

Family environment as a predictor of online threats

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Abstract In this paper, we focus on the family environment and online risk behaviours. Specifically, we theoretically explicate the issue of online challenges as one type of online risk behaviour and parental cyber control. As part of the study, we conducted research to identify predictors responsible for engagement in online challenges. The research was conducted on a sample of 128 respondents. It was found to be strongly statistically significant that boys are more likely to have their online content restricted by their parents compared to girls. Boys are monitored by both parents. Children living in complete families are more likely to confide in their parents about the problems they experience in the online space compared to children living in incomplete families. The results also show that children in complete families are more likely to communicate with their parents about potential online threats compared to children in incomplete families. This fact is also strongly statistically significant.

Keywords online risk behaviour, parental control, online challenges, children

1. INTRODUCTION

The Internet in the current century brings many benefits to its users. The online space allows people all over the world to search for information of various kinds, instantly. As the online environment is used by millions of people around the world, there is a risk that Internet users may encounter online threats. According to K. Hollá (2016, p. 26), today's generation of children and adolescents has developed a strong attachment to information and communication technologies. This "strong connection" (Hollá 2016, p. 26), we understand both a strong emotional attachment to smart devices, but also a fast and unlimited access to technologies. The more adolescents are attached to media and the Internet, the less they are aware of the risks of Internet communication and the risks of viewing content inappropriate for minors. Just as the Internet can be used by people who use it for their own good (study, work...), it can also be abused by people - predators - who use it for inappropriate purposes. It is the latter group of individuals who put children or young people at risk in the online space. It is therefore necessary for parents to take an interest in children's activities in the cyber environment and to teach children how to use the information and communication media properly. The attention of children almost all over the world in cyberspace has recently been attracted by online challenges, which, although new, are a widespread form of online threats.

2. THEORETICAL DEFINITION OF ONLINE CHALLENGES

The issue of online challenges is increasingly receiving both lay and professional attention, yet research in this area is lacking. A. Grant-Alfieri, J. Schaechter, S. Lipshultz (2013), K. Kopecký, R. Sotkowski (2015), K. Kopecký (2020), K. Kopecký, P. Strílková, R. Sotkowski, J.-M. Romero-Rodríguez (2020), K. Kopecký (2021). In Slovakia, there is a lack of research focused on online challenges. Online challenges represent a modern phenomenon allowing to share anything. A characteristic feature of online challenges is a series of actions that an individual is encouraged to do. Online challenges are of different themes, depending on what the goal of the challenge is. It is a phenomenon that encourages Internet users to take a specific action. Online prompts are conditional on filming the activities in which the user engages. All activities are recorded during the actual process of doing them, to publish the videos on social networks. Users are prompted for each challenge by some other user. If the user accepts the challenge, the user is required to complete the related actions usually for a period of 24 hours. Failure to do so may result in the user being sanctioned. A player can become a victim of online violence and it does not have to be a minor, as online challenges also involve adults who can also be attacked by aggressors. Pressure can be exerted on an individual who stops participating in an online challenge through forms of cyber-bullying or bullying. According to K. Hollej (2012), (2017), (2020) anyone can be a victim of cyberbullying. In our opinion, the same applies to risky online challenges, as these are often accompanied by forms of cyberbullying. For some online challenges, financial penalties may also be involved. Often a child may only complete a challenge because he or she is afraid of the environment (classmates, friends...). The background of online challenges can often be as taxing on a person's psyche as the (cyber)bullying itself. Online challenges can also be positive in nature. They are a series of actions that do not threaten a person's life, but rather express support for someone or something, or aim to entertain. Dangerous online challenges are a series of actions that put a person's health or life at risk. In the following section, we offer our own summarized typology of online challenges. Among the online challenges of a positive nature, the so-called helpful/safe challenges include, for example: the Toddler Hug Challenge; the Dance Challenge; the Ice Bucket Challenge; the Hair Cutting Challenge; the Hair Cutting Challenge; the Lid Picking Challenge; the Food Stamp Challenge; the Whisper Challenge; the Try Not to Laugh Challenge; the Mannequin Challenge; the Eat It or Wear It Challenge; the Bottle Flipping Challenge; the Basketball Challenge; the Basketball Beer Challenge. The risky online challenges called.

Dangerous challenges include, for example: Piercing Challenge; Milk Crate Challenge; Slap Challenge; Weight Loss Challenge; Bum Challenge; Money Challenge; Backpack Challenge; True Online Challenge; Momo Challenge; Blue Whale Challenge; Frozen Honey Challenge; Kylie Jenner Challenge; Pour Alcohol in Your Eyes Challenge; Duct Tape Challenge; Cinnamon Challenge; Choking Challenge; Skull Crushing Challenge; Snuff Challenge; Chili Pepper Challenge; Detergent Ingestion Challenge; Fire Challenge; Salt and Ice Challenge; Online Charlie Ghost Invocation Challenge; Online Condom Challenge; Banana Challenge; Online Coca-Cola Challenge; The consequences of dangerous online challenges are largely permanent. The most dangerous challenges are those of a lethal nature, where there is a risk of death, in particular photos on train tracks, where several victims have already not survived a train collision; a series of acts that lead to suicide, etc. The viewing of inappropriate content (images, videos...) linked to online challenges also has negative consequences. It has been researched that watching media violence promotes aggressive behaviour and related actions also in real life of a person (Funk, 2005), (Krasteva, 2018). The different types of cyberaggression that experts operate within the context of online risk behaviours "relate to interpersonal relationships" (Hollá 2017, p. 11), but they can also often be part of the implementation of risky online challenges that use aggression as a tool to achieve a goal. Risky online challenges can harm the victim psychologically or physically. The consequences of risky challenges have been highlighted by several experts (Grant-Alfieri et al 2013), (Kopecký et al 2020) (Kopecký 2021), (Kopecký et al 2020) and others. The consequences of unsafe online challenges are mostly permanent, for example: skin damage; eye infections; lung infections; burns; gastritis; choking; intoxication; concussion; neurotic disorders (anxiety, chronic stress and fear); night terrors; depressive disorders; post-traumatic stigma; other psychological problems; death, etc. unsafe online challenges can have a very negative impact on children's lives. Therefore, from an educational and psychological point of view, it is necessary to emphasize that the family has an important role in the context of online risky behaviours. In particular, the educational style of parents.

2.1 Cyber control as prevention of online challenges

A significant factor of the family environment is the parenting style as an individual way of raising the child. The term 'cyber-parenting style' was introduced in the field of risky online behaviour and is used to refer to an educational style oriented towards mentoring, controlling, or educating children in the online space. Parental cyber control has been explored by several: Ybarra, Mitchell (2004); Wang, Sun, Zhao, Qiu (2008); Baldry, Sorrentino, Farrington, (2015), (2018), Helfrich, Doty, Su, Yourell, Gabrielli (2020). Cyber parental control is a multidisciplinary field that aims to provide a safe cyber environment for children (Wang et al., 2018). Through parental control or cyber-parenting style, children should learn about the potential risks in cyberspace. It is believed that knowledge about them can increase the protection of one's privacy and safe use of the Internet. The cyber-education style should start in the family. Parents should not rely solely on educational institutions. They can enrich pupils' knowledge of safe use of cyberspace, but it needs to start in the family. In the family environment, there should also be regular communication between parents and children about areas related to online functioning. Cyber parenting is mainly implemented through active communication between parents and children. The positives of open communication between parents and children are also highlighted by the research of American researchers L. E. Helfrich, Y. L. J. Doty Sue, L. J. Yourell, J. Gabrielli (2020). The results revealed three main parental control strategies: a) open communication; b) regular monitoring; and c)

professional resources that can be used to prevent potential online threats (Helfrich et al., 2020). A regular cyber-education style has great potential to keep children safe from online dangers. Whenever content is shared on a social networking site (intimate photos, videos; child's birth; residence; full name, etc.), the individual instantly loses control of the shared content. Parents should also be role models for their children in the use of information and communication technologies and the use of Internet platforms. Experts M. L. Ybarra, K. J. Mitchell (2004), Q. Wang, E. M. Pomerantz, H. Chen (2007), H. Vandebosch, K. Van Cleemput (2009), S. Jia (2016), W. Wang, D. Li, X. Li, Y. Wang, W. Sun, L. Zhao, L. Qiu (2018), D. Moreno-Ruiz, B. Martínez-Ferrer, and F. García-Bacete (2019), A. C. Baldry, A. Sorrentino, D. P. Farrington (2019), R. Zhang, B. Bai, S. Jiang, S. Yang, Q. Zhou (2019). G. Bossman (2020). E. L. Helfrich, J. L. Doty, Y.-U. Su (2020) have provided research evidence that family factors significantly influence online risk behaviours in children and adolescents. It has been empirically shown that parents who have been confirmed to have less support and inappropriate family environments are more likely to be parents who also lack emotional bonds in their relationships with their children (Ybarra, Mitchel 2004). Therefore, in addition to the above factors, positive relational bonding and trust between parents and children is essential. Trust between family members also translates into open communication, which is an essential tool in the prevention of online threats.

3. RESEARCH RESULTS

The aim of the empirical part was to find out the predictors responsible for engaging in online challenges.

Before conducting the research, we set the following hypotheses:

- H1: We hypothesize that children living in families without cyber control are prone to engage in more risky online challenges.
- H2: Children living in harmonious families do not interfere with parental interest in their activities carried out in cyberspace.

We collected data through our own research instrument, namely an online questionnaire. Respondents in the online questionnaire determined their answers on a Likert scale. The questionnaire maps the family environment, relationships between parents, children, and parenting style. The family environment was assessed by the children. In Tab. 1 summarises the representation of each age group by sex. There were more boys (73) than girls (55) represented, with the largest age group being 12-year-olds (58).

Tab. 1 Age composition of respondents

		age				
		12 years	13 years	14 years	15 years	total
gender	boy	25	20	16	12	73
	girl	33	10	7	5	55
	total	58	30	23	17	128

Tab. 2 Parents communicate with me about possible threats that occur in the online environment?

		Parents communicate with me about possible threats that occur in the online environment?				total	
		both	only mother	only father	no		
type of family	complete	Count	61	18	3	20	102
		Exp. Count	55,0	19,9	4,8	22,3	102,0
	uncomp.	Count	8	7	3	8	26
		Exp. Count	14,0	5,1	1,2	5,7	26,0
total		Count	69	25	6	28	128
		Exp. Count	69,0	25,0	6,0	28,0	128,0

We investigated the influence of family on engagement in online risky behaviours. On the basis of the studied issues, we tried to prove that the family environment is responsible for the way of functioning in cyberspace. We were interested in whether there is any relationship between family type and parents' communication with children regarding online threats in cyberspace. For simplicity, we categorized families as complete and incomplete, where a complete family was defined as a family consisting of both parents and children or a multigenerational family, and an incomplete family was defined as a family in which one parent was absent. In such a family, the child is raised by one of the parents or stepparents. The collected incidence rates are broken down in Tab. 2. This relationship was found to be statistically significant ($\chi^2=0.035$ $\phi_c=0.259$). Parental communication is more represented in complete families than in incomplete families. In complete families, both parents are heavily involved in informing the child about potential online threats. In single-parent families, the mother is mainly involved, as most children after divorce are mostly entrusted by the court to the mother's care.

Tab. 3 The relationship between child gender and parental constraints in the online space.

		Am I restricted by my parents from viewing some content on the internet?				total
		yes - both	only mother	only father	no	
boy	Count	32	5	8	28	73
	Exp. Count	25,7	9,7	6,3	31,4	73,0
girl	Count	13	12	3	27	55
	Exp. Count	19,3	7,3	4,7	23,6	55,0
total	Count	45	17	11	55	128
	Exp. Count	45,0	17,0	11,0	55,0	128,0

We were also interested in how the gender of the child influences parents' restriction of content viewed on the Internet. Frequency of individual answers is summarized in Tab. 3. Just by simply comparing the frequencies of individual responses, it can be concluded that boys are more controlled by their parents than girls. After subjecting the table to statistical analysis, this relationship proved to be statistically significant ($\chi^2=0.012$ $\phi_c=0.292$). The results show that nearly 62% of boys have their viewing of some content on the Internet restricted by at least one parent, while for girls it is only 50, 9%. We were also interested in children's family environment and how they perceive their parents' care for their online activities. For family environment, they could choose from 5 options on a Likert scale, with 82 children indicating that they live in the best family environment, 31 children indicating that they live in a very good family environment, 15 children indicating that they live in a good family environment, and no children selecting the bad or very bad family environment option.

Tab. 4 The relationship between the family environment and the child's perception of parental control.

		Did I find myself wishing my parents cared less about what I was doing?		total
		yes	no	
great	Count	31	51	82
	Exp. Count	40,4	41,6	82,0
very good	Count	21	10	31
	Exp. Count	15,3	15,7	31,0
good	Count	11	4	15
	Exp. count	7,4	7,6	15,0
total	Count	63	65	128
	Exp. Count	63,0	65,0	128,0

In Tab. 4 the data obtained are summarized, which showed the influence of family environment on the child's perception of the parents' cyber parenting style to be statistically significant ($\chi^2=0.002$ $\phi_c=0.306$). The results show that in a harmonious family, parental control does not interfere with children to the same extent as in families that children rated as very good or good. Children who rated the family environment at a fair level are bothered if parents take an interest in their activities carried out in the cyber environment. We believe that this is related to a weakened relational bond between family members, which also leads to weakened trust. Children who do not trust their parents do not consider it important to inform them about what they are experiencing, so we think that, based on the data obtained, these children are also hindered by their parents' interest in the activities carried out by their children in cyberspace.

Tab. 5 The relationship between type of family and trust of children to his parents.

		Do I trust my parents with my problems that I am experiencing in an online environment?.				total
		yes - both	only mother	only father	no	
complete	Count	44	20	2	36	102
	Exp. Count	38,3	23,1	4,0	36,7	102,0
uncomp.	Count	4	9	3	10	26
	Exp. Count	9,8	5,9	1,0	9,3	26,0
total	Count	48	29	5	46	128
	Exp. Count	48,0	29,0	5,0	46,0	128,0

We sought to determine the extent to which the representation of trust between parents and children is influenced by the type of family environment. In harmonious families, there is more trust between parents and their children. Children are not afraid to talk about their problems in the cyber space. This relationship carries strong statistical significance due to the calculated values of $\chi^2=0.011$ and $\phi_c=0.296$. Regarding online challenges, we first investigated how children engage in them based on their gender. At Fig. 1 is a graphical representation of the representation of boys and girls when participating in online challenges. The graph shows that participation in online challenges by gender is only for boys. Only 8 boys (10, 96%) actively participated in online challenges, while 55 girls (100%) did not participate at all. Due to the very low number of respondents who actively participated in online challenges, it is not possible to conduct a chi-square test to determine relationships. To perform a chi-square test, the condition of having more than five values for each combination of two variables must be met. The question aimed at indicating the specific online challenge they were involved in was open-ended so as not to provide inspiration for children to find dangerous challenges. This made it particularly difficult to categorise some responses as dangerous or safe online challenges, as responses such as 'share something' are very vague and we do not know what type of content was shared. We can briefly note that from the data we have we can read those respondents engaged in 8 online challenges, from which only one can be categorized as dangerous. Specifically, the challenge was based on playing games whole night. Probably 7 online challenges were positive in nature (lifestyle; sharing something; helping animals; giving away gaming stuff). One respondent could not indicate the type of online challenge. Regarding the online challenge where the YouTuber was giving away gaming stuff, there is no information on what the player therefore had to do in order to participate in the challenge and be entered into the draw or win.

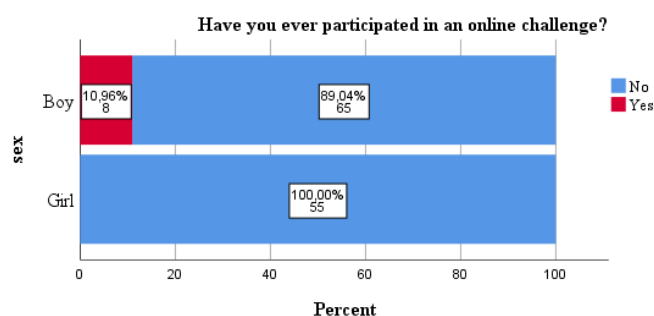


Fig. 1 The histogram of relationship between gender and participation in an online challenge.

3.1 Discussion

Our research investigated the predictors responsible for engagement with online challenges. We mapped the family environment, parent-child relationships, and parenting style through a custom research instrument. Of the two hypotheses we formulated, only one was confirmed by the research. Hypothesis 1: We hypothesize that children living in families where cyber control is absent are more likely to engage in risky online challenges was not confirmed, as we did not have enough respondents who actively engaged in risky online challenges. Hypothesis 2: children living in harmonious families are not hindered by parental interest in their activities carried out in cyberspace was confirmed. The results showed that children living in harmonious families, in which there is primarily a positive relational bond between family members, are not bothered if their parents take an interest in how much time they spend on the Internet and what content they are interested in. Children living in families who rated their family environment at a reasonable level and who do not have harmonious relationships with their parents are hindered by parental interest. Although we did not find research support for the first hypothesis, it appears that family is a significant predictor of online risky behaviour. For example, a weakened relational bond between family members alone can determine several aspects that are very important in the family, such as trust between parents and children, related to communication, confidentiality with problems, etc., not to mention other aspects such as family security, how conflicts are resolved, etc. The results of our research showed that boys are more likely to have their content restricted by their parents on the Internet compared to girls. Boys are monitored by both parents. Children living in complete families are more likely to confide in their parents about the problems they experience in the online space compared to children living in incomplete families. The results also show that children in complete families are more likely to communicate with their parents about potential online threats compared to children in incomplete families. We found that cyber parenting style does not interfere with children who live in a functional family. We consider the largest limitation of our research to be the low number of respondents who actively engaged in online challenges. To further explore the issue, we recommend that practitioners conduct research on a larger sample of respondents. Ideally, we would like to find out the relationship between family background and involvement in risky online challenges, which was not possible in our research due to the low involvement of respondents in risky online challenges.

4. CONCLUSION

The importance and significance of family, nurture and parental control on a person's life is empirically proven. Harmonious families and serious parental concern for their children are predictors for healthy child development. Parents should devote themselves to

their children to the best of their abilities and should communicate with them frequently about anything in which the children show interest. Parents should also take a serious interest in the activities their children engage in cyberspace. Minors need to be made aware of all the advantages and disadvantages of the Internet. They should know about the dangers in online space and how to avoid them. Harmonious family environment, love between parents, empathetic communication between family members strengthens the relational bonds between parents and children. A strong relational bond is also a strong predictor that can help parents to act preventively in the context of online risky behaviour. Knowingly or unknowingly endangering oneself or one's surroundings in cyberspace can cause personal and social problems, which is why preventive measures in the area of online risk behaviour are essential. From a pedagogical and psychological point of view, we consider it important to mention that prevention through a cyber-educational style is essential for both genders. This means that both boys and girls should be controlled. It is also ideal for children to be controlled by both parents if they are children living in complete families. It is advisable for parents in disharmonious families to make efforts to gain the trust of the children as this is a significant factor in cyber control. Without trust, the parent cannot help the child unless the child himself admits to what is troubling him in or out of cyberspace. The research findings presented have proven to be strongly statistically significant.

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