MASARYK UNIVERSITY
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Cyberaggression in Context: Youth Involvement and Responses

Habilitation Thesis

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Abstract

Online interaction brings many benefits, such as making new friends, sustaining existing relationships, or providing easy access to multiple information and materials. However, considering that cyberspace is a new social arena in which all kinds of human interaction occur on a daily basis, hand in hand goes also the risk of encountering negative experiences, one type of which are experiences with aggressive behavior. This thesis focuses on cyberaggression which is aggression conducted via communication technologies such as the internet or smartphones. Specifically, it examines the cyberaggression among youth, which may be involved as cybervictims, cyberperpetrators, or cyberbystanders.

In this thesis, I introduce and synthesize findings from selected eleven scholarly studies which are contributing to the field of cyberaggression. All studies utilize quantitative methodology, specifically survey-based data on both national and international samples. The goal of this thesis is to situate the selected findings from the studies within the field and contribute to the broader debate concerning the negative online experiences. The center corpus of studies focuses directly on cyberaggression and cyberbullying in relation to different types of involvement and responses to the aggressive incidents. The involvement in cyberaggression is discussed in relation to factors associated with diverse participatory roles in cyberaggression and also connection to offline aggression. The responses are discussed in relation to cybervictimization (perceived harm and coping) and cyberbystanders (individual and contextual factors affecting support to the victim). In the discussion, findings are compared with existing literature and suggestions for future studies are formulated.

Acknowledgments

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Namely, I want to thank David for providing all those opportunities for collaboration, continuing friendly support, and valuable feedback. A very special thanks belong to Lenka, the best research buddy anybody could wish for – both supportive and meticulously critical, friendly and extremely nice to work with, and fun to spend free time with discussing everything (and sometimes pleasantly quietly nothing). And thank you Honza, for insightful feedback and fantastic cooperation.

Last but not least, I want to thank all those who worked on the studies included (and on all those which are not) – by cooperating on the study implementation and data collection, providing funding, and of course by participating in our research.

Content:

The goal and structure of this thesis

In recent years, the internet and communication technologies have become an integral and common part of everyday life. Current evidence shows that more than half of world population (55%) uses the internet, with highest shares of users in North America (95%) and Europe (85%) (Internet World Stats, 2018). Especially young people use them on a daily basis for diverse purposes, be it for communication with family and friends, for work, or for entertainment. According to the latest evidence, in the Czech Republic, where this thesis originates, most children and adolescents (aged 9-17) go online on a daily basis, dominantly connecting via mobile phone (84% daily) (Bedrošová, Hlavová, Macháčková, Dědková, & Šmahel, 2018). Considering the proliferation of the internet and technology usage, it is not surprising that the public and academic attention has soon turned to the role of internet and technologies in our lives. Specific attention has been given to technology usage among youth, who may be most vulnerable to possible negative effects but can also reap many benefits from technology usage (boyd, 2014). Among highly discussed and researched topics belong experiences with cyberaggression, which designates aggression conducted via internet and communication technologies (Kowalski, Limber, Limber, & Agatston, 2012; Tokunaga, 2010).

This habilitation thesis centers on cyberaggression as a specific experience connected with the internet and technology usage. It utilizes findings from several studies from the area of research on cyberpsychology and specifically cyberaggression. The aim of the thesis is to provide a comprehensive summary of the selected findings, situate them within existing knowledge, and discuss the further implications and future directions in this discipline. The goal is not to provide an exhaustive overview (which would be out of the scope of this text) but to illustrate the contribution of the findings to the knowledge about cyberaggression by focusing on salient topics which are addressed within the studies. In result, this thesis aspires to contribute to a broader discussion concerning the differences and similarities between cyber and offline aggression, which is the key thematic line of this work.

The structure of the thesis is following. The introductory section provides a concise depiction of the main perspectives within cyberpsychology which are utilized in depictions of the role of internet and technologies in our social lives. In this section, I address the complexity of the concept of cyberaggression and comment on the debates which are related to the conceptual issues within this field. This section thus provides the basic framework needed for the understanding of the key questions arising in this field. The middle section describes the utilized studies and methodology. The final section introduces the selected findings from the studies examining cyberaggression. It summarizes and partially synthesizes the findings from these studies, contextualize them within the existing knowledge and complement them with other findings from our studies in the field of cyberpsychology. This section includes also discussion of the limitation of the studies. Final conclusion shortly summarizes main contribution to the field. The Appendix includes all the studies utilized as core material in this thesis.

Introduction

The specificity of online interaction

The rapid an extensive spread of technologies brought many opportunities for our communication practices. Especially with the spread of smartphones, the potential to be always connected increased enormously. Although numerous studies documented positive aspects of such development, the academic, as well as public views, also focused on potential negative aspects and risks connected with this progress (boyd, 2014; Livingstone, 2009; Livingstone, & Haddon, 2009). One of the pronounced topics is that technologies present new channels and platform through and on which aggression can be conducted (Kowalski et al., 2012; Smith et al., 2008; Tokunaga, 2010).

To provide a deeper understanding of cyberaggression, it is important to shortly introduce broader debate concerning the communication and behavior within the online environment. Aggressive behavior is part of our social lives and it is integrated within communication practices (Huesmann, 1994). Therefore, to understand the role and impact of cyberaggression, it is important to get insight into the specificity of our online lives and relationships, the importance and specificity of the online communication, and tendencies and assessments related to online interactions. Nevertheless, since this area constitutes whole discipline, I will discuss this here just briefly.

Shortly after the proliferation of the internet and technologies, several established theories and hypotheses have been formulated with regard to computer-mediated communication. In this regard, many studies discussed potential deficits of online interaction, including the absence of nonverbal communication cues and communication feedback or lack of commitment in online interaction and relationships, which may consequently lead to interactions and relationships of poorer quality. Nevertheless, not all authors were skeptical in their assessment of the online interaction. For instance, a different perspective was provided by Walther (1996) who described "hyperpersonal dimension" of the computer-mediated communication and how perceived control over the message, or usage of specific cues present in the online environment (hyperlinks, emoticons) can be advantageous, facilitating our interaction. Similarly, while we can find more skeptical views focused on the lower quality of (dissociated) online relationships, the potential of online interaction and relationships was viewed also positively. For instance, Bargh and McKenna (2004) discussed the specificity of online interactions and factors such as anonymity and invisibility, pointing out the positive effects in terms of support provided online. Or, in relation to youth, Valkenburg and Peter (2009) emphasized the potential for enhancement of adolescents' social life due to increased self-disclosure within the environment.

This ongoing debate does not have clear conclusions since there is usually no linear direct un-moderated strong effect of the interactions in the online environment (Valkenburg, Peter, & Walther, 2016). Moreover, the potential effect of online interaction needs to be taken in the context of wide-spread technology usage. With the high penetration of digital technologies, the online and offline social worlds of youth are "linked to each other not only in terms of the topics and themes that are projected, but also in terms of the kinds of behavior engaged in, the people

interacted with, and the relationships that may be sustained" (Subrahmanyam & Šmahel, 2011, p. 34). Therefore, this needs to be taken into account in the discussion of the experiences in the online environment. This being said, there is still a need to acknowledge that the specific character of online communication to more or less extent shapes our everyday interaction. This has implication also for the discussion on cyberaggression.

In this regard, especially the concept of online disinhibition has been effectively applied to explain the role of online environment in cyberaggression (Lapidot-Lefler & Barak, 2012; Runions & Bak, 2015; Wright, 2013). In essence, the online disinhibition effect (Suler, 2004) describes why users may tend to behave in a more extreme – disinhibited – manner in online interactions. This concept describes how both toxic (e.g., increased hostility and aggression) and benign (e.g., increased self-disclosure) disinhibition are connected with factors including dissociative anonymity, invisibility, asynchronicity, solipsistic introjection, dissociative imagination, and minimization of authority. These factors are often discussed in relation to cyberaggression and some of them will be again included in the following discussion about the specificity of cyber versus offline aggression.

Cyberaggression and cyberbullying: a conceptualization

Cyberaggression has been a center of many public and scholarly debates. In general, cyberaggression designates aggressive behavior conducted via the internet or more generally information and communication technologies (Kowalski, Giumetti, Schroeder, & Lattanner, 2014; Price & Dalgleish, 2010; Tokunaga, 2010). In relation to youth, cyberaggression has been often discussed and examined under the term of cyberbullying. Though many scholars advocate the view that cyberbullying must be distinguished from the cyberaggression or cyberharassement (Corcoran, Guckin, & Prentice, 2015; Smith et al., 2008), in existing literature, the terms are often used interchangeably. There are also other terms used to capture the aggression on the internet and/or via digital technologies, such as online aggression(bullying), electronic aggression(bullying), or aggression(bullying) via ICT (Grigg, 2010; Kowalski et al., 2014; Nocentini et al., 2010; Pyżalski, 2012). In this thesis, I opted for the usage of the term cyberaggression as an umbrella term for the wide range of aggressive acts conducted via digital technologies. It should be noted that the cited studies often use different terms (such as bullying), however, since there are many inconsistencies in the terminology, I would dominantly use this term.

The problem with the definition of the cyberaggression is connected with capturing and conceptualization of the diversity of the experiences with cyberaggression, especially the distinction between cyberaggression and cyberbullying, as well as the similarities and differences between cyber and offline aggression. The next section briefly introduces this ongoing debate which illustrates the key issues related to the field of cyberaggression.

Cyberaggression and offline aggression

One of the crucial questions is whether cyberaggression represents a unique phenomenon distinct from other forms or peer aggression or whether it is a version of the same (albeit somewhat different). Thus, a large part of the discussions concerns the specificity of the cyberaggression and how (and even if) it differs from the offline aggression and bullying (see e.g. Menesini et al., 2012; Menesini & Nocentini, 2009; Corcoran, Guckin, & Prentice, 2015; Kowalski et al., 2014; Olweus, 2012; Olweus & Limber, 2018). Such debate is, in a sense, part of the broader overall discussion concerning the specifics of online behavior and the role of technologies in our social life. There are arguments pointing out to the differences in communication through online channels and digital technology (in relation to affordances of online environment, such as anonymity, invisibility, etc.), while others stress that the basic the patterns of behaviors remain, in their nature, the same (such as the prevailing tendency to use the technologies to stay with touch with close ones). In essence, I would argue that both sides bring valid points and these should be considered in the discussion on cyberaggression.

The debate concerning the specificity of cyberaggression comprises question about the link between the experiences in online and offline environments. In this regard, it has been shown that that cyberaggression among youth is in many cases (yet not exclusively; Kowalski & Limber, 2013; Varjas, Henrich & Meyers, 2009) connected with offline victimization and perpetration - those who are bullied and bully online have similar experience offline too (Gradinger, Strohmeier, & Spiel, 2009; Jose, Kljakovic, Scheib, & Notter, 2012; Juvonen & Gross, 2008; Waasdorp & Bradshaw, 2015). This may have at least two explanations. First would suggest that there is a specific type of vulnerability towards victimization (such as low self-esteem; Kowalski & Limber, 2013) and propensity towards aggression which function analogously in both environments. Second, in many cases, the victimization and perpetration happen in both environment (and the whole incidents are therefore in fact linked). Thus, cyberaggression is part of behavior which is being conducted in existing offline circles, such as school or class environment (Olweus & Limber, 2018). From this perspective, cyber aggression and offline aggression seems like one type of behavior that is only manifested in different environments.

On the other hand, there is evidence that cyberaggression is in some aspects different from offline aggression. This is due to the specific character of the online environment and mediated communication (Corcoran, Guckin, & Prentice, 2015; Dooley, Pyżalski, & Cross, 2009; Grigg, 2010; Menesini et al., 2012). Since cyberaggression is conducted via communication technologies which are currently widespread among youth, the attacks can come from any place at any time and the victim can be reached even in the relative safety of their homes (Tokunaga, 2010). Moreover, all actors, including perpetrator(s), the victim(s), and other witness(es) can be mutually distant and invisible, even anonymous. As a result, they lack immediate and direct feedback about the impact on the victim, and they may feel more disinhibited in their responses (Kowalski et al., 2014). In the case of public attacks, the audience of cyberaggression can be substantially wider than offline (Kowalski et al., 2014; Pfetsch, 2016). Moreover, since the attacks are in the online environment, the hurtful and harmful material (e.g., hateful messages, humiliating photos or videos) can be easily copied, stored, and shared through many channels

(such as SNS), opening a possibility for further harm due to repeated exposure of the material (Cassidy, Faucher, & Jackson, 2013; Kowalski et al., 2014; Sticca & Perren, 2013).

Cyberaggression and cyberbullying

Another important and partially related issue is the problematic distinction between cyberaggression and cyberbullying (Corcoran, Guckin, & Prentice, 2015; Kowalski et al., 2014). In line with prior research and literature on bullying, cyberbullying was dominantly defined by criteria which have been established for bullying behavior. These specifically are: the victimization is repeated and happens over time; the harm is conducted intentionally; and there is asymmetric power relationship between the aggressor(s) and the victim(s) (Kowalski et al., 2014; Olweus, 1994). Thus, cyberbullying is often defined as "an aggressive intentional act carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself" (Smith et al., 2008, p. 376). The incidents that do not fulfill all these criteria, for instance, a one-time event without repetition, or event resulting in harm of victim's side, but without ill intention on the side of the "perpetrator", should not be labeled as cyberbullying – and some authors indeed use the more general label "online aggression" for such incidents to acknowledge that not all criteria were met (or measured).

On one hand, there is a consensus that it is desirable to distinguish cyberbullying from cyberaggression, since there are important differences. It is imperative to separate less severe and occasional incidents of online aggression from much more intense, persistent, intentional, and harmful cases of cyberbullying. This is needed due to several reasons, from the academic examination of the correlates, predictors, and consequences of such different experiences, to practical efforts in form of tailoring of prevention and intervention efforts which need to address these diverse experiences differentially.

On the other hand, there is also a need to acknowledge that cyberspace constitutes a specific environment and that aggression via communication technologies somehow differs from offline conditions. While the above-mentioned definition of cyberbullying is widely used, there is nevertheless valid question whether using definition derived from traditional bullying is a good approach. The online environment differs in many aspects from offline one (and in many cases specifically from offline established social groups, for which traditional bullying was defined). The cyberbullying is a complex phenomenon and the three bullying criteria may simply not fit well in a multiplicity of experiences in cyberspace. In this sense, it has been for instance discussed how the criterion of repetition changes in online environment (due to the possibility of storage and sharing of information) and how this criterion is more appropriate for direct attacks but not so for the public ones (Langos, 2012; Slonje, Smith, & Frisén, 2013; Vandebosch & Van Cleemput, 2009). Moreover, there is a debate about the criterion of imbalance of power, which in the case of cyberbullying may lie rather in anonymity or online expertise while the role of other factors which define it offline (e.g., physical strength) may diminish in the online world (Grigg, 2010; Kowalski et al., 2014). There are also studies which, using bottom-up approach and asking youth what they consider as cyberbullying, pointed out that perception of children and youth differ from the approaches of researchers and that the criteria might not

correspond with children's lived experiences and expectations (Canty, Stubbe, Steers, & Collings, 2016; Kofoed & Staksrud, 2018).

To sum, the problems with the definition of cyberbullying and cyberaggression pertain to the whole field of the cyberbullying research. This causes some inconsistencies in findings, which can be effectively demonstrated for instance on the range of reported prevalence of cyberbullying victimization, which may range between approximately 10 and 40% but sometimes the reported prevalence are even higher (up to 70%) (Kowalski et al., 2014; Selkie, Fales, & Moreno, 2016). The debates of the adequate definitions are ongoing and the inconsistent approaches of various authors still continue. I need to state that this thesis does not aspire to provide in-depth inside into conceptual issues concerning the definition of cyberbullying/cyberaggression. However, at least on the level of this theoretical introduction, these issues need to be presented to offer an insight useful for the accurate interpretation of the findings in different studies in the area. However, since one of the central focuses leading this work is the attention to the differences between online and offline aggression, it is crucial to recognize the potential differences between the communication practices online and offline in general as well as how they may specifically manifest in cyberaggression.

Types of involvement in cyberaggression

Up to now, I described cyberaggression experiences generally. However, I also mentioned that youth can be engaged in cyberaggression in diverse roles – as victims, perpetrators, and witnesses. In order to understand the issues related to cyberaggression, we need to ask who are youth involved in cyberaggression and how - and why - do they respond to the incidents. In this regard, several theoretical frameworks have been applied, including General Aggression Model, Social Cognitive Theory, or Bystander Intervention Model (Allison & Bussey, 2016; Savage & Tokunaga, 2017). Research centered on the involvement in cyberaggression is immensely important for preventive and also intervention efforts. There is a need to identify vulnerable children who may become victims of cyberaggression or are prone to behave aggressively. Moreover, we need to understand the factors which are connected to the cyberaggression and which should be targeted in work with potential victims and perpetrators. Finally, we need to understand the responses of other youth as well as responses of cybervictims, including their choices of coping strategies.

Participatory roles in cyberaggression

The research on bullying and aggressive behavior offline has an established tradition and was for long period dominated by the focus on the role of victims and perpetrators. However, in recognition of the importance of bullying as a social phenomenon (Salmivalli, 2010), the attention has been soon given also to others who are (somehow) involved in the situation – so-called onlookers, witnesses, audience, or bystanders of aggression. In my work, I will use the term bystanders. A similar shift in research attention occurred also in the research on cyberaggression, which was in the first years mostly focusing on victimization and later included cyberbystanders as an important segment of youth to research to understand cyberaggression, its roots, processes, and consequences (Pfetsch, 2016). Thus, the most

common (but also a bit crude) is the differentiation between the role of "victim", "perpetrator", and "bystander". Several studies focused on participatory roles in bullying and cyberbullying. In their already classical study on offline bullying, Salmivalli, Lagerspetz, Bjorkqvist, Osterman & Kaukialnen, (1996) identified six participatory roles: bully, the victim, assistant of the bully, a reinforcer of the bully, defender of the victim, and outsider. In a recent study utilizing a person-oriented approach, Schultze-Krumbholz, Hess, Pfetsch, and Scheithauer (2018) differentiated five categories: prosocial defenders, communicating outsiders, aggressive defenders, bully-victims, and assistants.

However, it should be noted that all these roles can overlap; plus, that they can overlap between cyber and offline contexts. The links between cyber and offline context have been already shortly described. Moreover, prior studies focused on the overlap between cyberperpetrators and cybervictims (Gradinger et al., 2009). One of possible explanation is that cybervictimization may lead to subsequent cyberaggression (Wright & Li, 2013), or that cyberbullies-cybervictims present a specific group of children with specific vulnerabilities and problematic individual and social characteristics (Kowalski & Limber, 2013).

Prior research addressed the roles of youth in cyberaggression and investigated the factors which are connected with the specific types of involvement in cyberbullying. In school bullying, an Ecological Systems Theory (Bronfenbrenner 1977) has been applied in the need to identify diverse factors connected to bullying. Since bullying – and cyberbullying – are a complex processes which are affected by interplay of factors on a different levels, Swearer and Doll (2001) described the benefits of utilizing the ecological system approach and examine factors linked with the levels of the individual, peers, the family, the school, the community, and the culture. Such broader investigations capturing the effects of diverse factors, and ideally also their interactions, helped understanding the processes of bullying and have been later adapted also in cyberbullying research (Hong et al. 2016).

To contribute to this line of research, the first subsection concluding the findings from the selected studies would be oriented on the links between cyber and offline aggression, perpetration and victimization, and correlates of the diverse participatory roles.

Responses to cyberaggression

Another studied area focuses on the way youth respond to experienced incidents. In this thesis, I will focus on the responses to cyberaggression among two groups of youth. First are cyberbystanders, who may react in three basic ways: they can help the victim, they can be on the side of the perpetrator, or they can stay passive, non-involved and distant from the whole situation they witness.

It should be noted that the range of responses of bystanders is not so clearly delineated and there are also crucial differences within these types of responses. For instance, helping the victim can have multiple forms (Kanetsuna & Smith, 2002; Trach et al., 2010), such as confrontation of the aggressor, offer of emotional support to the victim, retaliation towards aggressor, or provision of advice what to do (e.g., how to block the aggressor), etc. Many of these responses can be also (depending on the situation and context) conducted online and/or offline, as well as

in public or just in private. Similarly, helping aggressor can have also many forms, from joining in the incident and providing open support to their actions to anonymous "like" of harmful content. With regard to passive response, we can ask whether bystanders, for instance, observe the ongoing event or if they leave the incident immediately after they recognize the nature of the incident. It is also useful to acknowledge that even passivity may be connected with either sympathy towards victim but also towards aggressor (Machackova, Dedkova, Sevcikova, & Cerna, 2018; Pfetsch, 2016).

There are many factors connected to the responses of bystanders (Allison & Bussey, 2016; Domínguez-Hernández, Bonell, & Martínez-González, 2018). In existing studies, the attention is given to individual characteristics, such as empathy and self-efficacy, moral disengagement, as well as to a specific context in which bystanders witness the incident, such as the severity and type of witnessed incident, „proximity", relationship towards other actors, or presence of other bystanders (Bastiaensens et al., 2014; Barlińska, Szuster, and Winiewski, 2013, 2015; DeSmet et al., 2012;, Machackova, Dedkova, Sevcikova, & Cerna, 2013, 2016; Van Cleemput, Vandebosch, & Pabian, 2014).

To contribute to this line of research, the second subsection concluding the findings from the selected studies would be oriented on the responses of cyberbystanders with regard to the role of the individual characteristics and contextual effects.

The second type of response targeted within this thesis is the responses of the cybervictims to the incident – that is, *coping with cybervictimization*. It has been shown that cybervictimization has negative impact on victims (Parris et al., 2012; Slonje, Smith, & Frisén, 2013), however, the victims' coping strategies may help both to stop bullying but also emotionally deal with the situation (Machmutow, Perren, Sticca, & Alsaker, 2012; Orel, Campbell, Wozencroft, Leong, & Kimpton, 2017). Coping strategies of cybervictims have been discussed in prior literature (Perren et al., 2012; Raskauskas, & Huynh, 2015; Völlink, Bolman, Dehue, & Jacobs, 2013) and specific focus has been given to the strategies specific to the cyberaggression. In this regard, prominently has been discussed so-called technical coping, that is strategies which can be applied via technology (such as, blocking the attacks, deleting messages, or reporting to the administrator). However, the range of possible coping strategies vary highly and is analogous to coping with offline victimization, including for instance ignoring the incident or active seeking of support. Coping with cyberaggression has also been examined in relation to the type of incident as well as diverse factors identified within the Ecological Systems Theory paradigm, especially individual and social factors (Perren et al., 2012).

To contribute to this line of research, the third subsection concluding the findings from the selected studies would be oriented on the responses of cybervictims with regard to the role of the individual and social factors.

List of studies (and authors' contribution)

The thesis consists of two sets of studies which are all included in the Appendix: studies which are directly focused on the topic of cyberaggression (Studies I, II, III, VI, VII, VIII, IX, X) and studies which more broadly examine issues related to online interaction (Studies IV, V, XI).

Note: Study VI is a review of published work from project EU Kids Online II. Since the review includes also Study VII and Study VII, the findings are not reported as corroborating findings, but Study VI provides a descriptive overview while the two latter studies are discussed in more depth due to their more profound analytical approach.

STUDY I: Machackova, H. & Pfetsch, J. (2016). Bystanders' responses to offline bullying and cyberbullying: The role of empathy and normative beliefs about aggression. *Scandinavian Journal of Psychology, 57,* 169–176. http://dx.doi.org/10.1111/sjop.12277

Author contribution (70%): Leading author, partial work on integration of theory and discussion, predominantly involved in the analysis

STUDY II: Machackova, H., Dedkova, L., & Mezulanikova, K. (2015). Brief report: The bystander effect in cyberbullying incidents. *Journal of Adolescence, 43,* 96-99. http://dx.doi.org/10.1016/j.adolescence.2015.05.010

Author contribution (90%): Leading author, predominantly involved in the theory, analysis, and discussion; supervision of methodological design and data collection

STUDY III: Machackova, H., Cerna, A., Sevcikova, A., Dedkova, L., & Daneback, K. (2013). Effectiveness of coping strategies for victims of cyberbullying. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 7*(3), article 5. http://dx.doi.org/10.5817/CP2013-3-5

Author contribution (60%): Leading author, partial work on integration of theory and discussion, predominantly responsible for the data analysis, co-operation on methodological design development, coordination of the data collection

STUDY IV: Machackova, H., & Smahel, D. (2018). The perceived importance of credibility cues for the assessment of the trustworthiness of online information by visitors of health-related websites: The role of individual factors. *Telematics and Informatics, 35,* 1534-1541. http://dx.doi.org/10.1016/j.tele.2018.03.021

Author contribution (90%): Leading author, predominantly involved in the theory, analysis, and discussion; co-operation on methodological design development, coordination of the data collection

STUDY V: Machackova, H. (2015). Online communities and early adolescents. In P. Lorentz, D. Smahel, M. Metykova, & M. F. Wright (Eds.), *Living in the digital age: Self-presentation, networking, playing, and participating in politics (pp.* 62-77). Brno: Muni Press.

Author contribution (100%): Single author, predominantly involved in the theory, analysis, and discussion; co-operation on methodological design development, coordination of the data collection

STUDY VI: Görzig, A. & Machackova, H. (2016). Cyberbullying in Europe: A review of evidence from cross-national data. In M. F. Wright (Ed.), *A social-ecological approach to cyberbullying* (pp. 295-326). Hauppauge: Nova Publishing.

Author contribution (45%): The work was shared in half between the authors except the leadership of the study.

STUDY VII: Cerna, A., Machackova, H., Dedkova, L. (2016). Whom to trust: The role of mediation and perceived harm in support seeking by cyberbullying victims. *Children & Society, 30*, 256-277. http://dx.doi.org/10.1111/chso.12136

Author contribution (40%): Development of the main topic of the study, partial involvement in the theory and discussion, main involvement in the analysis

STUDY VIII: Vazsonyi, A. T., Machackova, H., Sevcikova, A., Smahel, D., & Cerna, A. (2012). Cyberbullying in context: Direct and indirect effects by low self-control across 25 European countries. *European Journal of Developmental Psychology, 9*, 210-227. http://dx.doi.org/10.1080/17405629.2011.644919.

Author contribution (30%): Partial involvement in the theory, analysis, analysis, and discussion

STUDY IX: Bayraktar, F., Machackova, H., Dedkova, L., Cerna, A., & Sevcikova, A. (2015). Cyberbullying: The discriminant factors among cyberbullies, cybervictims, and cyberbully-victims in a Czech adolescent sample. *Journal of Interpersonal Violence, 30*, 3192-3216. http://dx.doi.org/10.1177/0886260514555006

Author contribution (30%): Partial involvement in the theory, analysis (including the design of analytical strategy), and discussion, co-operation on methodological design development, coordination of the data collection

STUDY X: Ševčíková, A., Macháčková, H., Wright, M. F., Dědková, L., & Černá, A. (2015). Social support seeking in relation to parental attachment and peer relationships among victims of cyberbullying. *Journal of Psychologists and Counsellors in Schools, 25*, 170-182. http://dx.doi.org/10.1017/jgc.2015.1

Author contribution (30%): Partial involvement in the discussion, main involvement in the analysis, co-operation on methodological design development, coordination of the data collection

STUDY XI: Barbovschi M., Macháčková, H., & Ólafsson, K. (2015). Underage use of social network sites: It's about friends. *Cyberpsychology, Behavior, and Social Networking, 18,* 328-332. http://dx.doi.org/10.1089/cyber.2014.0553

Author contribution (30%): Partial involvement in the theory and discussion, main involvement in the analysis

Methodology

This thesis is based on published studies which all utilize quantitative design, specifically survey-based self-reported data. The details concerning the specific character of the data can be found in the methods sections of the respective studies in Appendix.

Data in Studies III, IX, and X are from a project focusing on coping strategies with cyberbullying, which was part of action COST ISO801. The aim of the project was to examine coping strategies and their perceived effectiveness by Czech adolescents (aged 12-18) when facing cyberbullying. In 2011 – 2012, a survey was conducted on 2,092 Czech children in 34 schools in the South Moravian region.

Study VIII, VI, and VII use international data (25 participating European countries) collected in April/October 2010 within the project EU Kids Online II. The overall sample consisted of 25 142 children aged 9–16 who were Internet users and who filled out both administered and self-completed questionnaires focused on their online experiences at home.

Study XI is based on data collected in 2013–2014 within the international project Net Children Go Mobile (7 European countries), which was partially following-up the EU Kids Online II project. The sample comprises 3,565 respondents, Internet-using children aged 9–16 years. The sample for this study was of 1,723 respondents, aged 9–12 years who were either SNS nonusers or who used mostly Facebook.

Study II utilizes data from 257 bystanders of online aggression (whole sample n= 679) adolescents aged 11-19 who agreed to participate in a survey conducted in seven schools in the Czech Republic in 2014.

Study I uses data collected in winter 2013 / 2014 in four secondary schools in a large city in Germany. The sample comprises 321 students aged 12–18.

Study IV utilizes data from the visitors of websites focused on nutrition, weight loss, and exercise that was collected as part of a project on eating behaviors in the context of internet and technology use collected via an online survey between May and October 2016. The original sample comprised 1,002 respondents, the sample in the study comprises 695 respondents aged 13-57.

Study V uses the data from the first way of panel-survey on 3,055 students from a stratified random sample of schools in the Czech Republic. A subsample of 865 respondents aged 11-14 was selected on the basis of reporting participation in online groups.

Discussion and key conclusions

The research on cyberaggression presents a substantial research area which currently comprises hundreds (or even thousands) of studies. It is inextricably nested within the broad discipline of cyberpsychology and utilizes knowledge related to the general patterns and effects of technology usage, but it also builds on the long tradition of research on aggression and bullying among youth. There are multiple research problems which urge investigations focusing on particular issues which were rather briefly presented in the introduction.

As I stated above, the goal of this thesis is not to provide an in-depth examination of one specific issue. The goal is to depict the specific contributions of selected studies utilizing diverse data, with overreaching goal to focus on the specificity of the cyberspace experiences – that is, what can be differentiating in the case of cyberaggression in comparison with offline conditions.

To answer this question, I will summarize and briefly comment on the selected findings from the studies on cyberaggression and cyberpsychology included in this thesis (included in the Appendix). Following the Introduction, this section is categorized into three main areas of interest. The first subsection is considering the involvement in diverse roles in cyberaggression. The second subsection focuses on responses of bystanders of cyberaggression. Finally, the third subsection centers on the responses of cybervictims in form of harm and coping. These findings will be also commented with regard to the studies which more broadly examined the differences and augmentation of online and offline lives, their perceptions, and possible challenges related to online interaction.

Involvement in cyberaggression: Participatory roles and interconnection between cyber and offline aggression

First of the research questions concerns the correlates of the involvement in cyberaggression in diverse roles and especially the similarities and differences between cyber and offline aggression. This issue was examined within Study VI, Study VIII (both based on findings from the project EU Kids Online II) and Study IX (based on the Czech data from adolescents involved in cyberaggression as victims and/or perpetrators). This issue was also partially addressed in Study I (utilizing a sample of German students reporting about their experiences as bystanders in cyber and offline aggression).

The findings of the studies showed that, in line with prior literature (Festl, Scharkow, & Quandt, 2014; Juvonen & Gross, 2008; Smith et al., 2008; Waasdorp & Bradshaw, 2015) there are quite substantial links between cyber and offline experiences with aggression. Moreover, the studies provided evidence depicting the interconnection between the cybervictimization and cyberperpetration.

In both aspects, Study VI provided a comprehensive and exhaustive synthesis of findings related to cyberaggression from the international project EU Kids Online II. In essence, the

reviewed studies showed associations between perpetration and victimization and between these experiences in the offline and online environment. Similarly, Study I showed that there is a tendency among bystanders to react correspondingly online and offline: Those who tend to support the victim tend to do so both online and offline, and those who are prone to reinforce the bully also respond in a similar fashion in both environments.

A possible explanation of these similarities may lay in the presumption that both cyber and offline aggression share common risk and protective factors. Study VI showed that both cybervictimization and cyberperpetration were associated with psychological difficulties and some kind of social disadvantage (lower SES or discrimination), cybervictimization also with the poorer quality of social relationships and cyberperpetration with other offline risks. Similar factors have been found in prior literature on both offline and cyberaggression (Guo, 2016; Hong, 2016; Kowalski & Limber, 2013; Vandebosch & Van Cleemput, 2009). This would partially support the argument presented in the Introduction - that in many cases, cyberaggression is actually a specific type of offline aggression.

This argument is further supported by Study VIII which examined these associations in more depth and proposed that there is a path from offline aggressive experiences to cyberaggression (for both victimization and perpetration). Further, the study tested the direct and indirect effect of low self-control, a risk factor which has been shown influential in the explanation of the deviant or crime behaviors (Gottfredson & Hirschi, 1990). The tested model showed that children who had low self-control tended to engage more in offline perpetration and were more likely offline victims, and, in turn, also more likely became involved in cyberaggression. Though the effect of self-control was more robust for cyberperpetration, it also helped predict the offline victimization and, indirectly, cybervictimization. Thought the interpretation is limited because of the cross-sectional data, the potentially high explanatory power of the self-control was shown also in Study IX, where this factor helped to distinguish between the cybervictims, cyberbullies, and cyberbullies/victims. Moreover, the importance of this factor has been shown also in other studies on cyberbullying (Gradinger, Strohmeier, & Spiel, 2009; Li, Holt, Bossler, & May, 2016).

However, though this evidence supports the argumentation about interconnection between the types of involvement in the aggression, the studies also showed differences between the participatory roles. As mentioned above, Study VI showed that unlike cybervictims, cyberbullies did not report poorer quality of social relationships, but they had more problematic offline experiences. The differences between the participatory roles showed also Study IX, which investigated the differences between cyberbullies and cybervictims, and cyberbullies/victims. The study shows that cybervictimization was characterized by higher self-control and lower offline aggression; while cyberbully-victims reported higher offline aggression and lower self-control. Study VI also showed that cyberbully/victims were most problematic in terms of psychological difficulties. In similar fashion, Haynie and colleagues (2001) also identified bully/victims as a potentially the most problematic group of children involved in offline aggression. Therefore, though there are some similarities between both types of cyberaggressive experiences, upon this evidence, I would stress the need to pay attention to the specificity of the involvement in victimization and perpetration. Especially the prevention

and intervention efforts should acknowledge that the subgroup of cyberbully/victims may be most problematic and vulnerable.

Differences between cyber and offline aggression

Finally, Study VI uncovered also some interesting findings which highlight differences between cyber and offline aggression. These differences concern especially factors related to internet use.

First, the cybervictimization has been linked with more intense internet usage, usage of social networking sites, usage of mobile devices and experienced misuse of personal data. Having a profile on a social networking sites seems to be particular risk for both cybervictimization and cyberperpetration (Dredge, Gleeson, & De la Piedad Garcia, 2014). Study VI showed that circa half children reporting cybervictimization also reported that this happened via social networking sites, and having social networking sites profile doubled the odds of being victimized online. The ownership of social networking sites profile also differentiated between those with only offline and also online bullying experiences (both as a victim and perpetrator).

Given the important role of social networking sites in cyberaggression, we should nevertheless consider that the social networking sites are currently highly prominent part of online social lives and constitute integral part of not only online but also offline interactions (boyd, 2014). For many youth, having own profile on social networking sites is also the first step in their broader online experiences and we know that even younger children are becoming their owners and users before the legal age limit. Considering this importance of social networking sites, Study XI examined factors connected with their usage among early adolescents. It showed that the owners of profile on social networking sites reported higher tendency for online disinhibition and tendency to seek new friends online. Though the usage of social networking sites may bring many benefits in social life, in the context of cyberaggression research, this urges also caution due to possible negative outcomes. It has been shown that the increased tendency for disinhibition can be problematic since it is connected with increased aggression as well as increased self-disclosure, which predicts cybervictimization (Schacter, Greenberg, & Juvonen, 2016). In this context, it should be repeated that disinhibition in online environment can be also related to lower self-control, which has been linked with both cyberperpetration and cybervictimization (Study VIII). Thus, in relation to the early onsets of usage of social networking sites, a caution is warranted - especially in cases of children who are just becoming more involved in online social lives and may not have necessary skills and experiences with the possible negative aspects and consequences of online interactions. In this regard, we need to understand in more depth which factors help to regulate the potentially negative outcomes of social networking sites without hindering the beneficial opportunities which their usage brings for young users.

Moreover, as Study VI shows, cyberbullies engaged more in online risky activities and reported higher beliefs about their internet abilities, found it easier to be themselves online and reported that they found it easier to talk about different and more private things online than they would offline.

In the context of cyberaggression, it is useful to consider in which online environments are youth more inclined to behave in similar – or, on the contrary, different - fashion. One of the

factors depicted in Study V was the overlap between online and offline friends, which was typical for most youth. However, this study also highlighted that youth who on the internet dominantly interacted in online groups consisting of unknown people were more prone to behave substantially differently online (in comparison to youth interacting with people they know offline). Based upon the findings from this study, we may presume that many online groups share some form of offline contact and therefore do not allow for highly dissociated behavior, since that could be perceived negatively in comparison with offline reality. Such behavior may be more common within groups with predominant online contact. In these environments, it should be further researched to what extent and in what occasions can online interaction of current youth exacerbate the prominence of the risk factors connected with cyberperpetration and cybervictimization. Nevertheless, it is also important to consider the nature of social groups (both online and offline) in which youth interact. Though online groups with offline contact may hinder the tendency for aggressive expressions, in cases of groups in which some negative processes such as bullying already exist, these may be mirrored online.

Bystanders' responses to cyberaggression

A second focal area of this thesis comprises the examination of the responses of bystanders of cyberaggression. This topic was specifically addressed by Study I (utilizing a sample of German youth reporting about their experiences as bystanders in cyber and offline aggression) and Study II (analyzing a sample of Czech youth who reported having experience as a bystander of cyberaggression). Both studies examined predictors of bystanders support towards cybervictim, Study I also considered the reinforcement of the perpetrators. Both studies captured the role of individual and social factors but also the role of the context in which bystanders respond to the aggression. Main research question of Study II was whether the perceived presence of other bystanders affects the provided support, while Study I focused primarily on differences between offline and cyber aggression.

As was mentioned in the previous subsection, according to findings in Study I, it seems that the responses of bystanders are linked in a similar fashion as cyber and offline victimization and perpetration. Thus, as shown, those who provide support in cyberbullying also tend to do so in offline bullying – and those who tend to reinforce bullies do so also in both environments. Which indicates that bystanders' responses also have some common correlates, in both types of environments.

Both studies confirmed that the factors which have been previously found as determinants of responses to offline aggression have a crucial role also in cyberaggression. Among these belong empathy, in form of immediate empathic concern (Study II) which urges the action as well as a more stable trait of affective empathy (Study I). In line with prior findings (DeSmet, Bastiaensens, Van Cleemput, & Poels, 2016; Gini, Albiero, Benelli, & Altoè, 2007; Pöyhönen, Juvonen, & Salmivalli, 2012; Van Cleemput, Vandebosch, & Pabian, 2014), it seems that empathy is an important prerequisite for the provision of support both online and offline. Focusing also on the role of normative beliefs, that is cognitive self-regulatory mechanisms

guiding our evaluation of the appropriateness of certain behavior (Huesmann & Guerra, 1997; Guerra, Huesmann & Hanish, 1995), Study I showed that those who think that it is appropriate to respond aggressively (to provocation) verbally and online tend to reinforce the aggressor, both online and offline.

Both studies also pointed out the importance of the context in which the situation occurs. In accordance with existing knowledge (Desmet et al., 2012; Lodge & Frydenberg, 2005; Macháčková et al., 2013; Oh & Hazler, 2009), Study II showed that we need to take into consideration the relationships between the actors and that non-existent relationship dampen the possibility of getting help. Moreover, Study II showed that similarly to offline aggression, cyberaggression can be affected by the contextual factors described by the Bystander Intervention Model proposed by Latané and Darley (1970). Specifically, it showed that if cyberbystanders thought that there are other bystanders witnessing the situation, this lowered their tendency to provide support to the victim. In this sense, the study provided evidence supporting the hypothesis that the so-called bystander effect is present also in the online environment. Moreover, also in line with the Bystander Intervention Model, it has been showed that efficacy can be determining in the decision to offer help. While those who thought that they have higher social skills more likely provided help, probably because they felt that they can do so effectively. In sum, the study corroborated the evidence that the processes affecting the responses of bystanders in offline situations (Fischer et al., 2011; Latané & Nida, 1981) are influential also in the cyber environment.

On the other hand, the Study I highlighted also important differences between the supportive responses in offline and cyber context. Above, I mentioned that both studies showed that responses to cyberbullying are linked with empathy – those bystanders with higher empathy tend to help the victim more. However, Study I also showed potential differences between the specific types of empathy: According to the findings, while affective empathy predicted provided support in both cyber and offline context, cognitive empathy (i.e., ability to comprehend the situation and take the person's perspective) predicted support to the victim offline yet not in cases of cyberaggression. This can suggest that for youth, it is problematic to correctly and accurately assess the incidents which happen in an online environment. Thus, while the affective empathy which reflects tendency to invoke the immediate affective response (which is an important precursor of supportive action; Macháčková et al., 2013) can still urge provision of support, the otherwise higher competence to get "into others' shoes" in form of cognitive empathy does not result in supportive action.

Thus these studies again show that while in general, there are many similarities between responding to online and offline aggression, they also urge the need to acknowledge some differences. Upon the findings from these studies, the differences concern especially cognitive processes – which may be linked with a problematic assessment of the situation in the online environment. Online attacks pose a challenge for the correct interpretation of ongoing events. While several individual factors influence bystander behavior, these are determinative especially after one recognizes the incident as an aggressive act that requires intervention (Koehler & Weber, 2018). Such recognition serves as a necessary prerequisite for bystander response, making the assessment of the situation a crucial part of the process. Therefore, we

need to pay particular attention to the specific contextual factors in which bystanders encounter the incidents, since they determine the assessment of the whole situation.

In this regard, it is crucial to understand which factors help to determine the final judgement concerning the nature (and severity) of the ongoing events. To this date, there is rather limited evidence concerning this process, though there are studies which provide useful knowledge related to the evaluation of online information. For instance, Study IV described challenges which people encounter in online environment in relation to the assessment of online information and how they rely on specific heuristics in this process. The findings showed that people mostly rely on the assessment of the surface cues, which are important for their judgement about the nature of the information. However, we lack deeper knowledge about the effect of the specific contextual factors and cues present in the online environment on bystanders' assessment of the situation and their consequential responses. This issue should be targeted in future studies, which could implement experimental design to investigate the role of diverse online cues. Such examination could elaborate on the findings on Study II and for instance answer the question asking upon which information and cues children form their perception of presence of other cyberbystanders.

Victims' responses to cyberaggression

The third area of interest comprises the responses of the cybervictims. This topic was examined specifically within Study III, Study X (both utilizing Czech sample of cybervictims), Study VII (based on a subsample of cybervictims from data of the project EU Kids Online II), and Study VI (reviewing findings from the project EU Kids Online II).

Study III and Study VI provided an overview of the strategies which have been applied and their assessment in terms of effectiveness and the factors which may explain the choices of the type of response. In both studies, harm has been shown as an important factor which helped to differentiate between youth who did or did not apply certain strategies. Similarly to offline aggression, also cyberaggression presents harmful experience, though the impact varies (Hamm et al., 2015). As discussed in the Introduction, the impact may range from single not-upsetting incidents to hurtful events which have a huge emotional impact.

Upon the findings from the studies, the harm caused by cybervictimization is a crucial factor in the consideration of the coping with cyberbullying. Harm has been also shown to be associated with specific individual and social factors. Study VI concluded that higher harm was reported by youth victims with psychological difficulties, lower sensation seeking, lower self-efficacy, and lower SES, who had parents more mediating their internet usage (with the exception of active mediation of internet use, where the association was opposite). This finding prompts at least two possible explanations. First would suggest that since most of these are risk factors for bullying victimization (Espelage & Holt, 2001; Golmaryami et al., 2016; Swearer, Song, Cary, Eagle, & Mickelson, 2001), the reported (higher) harm functions as a functional indicator of the severity of the experience. Another explanation could propose that these factors can be also hindering effective coping with the emotional impact and thus lead to increased harm (in

comparison to youth with less problematic psycho-social profiles). In fact, both explanations are probable and the link between these factors and harm can be both direct and indirect, mediated (as well as moderated) by the severity of the incident.

Study III considers the first explanation and focuses on the differences in coping of children who report low and high harm. In general, the findings showed that youth with high harm tend to apply more strategies (similar findings are shown in in Study VI). Moreover, the more harmed cybervictims were the more they tended to pursue active actions such as changing own contact or profile, seeking advice online, or confronting the aggressor online, which could be conceptualized as problem-oriented strategies (Lazarus & Folkman, 1984). The extent of harm was also influential on the cognitive responses – specifically, it hindered the tendency to take things lightly, seeing it as not hurtful or even unreal, but also urged them to avoid the incident cognitively or even purposefully ignore it. However, in other strategies, the difference between responses to more and less harmful experiences was not so pronounced. For instance, popular strategies such as seeking social support, severing and blocking the contact, effort to purposefully ignore the incident or depreciating the aggressor mentally were distributed almost evenly. Study VI also showed that youth with psychological difficulties reacted more passively, such as they were more likely to stop using the internet, hope that the problem would go away, and less likely to talk about their experience. It also linked technical coping strategies with higher digital skills and self-efficacy. Retaliation was rather scarce strategy in both studies, linked with the cyberbully/victim experience (Study VI).

Seeking social support

One of the most common and highly recommended strategies is seeking social support (Parris et al., 2012). Such strategy can be highly effective since it can, for instance, prompt peers to provide help to the victim (Macháčková et al., 2013). Both Study VI and Study III showed this was indeed a popular response to the cybervictimization. Two other studies, Study X and Study VII focused specifically on the strategy of seeking social support. Both consider the role of social relationship and harm in the employment of his strategy. The results are not completely consistent since Study X showed that the tendency to seek support from parents is not directly linked to harm, while Study VII showed that intensity of harm increased the odds for seeking support from parents, peers, or both. This discrepancy might have methodological explanation. It is possible that the international and larger sample in Study VII allowed to detect the effect, which due to smaller variation could not be detected in Study X. It should be noted that in bivariate analysis in Study X, the social support seeking and harm were correlated, but only weakly (r=.14).

However, both studies highlighted the importance of the quality of the relationships with parents and peers. Study X showed that good parental attachment and low peer rejection increased the odds that a child will tell a parent about their cybervictimization. Similarly, Study VII showed that the parents and peers have the role in the selection of this coping strategy. Focused more on their role in the child's experiences in the online world, the study showed that parental and peer active mediation of internet use were linked with seeking support from respective actors (while restrictive mediation had no effect). Moreover, this tendency was also positively associated with parental knowledge about child's online activities and to whether

children seek support from parents when bothered. Finally, though Study X did not show a direct association between harm and seeking support, it investigated possible moderation effect. According to the findings, among children with poor parental attachment, the increased harm lead to lower odds of talking to parents. Both studies thus show the importance of both individual level and social level factors in the application of this socially-oriented coping strategy.

Limitations and future directions

This thesis provided an overview of findings from data drawn from several projects, including survey-based data from national and international samples. Though the diversity of the data increased the opportunity for cross-validation of the findings, the methodological design is also necessarily limited in several regards, which also pose inspiration for future studies in this area.

Since the data are cross-sectional, the argumentation on the level of causal effects is only hypothetical. There is still need for longitudinal and experimental studies which would support the presumptions concerning the described effects, such as responses of bystanders or proposed model depicting the role of self-control on offline and consequentially cyber aggression. Though especially experimental research would be highly requiring in terms of ethical considerations, it would be beneficial to examine the responses of cyberbystanders based on specifically designed experimental materials, which would allow for the more precise conclusions regarding the effects of selected cues underlying the responses. Moreover, it is important to acknowledge that the findings are based on the self-reported data, which may suffer from recollection bias and social desirability bias. Future studies may consider the designs which would include observatory methods, or using multi-informant approach which would increase the validity of the collected data. Another limitation of this thesis is that it focused only on selected issues within the examined areas. Plus, since I was focusing on the negative phenomenon of cyberaggression, the otherwise beneficial effects of internet usage were discussed only very briefly, which should be taken into account in the contextualization of the findings. Finally, considering that the whole design is based on quantitative methodology utilizing questionnaire-based data, I did not aspire to provide more in-depth understanding of the specificity of the online experiences of involved youth. However, as stated in the Introduction, such perspective is highly warranted, since it yields deeper understanding of the lived experiences of youth.

Final conclusion

This thesis is a compilation of several studies which examine the selected topics within the field of research on cyberaggression. Specifically, the studies contribute to the understanding of the factors related to the involvement in the cyberaggression in diverse participatory roles, the responses of bystanders of online aggression, and responses of the cybervictimized youth, specifically in the form of perceived harm and coping strategies.

In summary, though there is evidence supporting the presumption that cyber and offline aggression share common determinants and are linked, this thesis also highlighted some differences which distinguished the experiences with cyberaggression from those endured in offline environment. It was shown that there are some specific factors connected with

cyberaggression and cybervictimization, which are related to the involvement in online social life (such as SNS usage or tendency for disinhibited behavior). Moreover, it was shown that bystanders of cyberaggression may face difficulties in the assessment of the ongoing events which may hinder their supportive responses. Finally, findings showed how the responses to cybervictimization are affected by the extent of the perceived harm, which needs to be taken into consideration. Moreover, in relation to the application of the coping strategies, a social environment has a significant role.

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