from a pedagogical perspective without having additional variables. Nevertheless, as reported by Polish and Czech researchers, these situations may be due to the specifics of adolescence, peer pressure, and the eroticisation of public space (Morelli et al., 2021; Kopecký et al., 2012; Wojtasik, 2014). The data collected are also interesting in the context of the scale of the analysed phenomenon in Poland in relation to other countries (Ng et al., 2022; Kim et al., 2020), as it appears that the phenomenon is less of an issue in Poland than it is elsewhere. Interpretations of the scale of the phenomenon may slightly differ from the actual state of the phenomenon, e.g. due to the fact that young people do not want to share their own experiences in this respect with anonymous interviewers. This may be due to the fact that they fear legal consequences or treat sexting as a shameful phenomenon that should not be reported to anyone in any way (Holoyda et al., 2018).

This text offers new insights into the intersection of phenomena mediated by digital media. Firstly, not all Internet-related risk behaviours are interrelated. This means that the occurrence of one phenomenon in high intensity, e.g. sexting, will not be positively correlated with another, e.g. FOMO. When designing further research on the negative aspects of cyberspace, one should be aware that each of the e-threats is characterised by different mechanisms and may also concern a different group of users according to their sociodemographic variables. This is very important in the context not only of research, but also of prevention. When implementing pre-emptive or protective actions, the diversity of techniques, methods, content, and forms should be taken into account, depending on the type of e-threat. However, the co-occurrence of phenomena is visible in the context of the correlation of indicators within a given phenomenon. The present study is in line with previous analyses conducted in this area in Poland, which noted that particular types of behaviour e.g. those related to PUI, co-occur with each other (eating meals in the company of SNS, lack of self-control in various inappropriate situations). Also, an internal correlation is noticeable for sexting. People who frequently send erotic material of their own authorship also very often receive other types of content of the same nature. This text also notes that age is related to the intensity of particular phenomena, e.g. PUI and sexting. This is a regularity that has also been confirmed in previous studies (Ioannidis et al., 2018; Englander & McCoy, 2018; Nakayama et al., 2020). This condition is most often due to an increase in the amount of time spent using digital media, developmental needs, or stronger peer influence that results in the acceleration of undesirable behaviours. When analysing individual risky behaviours, one should also be aware that narrowing the presented phenomena only to their negative aspects may, in a broader perspective, be unfavourable as stereotypes might easily be generated about young people, leading to the creation of ineffective preventive actions (Pyżalski, 2016; Pyżalski, 2017).

An important aspect of the present research was to reveal not only the scale of two selected forms of PUI and sexting, but also to present how the phenomena may constitute the basis for predicting the level of well-being among young people. Assuming that risky behaviours have a negative impact on social relationships in the near and distant environment (PUI) or may lead to violation of the law (sexting), it automatically follows that they must

have an impact on wellbeing. That assumption is undermined by the present research, as the results demonstrate that no such relationship exists. It is therefore important to distinguish between several issues. In a situation with high levels of PUI, in which a young person is solely focused on Internet-related activities, neglects household chores, comes into conflict with parents due to lower school grades, neglects sleep, etc. then automatically lower well-being is associated with higher levels of PUI. However, this is an extreme phenomenon. FOMO or intensive SNS use becomes a certain component in how young people use new media rather than a predictor of reduced well-being.

A similarly low level of correlation was noted between well-being and sexting. In this case, the issue seems more straightforward to interpret. In the course of receiving and sending this type of material (with consent), teenagers' needs are realised. The realisation of needs, unless these are extreme cases e.g. related to forcing the sharing of photos, videos can be linked to building an intimate relationship with a boyfriend or girlfriend. Therefore, the present data do not support statistical significance between a change in the level of well-being and sexting (a phenomenon that is not widespread and not linked to the developmental needs of all adolescents). The problematic nature of sexting leading to reduced well-being may emerge in extreme cases when intimate material is shared on the Internet, violates the law, or leads to the stigmatization of the young person in the immediate environment (Anastassiou, 2017; Galovan et al., 2018; Burić et al., 2021; Dodaj et al., 2023). When analysing the relationship between sexting and well-being, a range of contexts should be taken into account, as well as the fact that not all actions lead to extreme situations.

RESEARCH LIMITATIONS AND NEW ORIENTATIONS

The present research is part of an attempt to reveal the interdependence between two phenomena assigned to the risk paradigm of media pedagogy (Tomczyk, 2021). The study considers only two phenomena that are subtypes of problematic Internet use. However, one should be aware that currently, among the phenomena classified as PUI, one can distinguish, for example, e-gambling, phubbing, and nomophobia (Davey et al., 2018), which should be included in a broader research model to show the relationship between well-being and intensive and unsupervised use of SNS, the Internet, and smartphones.

Another research limitation in this text is the research sample, which does not include every province in Poland. The research was limited to three voivodeships in the south-western area. Therefore, it is necessary to collect data that considers a greater part of the country as a whole.

The data collected are also limited in terms of diagnosing the scale of the phenomena and linking it to well-being. It seems reasonable to extend the research model to include the consequences resulting from individual risky phenomena. For example, subsequent studies should include information on the negative consequences that result from PUI (conflicts in the family, lowering of school grades, neglect of interests in the offline sphere) or sexting (dissemination personal material, fear of sharing material). These issues should be mediating variables between the scale of the phenomenon and adolescent well-being. The issue of the contexts of occurrence of specific phenomena should be particularly considered for the phenomenon of sexting, which is characterised by many complex individual and social determinants (Van Ouytsel et al., 2017).

Another aspect that may affect the results of the research is the quality of the activities undertaken through SNS. When conducting research on PUI, a broader emphasis should also be placed not so much on the frequency of use of e-services, but also on the type of activities undertaken in this space (Pyżalski, 2017). When analysing the scale of PUI phenomena, attempts should be made to develop more precise measurement scales that define screen time and standby time in the context of popular e-services (Woo et al., 2021).

Given the specificity of the two risk behaviours analysed, new areas related to the technological layer are also emerging. It is therefore interesting to conduct further research relating to the technological dimension. To be more specific, it seems reasonable to look for an answer to the question - how the type of software installed, as well as the type of equipment owned and the means of accessing the Internet determine both risk behaviours. We know more and more about sexting and PUI, but there are still empirical gaps (relating to technological determinism) that call for increased research efforts in order to holistically understand selected e-risks.

CONCLUSIONS

The present research is an attempt to understand the psychosocial functioning of adolescents in the new media space. The text refers to a group of Polish adolescents who were studied within the scope of the interpenetration of three phenomena: problematic Internet use (limited to SNS and FOMO), sexting. The conclusions that emerge from the quantitative research presented here refute the circulating stereotypes that all young people are at risk of "Internet addiction" (Fineberg et al., 2018). Moreover, the available data make it clear that sexting occurs sporadically in the study group and is not typical for all adolescents (Maraganski, 2017).

This text provides an empirically validated voice in the discussion, highlighting that risky behaviour is not typical of the entire adolescent population. It is also worth reiterating explicitly that behaviours in cyberspace are not always interrelated. This means that the occurrence of one e-threat does not automatically generate other e-threats. In addition, most seemingly problematic situations do not have a real impact on the level of well-being among adolescents when they occur.

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Appendix

Table 3. Co-occurrence of sexting, problematic SNS use, and FOMO.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Have you ever sent someone a provocative 'sexy, erotic' text message?															
2 Have you ever sent someone a provocative "sexy, erotic" photo of you partially nude or naked?	0.597**														
3 Have you ever sent someone your "sexy, erotic" video where you are partially naked or nude?	0.422**	0.621**													
4 Ever received a provocative 'sexy, erotic' text message?	0.622**	0.405**	0.271**												
5 Ever received a provocative "sexy, erotic" photo where someone is partially naked or nude?	0.521**	0.472**	0.322**	0.765**											
6 Ever received a "sexy, erotic" video where someone is partially naked or nude?	0.441**	0.381**	0.375**	0.631**	0.721**										
7 How often do you use social media 15 minutes after waking up?	0.152**	0.111**	0.032	0.246**	0.235**	0.165**									
8 How often do you use social media during lunch?	0.135**	0.091*	0.041	0.255**	0.251**	0.202**	0.491**								
9 How often do you use social media during dinner?	0.155**	0.091*	0.036	0.255**	0.265**	0.195**	0.482**	0.805**							
10 How often do you use social media 15 minutes before bedtime?	0.145**	0.095*	0.035	0.295**	0.265**	0.171**	0.605**	0.445**	0.485**						
11 How often do you use social media during breakfast?	0.142**	0.122**	0.076	0.245**	0.265**	0.205**	0.525**	0.631**	0.645**	0.395**					

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
12 I impulsively check electronic media when I am with other people.															
13 I check what is going on in electronic portals whenever I can log on, for example for no reason at all.	0.15(**)	0.13(***)	0.11(***)	0.19(**)	0.21(***)	0.16(**)	0.48(**)	0.38(**)	0.43(**)	0.45(**)	0.41(**)				
14 I check social media when I have school activities.	0.14(**)	0.12(**)	0.14(**)	0.20(**)	0.21(**)	0.18(**)	0.48(**)	0.39(**)	0.40(**)	0.43(**)	0.40(**)	0.63(**)			
15 I check what is happening on the Internet when I am lonely.	0.24(**)	0.20(**)	0.16(**)	0.30(**)	0.30(**)	0.22(**)	0.40(**)	0.37(**)	0.38(**)	0.37(**)	0.39(**)	0.51(**)	0.51(**)		
	0.16(**)	0.12(**)	0.08(*)	0.28(**)	0.25(**)	0.18(**)	0.51(**)	0.38(**)	0.40(**)	0.60(**)	0.36(**)	0.49(**)	0.54(**)	0.42(**)	