Joyce Kerstens

YOUTH AND CYBERSAFETY

YOUTH being AT RISK and being A RISK on the INTERNET

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Kerstens, Joyce

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YOUTH AND CYBERSAFETY

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Joyce Kerstens
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Promotiecommissie:

Promotor: Prof. dr. W. Ph. Stol	Open Universiteit
Co-promotor: Dr. T. Völlink	Open Universiteit

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PREFACE

In 2008, I worked as a senior-researcher for the *Cybersafety Research Group* which is affiliated with *NHL University of Applied Sciences*, the Dutch *Policy Academy* and the *Open University* in the Netherlands. At that time, relatively little was known about the prevalence and characteristics of youth being 'at risk' on the Internet. The uncertainties about the possible negative influences of online technologies on youth's safety fuelled by anecdotal reports about children harmed on or via the Internet, gave rise to public concerns, anxiety and even moral panic. Initially, the concerns were predominantly related to youth's exposure to online pornography and other harmful content on the Internet; later, the concerns also encompassed cyberbullying – youth being victimized by peers – and 'stranger danger' – unknown adults initiate online contact with youth to sexually abuse them online or offline. The phenomenon of 'sexting' – youth making and sending online sexually explicit images of themselves or peers – has brought about an attention shift towards youth being 'a risk' on the Internet. Concerns about cybersafety now also relate to youth engaging in online risk behaviour or being a perpetrator of deviant and criminal online behaviour.

In the year 2008, the *Cybersafety Research Group* received an increasing number of questions about cybersafety for youth from professionals working with youth. These questions came from police officers, teachers and social workers. The questions, for example, were about virtual theft, cyberbullying and sex videos of minors circulating on the Internet. Moreover, we noticed that parents and caretakers asked questions about their children's online safety on the *Mijn Kind Online* website [*My Child Online* website] or related websites and, that cybersafety for youth was placed high on the political agenda. Questions about cybersafety for youth and the prioritization of cybersafety by politicians have emphasized the importance of the issue, but it also became clear that the knowledge on youth being 'at risk' and being 'a risk' on the Internet was insufficient.

In order to fill in the knowledge gap, Wouter Stol and I wrote a proposal for a research project named *Youth & Cybersafety*. The aim of the research project *Youth & Cybersafety* was to provide parents and caretakers, professionals working with youth and politicians with evidence-based information on youth being 'at risk' and youth being 'a risk on the Internet. The proposal was accepted by the Dutch Ministry of Education, Culture and Science and the *Cybersafety Research Group* received a RAAK-PRO subsidy from the *Taskforce for Applied Research*. The research project *Youth & Cybersafety* started in September 2009 and ended in December 2014. We first conducted an exploratory international literature study and based on this study, interviews with various experts

from different scientific disciplines and, interviews with youth, we developed an online questionnaire. In 2011, we conducted a national survey among 6,300 youth in primary and secondary education. From January to April my colleagues, students and I travelled across the country to visit schools, collect data and to coordinate the fieldwork process. In 2011, we also conducted a national survey among 1,250 parents about their perception of cybersafety for their children and parental mediation. After gathering quantitative data, we interviewed 50 youths about their experiences online, the context of their experiences and their strategies to cope with or to avoid negative online experiences.

The results of the surveys and the qualitative study were presented at various presentations and conferences, for example the EU Kids Online Conference in London (2011), the Dutch Criminology Conference in Leiden (2012), and the Annual Conference of the European Society of Criminology in Budapest (2013) and Prague (2014). In addition, I gave lectures for police officers, professionals of the Public Health Service and teachers. Furthermore, my colleagues of the *Youth & Cybersafety* project and I, have built a professional working community, the *Cybersafety and Education Network for Youth* (*CyREN-Youth*), consisting of professionals from various disciplines and professions. The aim of *CyREN-Youth* is to enhance the cybersafety of youth through to the exchange of knowledge and cooperation. In 2014, we developed the *Online Tool Internet Safety*, based on the analyses of the quantitative and qualitative data. The *Online Tool Internet Safety* is especially designed for schools in secondary education and it enables schools to map the online problems of their students and it supports schools in preventing or dealing with online problems. Currently, the Dutch Ministry of Education, Culture and Science and the Ministry of Safety and Justice consider a nationwide implementation of the *Online Tool*. In 2014, the *Online Tool* was nominated for the RAAK-AWARD. The knowledge obtained with the *Youth & Cybersafety* project is also implemented in the curricula for future professionals. The *NHL University of Applied Sciences* offers a minor Cybersafety and a specialization Cybersafety. Part of the program is the book *Cybersafety: An Introduction*, which contains four chapters on youth and cybersafety written by my colleagues and me. At the *Police Academy*, youth and cybersafety is also part of the curriculum. In the near future, youth and cybersafety will be part of the module *Law enforcement in a digitized society* at the *Open University*.

Last but not least, this dissertation is part and product of the *Youth & Cybersafety* project. The dissertation contains five articles written for academic journals – all based on the national survey among 6,300 youths – and together they offer a comprehensive picture of Dutch youth being 'at risk' and being 'a risk' on the Internet. Being a project manager and researcher of the *Youth & Cybersafety* project, enabled me to contribute to the research design, to analyse and to interpret data, but it also permitted me to have enlightening conversations with youth, their parents and teachers and, with professionals working with youth. I learned that writing a dissertation is an excruciatingly slow process, that technology moves fast and that most youth are quite skilled and resilient and, develop

in a way not much different from the way when I was their age.

Joyce Kerstens

Easterein, July 2015

1 INTRODUCTION

For youth in the world's wealthy countries the Internet is an integral part of their daily lives. The majority of youth have Internet access at home, a substantial amount of youth own a computer, a laptop or mobile phone with Internet access and, youth go online every day (Kerstens & Stol, 2012; Lenhart, Purcell, Smith, & Zickuhr, 2010; Livingstone, Haddon, Görzig, & Haddon, 2011). Youth use the Internet as a means for communication with friends and other people within their social network, but also for education, information access and entertainment (Gross, 2004; Hasebrink, Livingstone, Haddon, & Ólafsson, 2009; Ito, Baumer, Bittanti, boyd, Cody, Herr-Stephenson, et al., 2010). In addition, they increasingly use the Internet to purchase products and services or, they are actively engaged in selling goods on auction sites (Valcke, De Wever, Van Keer, & Schellekens, 2011). On Internet forums, youth express their opinion on social and political issues (Gibson, Lusoli, & Ward, 2002) and technological savvy youth are involved in creating sophisticated online content or building online tools (Lenhart, Madden, Macgill, & Smith, 2007). It is generally recognized that the Internet affords unprecedented opportunities for youth, which can benefit their development.

There are also concerns that Internet use is related to a diverse array of online risks. Research found that parents, youth and professionals working with youth are concerned about online risks. The 2008 Eurobarometer survey found that the majority of parents of 6-17 year old children in the 27 EU countries were rather or very worried about their child seeing online pornography, being a victim of grooming and being cyberbullied. Parents are also concerned about the risk of financial loss as a result of youth's online commercial exploitation, for example through games that are concealed sales offers, or online activities of criminals (e.g., Livingstone, 2003). Parallel to youth's increased use of the Internet, parents indicated that they are worried about children's compulsive Internet behaviour (Kerstens, 2014). A significant number of youth have expressed their concerns about online risks, predominantly about exposure to pornography, inappropriate messages from strangers and cyberbullying (Livingstone, Kirwil, Ponte, & Staksrud, 2014; Ofcom, 2011). Furthermore, concerns about youth's use of the Internet not only focus on the risks youth may encounter, but also on youth's engagement in what is considered to be risky online behaviour, for example, communicating online with strangers or searching for sexual partners online (e.g., Liau, Khoo, & Ang, 2005; Madden, Lenhart, Cortesi, Gasser, Duggan, Smith, & Beaton, 2013). Finally, mental health workers, educators, policy makers and parents have expressed their concerns regarding youth engaging in deviant and possible illegal online behaviour. For example, the relatively new practice of producing and

distributing online sexual images, often referred to as 'sexting', has received considerable attention, since this behaviour might entail juridical consequences or adverse social implications (Lee, Crofts, Salter, Milivojevic, & McGovern, 2013; Sacco, Argudin, Maguire, & Tallon, 2010). In sum, concerns about youth encountering online risks, youth engaging in online risky behaviours and youth involved in deviant or criminal online activities have become part of the discourse on youth and cybersafety, i.e., youth's safety on the Internet.

1.1 RISK, YOUTH AND THE INTERNET

Risk

Based on a review of available research on online risks for children in 21 European countries, the Netherlands was classified as a 'high risk' country, i.e., above the European average (Hasebrink, et al., 2009). The question, however, is what do we mean when we use the term 'risk' in relation to youth and the Internet? Lupton (2013) provides an analysis of the historical change in the usage of the term 'risk' and related semantics. Approximately a century ago, the notion of risk included the idea that risk could be both positive and negative; currently the term 'risk' is generally used to refer to negative outcomes, with the exception of the area of economics. Furthermore, the term 'risk' has proliferated in the past decades, in expert and lay discourses as well, and the contexts in which the term is used differ widely (e.g., Garland, 2003; Zinn, 2010). In addition, the risk literature reveals that disciplinary perspectives and theoretical approaches to risk differ widely and, that there is no generally accepted definition of risk available (e.g., Althaus, 2005; Aven, 2010; Aven & Renn, 2010). Garland (2003) even claims that the use of the term 'risk' is arbitrary. A meta-definition of risk is therefore not possible, however, in general terms; risk is conceived as the probability of harm (Hansson, 2010; Short, 1984). Types of harm are, for example, financial loss and emotional harm[1] (e.g., Livingstone, 2013; McQuail & Windahl, 1993).

Risk is also understood as a metanarrative, i.e., risk as a central concept in the analysis of our modern society and the social problems emerging from techno-economic development. Giddens (1991, pp. 123-124) asserts that currently 'thinking in terms of risk and risk assessment is a more or less ever-present exercise' and Beck (1992, p. 21) describes risk as 'a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself.' Both Beck and Giddens state that modern risks are manufactured risks, i.e., risks caused by human beings and the advance of sciences. Thinking in terms of risk and systematically dealing with risk, furthermore, has increasingly become an individual responsibility, since our modern society underwent a process of

[1] Within a legal framework, harm can be defined as 'a violation of some legally protected interest' (Eser, 1966, p. 345). This type of harm relates to youth who are a perpetrator or a victim of crime.

detraditionalization and secularization in which the safety, predictability and invariability of pre-existing social identities and inherited values collapsed (Ekberg, 2007; Pidgeon, Simmons, & Henwood, 2006). The omnipresence of manufactured risks in combination with the existence of a multitude of disciplinary perspectives on risk and the increased focus on individual responsibility has led to a shift away from the previously dominant technical or actuarial approach of risk – risk understood as the product of probability and harm – towards an approach encompassing subjective perceptions and experiences of risk as well[2] (Ekberg, 2007; Fischhoff, 1998; Lash, 2000; Taylor-Gooby & Zinn, 2005). This approach transcends the fundamental divide between the view of risk as objectively given and the view of risk as a social construction (e.g., Otway & Thomas, 1982) which both fail to grasp the complex concept of risk and, recognizes the dual nature of risk: risk contains both objective and subjective components (e.g., Hansson, 2010; Zinn, 2006). The technical or actuarial approach of risk may work well in special cases, for example engineering or medicine, but it is recognized that it is inappropriate when used as the sole base for societal decisions (Bradbury, 1989; Zinn, 2004). In the metanarrative on risk, it is emphasized that knowledge on risk is no longer the monopoly of scientists or experts; the public or lay people are '*active coproducers* in the social process of knowledge definition' (Beck, 2005, p. 157, original emphasis).

Risk and Youth

No age group is more associated with risk than that of 'youth' (Coleman & Hagell, 2007; Sharland, 2006). Youth as a category are seen both as 'at risk' – being exposed to risk – and 'a risk' – being a threat to peers or society (Coleman & Hagell, 2007; Jackson & Scott, 1999; Jones, 2009; Kelly, 2000,

[2] The technical or actuarial approach of risk faces several problems. First, risk as the product of probability and harm assumes equal weight for both elements, implicating indifference between major harm and low probability and minor harm and high probability incidents (Kaplan & Garrick, 1981). Equating these numerically equivalent risks is nonsensical (Gough, 1990) and; in addition, '"riskiness" means more to people than "expected number of fatalities"' (Slovic, 1987, p. 285). Second, the seemingly objective technical or actuarial approach of risk is not value-free (Bradbury, 1989). In expert or scientist knowledge values are not absent, but merely repressed (Wynne, 1996). Values appear, for example, in the form of selection of risks, in the prioritization and evaluation of risks or, the specification of what is an acceptable level of risk. In this respect, there is no essential opposition between so-called objective expert or scientific knowledge and subjective lay knowledge of risk, although this is often assumed in the academic literature (O'Malley, 2008, p. 464). Since lay perceptions and experiences of risk are more contextual – involving the complexity and multiplicity of contemporary interactions – as opposed to the scientific or actuarial approach to risk, the particular knowledge of the former can complement the more abstract knowledge of the latter (e.g., Wynne, 1996). Third, the technical or actuarial approach of risk is sensitive to errors: underestimation and overestimation in relation to probability and harm as well. In addition, individuals called attention to several major cases of risk, sometimes against scientific opinions, for example, the radioactive contamination in Sellafield (Wynne, 1996). This indicates the necessity of openness to lay perceptions and experiences with risk (Lamein, 2009). This is specifically important in relation to new technologies and changing social circumstances, since in these cases expert knowledge is insufficiently available and prior experiences with harm are missing. Accurately estimating these risks is then problematic.

2003). Youth being ‘at risk’ rehearses the relatively recent paradigm of the innocent and vulnerable child (James, Jenks, & Prout, 1998), especially in relation to sexualized risk (Jackson & Scott, 1999). This paradigm is paralleled by efforts to create a risk-free childhood and the tendency to reject any risk for youth (e.g., Gill, 2007). Youth being ‘a risk’ is for a part echoing historical conceptualizations of youth – especially boys – as being prone to criminal and deviant behaviour (Buckingham, 2008; Clarke, 2008). Youth being ‘a risk’ is linked to the establishment of many levels of institutions for the monitoring and surveillance of youth (Wyn & White, 1997, p. 22). The described conceptualizations of childhood are contradictory, leading to a tension between care and control in youth policies (e.g., Jones, 2009; Tait, 1995).

The way in which youth and risk are configured in disciplines also varies. Psychologists regard youth's risk taking as part of a normal and healthy development, although it is recognized that risk behaviour may lead to negative outcomes. Youth engage in risk behaviour to experiment with rules, take on challenges, explore boundaries, develop and understand relationships and, achieve autonomy (Lightfoot, 1997; Ponton, 1997; Siegel, Cousins, Rubovits, Parsons, Lavery, & Crowley, 1994). This behaviour is seen as essential for youth's individualization process leading to an integrated sense of self (e.g., Marcia, 1966) and the eventual development of self-esteem and self-regulation (Baumrind, 1987; Irwin, Igra, Eyre, & Millstein, 1997). However, engagement in risk behaviour is related to specific factors (e.g., Boyer, 2006) and not all youth engage in this behaviour (Coleman & Hagell, 2007). Compared with psychologists, sociologists generally take a different perspective on the relation between youth and risk. Risks emerge from the (changing) world youth live in and the problems youth face are not being related to their psychological development, but to their socialization (Buckingham, 2008; Coleman & Hagell, 2007). Youth are at risk, for example, because they grow up in disadvantaged families, belong to a marginalized subgroup or, due to poor educational achievement, have few employment opportunities (e.g., Cauce, Stewart, Rodriguez, Cochran, & Ginzler, 2003). Although the discourses on youth and risk in sociology are disparate, most sociologists agree that youth's transition to adulthood has changed significantly the last three decades (Sharland, 2006). This change is, for example, related to the so-called extension of childhood[3] and the arrival of the Internet.

The literature on youth being 'at risk' and youth being 'a risk' is extensive (e.g., Coleman & Hagell, 2007) and predominantly adopts the perspective of youth in need of protection, either from others or from themselves. Relatively recently, however, this perspective is being criticized and, influenced by the United Nations Convention on the Rights of the Child (1989)[4], the perspective of

[3] The extension of childhood – actually, a stretching of adolescence –, refers to the increased lengthening of pre-adult life phase. Youth stay on longer in further or higher education, and acquire independency at a later age.

[4] The Articles 12 and 13 of the Convention on the Rights of the Child, for example, require that children should

youth as agentic beings or social actors in their own right is receiving more attention (Coleman & Hagell, 2007; James, et al., 1998). From this perspective, youth are seen as capable and competent to understand, negotiate with and act upon their environment (Waller, 2014) and, in research, youth are increasingly seen as subjects rather than objects and this has resulted in a greater emphasis on listening to youth (Kellett, 2005; Van Beer, 1996).

Risk, Youth and the Internet

A recurring phenomenon is the theme of youth 'at risk' and media technologies. In the previous century, the advent of each new media technology – for example, cinema, radio and television – has elicited concerns on the harmful effects of media use for youth (Buckingham, Whiteman, Willett, & Burn, 2007; Wartella & Jennings, 2000), occasionally reaching the level of a moral panic (Drotner, 1992). Concerns on youth's Internet use have followed a recurrent pattern, but the Internet involves a much greater potential for interactivity – including the creation and distribution of online content – than the traditional media (Wartella & Jennings, 2000). Furthermore, online communication is driven by invisible audiences, collapsed contexts and public/private blurring (boyd, 2008) and exposure to inappropriate online content is driven by three characteristics, namely anonymity, affordability and accessibility (e.g., Cooper, 1998). Initially, youth 'at risk' on the Internet dominated the public discourse, media coverage, the research agenda and policies, i.e., youth exposed to inappropriate content and being a victim of cyberbullying or grooming received the most attention (e.g., Livingstone & Haddon, 2009). The unanticipated phenomenon of sexting has brought about an attention shift towards youth being 'a risk', i.e., youth engaging in online risk behaviours which are framed as deviant and possibly criminal (Sacco, et al., 2010; Van der Hof & Koops, 2011).

Three interdependent observations have been made regarding online risk. First, online opportunities are positively correlated to online risks (Livingstone, et al., 2011; Livingstone & Helsper, 2010). The connection of Internet use with opportunities and risks – also referred to as the usage paradigm (Barbovschi, Marinescu, Velicu, & Laszlo, 2012) – indicates that the general assumption that online risks and opportunities are mutually exclusive categories should be adjusted.

Second, exposure to online risks neither necessarily entails experiences of harm, nor are all youth equally affected (Livingstone, 2010, 2013; Livingstone, et al., 2011; Schrock & boyd, 2008). Youth, for example, can respond in a positive or neutral way to the online risks (Staksrud & Livingstone, 2009). Negative, neutral and positive responses to risk may, for example, depend on whether the exposure to risk is voluntary or involuntary or, whether the risk arises from a known or unknown source. The former may apply to exposure to online pornography and the latter may apply to receiving online

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be informed, involved and consulted about all decisions that affect their lives (See also: Third, Bellerose, Dawkins, Keltie, & Pihl, 2014).

sexual requests. Research suggests that youth who engage more in online activities and; therefore, take up more opportunities, encounter more online risks. In contrast, youth who undertake fewer online activities find encounters with online risks more harmful (Livingstone, et al., 2011; Livingstone, Hasebrink, & Görzig, 2012, p. 331). This indicates that the explanations for risks and for harm differ and; furthermore, this brings to the fore that measuring online risk – the prevalence of exposure to online sexually explicit Internet material, receiving online sexual requests, and so forth – does not provide evidence on how many youth experience harm. Since simply reducing online risks would also mean decreasing online opportunities, it is important to distinguish between risk – the probability of harm[5] (Hansson, 2010) and harm – a distinct and negative outcome (Livingstone, 2010, 2013). This will enable a more adequate risk evaluation and further a more proportionate risk management.

Third, the assessment of events as harmful is predominantly based on experiences gained in the past and expert knowledge. On the Internet, however, Livingstone states 'we do not know how many children come to harm' (2010, p. 4), i.e., online safety surveys calculate the number of youth who encounter online risks and divide that number by the number of youth online. Using the crossing-the-street-analogy, this is like reporting the risks of road accidents in terms of the number of youth crossing the road and divide that by the number of youth altogether. Measurements of the risk of road accidents, however, encompass the number of children who are actually harmed. Online safety surveys, therefore, do not report the probability of harm, but the probability of encountering online risks that might or might not result in harm (Livingstone, 2013, p. 18). Finkelhor, Wolak and Mitchell (2010) also emphasize that we should not implicitly accept the 'harm hypothesis' and that we have to link online risk with measures of harm. There is no consensus on how to ask youth questions on harm, for instance, for ethical reasons. However, it is essential to ask youth about their experiences with harm related to online risks, despite the limits of self-reported data (e.g., Tourangeau & Yan, 2007).

1.2 AIM AND SCOPE OF THIS DISSERTATION

Cybersafety is an important prerequisite to make optimal use of the opportunities afforded by the Internet. Safety can be defined as ‘the effective protection of people against harm’ (Stol, Tielenburg, Rodenhuis, Pleysier, & Timmer, 2011, p. 43, own translation). Enhancing the online safety of youth requires knowledge of youth – who are not equally 'at risk', 'a risk' or experience harm in a similar way – and knowledge of youth's online activities. Although there is a considerable body of research on online risks for youth, there are still major gaps in the literature. First, the majority of studies focus

[5] A review of the literature reveals that the concept of harm is rarely formally defined; its meaning is implicitly assumed to be known (Millwood Hargrave & Livingstone, 2006).

on a single risk, for example cyberbullying. Research providing a more comprehensive picture of online risks is still scarce. Second, studies either examine youth being 'at risk' on the Internet or youth being 'a risk'. Nevertheless, these are not mutually exclusive categories and the literature on deviant and criminal youth as well as the literature on victimized youth reveals that there is a considerable victim-perpetrator overlap (e.g., Kowalski & Limber, 2007; Ousey, Wilcox, & Fisher, 2011). Third, most studies examine encounters with risk, for example, researchers calculate the number of youth exposed to pornography or the number of youth receiving an online sexual request (and divide that number by the number of respondents) (Livingstone, 2013; Livingstone & Smith, 2014). However, there is a dearth of research that examines harm, whether measured objectively or through subjective self-report. In addition, parents and caretakers, educators, child welfare services, the police and policy makers lack sufficient knowledge on the risks associated with youth's Internet use (Expertgroep Digikids, 2008; Toutenhoofd, Veenstra, Domenie, Leukfeldt, & Stol, 2009; Van der Hulst & Neve, 2008; www.MijnKindOnline.nl).

The shortcomings in the literature and the insufficient knowledge base of those responsible for youth's cybersafety indicate that it is necessary to provide a more comprehensive picture of risk, youth and the Internet. Although online risks and opportunities are interdependent and complementary, the focus of this dissertation is not on the opportunities afforded by the Internet. The main aims of this dissertation are to investigate:

(a) the prevalence of being 'at risk' among Dutch youth aged 10 to 18 years;
(b) the prevalence of being 'a risk' among Dutch youth aged 10 to 18 years;
(c) demographic, psychological, social and technology-based factors that shape the likelihood of being 'at risk';
(d) demographic, psychological, social and technology-based factors that shape the likelihood of being 'a risk';
(e) the overlap between online victimization and perpetration.

The focus lies on online sexual activities, cyberbullying and financial risks. We adopted the definition of online risk by Staksrud and Livingstone (2009) who defined online risk as the 'heterogeneous set of intended and unintended experiences which increase the likelihood of harm to the Internet user' (p.4). We choose this definition for three reasons. First, the definition acknowledges that online risks are heterogeneous and; consequently, require a risk approach that is complementary instead of solely technical. Second, the definition includes intended as well as unintended experiences and; thus, incorporates motivated actions of youth as well as the influence of the online environment. Third, the definition is based on a principal distinction between risk and harm. This distinction is necessary to clarify the prevalence of online risk and harm and to identify the factors that increase

the likelihood of risk and the likelihood of harm. We conceptualized harm as the distinct outcome of exposure to risk (e.g., Livingstone, 2013).

1.3 BEING 'AT RISK' AND BEING 'A RISK' ON THE INTERNET

Online risk matrix

Currently, there are several classifications of online risks (e.g., OECD, 2011). The classifications have in common that they distinguish between risks related to harmful content and risks related to harmful interactions. The risk matrix of the EU Kids Online Project developed by Hasebrink, Livingstone and Haddon (2008) recognizes the relation between risk and the roles of youth while they make use of online technologies and distinguishes (1) *content risks* which position youth as a recipient of mass media content, (2) *contact risks* which position youth as a participant of communication, and, (3) *conduct risks* which position youth as an actor in an interactive situation, offering user-generated content or acting in communication. The distinction between content, contact and conduct risks has been widely accepted by international organizations, researchers, policy makers and, in online safety initiatives (e.g., European Commission, 2010; Munro, 2011; OECD, 2011; O'Neill & Staksrud, 2012). The risk matrix, furthermore, relates content, contact and conduct risks to the harm potentially following from these risks. The EU Kids risk matrix provides a basis to investigate youth's encounters with online risks and the harm following from these encounters. Figure 1.1 presents the online risks matrix for the risks investigated in this dissertation, based on the EU Kids Online risk matrix.

Although the EU Kids Online risk matrix provides a basis to investigate youth's encounters with online risks and the harm following from these encounters, it insufficiently reflects the multifaceted and dialogic nature of youthful practices online, i.e., the communicative roles of youth may change or overlap (e.g., Šmahel, Wright, & Cernikova, 2014). Receiving online sexual requests might be related to sending online sexual requests and vice versa. The former is categorized as an online risk; the latter as online risk behaviour (e.g., Baumgartner, Valkenburg, & Peter, 2010).

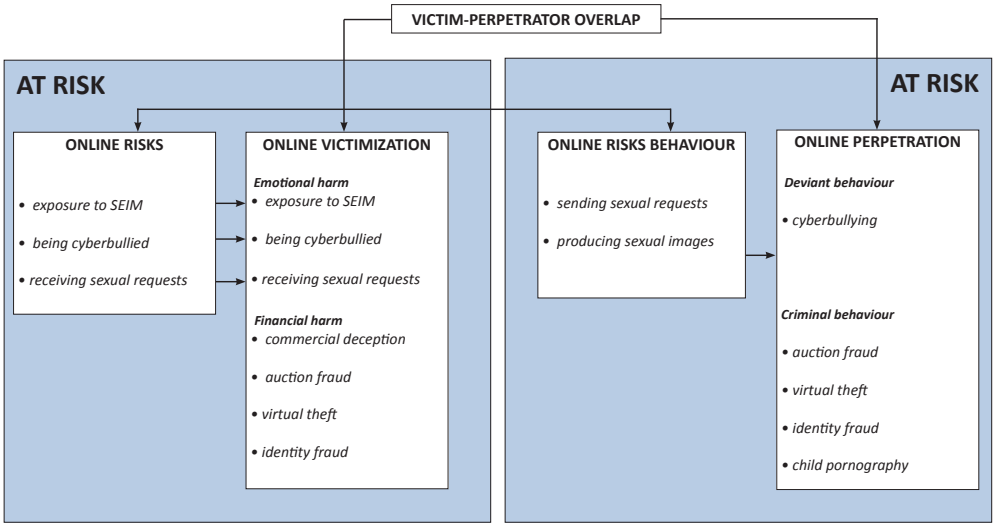
Figure 1.1: Matrix of investigated online risks based on the EU Kids Online risk matrix

Motives / Youth's role	Sexuality	Aggression	Commercial Interests
Youth as receiver **Content**	Exposure to sexually explicit Internet material		Commercial deception
Youth as participant **Contact**	Receiving online sexual requests	Being cyberbullied	
Youth as actor **Conduct**	Sending sexual requests, producing sexually explicit images of oneself or peers	Cyberbullying someone else	
Negative consequences	Emotional harm, social consequences and legal repercussions	Emotional harm, social consequences	Financial loss

Perpetration of cyberbullying might be related to being a victim of cyberbullying and vice versa. Moreover, the matrix does not encompass youth's involvement in cybercrime, i.e., youth being a victim, a perpetrator of cybercrime or both, nor the relation between online risk behaviour and online perpetration, for example the relation between sending online sexual requests and being a perpetrator of (sexualized) cyberbullying (e.g., Kofoed & Ringrose, 2012). In this dissertation, therefore, we distinguish between youth being 'at risk' on the Internet, i.e., youth who are exposed to online risks and youth who are victimized online, and youth being 'a risk' on the Internet, i.e., youth who engage in online risk behaviour and youth who engage in online perpetration. Figure 1.2 presents the scheme for youth being 'at risk' and youth being 'a risk' on the Internet. The scheme recognizes (1) the distinction between risk and harm, (2) the interrelationship between victimization and perpetration, (3) the interrelationship between online risk behaviour and online perpetration and (4) the interrelationship between online risk behaviour and exposure to online risks. The latter specifically refers to the reciprocity between being a sender and receiver of online communication and the dialogic nature of youthful practices online. The category youth being 'at risk' is related to the content and contact risks in the EU Kids Online risk matrix; the category youth being 'a risk' is related to the conduct risks.

The following paragraphs provide general information about the risks, types of financial victimization, risk behaviours and deviant/criminal behaviours represented in Figure 1.2: sexually explicit Internet material, online sexual requests, sexually explicit images of oneself or peers; cyberbullying, commercial deception, virtual theft, online auction fraud and identity theft; in-depth information can be found in the relevant chapters.

Figure 1.2: Scheme of being 'at risk' and being 'a risk' on the Internet[6]



Sexually explicit Internet material

In research, the term sexually explicit Internet material is often used as a neutral term for pornography. There is no universally accepted definition of pornography or sexually explicit Internet material. Definitions vary between different historical, social and cultural contexts and definitions of sexually explicit material frequently connect with legal systems through the association of these materials with the concept of obscenity or definitions emphasize the functional nature of sexual materials (e.g., Kerstens, Veenstra, & Jansen, 2012; Boies, Cooper, & Osborne, 2004). In this dissertation, we largely follow a definition used by Peter and Valkenburg (2008) and we define sexually explicit Internet material as professionally produced or user-generated pictures or videos on the Internet that depict breasts, genitals and sexual activities in an unconcealed way. This definition is chosen for two reasons. First, we do not want to imply that exposure to sexually explicit Internet material – whether intentional or not – is morally wrong. Second, due to ethical reasons, we only encompassed the structural elements concerning what sexual explicit Internet material is, rather than functional elements. In the past decades, there have been large transformations in the visibility, ubiquity and accessibility of sexually explicit Internet material. Wolak, Mitchell and Finkelhor state that 'before the development of the Internet, there were few places youth frequented where they might encounter unsought pornography regularly (2007, p. 248). Therefore, it is important to note,

[6] Producing and distributing child pornography is not investigated in this dissertation. The risk behaviour producing sexual images, however, might be punishable under Article 240b of the Dutch Penal Code which prohibits the production, distribution and possession of child pornography.

that the Internet facilitates intentional as well as unintentional exposure to sexually explicit Internet material. Unintentional exposure might be a risk especially for youth for whom this material is age-inappropriate. In this dissertation, therefore, we distinguish between intentional and unintentional exposure to sexually explicit Internet material.

Online sexual requests

Youth use Internet communication to express and explore their developing sexuality (Subrahmanyam & Šmahel, 2011). Online sexual communication takes many forms, from flirtatious remarks (Bauwens, Pauwels, Lobet-Maris, Poullet, & Walrave, 2009; Smith, 2007) to sexual harassment (Finn, 2004). Youth receiving online sexual requests is a form of online communication that elicits concern because of the potentially severe consequences, such as sexual abuse (Livingstone & Haddon, 2009; Wolak, Mitchell, & Finkelhor, 2006). In 2007, the Treaty of Lanzarote (CETS No. 201) criminalized attempts to seduce a child on the Internet with the ultimate aim of sexual abuse or producing child pornography. The criminal behaviour referred to is called 'grooming'. In consequence of the Treaty of Lanzarote, grooming became punishable in 2010 under Article 248e of the Dutch Penal Code, providing that a proposal to meet offline has been followed by material acts (Kerstens, Jansen, & Veenstra, 2012). Prior research conducted in the United States investigated the prevalence of unwanted online sexual requests (e.g., Jones, Mitchell, & Finkelhor, 2012). These studies did not encompass questions about wanted sexual requests, i.e., developmentally normal and/or consensual sexual requests as a part of adolescents' sexual exploration. In this dissertation, online sexual requests refer to requests to talk about sex, questions about private parts and, requests for sexual intercourse or to undress in front of a webcam.

Sexually explicit images of oneself or peers

Producing and distributing sexual images of oneself or someone else and sexual self-exposure in front of a webcam are relatively new phenomena. The Internet, mobile phones and webcams facilitate these types of sexual behaviour among peers. In research and also in the media, producing and distributing sexual images on the Internet is often referred to as 'sexting' (Lenhart, 2009; Mitchell, Finkelhor, Jones, & Wolak, 2012). Although producing sexual images and sexual self-exposure can in some respects be part of identity-experimentation, sexual exploration and the exploration of new and intimate relationships (Mitchell, et al., 2012; Subrahmanyam & Šmahel, 2011), research indicates that these behaviours are associated with bullying (e.g., Hinduja & Patchin, 2012), sexual harassment (e.g., Salter, Crofts, & Lee, 2013), grooming (e.g., Whittle, Hamilton-Giachritsis, Beech, & Collings, 2013) and, legal repercussions (e.g., Leukfeldt, Domenie, & Stol, 2010; Sacco, et al., 2010). In coherence with the provisions of Article 20 of the Treaty of Lanzarote, Article 240b of the Dutch Penal

Code prohibits looking at webcam images of sexual acts of someone apparently younger than 18 years[7]. Article 240b also prohibits the production, distribution and possession of sexual images of a minor (Kerstens, et al., 2012).[8] There is no universally accepted definition of sexting in research and in law (Lounsbury, Mitchell, & Finkelhor, 2011; Sacco, et al., 2010). Research on producing and distributing sexual images and sexual self-exposure in front of a webcam is relatively rare and; furthermore, a qualitative study on this behaviour indicates that many youth 'do not […] use the term 'sexting' indicating a gap between adult discourse and young people's experiences' (Ringrose, Gill, Livingstone, & Harvey, 2012, p. 6). In this dissertation, we aim to gain insight in the experiences of youth rather than to test a specific concept of sexting.

Cyberbullying

Bullying is a form of aggression among peers and bullying occurs in many different contexts, including school and the playground. Although there is no universally accepted definition of bullying, there is an emerging consensus in the literature that bullying 'refers to repeated aggressive acts against a specific target […] who cannot easily defend him- or herself' (Smith, Del Barrio, & Tokunaga, 2013, p. 27). In research, the three criteria of bullying outlined by Olweus (1993) are often used: (1) the intention to inflict harm, (2) the presence of a power imbalance between bully and target and (3) the bullying is repeated over time. The harm experienced by the target is not considered a defining criterion.

Since the advent of the Internet, the literature distinguishes two main types of bullying: (1) traditional bullying which occurs offline and (2) cyberbullying which occurs online (Veenstra, 2012). There is no universally accepted definition of cyberbullying, but generally definitions of cyberbullying encompass the criteria outlined by Olweus (1993) with the addition that 'the bullying behaviour has to be conducted via ICT' (e.g., Veenstra, Vandebosch, & Walrave, 2012, p. 218). The application of the criteria of traditional bullying to the online domain is based on consistent evidence from research that there is a considerable overlap between youth's involvement in traditional bullying and youth's involvement in cyberbullying (e.g., Tokunaga, 2010).

However, many researchers have criticized the practice of applying the criteria for traditional bullying to cyberbullying. First, the 'intention to inflict harm' criterion is problematic. Due to a lack of

[7] Article 240b prohibits deliberately accessing child pornography through an automated work or using a communicationservice. Possession of the material, for example in the form of downloaded files, is not required.

[8] A study conducted in the Netherlands by Leukfeldt, Domenie and Stol (2010) revealed that in 2007 8.3% of the suspects of child pornography investigations were minors. The cases involved minors making sexual images of themselves or peers. Since it wasn't the aim of the legislator to criminalize consensual sexual activity among peers, the Public Prosecutor decided in 2013 to make a distinction between 'aggravated' incidents involving criminal elements and 'experimental' incidents involving developmentally normal and consensual activities (Landelijk Expertisecentrum Kinderporno en Kindersekstoerisme, 2013).

non-verbal cues, it is difficult to adequately interpret online communication and conduct. Consequently, online messages not intended to harm the recipient can be perceived as harmful and vice versa (e.g., Dehue, Bolman, & Völlink, 2008; Hinduja & Patchin, 2009). Second, there is no consensus on what constitutes a power imbalance on the Internet. The criterion of a power imbalance between bully and target suggests that the targets cannot easily defend themselves. However, being physically strong, being confident and being popular might not be relevant on the Internet. Research suggests that youth who are considered powerful offline can be a target of cyberbullying due to the anonymity afforded by the Internet (Vandebosch & Van Cleemput, 2008). Third, the 'bullying is repeated over time' criterion is problematic with respect to cyberbullying. Is uploading an embarrassing picture on the Internet a single act if the target – or others – can repeatedly see it (e.g., David-Ferdon & Feldman Hertz, 2007; Slonje & Smith, 2008)? If the repetition is not carried out by the bully, but by so-called bystanders – peers who have been sent an embarrassing picture – , is this still cyberbullying (e.g., Sonje, Smith, & Frisen, 2012)? Furthermore, research suggests that most youth do not consider the repetitiveness of bullying important; a substantial amount of them believing that an act of bullying that occurred only once or twice could still be bullying (Guerin & Hennessy, 2002). In addition, there is no instrument available to unambiguously measure the repetitiveness of cyberbullying; the timeframes utilized in research differ widely (Veenstra, et al., 2012).

Most studies on cyberbullying investigate behaviours theoretically encompassed by the term. Youth themselves, however, may not use the term 'cyberbullying' to describe all of these behaviours (e.g., Smith, et al., 2013) and; furthermore, youth may not consider the criteria for bullying essential for this behavior (e.g., Guerin & Hennessy, 2002; Madsen, 1996). Research also indicates that teachers, parents and youth do not have a shared understanding of the concept of 'bullying' (e.g., Menesini, Fonzi, & Smith, 2002). In this dissertation, we aim to gain insight in youth's experiences with cyberbullying rather than to test a specific concept of cyberbullying or to investigate whether the criteria for bullying apply.

Commercial deception

Deception can be defined as 'a cognitive interaction between two parties under conflict of interest' (Graziola & Jarvenpaa, 2003b, p. 197). The deceiver fosters an incorrect cognitive representation and instigates a desired action, which would not have been undertaken by the target without the manipulation (Graziola & Jarvenpaa, 2003a). There are various types of deception; in this dissertation we focus on online commercial deception. The Internet has changed youth's commercial media environment (Montgomery, 2001; Moore, 2004) and this has re-ignited concerns on youth-directed advertising, especially with regard to younger children, since it is assumed that youth lack sufficient

cognitive skills and experience to adequately respond to persuasive online advertising (e.g., Livingstone & Helsper, 2006). Research has predominantly focussed on the development of children's advertising literacy, generally defined as conceptual knowledge of advertising (Roozendaal, Lapierre, Van Reijmersdal, & Buijzen, 2011, p. 335). Research consistently shows that children's advertising literacy increases with age (e.g., Livingstone & Helsper, 2006; Roozendaal, Buijzen, & Valkenburg, 2011); advertising literacy, however, does not 'automatically result in the ability to critically deal with the current commercial media environment' (Buijzen, Roozendaal, & Van Reijmersdal, 2013, p. 276).

To date, relevant data to assess how many youth are a victim of commercial deception are missing. In this dissertation, we define online commercial deception as intentionally providing deceptive information to a consumer on the Internet which, by reason of its deceptive nature, is likely to affect the consumer's economic behaviour, with the aim to further one's own financial ends. The definition is based on the definition of Internet deception by Grazioli and Jarvenpaa (2003a) and the description of misleading advertising current within the European Union.[9] We investigated two types of commercial deception: (1) deceptive descriptions of a product as free or as a prize and (2) unauthorized subscriptions. According to Grazioli and Jarvenpaa (2003a, p. 93) victims of commercial deception suffer financial loss and the psychological distress of being victimized and; in addition, the Internet commerce suffers since detected commercial deceptions in the end are a threat to the trust essential in commercial transactions.

Virtual theft

A virtual world can be described as 'a synchronous, persistent network of people, represented as avatars, facilitated by networked computers' (Bell, 2008, p. 2). Initially, virtual worlds were just games, but currently they are also used in medical, military, political, educational and commercial settings (Fairfield, 2005; Saren, Harwood, Ward, & Venkatesh, 2013). The number of virtual worlds has grown exponentially since the early 1990s, almost in parallel with the rise of social networking sites (Messinger, Stroulia, Lyons, Bone, Niu, Smirnov, et al., 2009, p.206). It is important to note that it is not always easy to draw clear boundaries between virtual worlds and social networking sites, since social networking sites incorporate features of virtual worlds. *Habbo*[10], for example, includes features of Multi-User Domains and so-called mini games are available within *Habbo* (Griffiths and Light, 2008, p. 5).

[9] Directive 2006/114/EG of the European Parliament and of the Council, concerning misleading and comparative advertising.

[10] Habbo is a cartoon-style virtual world aimed at teenagers. Teenagers can create their own Habbo character, design hotel rooms, meet friends, play games and chat with other players.

In virtual worlds and social networking sites, virtual goods offer personalization and game achievement for players or members. Virtual goods can be fictitious – such as a virtual unicorn – and representations of real entities – such as virtual furniture (Strikwerda, 2012). Lehdonvirta (2009, p. 3-4) describes virtual goods as 'the subset of virtual assets that can be mass-produced and as a result are frequently bought and sold like conventional consumer commodities.' According to Fairfield (2005, p. 1053-1054) virtual goods share three legally relevant characteristics with real world goods. Virtual goods are (1) rivalrous, i.e., making use of a virtual good excludes others from simultaneously using it; (2) persistent, i.e., remaining existent when the computer is turned off; (3) connected, i.e., not existing in isolation and affecting other users or systems. Virtual goods can represent real world economic value and they can be stolen, which is referred to as 'virtual theft' (Strikwerda, 2012). The main consequence for the victims of virtual theft is financial loss. However, being a perpetrator of virtual theft entails a risk for youth, since this may lead to legal repercussions. In the Netherlands, several minors were convicted of theft for the stealing of virtual goods in *Habbo*[11] and *Runescape*.[12] The highest court of the Netherlands also decided on the *Runescape* case.[13]-[14] The circumstance that virtual theft may lead to legal repercussions is virtually unknown among youth and adults (Jansen, 2012). In this dissertation, we define virtual theft as the taking and removing of virtual objects without the owner's permission.

Online auction fraud

According to Leukfeldt and Van Wilsem (2012, p. 117) fraud can be defined as 'deception aimed at gaining financial profit.' The most common and relatively simple form of online fraud is online auction fraud (Domenie, Leukfeldt, & Stol, 2009). Online auction fraud occurs through websites, such as Martkplaats.nl and eBay.com. There are two types of online auction fraud: (1) the buyer pays the agreed prize (or only a part of it) in advance and the seller does not deliver the article and (2) the seller delivers the article and the buyer does not pay the agreed prize (or only a part of it) (Taylor, Caeti, Loper, Fritsch, & Liederbach, 2006). Online auction fraud is punishable under Article 326 of the Dutch Penal Code. To date, research on youth being a perpetrator or being a victim of online auction fraud is missing. In this dissertation, we define online auction fraud as the non-delivery or the non-payment of products purchased through an Internet auction site.

[11] Rechtbank Amsterdam, 2 April 2009, LJN: BH9789, BH9790, BH9791.

[12] Gerechtshof Leeuwarden, 10 November 2009, LJN: BK2773, BK2764.

[13] Hoge Raad, 31 January 2012, LJN: BQ9251.

[14] It is important to note that claims of virtual theft come before courts in an increasing number of jurisdictions (e.g., Rumbles, 2011). However, it is generally recognized that thefts that fall within the rules of a game – this is called the 'magical circle' (Fairfield, 2009) – should not be prosecuted.

Online identity fraud

In the information society, identity management has become crucial (Rannenberg, Royer, & Deuker, 2009). With the digitization of personal characteristics and information, a new type of identity fraud has emerged: identity fraud on or via the Internet. In recent years, online identity fraud has been recognized as the source of growing concerns, particularly for consumers (OECD, 2006). In the literature, the term 'identity theft' is often used as a synonym for 'identity fraud'. Koops and Leenes (2006), however, argue that identity theft is the take-over of personal information without consent and identity fraud is the subsequent misuse of personal information to the disadvantage of the victim and the (financial) gain of the perpetrator. In Dutch law, there is no legal provision for identity fraud; identity fraud consists of a number of activities that are punishable under various legal provisions. These legal provisions, for example, criminalize hacking, theft, forgery and fraud. In this dissertation, we define identity fraud as taking over and subsequently misusing personal information without consent.

1.4 CONTEXT AND METHODOLOGY

The chapters presented in this dissertation are based on the first cross-sectional study of the four-year Dutch research project *Youth & Cybersafety*[15] (2009-2013) commissioned by the Dutch Ministry for Education, Culture and Science. The aim of the research project *Youth & Cybersafety* was to examine youth being 'at risk' (encountering online risks and experiencing subsequent harm) and youth being 'a risk' (engaging in risk behaviour and/or deviant/criminal behaviour) on the Internet and, to identify factors that increase the likelihood of being 'at risk' and being 'a risk'; the focus was not on the opportunities afforded by the Internet. The cross-sectional study was conducted among 6,299 Dutch youth aged 10 to 18 years. The questionnaire on online sexual activities was developed in co-operation with *Rutgers,* a Dutch knowledge centre on sexual and reproductive health and rights. The questionnaire did not include questions on legal repercussions; the Dutch legal framework formed the starting point to assess the possible harms resulting from criminal behaviour.

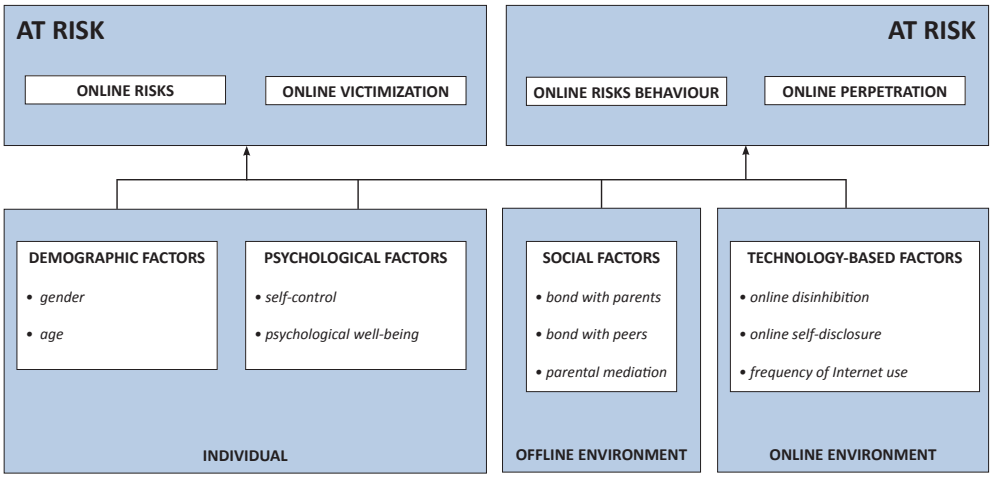
Rather than taking theoretical constructs – for example on cyberbullying – or a technical approach on risk as a starting point, we adopted an approach that is primarily youth-centred, i.e., an approach that has youths' experiences and insights at its core. A youth-centred approach avoids construing youth as passive and vulnerable and recognizes youths' competence and agency. The need for a youth-centred approach to research on youth and the Internet which is being emphasized in media research (e.g., Livingstone, 1998), is related to Western discourses on youth and childhood and

[15] The research project *Youth & Cybersafety* was undertaken in accordance with the Code of Research established by the HBO-council (Andriessen, Onstenk, Delnooz, Smeijsters, & Peij, 2010).

with the so-called sociology of childhood, a subfield of sociology which questions the social construction of youth as 'human becomings' rather than as 'human beings' and, the ensuing social exclusion of youth (e.g., James, Jenks, & Prout, 1998; Qvortrup, 1994). In the abovementioned clause 'an approach that has youths' experiences and insight at its core', plurals rather than singulars are used to emphasize that it is crucial not to conceive youth as a homogeneous group.

Since youth are not a homogeneous group, it is important to identify factors that may increase the likelihood of being 'at risk' and being 'a risk'. Specific demographic, psychological, social and technology-based factors can influence exposure to online risks, online victimization, online risk behaviour and online perpetration. The factors investigated in this dissertation are briefly outlined below; in-depth information can be found in the relevant chapters. Figure 1.3 relates the demographic, psychological, social and technology-based factors to being 'at risk' and being 'a risk' on the Internet.

Figure 1.3: Relating factors to being 'at risk' and being 'a risk' on the Internet



The demographic factors age and gender are the most frequently studied factors in relation to youth being 'at risk' and youth being 'a risk'. For example, studies consistently report that boys are more likely to commit criminal acts (e.g., Steffensmaier & Allen, 1996) and research indicates that boys are more likely to engage in cybercrime (e.g., Leukfeldt, Veenstra, & Stol, 2013). As for age, it is largely acknowledged that many risk behaviours emerge and increase during adolescence (e.g., Boyer, 2006). However, research comparing the influence of age and gender on exposure to online risks, online victimization, online risk behaviour and online perpetration is missing.

The psychological factors investigated in this dissertation are self-control and psychological well-being. Self-control refers to the extent to which individuals are able to internally regulate their behaviours (Gottfredson & Hirschi, 1990). Numerous studies, when considered collectively, have shown consistent support for the proposition that a low level of self-control increases the likelihood of engaging in criminal, deviant and risk behaviours (e.g., Pratt & Cullen, 2000). Research also indicates that a low level of self-control increases the likelihood of victimization (e.g., Schreck, 1999). However, research on whether the level of self-control differs for youth who are exposed to online risks and youth who are exposed to online risks and experience subsequent harm is absent. Psychological well-being can be defined as 'people's positive evaluations of their lives' (Diener & Seligman, 2004, p. 1). Previous studies indicate that a lower level of psychological well-being is related to risk behaviour (e.g., Valois, Zullig, Huebner, Kammermann, & Drane, 2002) and victimization (e.g., Martin & Huebner, 2007), the impact of victimization on psychological well-being varying between different types of crimes (Hanson, Sawyer, Begle, & Hubel, 2010). Research comparing the relation between psychological well-being and exposure to online risks, online

victimization, online risk behaviour and online perpetration is missing.

The social factors investigated in this dissertation are the bond with parents, the bond with peers and parental mediation. Theoretical perspectives on social bonding either state that social bonding facilitates a well-adjusted adaption during the transition from youth to adulthood (Bowlby, 1979) or helps youth to control their attraction to illegal temptations (Hirschi, 1969). A limited number of studies indicate that a weaker bond with parents increases the likelihood of criminal behaviour (e.g., Junger-Tas, Marshall, & Ribeaud, 2003) and that victims of online harassment tend to have a weaker bond with their parents (e.g., Ybarra, Diener-West, & Leaf, 2007). Parental mediation generally refers to parental management of the relation between children and media (Livingstone & Helsper, 2008). The four basis strategies of parental mediation were investigated: supervision (parent is present while using the Internet), restrictive mediation (parent sets rules), monitoring (parents checks records afterwards), and active mediation (parent communicates on Internet use and safety). Research on parental mediation strategies shows mixed results (Mendoza, 2009). Some studies indicate that active mediation is more effective than other parental mediation strategies (e.g., Buijzen, Rozendaal, Moorman, & Tanis, 2008); other studies have found that restrictive mediation is more effective (e.g., Mesch, 2009). Research on the effect of parental mediation predominantly investigates exposure to online risks.

The technology-based factors investigated this dissertation are online disinhibition, online self-disclosure and frequency of Internet use. These factors are typical for the online environment. The online disinhibition effect, defined as a lowering of behavioural inhibition in the online environment (Joinson, 2007; Suler, 2004), is a relatively new theoretical perspective which tries to explain why some individuals may reveal personal information online which they would not normally share with others and; similarly, why some individuals may act more cruel and deviant during online interactions. Research indicates that online disinhibition may partly explain the way in which online technologies can affect youth being 'at risk' and 'a risk' on the Internet (Hinduja & Patchin, 2008; Smith, Mahdavi, Carvalho, Fisher, Russell, & Tippett, 2008; Udris, 2014). Self-disclosure can be defined as revealing intimate information about one's self (Derlega, Metts, Petronio, & Margulis, 1993). Research suggests that online disinhibition positively influences online self-disclosure (e.g., Schouten, 2007). Self-disclosure may result in cyberbullying and online (sexual) harassment of peers (e.g., Valkenburg & Peter, 2010). Frequency of Internet use refers to the extent to which youth engage in online activities. Research indicates that the intensity of youth's Internet use matters, since youth who more frequently use the Internet encounter more risks as well as opportunities (Livingstone & Helsper, 2010). The relation between frequency of Internet use, victimization and being 'a risk' on the Internet is an under researched area.

1.5 OUTLINE OF THE DISSERTATION

The dissertation consists of five studies that have been published or submitted for publication as individual papers. Therefore, each paper has its own abstract, introduction, discussion and reference list and each chapter can be read individually. Together, they provide a comprehensive picture of youth being 'at risk' and youth being 'a risk' on the Internet and, factors that are related to the likelihood of being 'at risk' and being 'a risk' on the Internet. The dissertation concludes with a summary and general conclusion of the main findings.

Chapter 2: Identification of Dutch Youth at Risk on the Internet

Studies on the number of victimized youth on the Internet – youth who encounter online risks and who are subsequently harmed – are scarce and; furthermore, these studies primarily investigated demographic factors related to online victimization. A comprehensive picture of factors related to online victimization missing. The first study of this dissertation, therefore, examines socio-demographic, social, technology-based and psychological factors related to the online victimization of youth. The study investigated the experiences of 6299 Dutch youth with cyberbullying, sexual explicit Internet material (online pornography), online sexual requests, commercial deception and, online auction fraud. The main finding of this study was that victimized youth differed from non-victimized youth with respect to gender, online disinhibition and self-control. Being a girl, a higher level of online disinhibited behaviour and a lower level of self-control were strongly related to youth's online victimization.

Chapter 3: Cyberbullying from a criminological perspective

Criminologists have started the debate on whether existing criminological theories are useful for the explanation of cybercrime and cyberdeviance or whether cybercrime and cyberdeviance constitute a new category of criminal behaviour. Research on cybercrime and cyberdeviance is essential for this debate. Chapter three focusses on bullying, a form of deviant behaviour among youth that has an offline and an online variant. The offline form is usually labelled traditional bullying and the most commonly used term for bullying on the Internet is 'cyberbullying'. The aim of Chapter three was to investigate whether the advent of the Internet has led to a new type of perpetrator with specific characteristics or whether cyberbullying is in essence the same as the traditional bullying, but with new methods. The experiences of 6299 Dutch youth with bullying perpetration were investigated. The results showed that the percentage of perpetrators who exclusively engage in cyberbullying is relatively low and that the online variants of traditional bullying occurred more often than the types of bullying specifically limited to the Internet. In other words, cyberbullying is, to a large extent, a

variant of traditional bullying. The results of the multinomial logistic regression analyses showed that perpetrators of cyberbullying do not have a very distinguishing profile compared to perpetrators of traditional bullying and perpetrators who engage in both forms of bullying behaviour. A lower level of self-control was significantly related to all forms of bullying perpetration. A lower level of online disinhibition was strongly related to cyberbullying perpetration. This finding underlines the importance of different dynamics being operative for cyberbullying perpetration. Compared to youth who do not engage in bullying behaviours, perpetrators of traditional bullying and cyberbullying are more often a victim of both forms of bullying. These findings give support to the suggestion that the aetiological schema to explain cyberbullying, and possibly cybercrime and cyberdeviance in general, should postulate the interaction between individual characteristics, distinct features of the online environment and the interaction between offline and online social realities.

Chapter 4: Receiving online sexual requests and producing online sexual images

Receiving online sexual requests is considered an online risk for youth and producing online sexual images is seen as risk behaviour which may entail negative social consequences or legal repercussions. Youth who receive online sexual requests are considered to be 'at risk', i.e., they are likely to be depicted as victims and youth who produce online sexual images are seen as 'a risk', i.e., they are often referred to as perpetrators. However, online sexual interactions, including receiving online sexual requests and producing online sexual images, can also be a normal part of youth's sexual development. It is, therefore, important to distinguish between online sexual interactions that are developmentally normal and interactions that result into harm or negative consequences. The aim of Chapter 4 was to investigate receiving online sexual requests and producing online sexual images in terms of (1) their prevalence in relation to experienced harm and negative evaluations, (2) the incident characteristics (the context in which these behaviours occur) and, (3) the characteristics of youth involved. Receiving online sexual requests is relatively common among youth; producing online sexual images occurred relatively rare. One-fourth of the youth that received an online sexual request reported harm and one-third of the youth who produced online sexual images evaluated their own behaviour as negative, since it entailed negative online or offline consequences. Harm and negative evaluations were more likely to occur when youth interacted with people relatively unknown to them and when an intrinsic motivation for engaging in sexual online interactions was missing. Being older, a high frequency of Internet use, taking initiative in online sexual interactions, i.e., being engaged in sending online sexual requests and producing online sexual images, were related to receiving online sexual requests and producing online sexual images. A higher level of online disinhibited behaviour, a lower of psychological well-being, and being cyberbullied were related to harm and negative evaluations. The findings suggests that when investigating receiving

online sexual requests and producing online sexual images, the broader online and offline context of youth's online sexual interactions should be considered to fully understand this behaviour, particularly with respect to the likelihood of harm and negative consequences.

Chapter 5: Youth's Intentional and Unintentional Exposure to Sexually Explicit Internet Material

On the Internet, youth can be intentionally and unintentionally exposed to sexually explicit Internet material (SEIM). There are concerns that intentional and unintentional exposure to SEIM may lead to harm for youth, since these materials are considered developmentally and psychologically inappropriate. However, research comparing factors related to intentional exposure and unintentional exposure to SEIM is scarce and research comparing factors related to harm resulting from intentional and unintentional exposure is missing. The aim of Chapter 5 was to (1) investigate the prevalence of intentional and unintentional exposure to SEIM and the extent to which both types of exposure result into harm and (2) to identify factors related to both types of exposure and factors related to harm. The results showed that a considerable proportion of youth were exposed to SEIM, unintentional exposure occurring more often than intentional exposure. The findings indicate that exposure to SEIM can be characterized as normative for many youth. Unintentional exposure was more likely to result into harm than intentional exposure. The results of the multinomial regression analyses showed when comparing intentional exposure and unintentional exposure to SEIM with no exposure, similar factors predicted both types of exposure, except for psychological well-being and strategies of parental mediation. The results of the regression analysis showed when comparing harm and no harm from exposure to SEIM, being a girl, being younger, less frequent Internet use, a lower level of disinhibited online behaviour being older, a lower level of online disinhibited behaviour, a higher level of self-control, a lower level of psychological well-being and stronger parental mediation were related to harm. These findings underline the importance of distinguishing between risk and harm and advocate a more nuanced picture of youth being 'at risk' on the Internet.

Chapter 6: The Victim-Perpetrator Overlap in Financial Cybercrime

Studies on crime and deviance consistently indicate that victims and perpetrators are not mutually exclusive categories. The positive correlation between victims and perpetrators is generally termed the victim-perpetrator overlap. Explanations of the victim-perpetrator overlap are either based on state-dependency or on individual heterogeneity. State-dependency explanations assert that prior victimization increases the probability of subsequent perpetration, for example motivated by retaliation. Individual heterogeneity explanations stress that the association between victimization results from the influence of relatively stable individual characteristics, for example, a low level of self-control. However, the evidence for the victim-perpetrator overlap is based on research on offline

crime and deviance. Except for cyberbullying, the victim-perpetrator overlap for cybercrime and cyberdeviance is an under-researched area. The aim of Chapter 6 was to investigate the victim-perpetrator overlap for three financial cybercrimes: online auction fraud, virtual theft and online identity fraud. The results showed that the victim-perpetrator overlap for the three financial cybercrimes was considerable. Perpetration was strongly motived by retaliation. The results of the multinomial regression analyses showed that a low level of self-control and a high level of online disinhibited behaviour were positively and significantly related to victimization and perpetration. The findings suggest that youth who are 'at risk' and youth who are 'a risk' on the Internet are not mutually exclusive categories. Moreover, state-dependency explanations and individual heterogeneity explanations should be supplemented by explanations funded on the role of online disinhibition and the dynamics of the online environment.

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2 IDENTIFICATION OF DUTCH YOUTH AT RISK ON THE INTERNET

This is a translated and adapted version of the article that has been published as: Kerstens, J., & Wilsem, J. van (2012). Identificatie van Nederlandse jongeren die risico lopen op Internet [Identification of Dutch youth at risk on the Internet]. *Tijdschrift voor Veiligheid*, *11*(2), 57-72.

Abstract

The main aim of this study was to investigate the characteristics of online victims, i.e., youth who encounter online risks and experience subsequent harm. We focused on youth's experiences with cyberbullying, online pornography, online sexual requests, commercial deception and, online auction fraud. The study investigated socio-demographic, psychological, social and technology-based factors. Data was used from the *Youth & Cybersafety* survey conducted in 2011 among 6299 Dutch adolescents. Being a girl, technology-based factors – a higher level of disinhibited behaviour on the Internet in particular – and a lower level of self-control are significantly related to online victimization. Findings indicate that policy initiatives to reduce online victimization should be sensitive to individual differences and the influence of the socio-technical environment.

2.1 INTRODUCTION

Youth are frequently labelled as 'digital natives'; they are growing up with the Internet which is a defining feature in their lives (e.g., Prensky, 2001). Youth utilize digital technologies for educational purposes, entertainment and, particularly for interaction over social media with their friends (e.g., Gross, 2004; Hasebrink, Livingstone, Haddon, & Ólafsson, 2009; Valkenburg & Peter, 2007). In addition, youth increasingly use the Internet for commercial objectives – purchasing and selling goods and services (Tufte, 2006; Valcke, De Wever, Van Keer, & Schellekens, 2011). In the Netherlands, virtually all youth have Internet access at home and at home most youth use the Internet in the privacy of their own bedroom. Approximately one third of Dutch youth can access the Internet via a mobile phone or a handheld device. Furthermore, four in five youth in the Netherlands use the Internet daily (Eurobarometer, 2008; Livingstone, Haddon, Görzig, & Ólafsson, 2011). To conclude, for Dutch youth the Internet is an important, if not the most important, medium.

Young people make full use of the Internet. However, the widely-held assumption that all youth are digitally savvy is unwarranted. Youth differ considerable with respect to their digital

literacy and knowledge (e.g., Helsper & Eynon, 2010). Conversely, the prevailing notion of all youth being naïf and vulnerable when they encounter online risks is also inaccurate. A large number of youth know how to operate digital safety tools and youth are aware of – and express concern about – online risks (Livingstone, et al., 2011; Optem, 2007). To summarize, youth do not constitute a homogeneous group.

Studies on online risks in the lives of youth predominantly addressed the prevalence of a particular online risk – for example, cyberbullying – and the identification of socio-demographic characteristics of youth involved (e.g., Schrock & boyd, 2008; Tokunaga, 2010; Whittle, Hamilton-Giachritsis, Beech, & Collings, 2013). It is, however, useful to distinguish between exposure to online risks and exposure to online risks resulting into harm. Exposure to an online risk may or may not result into harm, depending on a wide array of factors (e.g., Livingstone, 2013). For example, youth being exposed to online pornography raises adult concern, since it is associated with negative experiences for children. However, studies on online risk for youth indicate that although a substantial amount of youth has seen online pornography, exposure pornography is not always associated with negative experiences. The third *Youth Internet Safety Survey* conducted in the United States asked 10-17 year olds who had seen online pornography (23%) if they were 'very or extremely upset'. Slightly more than one fifth described their experiences in this way (22%) (Mitchell, Jones, Finkelhor, & Wolak, 2014). The *EU Kids Online Survey* conducted in 25 European countries found that of the 14 percent of the 9-16 year olds who had seen online pornography about one-third reported 'being bothered or upset' by the experience (Livingstone, et al., 2011).

Since research also indicates that there is a positive relationship between online opportunities and online risks (e.g., Livingstone & Helsper, 2010), it is important that policy interventions aim at minimizing harm from online experiences and not at reducing all online risks. To adequately do so, evidence regarding risk factors – individual, social and technology-based– that increase the likelihood of harm is required. The aim of this study is to investigate the characteristics of online victims, i.e., youth who encounter online risks and who experience subsequent harm. We thereby focus cyberbullying, online pornography, online sexual requests, commercial deception and, online auction fraud.

2.2 METHOD

Topics questionnaire and measures

A literature review, interviews with experts and, conversations with youth about their online experiences (n=25, divided over 4 focus groups) has revealed which online risks were most frequently encountered by youth. These risks were the subject of our research and; subsequently, we developed an online questionnaire in cooperation with *Rutgers,* a Dutch knowledge centre on sexual and reproductive health and rights. We choose to use an online questionnaire because it allows *routing*: the answers to specific questions determine which questions are subsequently presented. Elementary school pupils and secondary school pupils differ in terms of language development, social-emotional development, and sexual development (e.g., Lobe, Livingstone, Ólafsson, & Simões, 2008). These differences were taken into account while developing the questionnaire. The online questionnaire has been developed for *Youth & Cybersafety*; a 4-year Dutch research project on online risks for children (2009-2013) commissioned by the Dutch Ministry for Education, Culture and Science [16].The questionnaire included questions about online victimization, socio-demographic characteristics, social environment characteristics, Internet behaviour, parental mediation, and individual characteristics.

Online victimization. We operationalized online victimization as encountering online risks and experiencing subsequent harm. The operationalization was inspired by previous research and academic discussions on online risk for youth (Livingstone, 2010; Livingstone, et al., 2011; Wolak, Mitchell, & Finkelhor, 2006). We disinguished between no exposure to risk (=0), exposure to online risk (=1) and exposure to online risk and experiencing subsequent harm (=2). Participants were asked questions about experiences with cyberbullying, online pornography, online sexual requests, commercial deception and, online auction fraud. Cyberbullying victimization was measured by asking participants about their experiences with the following types of online bullying: 1) gossiping; 2) being called names or being threatened; 3) being send upsetting messages; 4) being deliberately excluded and; 5) uploading upsetting images or videos. Victimization from exposure to pornography was measured by asking participants about their experiences with: 1) photos of private parts; 2) photos of sexual intercourse; 3) videos of private parts; 4) videos of sexual intercourse and; 5) webcam images of private parts. Victimization from receiving online sexual requests was measured by asking participants about their experiences with: 1) questions about sex; 2) questions about breasts and/or private parts; 3) requests for sexual intercourse and; 4) requests to undress in front of a webcam.

[16] This research project was undertaken in accordance with the Code of Research established by the HBO-council (Andriessen, Onstenk, Delnooz, Smeijsters, & Peij, 2010).

Social factors. We measured the bond with the parents, peers and school and parental mediation. Research indicates that the quality of youth's social environment may influence the likelihood of online victimization (e.g., Wolak, Mitchell, & Finkelhor, 2003). Questions used to measure the *bond with parents* were based on a study by Junger-Tas, Steketee and Moll (2008). For this construct, participants answered four questions on a five-point Likert scale ranging from 'never' to 'always' (Cronbach's α=0.71). *Bond with peers* was measured using six statements on a five-point Likert scale ranging from 'totally agree' to 'totally disagree' (Cronbach's α=0.79). These questions were based on the Dutch version of the *Inventory of Parent and Peer Attachment* used by Van Rooij and Van den Eijnden (2007). The *bond with school* was measured with one question about school experiences. *Parental mediation* generally refers to the interactions that parents utilize to manage their children's media use. Little is still known of the effectiveness of the strategies parents use regarding their children's Internet use (Livingstone & Helsper, 2008, p. 584). We measured adolescents' perspective on parental mediation by asking questions about the four basic strategies of parental mediation: supervision (parent is present while using the Internet), restrictive mediation (parent sets rules), monitoring (parent checks records afterwards) and active mediation (parent communicates on Internet use and safety). The items were rated on a 3-point Likert scale: 1 (*(almost) always*), 2 (*sometimes*) and 3 (*never*).

Technology-based factors. Research indicates that technology-based factors may influence the likelihood of online victimization (e.g., Hinduja & Patchin, 2008; Whittle, et al., 2013). We measured the frequency of Internet use, compulsive Internet behaviour and, online disinhibition. *Frequency of Internet use* was measured by asking participants to indicate how many hours per day on average they were active on the Internet, for example engaging in activities such as gaming, sending emails or chatting. *Compulsive Internet behaviour* is the inability to control one's own Internet behaviour (Van den Eijnden, Meerkerk, Vermulst, Spijkerman, & Engels, 2008). It was measured using eight questions on a five-point Likert scale ranging from 'never' to 'very frequently' (Cronbach's α=0.81). The scale is based on the *Compulsive Internet Use Scale* (Meerkerk, 2007) and a scale developed by Lemmens, Valkenburg and Peter (2009), using criteria from DSM-IV-TR. *Online disinhibition* – the disappearance of social inhibitions on the Internet – was measured using seven statements on a five-point Likert scale ranging from 'totally agree' to 'totally disagree' (Cronbach's α=0.85). The statements were based on studies on the online disinhibition effect (Suler, 2004). *Online self-disclosure* – self-disclosure can be defined as revealing intimate information about one's self (Derlega, Metts, Petronio, & Margulis, 1993) – was measured using seven statements on a five-point Likert scale ranging from 'I tell everything about this' to 'I tell nothing about this' (Cronbach's α=0.91). This scale is largely based on a study by Schouten, Valkenburg and Peter (2007). Online clicking refers to opening advertising messages, e-mails and attachments without restraint.

Questions about giving out personal or contact information are related to requiring free products online and participating in online polls or quizzes.

Psychological factors. Psychological factors at least partly determine the likelihood of online victimization. We investigated psychological well-being and self-control. Research indicates that a low level of psychological well-being can be a result as well as a predictor of online victimization (e.g., Priebe & Svedin, 2012). Although low self-control is reliably linked to criminal and deviant behaviour, there are also indications that low levels of self-control increase the likelihood of online victimization (e.g., Bossler & Holt, 2010; Higgens, Jenkins, Tewksbury, & Gibson, 2009). *Psychological well-being* can be defined as 'people's positive evaluations of their lives' (Diener & Seligman, 2004, p. 1). To measure psychological well-being, we used a 12-item scale based on the study by Vandebosch, Van Cleemput, Mortelmans and Walrave (2006) in which items from the *Self-Description Questionnaire* by Ellis, March and Richards and the *SHIELDS Questionnaire* by Gerson were implemented. The items were rated on a 5-point Likert scale from 1 (*agree entirely*) to 5 (*disagree entirely*) (Cronbach's α=0.85). Low self-control is an individual trait associated with risk-taking behaviour. Grasmick, Tittle, Bursik, and Arneklev (1993) developed a 24-item scale to measure self-control. We abbreviated the original scale to 13 items. The six sub-components of the original scale – impulsivity, simple tasks, risk-taking, physical activities, self-centredness, and temper – were represented. The 13 items were rated on a 3-point Likert scale from 1 (*(almost) never*) to 3 (*often*) (Cronbach's α=0.74).

Pretests, data collection and response rate

Researchers, as well as professionals working with the police force and youth care organizations provided feedback on the preliminary version of the questionnaire. A revised version was tested among 21 youth. Their answers were examined to determine the clarity of the questions and to qualitatively assess responses to potentially emotional questions. Subsequently, the questionnaire was tested among 69 elementary school pupils and 373 secondary school pupils (lower pre-vocational education, higher general secondary education and pre-university education). These data were analysed quantitatively, allowing us to test the online environment, anticipate practical issues that might arise during the fieldwork, assess the amount of time it would take to fill out the questionnaire, and determine the reliability of the questionnaire and the validity of the scales used. After a few adaptations, the questionnaire was administered.

Youth were not directly recruited; we randomly sampled primary and secondary schools. Schools exclusively providing special or practical education were excluded from the sample, since pupils attending these schools require a different research approach. Schools were sent a letter asking them to participate in the *Youth & Cybersafety* research project. Of the 300 schools we approached, 44 participated in the study (27 primary schools and 17 secondary schools), a response

rate of 14.6%. This low response rate may be caused by three different factors. The first factor is *research fatigue*. Schools – particularly schools in larger cities with universities and colleges – frequently receive requests to participate in research. A second factor is the workload in schools, which forces schools to set priorities. A third explanation is that we were unable to reach some of the contact persons in schools, even after repeated attempts. The representativeness of the participating schools was tested with respect to their religious denomination, the degree of urbanization of the respective areas, and the percentage of students with special needs. For the participating elementary schools, the distribution of these three characteristics is similar to the national distribution. For the secondary schools, some differences were found, however. The percentage of secondary schools from (highly) urbanized areas was lower than expected, which may be attributed to the earlier mentioned research fatigue. Schools without a religious denomination are overrepresented. The percentage of students with special needs is similar to the national average.

The parents/caregivers of pupils attending the participating schools received a letter including an explanation of the study, the content of the questionnaire, and details on how the data would be treated with respect to privacy and confidentiality. They could object to the participation of their children using a response card contained in the letter. Children of parents who objected to their participation were excluded from the study. Data collection took place from January 2011 until April 2011. Pupils, of whom the parents did not have any objections against their participation, received an in-class explanation by the researchers about the study goal and the procedures. Pupils who, for whatever reason, did not want to participate could state so in advance. This occurred occasionally. The instruction and completion of filling out the questionnaire took an average of 45 minutes.

In total, 6536 pupils were contacted; 103 were excluded because their parents objected to the child's participation, leading to a sample size of 6433. Forty-nine of the 1895 elementary school pupils and 85 of the 4538 secondary school pupils did not fill out the complete questionnaire and were also excluded from the data set. A total of 6299 participants did fill out the questionnaire, which is a response rate of 96.4%. The response rate is high, because pupils filled out the questionnaires at school, during regular hours. In Table 2.1 the socio-demographic characteristics of the sample are compared to those of the national population.

Table 2.1: Socio-demographic characteristics (N=6,299)

	N sample	% sample	% nationwide
Gender			
Boy	3,206	50.9	51.1
Girl	3,093	49.1	48.9
*Age ***			
(8-)10 years	545	8.7	12.9
11-12 years	2,091	33.2	25.3
13-14 years	2,370	37.6	24.4
15-16 years	1,041	16.5	24.8
17 years and older	252	4.0	12.6
*Educational level ***			
Lower pre-vocational education	1,835	41.2	53.6
Higher general education	1,056	23.7	24.4
Pre-university education	1,562	35.1	22.0
*Ethnicity ***			
Descendant of natives	5,184	82.3	77.5
Descendant of immigrants	1,115	17.7	22.5

** p<0.01, significant difference between sample and national distribution

Eleven to fourteen year-olds are overrepresented in this study, while those aged fifteen and older are underrepresented. This is mainly due to the fact that a number of schools did not allow classes facing exams to participate. Another reason is that some students in these age groups have already left school. The sample contains a relatively large number of pupils attending pre-university education, while the number of pupils attending lower pre-vocational education is lower than expected. The percentage of pupils who are descendants of immigrants is lower than the national percentage. Despite the large number of respondents, the sample is therefore not representative with respect to these characteristics.

2.3 RESULTS

Cyberbullying

Almost a quarter of the respondents (24.3%) indicated that they had been a target of one or more types of online bullying. The questionnaire contained questions about 5 specific types of bullying. The prevalence of each type is depicted in Table 2.2.

Table 2.2: Prevalence of types of cyberbullying (N=6299)

In the past three months, did someone, via the Internet or a mobile phone,	
…spread cruel gossip about?	17.1 %
…call you names or threaten you?	11.2 %
…deliberately exclude you, for example in online games or on Facebook?	4.0 %
…send you upsetting photos or videos?	5.3 %
…upload upsetting photos or videos of you on the Internet, without your knowledge?	1.6 %
Has been exposed to one or more types of cyberbullying	**24.3 %**

Youth who indicated that they had been exposed to one or more of types of bullying – imposed by us researchers – do not always denote these behaviours as bullying. This is evident from the answers given and the explanatory notes the respondents added ('I wasn't bullied; it was just a joke among friends'). For these youth, types of behaviour categorized as bullying seem a rather common or normal way to communicate within their peer group. This especially holds for online gossip. Since the aim of this study is to investigate the factors related to online victimization, we distinguished between youth who reported being a victim of cyberbullying (exposure to cyberbullying + being emotionally harmed) (9.4%) and youth reported not being a victim of cyberbullying (exposure to cyberbullying without being emotionally harmed) (14.9%). The characteristics of victims of cyberbullying are depicted in Table 2.3. The characteristics of victims of cyberbullying differed from the group that did not report emotional harm. Girls, youths attending lower pre-vocational education and, descendants of immigrants were more likely to report emotional harm. Youth who did not report emotional harm were likely to have a weaker bond with their parents. We found no evidence for the relation between social factors and being a victim of cyberbullying. Frequency of online chatting and online self-disclosure were related to being a victim of cyberbullying as well as to reporting no emotional harm. Youth who did not report emotional harm were more likely to display a higher level of disinhibited behaviour on the Internet. Victims of cyberbullying were more likely to be exposed to traditional bullying. This is in line with previous research (e.g., Juvonen & Gross, 2008; Hinduja & Patchin, 2009). Finally, we found that a lower level of psychological well-being was related to being a victim of cyberbullying. However, we do not know the causal direction of the relationship. Youths who did not report emotional were more likely to have a lower level of self-control.

Table 2.3: Results of logistic regressions for victims and non-victims of bullying

Predictors	Has been bullied and reported emotional harm (n=590, 9.4%)	Has been bullied and reported no emotional harm (n=941, 14.9%)
Socio-demographic factors		
Girl	0.72 **	-0.21 *
Age	-0.03	0.04
Education: primary school	-0.08	-0.22
Education: higher general education	-0.58 **	0.06
Education: pre-university education	-0.75 **	0.17
Family situation	0.26 *	-0.23 *
Descendant of immigrants	0.31 **	-0.16
Social factors		
Bond with parents	0.16	-0.29 *
Bond with peers	-0.05	0.01
Bond with school	0.07	-0.10
Technology-based factors		
Frequency of Internet use	-0.01	0.09 **
Frequency of online chatting	0.14 **	0.17 **
Compulsive Internet behaviour	0.27 **	0.06
Online disinhibition	0.03	0.16 **
Online disclosure	0.19 **	0.15 **
Bullying		
Was bullied offline	0.97 **	0.20 *
Did bully offline	-0.12	0.46 **
Did bully online	-0.31	0.99 **
Parental mediation		
Supervision	-0.03	-0.18 *
Restrictive mediation	0.29 **	0.10
Monitoring (afterwards)	0.10	-0.05
Active mediation	0.06	0.02
Psychological characteristics		
Psychological well-being	-0.39 **	-0.11
Self-control	-0.13	-0.83 **
Nagelkerke R^2	14.7%	19.0%

Note: *N*=5,857. Results of girls were compared with boys (reference group). Results of children from traditional families (two caregivers) were compared with non-traditional families. *p<.05,*p<.01**.

Exposure to online pornography

Online pornography is provided at websites, often free of charge, and, is exchanged in peer-to-peer networks, online forums and chat rooms. Online pornography can be easily found with the help of search engines (Brown & L'Engle, 2009). Of the overall sample, 33.0% reported having seen online pornography. We found that intentional exposure to online pornography needs to be differentiated from unintentional exposure, since this influences the way youth experience seeing online pornography. This was also found in other studies (Döring, 2009). Youths who were unintentionally

exposed to online pornography predominantly experienced this as negative, i.e., they reported emotional harm and; conversely, youths who were intentionally exposed predominantly reported positive experiences. The factors related to victimization from exposure from online pornography (exposure + emotional harm) are depicted in Table 2.5. Being a girl and clicking on mails, attachments or advertisements increased the likelihood of negative experiences. Parental mediation did not decrease the likelihood of emotional harm, except for active mediation. However, we do not know the causal direction of the relationship between active mediation and exposure to pornography. Youth who reported emotional harm more often reported emotional harm from receiving online sexual requests.

Table 2.4: Prevalence of exposure to online pornography (N=6,299)

Has been exposed to	
…photos of private parts	28.3 %
…photos of sexual intercourse	20.3 %
…videos of private parts	21.5 %
…videos of sexual intercourse	19.8 %
…webcam images of private parts	8.1. %
Has been exposed to one or more types of online pornography	**33.0 %**

Table 2.5: Results of logistic regressions for victims of online pornography and online sexual requests

Predictors	Has seen online porn and reported emotional harm (n=725, 11.9%)	Has received online sexual requests and reported emotional harm (n=386, 6.1%)
Socio-demographic factors		
Girl	0.44 **	0.92 **
Age	-0.03	0.05
Education: primary school	0.05	-0.20
Education: higher general education	0.11	-0.61 **
Education: pre-university education	0.20	-0.77 **
Family situation	-0.07	0.09
Descendant of immigrants	0.01	-0.08
Social factors		
Bond with parents	-0.03	0.09
Bond with peers	-0.11	0.07
Bond with school	0.11	-0.23
Technology-based factors		
Frequency Internet use	0.01	0.05
Frequency online chatting	-0.01	0.17 **
Compulsive Internet behaviour	0.13	0.25 *
Online disinhibition	0.04	0.25 **
Online disclosure	0.06	0.00
Clicking on mails/attachments/advertisements	0.29 **	0.31 *
Giving out contact information	0.20 *	0.18
Online sexual experiences		
Seen online pornography + emotional harm		1.11 **
Received online sexual requests + emotional harm	1.00 **	
Parental mediation		
Supervision	-0.26	0.02
Restrictive mediation	0.17	0.01
Monitoring (afterwards)	-0.11	-0.18
Active mediation	0.11 **	0.00
Individual characteristics		
Psychological well-being	-0.11	-0.34 **
Self-control	0.05	-0.60 **
Nagelkerke R^2	6.8%	18.1%

Note: *N*=5,857. Results of girls were compared with boys (reference group). Results of children from traditional families (two caregivers) were compared with non-traditional families. *p<.05,*p<.01**.

Receiving online sexual requests

On the Internet, youth engage in implicit and explicit sexual conversations (Subrahmanyam & Šmahel, 2011). They can also receive online sexual requests. One in ten youths received online questions about private parts and sex. 16.0% of youth attending secondary education received requests for sexual intercourse and, 9.1% received a request to undress in front of a webcam. The

vast majority of sexual request came from peers (70.8%). However, one in six youths reported not knowing who sends the requests, predominantly children in primary education (40.0%). Older children were more likely to know the identity of the person who sends sexual requests.

Table 2.6: Prevalence of receiving online sexual request (N=6,299)

Has received	
…questions about sex	22.0 %
…requests for sexual intercourse	16.0 %
…questions about breasts and/or genitals	12.1 %
…requests to undress in front of a webcam	9.1 %
Has received one or more types of online sexual requests	**33.0 %**

The factors related to victimization from receiving online sexual requests (receiving + emotional harm) are depicted in Table 2.5. Girls were more likely to report emotional harm than boys and, youths attending lower pre-vocational education were more likely to report emotional harm than youths attending other types of secondary education. Frequent online communication, displaying disinhibited behaviour and unrestraint clicking on messages, increased the likelihood of victimization. A lower level of self-control and psychological well-being increased the likelihood of reporting emotional harm.

Commercial deception and online auction fraud

Youths are recognized as a target consumer group; they have and use their own money and parents spend their money on them (Buijzen, 2010). Since the advent of the Internet, they increasingly engage in e-commerce and are addressed by e-advertising (Tufte, 2006). Online forms of advertising are often interactive and occur in children's websites and online games. A negative consequence of the development is that youths can become victims of online commercial deception or marketing-in-disguise. The purpose of commercial deception is to 'intentionally give a target an incorrect mental representation of the circumstances of a social exchange' (Graziola & Jarvenpaa, 2003, p. 95). Of the overall sample, 11.2% reported being a victim of commercial deception[17], for example, having to pay for a product described as 'gratis' or 'free' or, exceeding the subscription for a mobile phone without notification.

[17] Experiences with commercial deception and online auction fraud are intrinsically related to harm, i.e., financial harm. Therefore, we did not ask youth about the harm related to commercial deception and online action fraud.

Online auction fraud – a specific case within the broader area of consumer fraud – occurs on Internet auction sites (e.g., eBay and the Dutch marktplaats.nl). Youth can be victimized in two ways; they can pay for products, but receive no goods or, they can sell and send a product, but receive no money. Of the overall sample, 5.2% reported being a victim of one or both forms of online auction fraud.

The factors related to victimization from commercial deception and online auction frauds are depicted in Table 2.7. Boys were more often victims of commercial deception and online auction fraud than girls. Victim of commercial deception and auction fraud were more likely to click on links and advertisements without restraint and they were more likely to display disinhibited behaviour. Furthermore, victims of commercial deception more often gave out contact information – for example, when they participated in online polls or quizzes. A lower level of self-control increased the likelihood of victimization form commercial deception. Victims of online auction fraud are more likely to engage in online auction fraud than non-victims.

Table 2.7: Results of logistic regressions for victims of commercial deception and online auction fraud

Predictors	Commercial deception n=704, 11.2%	Online auction fraud n=330, 5.2%
Socio-demographic characteristics		
Girl	-0.34 **	-0.58 **
Age	0.06	0.08
Education: primary school	0.14	-0.03
Education: higher general education	0.14	-0.30
Education: pre-university education	-0.14	-0.53 **
Family situation	-0.17	-0.20
Descendant of immigrants	0.02	-0.16
Social factors		
Bond with parents	-0.14	0.23
Bond with peers	0.05	-0.15
Bond with school	-0.06	-0.01
Technology-based factors		
Frequency Internet use	0.03	0.06
Frequency online chatting	0.11 **	0.06
Compulsive Internet behaviour	0.16 *	0.07
Online disinhibition	0.16 **	0.24 **
Online disclosure	0.02	0.00
Clicking on emails/attachments/advertisements	0.54 **	0.41 **
Giving out contact information	0.94 **	0.03
Commercial deception and online auction fraud		
Victim of commercial deception		0.65 **
Victim of online auction fraud	0.64 **	
Perpetrator of online auction fraud	-0.11	1.56 **
Parental mediation		
Supervision	0.09	0.02
Restrictive mediation	-0.10	-0.10
Monitoring (afterwards)	0.15	-0.01
Active mediation	0.04	-0.10
Psychological factors		
Psychological well-being	-0.06	0.02
Self-control	-0.76 **	-0.17
Nagelkerke R^2	14.6%	11.6%

Note: *N*=5,857. Results of girls were compared with boys (reference group). Results of children from traditional families (two caregivers) were compared with non-traditional families. *p<.05,*p<.01**.

2.4 DISCUSSION

The main aim of this study was to investigate factors related to youth's online victimization, i.e., encountering online risks and experiencing subsequent harm. We focused on youth's experiences with cyberbullying, online pornography, online sexual requests, commercial deception and, online auction fraud. Our findings indicate that the prevalence of online victimization is substantial: more

than 9% reported being a victim of cyberbullying, more than 5% reported being a victim of online auction fraud and, more than 11% reported being a victim of commercial deception. Victimization resulting from receiving online sexual requests and exposure to online pornography is also substantial; 6% reported emotional harm from exposure to pornography and almost 12% reported emotional harm from receiving online sexual requests.

Our study complements previous research on online victimization of youth. First, we distinguished between 1) youth who encounter online risks and 2) youth who encounter online risks and; subsequently, report harm. The latter were denoted as 'online victims'. This distinction is important, since encounters with online risks can be intentional and/or beneficial or, do not translate into negative experiences. Our findings indicate that exposure to online pornography and receiving online sexual requests does not necessarily result in emotional harm. A possible explanation for these findings is that with the onset of puberty an increasing interest in sexuality is developmentally normal for youth, as is seeking out information on and communication about sexual topics (Subrahmanyam & Šmahel, 2011). Generally, being cyberbullied is considered to be an inevitably negative experience. However, our findings indicate that being cyberbullied does not necessarily result into emotional harm. Youth who are perpetrators of traditional bullying and cyberbullying are more likely to report no emotional harm from being bullied on the Internet. To conclude, only a subset of youth who encountered online risks reported harm. Since online risk and online opportunity are interdependent, it is, therefore, important that policy interventions aim at minimizing harm and not at reducing all online risk.

Second, we identified factors related to online victimization, i.e., encountering online risks and experiencing subsequent harm. First, girls are more likely to report emotional harm from exposure to online pornography, receiving online sexual requests and, cyberbullying. This finding is in line with previous research (Livingstone, et al. 2011). A possible explanation for the differences in experiencing online pornography is that online pornography predominantly represents stereotypes of sexuality typically gratifying for men (Brown & L'Engle, 2009). Another explanation is that girls are socialized 'to perceive pornography in terms of morality rather than as a means to achieve sexual arousal' (Træen, Nilsen, & Stigum, 2006, p. 252). Boys are more likely to be victims of commercial deception and online auction fraud.

We found no evidence for the relation between the bond with parents, parental mediation and online victimization. Future research is needed to disentangle the causal relationship between parental mediation and online victimization, since parental mediation may influence the likelihood of online victimization and; conversely, online victimization may influence the way parents mediate their children's Internet us. Technology-based factors are related to several, although not all, forms of online victimization, online disinhibition in particular. The characteristics of online communication

– for example, anonymity, invisibility and, reduced audio-visual cues – may increase disinhibited behaviour on the Internet (Schouten, et al., 2007). According to Suler (2004), online disinhibition can be beneficial for the exploration and development of one's identity, but it might also be related to disadvantageous outcomes (Suler, 2004). Future research should disentangle the underlying mechanisms in the relationship of beneficial and disadvantageous online disinhibition. Finally, we found that online victimization is strongly related to a low level of self-control. The strong influence of self-control on online victimization underlines the importance of psychological characteristics for the explanation of online victimization. The results of our study suggest that policy initiatives to reduce online victimization should be sensitive to individual differences and the influence of the socio-technical environment.

In relation to youth, risk is difficult to accept. However, Sonia Livingstone rightly states 'risk isn't automatically a bad thing' (as cited in EU Kids Online, 2011). Youths must learn to calculate and cope with risks, since this is a necessary prerequisite to build resilience (Coleman & Hagell, 2007). Resilience can be defined as 'a dynamic process encompassing positive adaptation within the context of significant adversity' (Luthar, Cicchetti, & Becker, 2000, p. 543). When youths face adversities or risks, they learn to develop coping strategies which will reduce the likelihood of online victimization. Studies on coping strategies are still scarce, but there are indications that youth actually use coping strategies to deal with risks and learn from harmful experiences (Staksrud & Livingstone, 2009). To advance research on online risks for youth, future studies should investigate the role of resilience and coping strategies in relation to risk, vulnerability and victimization. Online risks resulting into severe harm require intervention and prevention. However, we should also address the possibilities to enhance resilience and reduce victimization.

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3 CYBERBULLYING FROM A CRIMINOLOGICAL PERSPECTIVE

This is a translated and adapted version of the article that has been published as: Kerstens, J., & Veenstra, S. (2013). Cyberpesten vanuit een criminologisch perspectief [Cyberbullying from a criminological perspective]. *Tijdschrift voor Criminologie, 55*(4), 375-393.

Abstract

It is assumed that the online world creates new possibilities for criminal behaviour. The question is whether existing criminological theories are also useful for the explanation of cybercrime or that the explanation of cybercrime requires new theories. In addition to the debate on criminological theories and cybercrime, we examined if and to what extent cyberbullying is a new form of deviant behaviour. Analyses based on a Dutch survey among 6,299 adolescents (50.9 % male), aged from 10 to 18 (M = 13.0, SD = 1.87) indicate that cyberbullying behaviour is not only strongly interwoven with traditional bullying behaviours, but is also affected by the distinct features of the online environment. The findings give support to the suggestion that the aetiological schema to explain cyberbullying should postulate the interaction between individual characteristics, distinct features of the online environment and the interaction between offline and online social realities.

3.1 INTRODUCTION

The internet has become a common and indispensable phenomenon in our society. At the same time, cybercrime generates a lot of media attention. Furthermore, reports on the prevalence of cybercrime appear regularly and the Dutch government prioritizes the tracking and prevention of cybercrime. The term 'cybercrime' refers to criminal and deviant behaviour through the use of online technologies (Wall, 2001; Yar, 2012). Cybercrime is, either implicitly or explicitly, conceptualized as the contemporary counterpart of traditional crime, i.e., crimes that occur only in the offline world (Taylor, Fritsch, Liederbach, & Holt, 2010). Studies on cybercrime predominantly focus on identifying the types and prevalence of cybercrimes and often lack a theoretical base. Studies on the applicability of criminological theories to cybercrime are scarce (McQuade, 2006; Taylor, Caeti, Loper, Fritsch & Liederbach, 2006). Anyone who investigates cybercrime will eventually have to look into theories in order to find an explanation for the findings. At the same time, research is necessary to test the applicability of criminological theories to cybercrime or, to further develop theoretical

approaches (e.g., Bernard, 2002; Bottoms, 2000). Lately, criminologists have been debating whether existing criminological theories are useful for the explanation of cybercrime or whether the phenomenon requires novel theoretical explanations. In essence, the question is whether cybercrime constitutes a new category of criminal behaviour (Holt, 2013; Yar, 2012).

This study focuses on bullying, a form of deviant behaviour among youth that has an offline as well as an online variant. The offline form is usually labelled traditional bullying, whereas 'cyberbullying' is the most commonly used term for online bullying (Bauman, Cross, & Walker, 2013). By studying traditional bullying as well as cyberbullying and examining the relationships between both forms, it is possible to examine whether the advent of the internet has led to a new type of perpetrator with specific characteristics or whether cyberbullying is in essence the same as traditional bullying but with new methods. The theoretical contribution of our study is somewhat paradoxical: the study of bullying perpetration serves as a case study to explore the applicability of criminological theories on cybercrime. Specifically, this study aims to answer the following research questions: (1) what is the prevalence of traditional bullying, cyberbullying, and both forms of bullying occurring together?; (2) what are the differences and similarities between perpetrators of traditional bullying, perpetrators of cyberbullying and perpetrators of both traditional bullying and cyberbullying?; (3) to what extent are perpetrators of traditional bullying and cyberbullying also victims of traditional bullying and cyberbullying?; (4) to what extent are perpetrators of traditional bullying and cyberbullying also involved with other online problems? To determine whether and to what extent perpetrators of traditional bullying and cyberbullying differ, we examined various characteristics considered in well-known criminological theories: socio-demographic characteristics (for example, sex), individual characteristics (for example, self-control) and social environment characteristics (for example, bond with peers). We also examined the disinhibiting influence of online technology on cyberbullying behaviour.

The offline-online dichotomy in relation to cybercrime

Researchers, politicians, and policy makers see the offline and online worlds as two separate worlds. The two are regarded as opposites, and characteristics attributed to the online world do not apply to the offline world: the transformation of time-space relationships, (perceived) anonymity, and the relative ease with which social identities can be manipulated (Yar, 2006). Of these characteristics, (perceived) anonymity is particularly connected with online disinhibition: in the online world people behave with fewer restrictions and inhibitions than in the offline world (Suler, 2004). With the arrival of the internet, a new world seems to have emerged: the online world, or cyberspace. The question is, however, whether the offline-online dichotomy does justice to the complexity and interrelatedness of offline and online interactions. Subrahmanyam and Šmahel (2011) call attention

to the immense development in the use of online technologies since the arrival of the internet and argue that the offline and online worlds are interwoven. Research also shows that online interactions of youth occur predominantly in the context of existing relationships (Livingstone, Haddon, Görzig, & Ólafsson, 2011) and that young people increasingly see their offline and online interactions as a coherent experience (Livingstone, 2009).

Researchers, politicians, and policy makers also use a dichotomy with respect to crime. Traditional crime takes place in the offline world, whereas cybercrime is committed using online technologies (Wall, 2001; Yar, 2012). There is no consistent definition of cybercrime; it is an overarching term that includes new forms of criminal behaviour – such as hacking – as well as digital forms of traditional crime (Stol, 2012)[18]. In addition, online deviant behaviour - although not liable to punishment - is also seen as part of cybercrime; an often cited example is cyberbullying (Yar, 2012). For example, in the Dutch *Safety Monitor*, one of the four investigated cybercrimes is cyberbullying (Veiligheidsmonitor 2013, p. 75). Technology has always been used in criminal activities, but the definition and categorizing of a large variety of criminal and deviant behaviours on the basis of technology is new (McGuire, 2007). The question is whether cybercrime differs fundamentally from traditional crime or whether the arrival of the internet merely offers new options for criminal behaviour (Leukfeldt, Domenie, & Stol, 2010).

Cybercrime and criminology

Recently, criminologists have begun to debate whether existing criminological theories can be used to explain cybercrime (Holt, 2013; Yar, 2012). In this debate, three positions are taken. The first position is taken by Grabosky (2001), who states that cybercrime is in essence traditional crime committed with new technologies. According to Grabosky, existing theories can therefore be used to explain cybercrime. He refers specifically to the Routine Activity Theory of Cohen and Felson: essential for crime are the routine activities of individuals that bring together a motivated perpetrator and a suitable target in space and time in a situation where there is no effective supervision (1979).

Yar (2005) represents the second position in the debate. Yar also uses the Routine Activity Theory as the starting point for his analysis. Yar indicates that certain concepts from the Routine Activity Theory can be translated to cybercrime. The concept of the motivated perpetrator offline does not differ, for example, from the concept of the motivated perpetrator online. In the online world there is not always a meeting in space and time, however. One of the characteristics of the online world is, after all, the transformation of time-space relationships. Where differences in

[18] The term traditional crime similarly denotes a variety of very different criminal behaviours. Categorizing these behaviours is difficult, as is providing a definition of criminality: '*crime is as broad a category as disease, and perhaps as useless*' (Wilson & Herrnstein, 1985, p. 21).

criminality between cities and rural areas can, for example, be explained on the basis of characteristics of these well-defined physical spaces, for cybercrime this is difficult. The online world simply cannot be divided into separate spaces according to these same definitions. The online world therefore differs from the offline world, and according to Yar this influences criminal behaviour. Yar comes to the conclusion that the explanation of cybercrime requires theoretical innovations.

The third and last position in the debate is taken by Jaishankar. Arguing that existing theories are unsatisfactory, Jaishankar (2011) favours the development of novel criminological theories specifically for the explanation of cybercrime (pp. xxvii-xxviii). For this purpose, Jaishankar (2008) developed the *Space Transition Theory,* a theory that stresses the interrelatedness of the online and offline worlds: individuals constantly 'move' from the offline world to the online world and back. One of the fundamental principles of *Space Transition Theory* is that criminal behaviour will transfer from one world to the other. To summarize the three positions: Grabosky stresses that criminal behaviours offline and online are basically the same, while Yar focuses on differences between the online and offline worlds and therefore argues for theoretical innovation. Jaishankar, stressing the interrelatedness of the online and offline worlds, favours theoretical development geared specifically toward the explanation of cybercrime.

A relatively small number of studies on cybercrime have used existing criminological theories to explain the involvement in cybercrime. These studies are predominantly general theories of crime, such as the Routine Activity Theory (Cohen & Felson, 1979) and the General Theory of Crime (Gottfredson & Hirschi, 1990). In many cases, the studies examine crimes that only occur in the online world, such as hacking, spreading malware, and illegal downloading (see Holt, 2013; Jaishankar, 2011). To our knowledge, there are no studies 1) that examined whether perpetrators of criminal behaviour that occurs both online and offline differ from each other, and 2) that incorporated the interrelation between online and offline criminal behaviour in their analysis. Bullying is a behaviour that occurs offline as well as online. Research on offline and online bullying – or traditional bullying and cyberbullying – can provide insight into the question whether the arrival of the internet has led to a new group of perpetrators.

Cyberbullying

Since the advent of the internet two main forms of bullying have been distinguished: traditional bullying and cyberbullying. According to psychologist Olweus, traditional bullying is a subcategory of aggressive behaviour directed at a person, characterized by repetition and an asymmetrical balance of power between the perpetrator and the victim. As part of the definition, the bullying behaviour should stem from cruel intentions (Olweus, 1993, 2010). Among researchers there is a broad consensus about the characteristics of traditional bullying as defined by Olweus: repetition, cruel

intentions, and an imbalance of power (Smith, Del Barrio, & Tokunaga, 2013). For cyberbullying, there is no universally accepted definition, but the majority of definitions are based on the assumption that traditional bullying and cyberbullying are essentially the same: cyberbullying is bullying where online technology is used (Veenstra, 2012). There is disagreement about whether cyberbullying is simply a form of traditional bullying or a completely new variant of bullying, however (see Olweus, 2012; Menesini, 2012).

Most research on traditional bullying and cyberbullying has been conducted from a psychological perspective. The prevalence of cyberbullying various considerably, from 4% (Kowalski & Limber, 2007) to 29% (Ybarra & Mitchell, 2007). These variations are due mostly to differences in the definition and operationalization of cyberbullying (Tokunaga, 2010). The applicability of definitions and operationalisations to youth's own experiences has also been studied: when young people are asked to define bullying, they seldom incorporate Olweus' criteria in their definitions. Whether researchers use their own definition of bullying or whether the questions are phrased in such a way that youth are allowed to use their own interpretation of the term, influences the number of reported bullying behaviours (Vaillancourt, McDougall, Hymel, Krygsman, Miller, Stiver, et al., 2008). To explore the applicability of criminological theories on cybercrime, we took the perspective of youth rather than definitions of (cyber)bullying as a starting point.

3.2 METHODS

Sample and Procedure

For this cross-sectional study, data was used from *Youth & Cybersafety*, a 4-year Dutch research project on online victimization and perpetration among 6,299 youth aged 10 to 18 years (2009-2013) commissioned by the Dutch Ministry of Education, Culture and Science[19]. The research project *Youth & Cybersafety* was conducted by the *Cybersafety Research Group* of the *NHL University of Applied Sciences and the Police Academy* in the Netherlands. The questionnaire was developed on the basis of feedback from youth (n=25, divided over 4 focus groups) and tested in a pilot study (n=442) for validity and reliability and, to refine question wording, sequence and questionnaire length. In total, 6,433 participants filled in the online questionnaire. Validity checks for nonsensical answers resulted in the removal of 134 respondents of our dataset. The data-analysis was based on 6,299 completed questionnaires filled in by participants (51.2% male) attending primary school (29.3%) and secondary schools (70.7%). The age range of the sample was 11 to 18 years (M =13.0, SD =1.9). Data were collected between January 2011 and April 2011. Parents could object to the participation of their

[19] This research project was undertaken in accordance with the Code of Research established by the HBO-council (Andriessen, Onstenk, Delnooz, Smeijsters, & Peij, 2010).

children and youth's assent was obtained before participation. The response rate of our study was 96.4%.

Participants were not directly recruited; we randomly sampled primary and secondary schools. Schools exclusively providing special or practical education were excluded from the sample, since pupils attending these schools require a different research approach. Schools were sent a letter asking them to participate in the *Youth & Cybersafety* research project. Twenty seven primary schools and seventeen secondary schools from three different levels – pre-vocational education, higher general secondary education and pre-university education participated. Each participating school received a report in which the findings from the school were compared with the overall findings.

Data were collected using an online survey. The questionnaire was filled in at school during class in the presence of researchers and supervisors. We redesigned classrooms in order to create privacy for each respondent. Each respondent was provided with a unique code making it impossible to link answers to identifying information of the participant. At the start of the questionnaire, participants were notified that: (1) the questionnaire would be about being 'at risk' and being 'a risk' on the Internet; (2) that the investigators had no chance to identify who had given the answers; (3) that they could stop at any point in time if they wished.

Participants aged 11 to 14 years were over-represented as well as participants attending pre-university education (Table 3.1). Furthermore, there is an under-representation of descendants of immigrants. Despite the large number of respondents, the sample is therefore not representative with respect to these characteristics.

Table 3.1: Socio-demographic characteristics (N=6,299)

	N sample	% sample	% nationwide
Gender			
Boy	3,206	50.9	51.1
Girl	3,093	49.1	48.9
*Age ***			
(8-)10 years	545	8.7	12.9
11-12 years	2,091	33.2	25.3
13-14 years	2,370	37.6	24.4
15-16 years	1,041	16.5	24.8
17 years and older	252	4.0	12.6
*Educational level ***			
Lower pre-vocational education	1,835	41.2	53.6
Higher general education	1,056	23.7	24.4
Pre-university education	1,562	35.1	22.0
*Ethnicity ***			
Natives	5,184	82.3	77.5
Immigrants	1,115	17.7	22.5

** $p<0.01$, significant difference between sample and national distribution

Measures

The questionnaire included questions about (cyber)bullying and other Internet experiences and, demographic, psychological, social and technology-based factors.

Bullying perpetration. The prevalence of bullying perpetration was measured by asking youth whether they bullied someone in the past three months in school or in the street (traditional bullying) or via the internet or mobile phone (cyberbullying). Youth who indicated that they bullied online were also asked to specify what they did: gossip, call names, threaten, send upsetting messages, exclude someone on purpose, or distribute upsetting images or videos of the victim online. Response categories were rated from 1(*never*) to 5 (*several times a week*).

Social factors. We measured the bond with parents, bond with peers and bond with school and, parental mediation. Previous research indicates that social bonds are related to delinquency and bullying behaviour (e.g., Junger-Tas, 1992; Ybarra & Mitchell, 2004). The *bond with parents* was measured using four items. The questions were based on a study by Junger-Tas, Steketee and Moll (2008) and a study by Van Rooij and Van den Eijnden (2007). The items were rated on a 5-point Likert scale from 1 (*never*) to 5 (*always*) (Cronbach's α=0.71). The *bond with peers* was measured using six items. The questions were based on the Dutch version of the *Inventory of Parent and Peer Attachment* (Armsden & Greenberg, 1987) used by Van Rooij and Van den Eijnden (2007). The items were rated on a 5-point Likert scale from 1 (*totally agree*) to 5 (*totally disagree*) (Cronbach's α=0.79). The *bond with school* was measured using one item. Participants were asked: How do you think

about school? Response categories were rated from 1 (*negative*) to 3 (*positive*). *Parental mediation* refers to the interactions that parents have with youth about their media use (e.g., Nikken & Jansz, 2011). Although used slightly different in the media literature, this concept is related to one of the central concepts in The Routine Activity Theory (Cohen & Felson, 1979), namely effective guardianship, i.e., actions whose presence would discourage a crime from taken place. Previous research indicates that a higher level of parental monitoring in general is associated with a lower level of deviance, fewer delinquent behaviour problems in early adolescence and a decrease in the likelihood of being an online aggressor (Amato & Fowler, 2002; Pettit, Laird, Dodge, Bates, & Criss, 2001; Ybarra & Mitchell, 2004). We measured youth's perception of parental mediation by asking one question for each of the four basic strategies of parental mediation: supervision (parent is present while using the internet), restrictive mediation (parent sets rules), monitoring (parents checks records afterwards) and active mediation (parents communicates on Internet use and safety). The response categories were 0 (*never*), 1 (*sometimes*), 2 (*(almost) always*).

Technology-based factors. We measured the frequency of Internet use and online disinhibition. Previous research indicates that these behaviours are related to cyberbullying perpetration (e.g., Hinduja & Patchin, 2008; Smith, Mahdavi, Carvalho, Fisher, Russell, & Tippett, 2008; Udris, 2014). *Frequency of Internet use* was measured by asking participants to indicate how many hours per day on average they were active on the Internet, varying from less than one hour per day to more than four hours per day. *Online disinhibition* – the disappearance of social inhibitions on the Internet – was measured using seven statements with a five-point Likert scale ranging from 1 (*totally agree*) to 5 (*totally disagree*) (Cronbach's α=0.85). The statements were based on studies on the online disinhibition effect (Suler, 2004) and a study by Schouten, Valkenburg and Peter (2007).

Psychological factors. We investigated psychological well-being and self-control. *Psychological well-being* refers to the self-image of youth: are they satisfied with their lives and with themselves? Previous research indicates that perpetration of cyberbullying can affect the psychological well-being of adolescents (Patchin & Hinduja, 2012). Psychological well-being was measured using twelve statements with a five-point Likert scale ranging from 1 (*totally agree*) to 5 (*totally disagree*) (Cronbach's α=0.85). The statements are based on research by Vandebosch, Van Cleemput, Mortelmans and Walrave (2006), which used the *Self-Description Questionnaire* by Ellis, March and Richards, as well as Gerson's *SHIELDS Questionnaire*. *Self-control* refers to the extent to which individuals are able to internally regulate their behaviour (Gottfredson & Hirschi,1990). Previous research indicates that a low level of self-control increases the risk of engaging in criminal and deviant behaviour (e.g., Pratt & Cullen, 2000). Self-control was measured using thirteen items. The statements were based on the 24-item scale developed by Grasmick, Tittle, Bursik and Arneklev (1993). The six sub-components of the original scale – impulsivity, preference for simple tasks, risk-

taking behaviour, physical activities, self-centredness, and temper – were represented. The items were rated on a 3-point Likert scale from 1 (*(almost) never*) to 3 (*often*) (Cronbach's α=0.74).[20]

3.3 RESULTS

Prevalence of traditional bullying and cyberbullying

Research question 1 asked what is the prevalence of traditional bullying, cyberbullying, and both forms of bullying occurring together. Almost 15 per cent of the participants reported to have bullied offline in the three months prior to the study, while 5 per cent said to have bullied online (Table 3.2). The percentage of youth that bullies offline is, therefore, 3 times as high as the percentage that bullies online.

Table 3.2: Prevalence of traditional bullying and cyberbullying perpetration (N=6,299)

	traditional bullying	cyberbullying
Once or twice during the past three months	11.1%	3.2%
Twice or three times a month	1.6%	0.5%
Once a week	0.7%	0.3%
Several times a week	1.3%	0.7%
Total	**14.7%**	**4.7%**

Traditional bullying and cyberbullying are related: 3.2 per cent of the participants bully online as well as offline. The direction of the relationship is asymmetrical: of the online bullies, 2/3 also engages in offline bullying, while 1 in 5 of the offline bullies also bullies online. There are novel perpetrators as well: 1.4 percent of the participants engage exclusively in cyberbullying (Table 3.3). Of the online bullies, 24.6% admits to have bullied a person they did not know; in 75 per cent of the online bullying cases, the victim is known to the perpetrator. Usually, this person is known in the offline world (56.0%), but some victims are known exclusively through the internet (19.1%). Perpetrators predominantly have the same sex and age as their victims. As with traditional bullying, cyberbullying also occurs within the context of existing social (offline) relationships.

[20] As we created the questionnaire, a number of pragmatic decisions had to be made. First of all, the limitations with respect to the time that would be available to fill out the questionnaire (50 minutes) forced us to limit the number of items used to measure certain constructs. For example, Grasmick's self-control scale was shortened from 23 to 13 items. With this shortened version, we still managed to preserve all elements that measure low self-control, however. Other changes have to do with the wording of certain items. As we wanted to create items that were appropriate given the language abilities and cognitive level of youth in the targeted age range, some of the items were rephrased using more accessible language.

Table 3.3: Size of unique groups of perpetrators of traditional bullying and cyberbullying

	Number (n)	Percentage (%)
Is not a bully	5,279	83.8
Is bullying offline only	727	11.5
Is bullying online only	91	1.4
Is bullying both online and offline	202	3.2
Total	**6,299**	**100.0**

Traditional forms of bullying – with the exception of physical forms such as kicking and beating – migrate to the online world: gossiping, calling names, threatening, and excluding all have an online equivalent. Placing a degrading text on the wall of a restroom at school changes into placing a degrading text on a banga list[21] and, excluding someone on purpose in the schoolyard changes into defriending someone on social network cites like Facebook. Apart from migration of traditional forms of bullying to the online world, new forms of bullying originate as well: uploading upsetting, sometimes manipulated, images or movies without consent. Online variants of traditional bullying occur most frequently. Forms of bullying that require online technologies are less frequent (Table 3.4).

Table 3.4: Prevalence of variants of online bullying (sample perpetrators of cyberbullying)

In the past three months, did you, via the internet or a mobile phone,...	
…spread cruel gossip about someone else?	63.8%
…call someone else names or threaten them?	53.2%
…purposefully exclude someone, for example in online games or on Facebook?	30.0%
…send someone upsetting messages?	21.2%
…post upsetting photos or videos of someone on the internet, without their knowledge?	18.8%

Table 3.5 provides an overview of the prevalence of bullying behaviours by gender, age, type of education (elementary or secondary), and educational level in secondary education (lower pre-vocational, higher general, and pre-university education). The first column shows that girls bully less often than boys and that participants attending pre-university education bully less than participants attending other levels of secondary education. Among youth who exclusively engage in traditional bullying behaviour, there is an overrepresentation of boys and elementary school pupils. As participants get older, the frequency of traditional bullying behaviours decreases. The third column of Table 3.5 shows that bullying behaviour via the internet or mobile phone occurs more frequently among participants attending lower pre-vocational education. Among youth who bully online as well

[21] Banga lists circulate on the internet and contain the names of girls who, according to the creators of the list, are readily available to have sex. In many cases, these lists are made up.

as offline (fourth column), we again see an overrepresentation of participants attending lower pre-vocational education. As participants get older and attend secondary education, a combination of traditional bullying and cyberbullying becomes more frequent.

Table 3.5: Prevalence of bullying behaviours by gender, age, type of education, and educational level in secondary education.

	Is not a bully	Is bullying offline only	Is bullying online only	Is bullying both offline and online
Gender	**	**		
Boy	80.4%	14.8%	1.3%	3.5%
Girl	87.4%	8.2%	1.6%	2.9%
Age		**		**
12 years or younger	83.2%	13.2%	1.5%	2.1%
13-14 years	83.5%	11.3%	1.5%	3.7%
15-16 years	84.9%	8.9%	1.2%	4.9%
17 years or older	88.5%	6.7%	1.6%	3.2%
Education		**		**
Primary education	82.8%	14.0%	1.3%	1.9%
Secondary education	84.2%	10.5%	1.5%	3.8%
Educational level	**	**	*	**
Lower pre-vocational	80.1%	12.4%	2.1%	5.4%
Higher general	84.3%	11.2%	1.0%	3.5%
Pre-university	89.1%	7.8%	1.2%	1.9%
Total (N=6,299)	**83.8%**	**11.5%**	**1.4%**	**3.2%**

** p<0,01 chi-square, * p<0,05 chi- square

Characteristics of perpetrators of traditional bullying and cyberbullying

Research question 2 asked what the differences and similarities are between perpetrators of traditional bullying, perpetrators of cyberbullying and perpetrators of both forms of bullying. A multinomial logistic regression was used to compare the profiles of the three groups of perpetrators with the group of non-perpetrators (Table 3.6). Participants who exclusively bully offline are generally boys and they are more often member of a non-traditional family.[22] Traditional bullying decreases as participants grow older. No significant relationship between bullying and socio-demographic characteristics was found for the other perpetrator groups.

Traditional bullies are more likely to have weaker bond with their parents; this also applies to those who bully offline as well as online. Those who bully offline as well as online also have a weaker bond with school, but they are more likely to have a stronger bond with peers. Possibly, these bullies use their bullying as a means to increase their status among peers (Salmivalli, 2010). Social environment characteristics are not significantly related to youth who bully exclusively online.

[22] Family situation was operationalized as: a tradition family consists of two parents/caregivers. All other families are labeled as non-traditional.

Youth who exclusively bully online indicate to feel less inhibited in an online environment. Not surprisingly, online disinhibition appears to be the strongest predictor of online bullying in this group. Online bullies also frequently use the Internet. Online disinhibition and frequency of Internet use is also significantly related to being an online bully and an offline bully as well. Parental mediation is not significantly related to perpetration of traditional bullying, cyberbullying and both forms of bullying. This suggests that parental mediation does not prevent bullying behaviours.

Finally, we found a strong relationship between a low self-control and all forms of bullying perpetration. Acting on impulse, without regard for the possible consequences, was found particularly among youth who exclusively engage traditional bullying behaviour.

Table 3.6: Profiles of perpetrator groups—results of multinomial logistic regression. Reference category is: neither bullying offline nor offline (n=5,279).

	Is bullying offline only n=727		Is bullying online only n=91		Is bullying both offline and online n=202	
	OR	95% C.I.	OR	95% C.I.	OR	95% C.I.
Socio-demographic factors						
Girl	0.57**	0.47-0.68	1.28	0.81-2.01	0.94	0.67-1.31
Age	0.80**	0.75-0.84	0.90	0.78-1.02	0.95	0.86-1.04
Family situation	0.75**	0.61-0.91	1.10	0.63-1.90	0.88	0.62-1.26
Ethnicity	0.92	0.73-1.15	0.86	0.49-1.52	1.26	0.88-1.80
Social factors						
Bond with peers	0.99	0.84-1.17	0.79	0.54-1.14	1.36*	1.04-1.78
Bond with parents	0.81**	0.69-0.94	1.01	0.69-1.48	0.60**	0.48-0.76
Bond with school	0.99	0.86-1.14	1.00	0.70-1.43	0.75*	0.59-0.95
Technology-based factors						
Frequency internet use	1.08*	1.02-1.16	1.35**	1.15-1.57	1.37**	1.23-1.53
Online disinhibition	1.09	0.97-1.22	1.84**	1.43-2.36	1.85**	1.55-2.20
Parental mediation						
Parental supervision	0.90	0.75-1.07	1.14	0.73-1.77	1.08	0.77-1.51
Restrictive mediation	0.97	0.81-1.17	1.43	0.89-2.30	0.90	0.64-1.26
Monitoring (afterwards)	0.98	0.89-1.08	0.89	0.69-1.13	0.96	0.81-1.14
Active mediation	1.00	0.92-1.09	0.95	0.77-1.18	1.05	0.90-1.23
Psychological factors						
Psychological well-being	0.84*	0.72-1.00	1.10	0.74-1.64	0.98	0.74-1.29
Self-control	0.13**	0.10-0.17	0.27**	0.13-0.54	0.09**	0.06-0.15
R^2 = 0.21, χ^2=862.9						

Note: *N*=6,299. Results of girls were compared with boys (reference group).* p<0,05, ** p<0,01

Summarizing, the analyses show that a low level self-control is significantly related to all forms of bullying perpetration. In comparison to the other perpetrator groups, youth who exclusively engage in cyberbullying do not have a very distinguishing profile. Socio-demographic characteristics and the bond with parents, peers and school are not significantly related to perpetration of cyberbullying. Frequency of Internet use and online disinhibition are significantly related to perpetration of cyberbullying, for those who exclusively engage in cyberbullying and those who engage in both forms of bullying as well.

Relationships between bullying and being a victim of bullying

Research question 3 asked to what extent perpetrators of traditional bullying and cyberbullying are also victims of bullying. In total, one in five participants (20.3%) is a victim of traditional bullying (Table 3.7). The percentage of victimization among the three distinct perpetrator groups is approximately twice as high, respectively 40.3, 38.5 and 46.0 per cent. The percentage of victimization among those who are perpetrators of cyberbullying – whether exclusively or not - is remarkably high, respectively 24.2 and 31.2 per cent. To summarize, there is a strong relation between traditional bullying and cyberbullying and, a strong relation between bullying perpetration and victimization.

Table3.7: Prevalence of victims of bullying among groups of perpetrators and non-perpetrators (%)

	is not a bully	has bullied offline only	has bullied online only	has bullied both offline and online	total
Is bullied offline **	16.2	40.3	38.5	46.0	20.3
Is bullied online **	5.1	10.5	24.2	31.2	6.8

** p<0,01 (chi-square)

Relationships between bullying and other online problems

Research question 4 asked to what extent perpetrators of traditional bullying and cyberbullying are also involved with other online problems. Perpetrators of bullying are above-average involved in other online problems: they are 2 to 5 times more likely to report online problems, such as being a victim of online auction fraud or making sexual images or videos of others, than their non-involved peers. Especially perpetrators of both traditional bullying and cyberbullying more often report other online problems. In sum, perpetration of bullying is not an isolated phenomenon. It mostly occurs with other problems: bullies are significantly more engaged in online risk behaviours than non-bullies and they are more often involved in cybercrimes, both as a victim and as well as a perpetrator.

Table 3.8: Prevalence of other (online) problems or high-risk internet behaviours (%)

	is not a bully	has bullied offline only	has bullied online only	has bullied offline & online	total
Compulsive Internet behaviour **	0.8	2.1	4.6	9.9	1.3
Has received online sexual requests and felt bothered **	5.3	8.8	20.9	11.4	6.1
Has posted sexy photos of him or herself online **	2.1	4.4	4.4	24.8	3.1
Has made sexual images or videos of others **	1.4	1.3	3.2	15.0	1.9
Has stripped in front of a webcam **	1.1	1.7	3.2	10.0	1.6
Has been a victim of commercial deceit or other types of confidence trick **	9.7	15.3	9.9	36.1	11.2
Has been a victim of online auction fraud **	4.7	6.6	4.4	14.4	5.2
Has been a perpetrator of online auction fraud **	2.3	4.1	6.6	16.8	3.1
Has been a victim of virtual theft [23] **	13.4	23.4	26.4	31.7	15.3
Has been a perpetrator of virtual theft **	8.0	16.4	24.2	38.6	10.2

** $p<0,01$ (chi-square)

3.4 DISCUSSION

The current study examined whether the advent of the internet has created a new group of perpetrators – perpetrators of cyberbullying – with specific characteristics. Cyberbullies were compared with perpetrators of traditional bullying and those who display both types of bullying. The aim of this article is to provide insight into the applicability of existing criminological theories to the explanation of cybercrime.

Prevalence

Perpetration of cyberbullying occurs – in contrast to public perception – markedly less frequent than traditional bullying. This is in line with previous research (Smith, et al., 2008; Sticca, Ruggieri, Alsaker, & Perren, 2013; Williams & Guerra, 2007). There is a group that engages in traditional bullying as well as in cyberbullying, but our study does not provide insight into the temporal sequence of traditional bullying and cyberbullying. The overlap between traditional bullying and cyberbullying suggests that

[23] In January 2012 the Dutch Supreme Court decided that virtual objects and pre-paid accounts can be stolen. Therefore, virtual theft is criminalized in the Netherlands.

the means to bully – online technologies – are less important than the bullying itself. Also, cyberbullying is very similar to traditional bullying: generally, traditional forms of bullying are used online. Considering the fact that almost all youth are active on the Internet and that they predominantly engage in social interaction (Livingstone et al., 2011; Van Dijk, 2012), the percentage of perpetrators who exclusive engage in cyberbullying is relatively low. For the time being, the use of online technologies does not seem to coincide with the rise of a large group of youth who exclusively engage in cyberbullying. In summary, we conclude that the percentage of perpetrators of cyberbullying is relatively low, that traditional bullying is likely to be imported to the online environment and cyberbullying may be exported to the offline world and, that cyberbullying is, to a large extent, a variant of traditional bullying.

Differences and similarities between the perpetrator groups

Multinomial regression analysis revealed that bullying behaviour is significantly related to having low self-control. This is in line with previous research (Nofziger, 2001; Unnever & Cornell, 2003). The relationship is not as strong for cyberbullying as it is for traditional bullying. This contradicts the self-control theory of Gottfredson and Hirschi (2003), which states that the nature of most crimes ensures that opportunities are limitless and that variation in opportunities simply reflects variations in self-control. The difference we found may have to do with the predominantly textual, less direct character of cyberbullying and the more physical and direct character of traditional bullying. The difference in the degree of self-control we found among different groups of perpetrators and the relation to the differences between face-to-face offline and technology-mediated online interactions is an interesting angle for future research.

The multinomial regression analysis further revealed that there is a strong connection between online disinhibition and cyberbullying. For perpetrators who exclusively bully online, online disinhibition is the strongest predictor of bullying behaviour. Our findings suggests that compared to traditional bullying, different dynamics might be operative for cyberbullying. Online disinhibition is related with specific characteristics of the online world and these characteristics therefore influence online behaviour. Suler (2004) explored six factors which interact and supplement each other and which give rise to online disinhibition: anonymity, invisibility, asynchronity, solipsistic introjection, dissociation and minimization of authority. In essence, these factors encourage or entice the individual to deviate from social norms and rules prevailing in the offline world. According to Suler (2004, p. 324) the susceptibility of individuals to online disinhibition varies. Little is known, however, about which individual characteristics, for example, self-control, are linked to the degree of susceptibility. Future research is needed to determine the relation between individual characteristics and disinhibited behaviour online.

Bullying in relation to being bullied and experiencing other problems

Our study revealed that youth who are a perpetrator of bullying are often a victim of bullying, both online and offline. The finding is in line with previous research (e.g., Patchin & Hinduja, 2012). Further, compared to youth who do not bully, perpetrators more often report engaging in online risk behaviour and being a victim and perpetrator of cybercrimes. This is in line with earlier research on traditional bullying and research on cyberbullying (e.g., Patchin & Hinduja; Von Marées & Petermann, 2012). Being a perpetrator of bullying thus is linked to being a victim, as well as experiencing other types of problems.

Limitations

Although the current study utilized a large and diverse sample of youth, limitations must be noted. First, our data is cross-sectional which allowed us to identify relations between variables, but it did not allow us to investigate temporal sequence or causality. For example, a weaker bond with parents can lead to perpetration of bullying, but perpetration can also weaken existing bonds with parents. Second, the study employed a self-report questionnaire which infers the possibility of reporting bias to provide socially desirable responses. Third, the number of risk factors included in our study is limited. It is quite possible that factors that were not included in our analysis may be able to account for perpetration of bullying. The limitations of this study necessitate further research on the perpetration of traditional bullying and cyberbullying and the relation between traditional bullying and cyberbullying.

Conclusion

The evidence indicates that Grabosky (2001), Yar (2005), and Jaishankar (2008) are all correct to some extent in their theories about bullying behaviour: cyberbullying is predominantly a variant of traditional bullying (Grabosky), characteristics of the online environment influence cyberbullying (Yar), and the interaction between the offline and online worlds plays a role in bullying behaviour (Jaishankar). It appears that the online environment enables the extension but also the evolution of bullying behaviour, while simultaneously online behaviour is likely to alter or influence offline behaviour and vice versa. Further research is necessary to examine whether the results found for perpetration of bullying also apply to other forms of (interpersonal) cybercrime. The results of the current study indicate that integrating criminological theories can contribute to the explanation of cybercrime, a viewpoint that is also starting to find acceptance among criminologists dealing with traditional crime (e.g., Hay & Forrest, 2008).

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4 RECEIVING ONLINE SEXUAL REQUESTS AND PRODUCING ONLINE SEXUAL IMAGES

This is an adapted version of the article that has been published as: Kerstens, J., & Stol, W. Ph. (2014). Receiving online sexual requests and producing online sexual images: The multifaceted and dialogic nature of adolescents' online sexual interactions. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 8*(1), article 1. doi: 10.5817/CP2014-1-8

Abstract

This article describes the prevalence of receiving online sexual requests and producing online sexual images among adolescents, thereby focusing on the differences between problematic and non-problematic incidences. Data was used from a national survey conducted in 2011 among 4,453 Dutch adolescents (51.2 % male), aged from 11 to 18 (*M* =13.9, *SD* =1.48). Results indicated that receiving sexual requests is quite common and that producing sexual images is relatively rare. From adolescents' perspective most of the incidences were non-problematic. Emotional harm was more likely to occur when adolescents interacted with people they did not know and when an intrinsic motivation for engaging in sexual interaction was missing. There was a strong relation between being cyberbullied and experiencing emotional harm from receiving online sexual requests and negative evaluations of sexual risk behaviour. Adolescents with a higher level of online disinhibition and with a lower self-control were more likely to engage in both sexual communications as well as in sexting. Identifying which incident characteristics and characteristics of adolescents are related to *problematic* online sexual interactions is a prerequisite to design more personalized tools for vulnerable adolescents.

4.1 INTRODUCTION

The Internet is playing an increasingly central role in the exploration and expression of adolescents' sexuality. Adolescents engage in various online sexual activities: they search for information about sex (Suzuki & Calzo, 2004), they engage in implicit and explicit sexual conversations and make obscene and flirtatious comments (Subrahmanyam & Šmahel, 2011) and, they produce and send sexual self-images (Lenhart, 2009). Research suggests that the Internet provides adolescents with opportunities to explore and express their sexuality (Valkenburg & Peter, 2011). However, adolescents' online sexual activities may also entail adverse consequences which might be detrimental to their sexual development. Adolescents may feel bothered by receiving online sexual

requests from other online individuals, i.e., experience emotional harm. Looking back, adolescents may also negatively evaluate their own online sexual behaviour. A negative evaluation can be an indication that adolescents' online sexual behaviour has led to unintended consequences. In the understanding of the adverse consequences of adolescents' online sexual interactions, many factors come into play. This study examines the incident characteristics and the characteristics of adolescents who received online sexual requests and who produced online sexual images, thereby focusing on requests perceived as bothersome and sexual behaviour evaluated as negative. Identifying which incident characteristics and characteristics of adolescents are related to adverse consequences of online sexual interactions, is a prerequisite to design personalized tools for adolescents that will enable them to recognize and counter online sexual interactions that might entail adverse consequences.

Prevalence of receiving online sexual requests and producing online sexual images

Receiving online sexual requests refers to receiving requests to talk about sex, questions about private parts and, requests for sexual intercourse or to undress in front of a webcam. Prior research predominantly investigated the prevalence of unwanted online sexual requests, i.e., online sexual solicitations (e.g., Ybarra, Espelage, & Mitchell, 2007). The three *Youth Internet Safety Surveys* conducted in the United States show a decline in receiving unwanted sexual solicitations: from 19% to 9% between 2000 and 2010. These studies also investigated the impact of the solicitations. The percentage of adolescents who reported feeling distressed declined from 5% in 2000 to 3% in 2010 (Jones, Mitchell, & Finkelhor, 2012). These studies did not encompass questions about wanted sexual solicitations, i.e., developmentally normal and/or consensual sexual requests as a part of adolescents' sexual exploration (e.g., Subrahmanyam & Šmahel, 2011). The *EU Kids Online* survey, a representative sample of children aged 9-16 years in 25 European countries, investigated the prevalence of receiving and seeing online sexual messages and found that 15% of the surveyed children had received or seen sexual messages on the Internet and that 4% of the surveyed children reported being bothered by these messages (Livingstone, Haddon, Görzig, & Ólafsson, 2011). However, the questions about sexual messaging included items about seeing posts from others and seeing other people perform sexual acts, i.e., the survey did not limit sexual messaging exclusively to online interactions, but included passively seeing sexual content from others. To our knowledge, no study has investigated the prevalence of receiving online sexual requests and how many adolescents perceived this as bothersome, i.e., experienced emotional harm.

Producing online sexual images refers to making and sending sexual images of someone else and sexual self-exposure in front of a webcam. Prior research primarily investigated the prevalence of producing and distributing online sexual self-images and sexual images of peers through the

Internet or by mobile phone. In research, this behaviour is labelled as 'sexting' (Lounsbury, Mitchell, & Finkelhor, 2011; Ringrose, Gill, Livingstone, & Harvey, 2012). Since sexting is a relatively new practice, studies on sexting are still scarce. The prevalence rates found in the – predominantly North-American – studies differ considerably, ranging from 2% to 20% (Livingstone, et al., 2011; Mitchell, Finkelhor, Jones, & Wolak, 2012). Lounsbury et al. (2011) state that methodological inadequacies – for example, lack of consensus over definitions – account for the large differences in the studies they reviewed. No prior research has investigated how adolescents evaluated having produced online sexual material. Therefore, we asked:

RQ1: What is the prevalence of (a) receiving online sexual requests and (b) producing online sexual images?

RQ2: How many adolescents (a) perceive receiving online sexual requests as bothersome and how many adolescents (b) evaluate producing online sexual images as negative?

Incident characteristics

Insight in the context of adolescents' online sexual interactions is important to understand why these interactions may entail adverse consequences. The concerns about adolescents' online sexual interactions primarily address two issues: (1) male perpetrators sending online sexual requests to minors for the purpose of sexual abuse and exploitation and (2) adolescents inability to realistically estimate the risks of their own online sexual behaviour. Sender characteristics (age, gender, familiarity) are important to gain insight in the context of online sexual interactions. However, adolescents who receive online sexual requests may also engage in sending these requests. This can indicate that sending and receiving sexual requests is reciprocal, for example to initiate a romantic relationship, or that sending sexual requests is related to adolescents' developing sexuality.

Little is known about the incident characteristics of receiving online sexual requests and producing online sexual images. The aforementioned *Youth Internet Safety Surveys* found that more males than females were identified as senders of online sexual requests and most youth whose contact with senders was limited to the Internet were not certain of the sender's age. Furthermore, the proportion of senders of sexual requests personally known increased between 2000 and 2010 and most senders were identified as same-aged peers (Jones, et al., 2012). This tendency to communicate within the context of existing relationships is consistent with findings from the *EU Kids Online* survey (Livingstone, et al., 2011). A survey conducted in the United States found that sexting occurs most often in the following contexts: solely between two romantic partners, first between partners and then shared with others and, between adolescents hoping to enter a romantic relationship (Lenhart, 2009). Findings from a qualitative study indicate that sexual images are being

used as ‘a form of ‘relationship currency’ with boys asking for them and with ‘pressures’ upon girls to produce/share such images” (Ringrose, et al., 2012, p. 13). To date, no study has investigated the relation between sexual requests perceived as bothersome, evaluating producing online sexual material as negative and incident characteristics. To our knowledge, no study has investigated adolescents’ own role – either as sender or receiver – in online sexual interactions or investigated the motives for engaging in online sexual behaviour. To understand why online sexual requests and producing online sexual images may and may not entail adverse consequences, we asked:

> RQ3: What are incident characteristics of sexual requests perceived as bothersome and behaviour evaluated as negative, in terms of (a) the characteristics of the communication partner, (b) the own role of adolescents in communication and, (c) motives for exposing?

Investigating incident characteristics provides insight into the way receiving online sexual requests and producing online sexual materials are embedded within a broader communicative context and existing offline and online relations.

Characteristics of adolescents

Prior research primarily investigated the socio-demographic characteristics of adolescents who receive online sexual requests and who produce online sexual images (e.g., Jones et al., 2012; Lenhart, 2009; Livingstone et al., 2011). An overall picture of adolescents who receive requests and produce images is missing (e.g., Ringrose et al., 2012). Prior research revealed that adolescents’ online victimization can be associated with the frequency of Internet use, online disinhibition, psychological wellbeing, self-control and, being cyberbullied (e.g., Bossler & Holt, 2010; Ybarra, et al., 2007; Barak, 2005). Producing online sexual images is categorized as risk-taking behaviour. Prior research revealed that risk-taking behaviour can be associated with the aforementioned characteristics (e.g., Grasmick, Tittle, Bursik, & Arneklev, 1993; Livingstone & Helsper, 2007). Parental mediation generally refers to parental management of children’s media use. Parental mediation of adolescents’ Internet use might reduce the likelihood of online risks and might decrease online risk-taking behaviour (Van den Eijnden & Vermulst, 2006; Pardoen & Pijpers, 2006). To develop an integrative perspective that helps us to understand why online sexual interactions may and may not entail adverse consequences for adolescents, we asked:

> RQ4: What are the characteristics of (a) adolescents who reported bothersome online sexual requests and (b) adolescents who evaluated their behaviour as negative?

We compared the characteristics of these adolescents with the characteristics of adolescents who were not bothered and who did not evaluate their behaviour as negative. Knowing who is vulnerable online and why and; conversely who is not, is a prerequisite for the protection and ultimately the empowerment of vulnerable adolescents.

4.2 METHOD

Sample and procedure

For this cross-sectional study a sample was taken from *Youth & Cybersafety*, a 4-year Dutch research project on online risks for children (2009-2013) commissioned by the Dutch Ministry for Education, Culture and Science [24]. The questionnaire on online sexual risks and online sexual risk-taking behaviour was developed in co-operation with *Rutgers,* a Dutch knowledge centre on sexual and reproductive health and rights. The questionnaire was developed on the basis of feedback from 25 adolescents and tested in a pilot study for validity and reliability and, to refine question wording, sequence and questionnaire length. 442 adolescents participated in the pilot study. In total, 4538 adolescents filled in the online questionnaire. Validity checks for nonsensical answers resulted in the removal of 85 respondents of our dataset. The data-analysis was based on 4453 completed questionnaires filled in by respondents attending secondary education (51.2 % male). The age range of the adolescent sample was 11 to 18 years (M =13.9, SD =1.48). Younger adolescents (11 to 14 years) were over-represented. Data were collected between January 2011 and April 2011. Parental consent (opt-out) and adolescents' assent were obtained before participation.

Adolescents were not directly recruited; we randomly sampled secondary schools. Schools exclusively providing special or practical education were excluded from the sample, since pupils attending these schools require a different research approach. Schools were sent a letter asking them to participate in the *Youth & Cybersafety* research project. Seventeen secondary schools from three different levels – pre-vocational education, higher general secondary education and pre-university education participated. Each participating school received a report in which the findings from the school were compared with the overall findings.

Data were collected using an online survey. The questionnaire was filled in at school during class in the presence of researchers and supervisors. We redesigned classrooms in order to create privacy for each respondent. Each respondent was provided with a unique number code making it impossible to link answers to identifying information of the participant. At the start of the questionnaire, participants were notified that: (1) the questionnaire would be about the internet and

[24] This research project was undertaken in accordance with the Code of Research established by the HBO-council (Andriessen, Onstenk, Delnooz, Smeijsters, & Peij, 2010).

online sexual risks; (2) that the investigators had no chance to identify who had given the answers; (3) that they could stop at any point in time if they wished.

Measures

Prevalence

Receiving sexual requests.

Participants were asked if they had received online sexual requests: questions about sex, requests for sexual intercourse, questions about private parts, requests to undress in front of a webcam. Response categories were 1 (*never*), 2 (*once*) and 3 (*several times*). Participants who reported receiving online sexual requests were asked how they perceived the incidences. Response categories were 1 (*pleasant*), 2 (*common*) and 3 (*bothersome*).

Producing sexual images.

Since not all adolescents are familiar with the term 'sexting', the term 'sexting' was not used in the questionnaire (e.g., Ringrose, et al., 2012). Two types of producing and distributing sexual images were investigated. Participants were asked (1) if they had made sexual images of someone else within the past 12 months: photo or video of intimate body parts, masturbation and sexual intercourse. Response categories were 1 (*never*), 2 (*once*) and 3 (*several times*). Participants were asked (2) if they had exposed their breasts and/or private parts in front of a webcam within the past 12 months. Response categories were 1 (*never*), 2 (*once*) and 3 (*several times*). Participants who reported having exposed their breasts and/or private parts in front of a webcam were asked how they evaluated their exposure in retrospect. Response categories were 1 (*pleasant*), 2 (*common*), 3 (*bad*).

Incident characteristics

Gender of sender and webcam partner.

To measure the gender of the sender of sexual requests and webcam partner, we asked participants to indicate whether they knew the gender of the sender. Measures of knowing the gender of the sender of sexual requests and the webcam partner were: 1 (*male*), 2 (*female*) and 3 (*don't know*).

Estimated age of sender and webcam partner.

Measures of knowing the age of the sender of sexual requests and the webcam partner were: 1 (*more than 5 years younger*), 2 (*more than 2 years younger*), 3 (*approximately the same age*), 4 (*more than 2 years older*), 5 (*more than 5 years older*) and 6 (*don't know*).

Familiarity with sender and webcam partner.

To measure the familiarity with sender and webcam partner, we asked if participants if they knew senders and webcam partners in real life. Response categories were: 1 (*I know the other person well in real life (for example, from school*), 2 (*I have met the other person in real life, but I don't know him/her very well*) and 3 (*I know the other person only via the Internet*).

Receiver's role in online communication.

Participants who reported having received online sexual requests were asked if they had sent online sexual requests themselves.

Characteristics of adolescents

Frequency of Internet use.

Participants were asked to indicate how many hours per day on average they were active on the Internet, for example engaging in activities such as gaming, sending emails or chatting.

Online disinhibition.

Online disinhibition – a lower level of behavioural inhibitions in the online environment – may be particular significant when considered in the context of sexual risks and sexual risk-taking behaviour on the Internet (Whittle, Hamilton-Giachritsis, Beech, & Collings, 2013). Online disinhibition was measured using a 7-item scale based on studies on the online disinhibition effect (Suler, 2004) and a study by Schouten, Valkenburg and Peter (2007). The items were rated on a 5-point Likert scale from 1 (*agree entirely*) to 5 (*disagree entirely*). The Cronbach's alpha was 0.86.

Parental mediation.

We measured adolescents' perspective on parental mediation by asking questions about the four basic strategies of parental mediation: supervision (parent is present while using the Internet), restrictive mediation (parent sets rules), monitoring (parent checks records afterwards) and active mediation (parent communicates on Internet use and safety). The items were rated on a 3-point Likert scale: 1 (*(almost) always*), 2 (*sometimes*) and 3 (*never*).

Psychological well-being.

Psychological well-being can be defined as "people's positive evaluations of their lives" (Diener & Seligman, 2004, p. 1). Psycho-social well-being was measured using a 12-item scale based on the study by Vandebosch, Van Cleemput, Mortelmans and Walrave (2006) in which items from the *Self-Description Qustionnaire* by Ellis, March and Richards and the *SHIELDS Questionnaire* by Gerson were implemented. The items were rated on a 5-point Likert scale from 1 (*agree entirely*) to 5 (*disagree entirely*). The Cronbach's alpha was 0.85.

Self-control.

Low self-control is an individual trait associated with risk-taking behaviour. Grasmick et al. (1993) developed a 24-item scale to measure self-control. We abbreviated the original scale to 13 items. The six sub-components of the original scale – impulsivity, simple tasks, risk-taking, physical activities, self-centredness, and temper – were represented. The 13 items were rated on a 3-point Likert scale from 1 (*(almost) never*) to 3 (*often*). The Cronbach's alpha was 0.74.

Cyberbullying.

We asked respondents if they had been the target of one or more negative actions conducted by others via Internet or mobile phones within the past three months: spreading malicious rumors, posting threats or embarrassing information, deliberately exclusion and/or posting embarrassing photos or videos on the Internet. If respondents answered affirmative at one or more of the questions and reported subsequent emotional harm, they were labeled as cyberbully victims: a dichotomous variable (0-1).

4.3 RESULTS

Prevalence and adolescents' perception

How prevalent are incidences of receiving online sexual requests and producing online sexual images (RQ1) and how did adolescents perceive and evaluate the incidences (RQ2)? Of the overall sample, 25.4% of the adolescents reported having received one or more online sexual requests. Table 4.1 depicts the percentages of participants who received specific sexual requests. Percentages are presented according to gender, age and educational level. Among all sexual requests, asking general questions about sex had the highest prevalence, whereas requests to undress before the webcam had the lowest prevalence. Female participants did not differ from male participants, although female participants more often received requests to do something sexual. Levels of receiving online sexual requests differed according to age and educational level. As adolescents get older, they are more likely to receive online sexual requests. Adolescents attending pre-university education received fewer requests.

Table 4. 1: Percentages of incidences of online sexual requests (N=4,453)

	questions about sex	requests for sexual intercourse	questions about breasts and/or genitals	requests to undress in front of a webcam	one or more of the mentioned requests
Gender	*	NS	**	**	NS
Boys	23.3%	15.9%	10.3%	7.5%	25.4%
Girls	20.6%	16.1%	14.1%	10.7%	25.3%
Age	**	**	**	**	**
≤ 12 year	9.9%	6.7%	6.0%	5.6%	12.7%
13-14 year	18.6%	13.3%	11.5%	8.2%	22.7%
15-16 year	35.1%	26.8%	17.2%	13.1%	37.7%
≥17 year	38.2%	26.8%	17.1%	11.8%	40.5%
Educational level	**	**	**	**	**
lower pre-vocational education	23.8%	19.2%	13.7%	10.7%	28.5%
higher general secondary education	23.5%	17.2%	12.9%	9.5%	26.6%
pre-university education	18.8%	11.6%	9.8%	6.9%	20.9%
Total	**22.0%**	**16.0%**	**12.1%**	**9.1%**	**25.4%**

** P<0.01, Chi-Square, * P<0.05, Chi-Square, NS difference is not significant.

Table 4.2 depicts the perception of receiving online sexual requests. Percentages are presented according to gender, age and educational level. The majority of the adolescents who received online sexual requests perceived the incidences as pleasant or common (71.2%). Less than one-third of the adolescents (28.8%) perceived the incidences as bothersome. Of the overall sample, 7.0% of the participants reported bothersome incidences (n=312). Percentages of reported bothersome incidences differed according to gender, age and educational level. Female participants and adolescents attending pre-vocational education reported more bothersome incidences and, younger adolescents reported more bothersome incidences than older adolescents.

Table 4.2: Perception of having received online sexual requests (n=1,108)

	pleasant	common	bothersome
Gender **			
Boys	28.3%	59.6%	12.1%
Girls	9.9%	44.8%	45.3%
Age **			
≤ 12 year	11.3%	46.4%	42.3%
13-14 year	16.4%	51.2%	32.4%
15-16 year	21.7%	55.2%	23.0%
≥17 year	33.3%	53.9%	12.7%
Educational level **			
lower pre-vocational education	14.7%	49.1%	36.2%
higher general secondary education	23.2%	54.7%	22.1%
pre-university education	23.7%	55.8%	20.6%
Total	**19.4%**	**52.4%**	**28.2%**

** P<0.01, Chi-Square.

Table 4.3 depicts the percentages of participants who indicated having produced online sexual images: exposing breasts and/or private parts in front of a webcam and, making photos or videos of intimate body parts, masturbation and/or sexual intercourse. Percentages are presented according to gender, age and educational level. A minority of the participants reported having produced online sexual images (3.0%).

Table 4.3: Percentages of incidences of producing online sexual images (N=4,453)

	exposing breasts and/or genitals on webcam	making photos or videos of intimate body parts, masturbation or sexual intercourse	one or more of the mentioned activities
Gender	NS	**	**
Boys	1.7%	2.6%	3.7%
Girls	1.4%	1.2%	2.3%
Age	**	*	**
≤ 12 year	0.7%	1.0%	1.7%
13-14 year	1.3%	1.7%	2.7%
15-16 year	2.4%	2.5%	4.1%
≥17 year	2.8%	4.0%	5.6%
Educational level	NS	**	**
lower pre-vocational education	1.3%	1.6%	2.4%
higher general secondary education	2.3%	3.0%	4.7%
pre-university education	1.3%	1.5%	2.6%
Total	**1.5%**	**1.9%**	**3.0%**

** P<0.01, Chi-Square, * P<0.05, Chi-Square, NS difference is not significant.

Percentages of producing online sexual images differed according to gender and age: male adolescents produced more online sexual images than female adolescents and older adolescents produced more online sexual images than the younger ones.

Table 4.4 depicts how adolescents evaluated having exposed breasts and/or private parts in front of a webcam in retrospect. Percentages are presented according to gender, age and educational level. 32.4% of the participants felt bad about their behaviour. Of the overall sample, 0.5% of the participants felt bad about their sexual exposure (n=22).

Table 4.4: Evaluation in retrospect about exposing breasts and/or private parts in front of a webcam (n=68)

	pleasant	common	bad
Gender			
Boys	44.7%	28.9%	26.3%
Girls	23.3%	36,7%	40,0%
Age			
≤ 12 year	16.7%	33.3%	50.0%
13-14 year	36.7%	36.7%	26.7%
15-16 year	32.0%	28.0%	40.0%
≥17 year	57.1%	28.6%	14.3%
Educational level			
lower pre-vocational education	43.5%	17.4%	39.1%
higher general secondary education	20.8%	50.0%	29.2%
pre-university education	42.9%	28.6%	28.6%
Total	**35.3%**	**32.4%**	**32.4%**

Some cells had an expected count less than 5; therefore, statistic tests to find out whether differences are significant were not possible. However, more females than males, more young adolescents than older adolescents and, more adolescents attending lower pre-vocational education felt bad about their online sexual behaviour. The most frequently reported negative consequences were sexual harassment, bullying and, negative comments – offline as well as online – and general regret.

Incident characteristics

Research question 3 asked what specific incident characteristics are related to receiving online sexual requests and exposing breasts and/or private parts in front of a webcam, in terms of (1) the characteristics of the communication partner, (2) the role of the adolescent him/herself in online communication and, (3) motives for exposing. Table 4.5 depicts the percentages of incident characteristics of receiving online sexual requests between participants who perceived these

requests as bothersome and those who did not. Percentages are presented according to gender and age of sender, familiarity with sender and, the receiver's role in online sexual communication.

Table 4.5: Prevalence of incident characteristics of receiving online sexual requests for adolescents who perceived this as pleasant or common (n=796) and, for those who perceived this as bothersome (n=312)

	Perceived as pleasant or common	Perceived as bothersome
Gender of sender **		
Male	38.2%	64.7%
Female	50.1%	9.9%
Gender unknown	11.7%	25.3%
Total	100.0%	100.0%
Age of sender **		
Peer (about the same age)	81.3%	53.8%
>5 years older	4.5%	12.2%
Age unknown	14.2%	34.0%
Total	100.0%	100.0%
Familiarity with sender **		
Well acquainted, also offline	69.8%	27.9%
Little acquainted	17.3%	23.4%
Acquainted only online	12.8%	48.7%
Total	100.0%	100.0%
Receiver's role in online sexual communication **		
Active: sent sexual requests to others	54.0%	18.3%
Passive: did not sent sexual requests to others	46.0%	81.7%
Total	100.0%	100.0%

** P<0.01, Chi-Square.

If we compare online sexual requests that are perceived as pleasant or common with sexual requests that are perceived as bothersome, it appears that sexual requests perceived as bothersome more often originated from males or from senders whose sex is unknown, from senders more than 5 years older than the recipient and, from senders solely known from the Internet. The role of the receivers of online sexual requests was also significant: being passive in online sexual communication, i.e., not sending online sexual requests to others is related to perceiving online sexual requests as bothersome. The results indicate that anonymity in online sexual communication makes it more likely that online sexual requests are perceived as bothersome.

Table 4.6 depicts the percentages of incident characteristics of exposing breasts and/or private parts in front of a webcam between participants who felt bad about their behaviour in

retrospect and those who did not. A negative evaluation of sexual behaviour is related to reported negative consequences. Percentages are presented according to gender and age of sender, familiarity with sender and, motives of participants.

Table 4.6: Prevalence of incident characteristics of exposing breasts and/or private parts in front of a webcam for adolescents who felt bad about their behaviour in retrospect (n=22) and those who did not (n=46)

	No bad feelings in retrospect n=46	Bad feelings in retrospect n=22
Gender of the webcam partner		
Male	39.1%	50.0%
Female	54.3%	27.3%
Gender unknown	6.5%	22.7%
total	100.0%	100.0%
Age of the webcam partner		
Peer (about the same age)	89.1%	54.4%
>5 years older	2.2%	0.0%
Age unknown	8.7%	45.5%
total	100.0%	100.0%
Familiarity with the webcam partner		
Well acquainted, also offline	58.7%	22.7%
Little acquainted	15.2%	13.6%
Acquainted only online	26.1%	63.6%
total	100.0%	100.0%
Motives for exposure		
Positive motives (excitement, enjoyment)	93.5%	59.13%
Negative motives (social pressure, coercion)	6.5%	40.9%
total	100.0%	100.0%

Some cells had an expected count less than 5; therefore, statistic tests to find out whether differences are significant were not possible. However, participants more often felt bad about their behaviour when the webcam partner was male and when the webcam partner was known only from the Internet. A positive evaluation of sexual behaviour more often occurred when the webcam partner was a peer. It is not surprising that a negative evaluation is related to negative motives for engaging in sexual behaviour in front of a webcam.

Characteristics of vulnerable and risk-taking adolescents

Research question 4 asked (1) what are the characteristics of adolescents who received online sexual requests and perceived this as bothersome and, (2) what are the characteristics of adolescents who produced online sexual images and felt bad about it in retrospect. Table 4.7 depicts the characteristics of participants who received online sexual requests and perceived this as bothersome and participants who did not. The analysis includes 6 characteristics: socio-demographic characteristics, Internet behaviour (technology-based), parental mediation, psychological characteristics, online victimization and, initiative in online sexual communication.

Table 4.7: Logistic regression analysis for variables predicting receiving online sexual requests for adolescents who perceived this as bothersome and adolescents who perceived this as pleasant or ordinary.

	Perceived the requests as bothersome (n=312)		Perceived the requests as pleasant or ordinary (n=796)	
Predictor	OR	95% CI	OR	95% CI
Demographic factors				
Girl	4.04 **	2.96-5.51	0.75 *	0.59-0.94
Age	1.04	0.95-1.13	1.31 **	1.22-1.40
Technology-based factors				
Frequency of Internet use	1.09	1.00-1.20	1.14 **	1.06-1.23
Online disinhibition	1.28 **	1.09-1.50	1.10	0.96-1.26
Parental mediation				
Supervision	1.03	0.78-1.35	0.91	0.72-1.16
Restrictive mediation	0.95	0.72-1.25	0.79 *	0.63-0.99
Monitoring internet use (afterwards)	1.03	0.89-1.19	0.91	0.81-1.03
Active mediation	0.98	0.87-1.11	0.89 *	0.80-0.98
Psychological factors				
Psychological well-being	0.72 **	0.59-0.88	1.12	0.94-1.34
Self-control	0.42 **	0.28-0.62	0.24 **	0.17-0.33
Online victimization				
Was bullied online	2.70 **	1.97-3.69	1.32	0.92-1.88
Initiative in online sexual communication				
Produced sexual images (photo,video,cam)	1.48	0.83-2.64	2.03 **	1.23-3.37
Sent sexual requests	1.33	0.92-1.92	17.84 **	13.88-22.94
χ^2	254.65		1335.08	
Nagelkerke R^2	0.15		0.46	

Note: *N*=4453. Results of girls were compared with boys (reference group). *p<.05,*p<.01**.

Table 4.7 reveals that receiving online sexual requests and perceiving this as bothersome is associated with being female and being younger, a higher level of online disinhibited behaviour, a lower level of psychological well-being and, being a victim of cyberbullying. Conversely, a greater likelihood of receiving online sexual requests and perceiving this as pleasant or common is associated with being

male, a lower level of parental mediation and, a high frequency of Internet usage. Age is strongly associated with a positive perception: as adolescents get older, the likelihood of perceiving online sexual requests as bothersome decreases. A lower level of self-control is associated with receiving online sexual requests, regardless of a positive or negative perception. Adolescents who take initiative in online sexual interaction are less likely to perceive receiving online sexual requests as bothersome.

Table 4.8 depicts the characteristics of participants who produced online sexual images. The columns of table 4.8 show the results for (1) exposing breasts and/or private parts in front of a webcam and a negative evaluation; (2) exposing breasts and/or private parts in front of a webcam and no negative evaluation and, (3) making photos or videos of intimate body parts, masturbation or sexual intercourse. We included the following characteristics: socio-demographic characteristics, Internet behaviour (technology-based), parental mediation, psychological characteristics and online victimization. Exposing breasts and/or private parts in front of a webcam and feeling bad about this (n=22) is associated with a higher level of online disinhibited behaviour and being a victim of cyberbullying. Conversely, a greater likelihood of reporting no negative feelings after exposing breasts and/or private parts (n=46) is associated with a high frequency of Internet usage and a lower level of self-control. Age is strongly associated with a positive evaluation: as adolescents get older, the likelihood of feeling bad about sexual exposure in front of a webcam decreases.

Making photos and videos of intimate body parts, masturbation and/or sexual intercourse (n=83) is associated with being male and being older, a high frequency of Internet use, a higher level of online disinhibited behaviour and, a lower level of self-control.

Table 4.8: Logistic regression analysis for variables predicting exposing in front of webcam for adolescents who felt bad about this (n=22) and adolescents who did not (n=46) and, for variables predicting making sexual photos or videos (n=83).

	Sexual exposure feeling bad		Sexual exposure no bad feelings		Making sexual photos or videos	
	OR	95%	OR	95%	OR	95%
Demographic factors						
Girl	1.32	0.50-3.45	0.79	0.41-1.54	0.53 **	0.32-0.88
Age	1.19	0.99-1.43	1.34 *	1.03-1.73	1.18 **	1.02-1.36
Technology-based factors						
Frequency of Internet use	1.37	0.99-1.88	1.43 **	1.14-1.78	1.35 **	1.15-1.58
Online disinhibition	2.74 **	1.74-4.32	1.37	0.98-1.91	1.43 **	1.12-1.83
Parental mediation						
Supervision	.63	0.20-2.06	0.42	0.13-1.33	1.45	0.90-2.34
Restrictive mediation	1.10	0.43-2.84	0.85	0.43-1.72	0.9	0.54-1.50
Monitoring internet use (afterwards)	1.22	0.76-1.96	0.96	0.67-1.39	0.89	0.68-1.16
Active mediation	.64	0.41-1.00	1.00	0.75-1.33	0.95	0.77-1.18
Psychological characteristiscs						
Psychological well-being	.93	0.48-1.81	1.06	0.64-1.74	1.01	0.70-1.45
Self-control	1.32	0.39-4.51	0.14 **	0.06-0.34	0.16 **	0.09-0.31
Negative online experiences						
Was bullied online	4.61 **	1.65-12.93	0.81	0.24-2.72	1.47	0.70-3.07
χ^2	47.34		70.06		105.88	
Nagelkerke R^2	0.18		0.15		0.14	

Note: *N*=4,453. Results of girls were compared with boys (reference group). *p<.05,*p<.01**.

4.4 DISCUSSION

This article investigated adolescents receiving online sexual requests and adolescents engaging in producing online sexual images. Our purpose was to enhance our understandings of the complex nature of these online sexual interactions in terms of (1) their perception and evaluation, (2) incident characteristics and, (3) the characteristics of adolescents involved. The findings suggest that a more nuanced view on adolescents' online sexual interactions is required. Prior studies on online sexual risks primarily framed adolescents either as victims – passively being at risk and vulnerable – or as perpetrators – actively engaging in risky and deviant behaviour. This strict distinction conceals the multifaceted, dialogic and developmentally normal nature of adolescents' online sexual interactions.

Our findings indicate that receiving online sexual requests is quite common among adolescents. Requests for information about sex had the highest prevalence. This is in line with

previous research (Ward, 2004). The levels of receiving requests did not differ considerably for male and female adolescents, although female adolescents more often receive requests to do something sexual. The likelihood of receiving sexual requests increases when adolescents get older. An increased interest in sexuality and sexual relationships is developmentally normal for adolescents (Subrahmanyam & Šmahel, 2011). Producing online sexual images is relatively rare. Older adolescents are more likely to produce sexual materials than younger adolescents. This finding is in line with other studies (Lenhart, 2009; Livingstone, et al., 2011). Male adolescents send more online sexual requests than female adolescents. Findings in other studies, however, are inconclusive.

One-fourth of the adolescents who received an online sexual request perceived this as bothersome. Looking back, one-third of the adolescents who exposed breasts and/or private parts in front of a webcam felt bad about their behaviour. Adolescents reported negative consequences such as sexual harassment, bullying and negative comments – offline as well as online. The finding that female and younger adolescents more often perceive sexual request as bothersome is in line with previous research (Jones, et al., 2012; Livingstone, et al., 2011). The degree of sexual interest and subsequent sexual activity increases with adolescents' age (Cubbin, Santalli, Brindis, & Braveman, 2005). Therefore, receiving sexual requests might be developmentally-inappropriate for younger adolescents. Female adolescents use the Internet for communication purposes more often, which increases the likelihood of experiencing the downsides of communicating online (Mitchell, Finkelhor, & Wolak, 2003).

Online sexual requests originating from senders who are male and whose age and sex are unknown were more often perceived as bothersome. Requests originating from peers and senders adolescents were well acquainted with were more often perceived as pleasant or common. Although anonymity might be beneficial for adolescents who send sexual requests (Valkenburg & Peter, 2011), our findings suggest that this is not the case for adolescents who receive these requests. The same picture emerges for adolescents who exposed themselves in front of a webcam. Unsurprisingly, a negative assessment of this behaviour is related to negative motives such as social pressure and coercion. Previous research has shown that sexting is often coercive (Ringrose, et al. 2012). Interestingly, being passive in online communication is associated with a negative perception. Receivers of requests who send sexual requests themselves are less likely to perceive these as bothersome. Trust, reciprocity and equivalence are essential for adolescents in exploring their sexuality and engaging in romantic relationships (Subrahmanyam & Šmahel, 2011). Therefore, negative experiences are more likely to occur when adolescents interact with people relatively unknown and when an intrinsic motivation for engaging in sexual interaction is missing. Our findings suggest that incident characteristics play an important role in explaining why sexual communication is perceived as bothersome, i.e., result in emotional harm, or not.

There are striking similarities in the profiles of vulnerable adolescents; i.e. adolescents who perceived receiving sexual requests as bothersome and adolescents who evaluated their online sexual activities as negative. Likewise, the profiles of adolescents who did not perceive these requests as bothersome and who did not evaluate their activities as negative show significant similarities. Therefore, it is possible to give an overview of risk factors and protective factors. Firstly, bothersome and negative experiences do not stand alone. There is a strong relation with other negative online experiences, such as being cyber bullied. Secondly, there is a strong relation between adolescents' Internet usage and receiving sexual requests or engaging in sexting. An above average score on online disinhibition increases the likeliness of being involved in bothersome and negative incidences. Conversely, very frequent internet use increases the likelihood of being involved in non-problematic incidences. Therefore, it seems that being frequently online is a protective factor. Possibly, learning-by-doing helps adolescents to early recognize and counter negative online situations. Thirdly, adolescents with low self-control are more likely to engage in both sexual communications as well as in producing online sexual material, whether this leads to bothersome incidences or not. However, adolescents who also score low on psychological well-being are more likely to perceive incidences as bothersome, although the direction of this relation is unclear. Lastly, age and taking initiative in online interactions are both very important factors in protecting adolescents from harm. The older adolescents get, the more they developmentally are interested in sex and, the more they voluntarily become involved in online sexual communications and activities. Conversely, younger adolescents who are passively confronted with sexual requests from others feel intimidated or bothered. Therefore, this group needs special attention.

Our study has several limitations that need to be addressed in future research. First, our data is cross-sectional which allowed us to identify relations between variables, but it did not allow us to investigate temporal sequence or causality and long-term effects, neither of receiving online sexual requests nor of producing online sexual images. Second, the sample size of the models explaining sexting (table 4.8) is quite small. Therefore, caution need to be used in the interpretation of the findings and the inferences to the population. Although the represented models describe the variables that significantly correlated with sexting, a more elaborated rationale for studying psychological variables in relation to sexting is needed to understand psychological processes which shape youth´s motivations and experience with this type of online activity.

Conclusion

The binary conceptions 'being at risk' and 'being a risk', 'victim-perpetrator', 'online-offline' do not grasp the reality of adolescents' multifaceted and dialogic online sexual interactions and the ways in which these interactions are integrated within and shaped by adolescents' offline lives. However, the

online environment differs from its offline counterpart in terms of the extent to which people are disembodied or anonymous and, the extent to which people may interact with a known or unknown other. Furthermore, adolescents are no homogeneous group, neither online nor offline. In addition, adolescents are constantly developing themselves, gaining experience, acquiring skills and building resilience. A personalized rather than general approach in which the adolescent is central, and that fosters the empowerment of adolescents is more likely to entail an outcome in the interest of adolescents.

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5 YOUTH'S INTENTIONAL AND UNINTENTIONAL EXPOSURE TO SEXUALLY EXPLICIT MATERIAL

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Abstract

Intentional and unintentional exposure to sexually explicit Internet material (SEIM) raises concern, since it may result into emotional harm for youth for whom this material is developmentally inappropriate. However, systematic comparisons between intentional and unintentional exposure and subsequent emotional harm and the factors related to exposure and harm are missing. We conducted a national survey among 6,299 Dutch youth. Unintentional exposure occurred more often than intentional exposure and unintentional exposure more often resulted in emotional harm. Similar factors were related to intentional and unintentional exposure: boys, older youth, frequent Internet users, youth with a higher level of disinhibited behaviour and youth with a lower level of self-control were more likely to be exposed. The risk factors related to exposure to SEIM were inversely related to exposure resulting in emotional harm. Our findings suggest that it is important to distinguish between intentional exposure and unintentional exposure to SEIM and, between exposure to SEIM and subsequent emotional harm.

5.1 INTRODUCTION

Since the advent of the Internet, there is widespread concern about youth's intentional exposure to sexually explicit Internet material (SEIM).[25] This concern is elicited by the juxtaposition of three factors. First, unique to SEIM are the vast quantities of often free material, the easy accessibility and, the anonymity of its use. These characteristics have fundamentally altered the ways in which SEIM can be accessed (Cooper, 1998; Cooper, Scherer, Boies, & Gordon, 1999). Second, sexuality is an important developmental issue in children's lives to become distinctive for adolescents (Buzwell & Rosenthal, 1996; Cubbin, Santelli, Brindis, & Braveman, 2005; Steinberg, 2008). To develop their sexual identity, youth not only turn to peers and mass media for information about sex (Brown,

[25] The term 'sexually explicit Internet material' is a neutral term to denote pornography (e.g., Brown & L'Engle, 2009).

Childers, & Waszak, 1990; Ward, 2003), but they also search for SEIM (Brown & L'Engle, 2009; Bryant & Brown, 1989; Zillmann, 2000). Third, since youth are developmentally vulnerable and relatively unexperienced, it is assumed that exposure to SEIM may lead to harm, also labelled as negative media effects (Paul, 2005; Šmahel & Subrahmanyam, 2014; Thornburg & Lin, 2000). The research literature on exposure to SEIM distinguishes various types of harm: behavioural, attitudinal and emotional (e.g., Owens, Behun, Manning, & Reid, 2012), the latter receiving the least attention in research (Millwoord Hargrave & Livingstone, 2006). The meanings attached to emotional harm are difficult to specify, but with regard to media content, emotional harm is generally described as a negative emotional response to exposure, for example feeling bothered or upset (Buckingham, 2007; McQuail & Windahl, 1993).

The advent of the Internet has also drawn attention to a new phenomenon: unintentional exposure to SEIM, i.e., exposure without seeking or expecting this content (Mitchell, Finkelhor, & Wolak, 2003a; Shim, Lee, & Paul, 2007). As Wolak, Mitchell and Finkelhor (2007, p. 248) have noted 'before the development of the Internet, there were few places youth frequented where they might encounter unsought pornography regularly.' Unintentional exposure can occur as a result of unsophisticated search strategies, clicking on pop-up advertisements or opening unsolicited emails containing SEIM or links to these materials (Dombrovski, Gischlar, & Durst, 2007; Wolak, et al., 2007). Unintentional exposure to SEIM raises concern, since it may result into emotional harm for youths for whom this material is developmentally and psychologically inappropriate, i.e., especially younger youth. The Youth Internet Safety Survey, a series of three surveys conducted in the United States, found that a substantial proportion of unwanted exposure to SEIM resulted in emotional harm: 23% in 2000, 26% in 2005 and, 22% in 2010 (Mitchell, Jones, Finkelhor, & Wolak, 2014).

Three observations can be made regarding risk, emotional harm and risk factors associated with exposure to SEIM. First, there are reasons to assume that unintentional exposure to SEIM more likely results into emotional harm than intentional exposure, for example, due to its uncontrollable nature which makes exposure more difficult to prevent (e.g., Šmahel, & Wright, 2014). However, the prevalence of emotional harm resulting from both types of exposure is not a well-researched area. Second, not all youth are equally at risk for intentional and unintentional exposure and most media-effect theories recognize that individual and social factors can influence possible negative effects of media use, i.e., harm, on youth (Livingstone & Smith, 2014). Nevertheless, research on factors that predict the risk of intentional as well as unintentional exposure is scarce (e.g., Ševčíková, Šerek, Barbovschi, & Daneback, 2014). However, research on the risk of intentional exposure to SEIM has demonstrated the influence of demographics and individual characteristics (e.g., Owens, et al., 2012) and; furthermore, research on the risk of unintentional exposure to SEIM has revealed the influence of technology-based factors, such as online disinhibition and frequency of Internet use (Thornburgh

& Lin, 2002; Wolak, et al., 2007). Third, to our knowledge, research systematically comparing the factors related to exposure to SEIM and factors related to exposure and subsequent emotional harm is missing. Distinguishing between risk and emotional harm and identifying risk factors is necessary for the identification of vulnerable youth in need of protection online.

Therefore, the first aim of this study was to investigate the prevalence of intentional and unintentional exposure to SEIM and the extent to which both types of exposure result into emotional harm, i.e., bothersome experiences. The second aim was to compare factors associated with intentional and unintentional exposure to SEIM and to identify factors associated with emotional harm. This study may help to tailor safety interventions to youth who are vulnerable online by putting the risk and harm of youth's exposure to SEIM into perspective. We asked youth about their experiences with risk and emotional harm, since youth's experiences should be included in the public policy debate regarding their own safety. For this study, we largely follow a definition used by of Peter and Valkenburg (2011) and define SEIM as professionally produced or user-generated pictures or videos on the Internet that depict breasts, genitals and sexual activities in an unconcealed way. We opted for this definition for ethical reasons, since it encompasses only the structural elements of what SEIM is, rather than functional elements, for example, arousal. We will use the term 'intentional exposure' to designate deliberate searches for SEIM; the term 'unintentional exposure refers to exposure without seeking or expecting SEIM.

Prevalence of exposure and emotional harm

There is no agreed-upon methodology for measuring the prevalence of exposure to SEIM, whether intentional or unintentional. Consequently, the findings of studies on this topic vary substantially, from 10% to 47% for intentional exposure (Lo & Wei, 2005; Mesch, 2009; Peter & Valkenburg, 2006; Wolak, Mitchell, & Finkelhor, 2006) and from 4% to 66 % for unintentional exposure (Braun-Courville & Rojas, 2009; Cowell & Smith, 2009; Mitchell, et al., 2003a; Mitchell, Finkelhor, & Wolak, 2003b). Research distinguishing between intentional and unintentional exposure indicates that unintentional exposure is more prevalent than intentional exposure (Bauwens, Pauwels, Lobet-Maris, Poullet, & Walrave, 2009; Flood, 2007; Livingstone, Haddon, Görzig, & Ólafsson, 2011; Livingstone & Bober, 2004; Wolak et al., 2007). To sum up, existing research suggests that exposure to SEIM is relatively common and that this applies even more for unintentional exposure. However, the comparability of these studies is limited. Therefore, in this study we first asked whether youth were exposed to SEIM; then we ascertained whether the exposure was intentional or unintentional.

To date, only a few studies addressed the subject of emotional harm related to exposure to SEIM (e.g., Livingstone, et al., 2011; Mitchell, et al., 2014). These studies specifically asked about emotional harm, i.e., youth were asked if they were distressed or bothered as a result of exposure to

SEIM. However, it is likely that exposure to SEIM may not only involve negative but also positive aspects, for example, providing information for youth who are exploring their sexual identity (Šmahel & Subrahmanyam, 2011). Therefore, in this study we not only asked youth if the experiences with intentional and unintentional exposure to SEIM were negative, but we also added the categories neutral and positive.

Factors shaping the risk of exposure and emotional harm

Previous research has found that the risk of exposure to SEIM is shaped by the following factors: demographic, psychological, social factors, i.e., strategies of parental mediation, and technology-based factors. Furthermore, there are indications that these factors also shape the likelihood of emotional harm, i.e., feeling bothered (Livingstone & Smith, 2014; Owens, et al., 2012). Following Livingstone (2013) who argues for a fundamental distinction between risk – the probability of harm – and harm – a distinct and negative outcome – , we examined factors (1) that increase the risk of intentional and unintentional exposure and (2) factors that associated with reporting emotional harm.

Demographic factors

Based on previous research, we focused on gender and age. As for gender, research has provided consistent evidence for gender differences in intentional exposure to sexually explicit Internet material. Boys are more likely to report intentional exposure than girls (Brown & L'Engle, 2009; Mesch, 2009; Peter & Valkenburg, 2006; Wolak, et al., 2007). Boys are also likely to report more unintentional exposure, although the differences found were less substantial (Bauwens, et al., 2009; Jones, et al., 2012). Furthermore, research indicates that boys and girls respond differently to exposure. Girls are more likely to be upset or bothered than boys (Bauwens, et al., 2009; Jones, et al., 2012; Livingstone, et al., 2011). Accordingly, we expected a gender difference to emerge for intentional and unintentional exposure to SEIM as well as for emotional harm resulting from to exposure to SEIM.

As for age, research has repeatedly shown that age is positively related to intentional as well as unintentional exposure to SEIM; the effect of age being stronger for intentional exposure (Bauwens, et al, 2009; Cameron, Salazar, Bernhardt, Burgess-Whitman, Wingood, & DiClemente, 2005; Jones, et al., 2011). Furthermore, research suggests that younger children are more likely to report emotional harm (Bauwens, et al., 2009; Jones, et al., 2012; Livingstone et al., 2011). Therefore, we expected to find a similar effect of age on intentional and unintentional exposure as well as on emotional harm resulting from exposure to SEIM.

Psychological factors

Based on previous research on the impact of psychological factors on intentional exposure to SEIM, we focused on two individual characteristics: self-control and psychological well-being. Low self-control is defined as the inability to exercise personal restraint in the face of tempting immediate and easy gratification. Individuals with a low level of self-control have a 'here and now' orientation and will not consider negative consequences of their behaviour. (e.g., Hirschi, 2004). Research found that the six identified dimensions of low self-control – impulsivity, preference for simple tasks, risk taking behaviour, physical activities, self-centeredness, and temper – have effects on intentional exposure to SEIM (Buzzell, Foss, & Middelton, 2006; Love, 2006). Single dimensions of low self-control are also related to intentional exposure to SEIM (e.g., Wolak et al., 2007). There is some evidence that a low level of self-control is not related to unintentional exposure to SEIM (Ngo & Paternoster, 2011). We expected that individuals with a lower level of self-control are more likely to report intentional exposure to SEIM. Research indicates that exposure to SEIM can be accompanied by emotional harm, i.e., feeling bothered, stemming from shame or guilt over violating social norms (e.g., Sabina, Wolak, & Finkelhor, 2008) and that a low level of self-control is related to indifference towards reactions of the social environment, which falls within the dimension of self-centredness (e,g, Grasmick, Tittle, Bursik, & Arneklev, 1993). Therefore, we expected that individuals with a lower level of self-control will be less likely to report emotional harm.

Psychological well-being can be defined as 'people's positive evaluations of their lives' (Diener & Seligman, 2004, p. 1) which includes positive emotion, engagement, satisfaction and meaning. Research indicates that youth with a lower level of psychological well-being are more likely to report intentional exposure to SEIM (Peter & Valkenburg, 2006; Ybarra & Mitchell, 2005). This is usually explained as an escape or compensation for dissatisfying life circumstances (e.g., Wolak, Mitchell, & Finkelhor, 2003). We expected that individuals with a lower level of psychological well-being are more likely to report intentional exposure to SEIM and that emotional harm is positively related to a lower level of psychological well-being.

Parental mediation

Parents are generally considered to be responsible for the protection of their children from exposure to sexually explicit Internet material. Parental mediation might reduce the likelihood of exposure to sexually explicit Internet material, i.e., an online risk and, the likelihood of a negative emotional response to exposure, i.e., emotional harm (Livingstone & Helsper, 2008). Literature distinguishes several strategies parents can use to mediate children's Internet use: supervision (staying nearby online activities) restrictive mediation (setting rules), monitoring (checking records of Internet use afterwards) and, active mediation (discussing Internet content and providing guidance) (Livingstone &

Helsper, 2008; Valkenburg, Krcmar, Peeter, & Marseille, 1999). Research suggests that parental mediation can influence the risk of exposure to inappropriate media content and may reduce emotional harm (e.g., Nathanson, 1999). However, evidence on the effectiveness of the strategies in reducing risk and emotional harm is scarce (Pasquier, Simões, & Kredens, 2012). Therefore, in this study we asked questions about parental mediation as perceived by youth.

Technology-based factors

Nearly all Dutch youth have access to the Internet (Kerstens & Stol, 2012), but the online behaviours of youth differ widely and they respond differently to the characteristics of the online environment. Insight in the interaction between youth and their online environment is important to understand intentional and unintentional exposure to SEIM. Research suggests that intentional and unintentional exposure to SEIM may be associated with the way youth use the Internet. The frequency of Internet use may affect the likelihood of both types of exposure (Mesch, 2009; Mitchell, et al., 2003a). Online clicking – opening advertising messages, e-mails and attachments without restraint – is strongly associated with unintentional exposure to SEIM (Flood, 2007; Livingstone & Bober, 2004; Thornburgh & Lin, 2002). Online disinhibition – a lower level of behavioural inhibitions explained by aspects of the online environment, such as online anonymity – may be significant when considered in the context of intentional exposure to SEIM (Joinson, 2007; Suler, 2004). In line with prior research, we examined the effect of frequency of Internet use, online disinhibition and online clicking on intentional and unintentional exposure to SEIM and, emotional harm.

5.2 METHODS

Sample and Procedure

This study draws on survey data collected in the Dutch research project *Youth & Cybersafety* among 6299 Dutch youth aged 10 to 18 years (2009-2014) commissioned by the Dutch Ministry of Education, Culture and Science. The aim of the project was to enhance knowledge regarding online risks for youth in order to support parents and professionals in promoting online safety for youth. The questionnaire on online sexual risks and online sexual risk-taking behaviour was developed in co-operation with *Rutgers*, a Dutch knowledge centre on sexual and reproductive health and rights. We choose to use an online questionnaire because it allows *routing*: the answers to specific questions determine which questions are subsequently presented. Older children differ from younger children in terms of language development, social-emotional development and, sexual development (e.g., Lobe, Livingstone, Ólafsson, & Simões, 2008). These differences were taken into account while developing the questionnaire. The questionnaire was developed on the basis of feedback from 25

youth and was subsequently tested in a pilot study (n=442) for validity and reliability and, to refine question wording, sequence and questionnaire length. Data were collected between January 2011 and April 2011. The research was conducted in accordance with the Code of Research established by the HBO-council (Andriessen, Onstenk, Delnooz, Smeijsters, & Peij, 2010).

We randomly sampled primary and secondary schools to recruit participants. Schools exclusively providing special or practical education were excluded from the sample, since pupils attending these schools require a different research approach. Schools were sent a letter asking them to participate in the *Youth & Cybersafety* research project. Of the 300 schools we approached, 44 participated in the study: twenty seven primary schools (7^{th} and 8^{th} grades) and seventeen secondary schools from three different levels – pre-vocational education, higher general secondary education and pre-university education. The response rate was 14.6%. This low response rate may be caused by three different factors. The first factor is *research fatigue*. Schools – particularly schools in larger cities with universities and colleges – frequently receive requests to participate in research. A second factor is the workload in schools, which forces schools to set priorities. A third explanation is that we were unable to reach some of the contact persons in schools, even after repeated attempts.

Prior to the implementation of the survey, parents/caregivers of the participants received a letter including an explanation of the study, the content of the questionnaire and, details on how the data would be treated with respect to privacy and confidentiality. They could object to the participation of their children using a reply card contained in the letter. Children of parents who objected to their participation were excluded from the study. Of the parents of primary school pupils, 35 objected to their child's participation. Of the parents of secondary school pupils, 68 objected. Data collection took place from January 2011 until May 2011. Pupils whose parents did not object to participation received an in-class explanation by the researchers about the study goal and the procedures. Pupils who, for whatever reason, did not want to participate could state so in advance. This occurred occasionally. The instruction and completion of the online questionnaire took 45 minutes on average.

In total, 6,536 pupils were contacted; 103 were excluded, because the parents had objected to their participation and, leading to a sample size of 6,433. Forty-nine of the 1895 primary school pupils and 85 of the 4,538 secondary school pupils did not fill out the complete questionnaire and were excluded from the data set. A total of 6,299 participants did fill out the questionnaire, which is a response rate of 96.4%. The response rate is high, because pupils filled out the questionnaires at school, during regular hours.

Measures

Exposure to SEIM. We largely followed an operationalization used by Peter and Valkenburg (2006). Participants were asked if they had seen (a) pictures with clearly exposed genitals or breasts; (b)

movies with clearly exposed genitals or breasts; (c) pictures in which people are having sex; (d) movies in which people are having sex. The response categories were 1 (*never*), 2 (*sometimes*), and 3 (*several times*). Participants who answered 1 (*never*) to all questions were coded as having no exposure (=0). Participants who answered 2 (*sometimes*) and 3 (*several times*) were coded as having exposure (=1). To ensure that the questions on exposure to SEIM were within the realm of experience of children in primary schools, we added the following filter question: 'Have you seen pictures or movies of naked people on the Internet?' Only participants who answered 'yes' to this question were presented with the questions on SEIM.

Intentional and unintentional exposure to SEIM. We asked participants how they came into contact with SEIM. The response categories were 1 (*mostly unintentional*), 2 (*sometimes intentional, sometimes unintentional*) and 3 (*mostly intentional*). As outlined above, a key distinction in this study was between intentional exposure and unintentional exposure. Therefore, we recoded the scale into a dichotomous variable with the categories 0 (*unintentional*) and 1 (*intentional*).

Emotional response. We asked participants how they responded to experiences with intentional and unintentional exposure to SEIM. The response categories were 1 (*bothersome*), 2 (*common*) and, 3 (*pleasant*). As outlined above, a key distinction in this study was between youth reporting emotional harm from exposure, i.e., feeling bothered, and youth not reporting emotional harm. Therefore, we recoded the scale into a dichotomous variable with the categories 0 (*not bothersome* (common or pleasant)) and 1 (*bothersome*).

Technology-based factors. We asked questions about (1) frequency of Internet use, (2) online clicking and, (3) online disinhibition. *Frequency of Internet use* was measured by asking participants to indicate how many hours per day on average they were active on the Internet. *Online clicking* was measured by asking participants how they responded to unknown advertisements (e.g., pop-ups), emails from unknown senders and unknown attachments. *Online disinhibition* was measured using seven statements on a five-point Likert scale ranging from 1 (*totally agree*) to 5 (*totally disagree*) (Cronbach's α=0,85). The statements were based on studies on the online disinhibition effect (Suler 2004).

Psychological factors. The questions about *self-control* are based on a study by Tittle, Ward and Grasmick (2003). S*elf-control* was measured using thirteen statements that contain the main characteristics of the *Grasmick Scale,* a questionnaire for self-control based on the *General Theory of Crime* by Gottfredson and Hirschi. These characteristics are: impulsivity, preference for simple tasks, risk taking behaviour, physical activities, self-centeredness and, temper. The statements were answered on a five-point Likert scale ranging from '(almost) never' to 'frequently' (Cronbach's α=0,74). *Psychosocial well-being* was measured using twelve statements on a five-point Likert scale ranging from 'totally agree' to 'totally disagree' (Cronbach's α=0,85). The statements are based on

research by Vandebosch, Van Cleemput, Mortelmans and Walrave (2006), who used the *Self-Description Questionnaire* by Ellis, March and Richards, as well as Gerson's *SHIELDS Questionnaire*.

Parental mediation. We measured adolescents' perspective on parental mediation by asking questions about the four basic strategies of parental mediation: supervision (parent is present while using the Internet), restrictive mediation (parent sets rules), monitoring (parent checks records afterwards) and active mediation (parent communicates on Internet use and safety). The items were rated on a 3-point Likert scale: 1 (*(almost) always*), 2 (*sometimes*) and 3 (*never*).

5.3 RESULTS

Prevalence of exposure to SEIM and emotional harm

The first aim of this study was to investigate the prevalence of intentional and unintentional exposure to SEIM and the extent to which both types of exposure result into emotional harm. We first focused on the extent to which youth were exposed to SEIM. Table 5.1 shows youth's exposure to SEIM. The overall results are presented as well as the results for gender within each age category. In total 33.8% of youth were exposed to any type of SEIM. Boys and girls differed considerably in their exposure to SEIM: 43.3% of the boys and 23.9% of the girls reported exposure.

Table 5.1: prevalence of youth exposed to SEIM (%), N=6,299

	Boys (n=3,208)	Girls (n=3,091)	Total (N=6,299)	n
8-10 years	21.3	14.7	17.8	545
11-12 years	30.4	17.5	24.1	2,091
13-14 years	46.9	25.3	36.2	2,370
15-16 years	62.5	34.9	49.8	1,041
17 years and older	74.6	43.9	60.7	252
Total	**43.3**	**23.9**	**33.8**	**6,299**

Exposure to SEIM increases with age, from 17.8% of those 8 to 10 years of age to 60.7% of those 17 years of age and older.

We then focused on whether the exposure to SEIM was intentional or unintentional. Table 5.2 shows three types of exposure; (a) mostly unintentional and (b) sometimes unintentional/ sometimes intentional and (c) mostly intentional. Of all youth exposed to SEIM, almost two third (64.7%) reported that the exposure was mostly unintentional, 24.0% indicated that the exposure was sometimes intentional/sometimes unintentional and, 17.1% reported that the exposure was mostly intentional. Gender differences were found for all types of exposure. Simply put, girls reported more

unintentional exposure than boys (87.9% and 52.9%) and, boys reported more intentional exposure than girls (15.5% and 2.8%). The age trend found for exposure to SEIM was also found for the three types of exposure. Simply put, younger children reported more unintentional exposure then older children (86.3% and 46.1%) and older children reported more intentional exposure then younger children (17.1% and 3.2%).

Table 5.2: Prevalence of intentional and non-intentional exposure to SEIM (%), n=2,129

	(mostly) unintentional	sometimes intentional, sometimes unintentional	(mostly) intentional
Gender			
girls	87.9%	9.3%	2.8%
Age			
11-12 years	79.6%	14.7%	5.7%
13-14 years	66.0%	22.2%	11.8%
15-16 years	49.9%	34.8%	15.3%
17 years and older	46.1%	36.8%	17.1%
Total	**64.7%**	**24.0%**	**11.2%**

In order to gain insight in emotional harm resulting from exposure to SEIM, we asked youth how they responded emotionally to intentional and unintentional exposure. Table 5.3 shows the emotional responses to intentional and unintentional exposure to SEIM. The results indicate that unintentional exposure to SEIM more likely results into emotional harm than intentional exposure (43.7% versus 3.4%) and that intentional exposure more often is perceived as a pleasant experience than unintentional exposure (79.2% vs. 3.4%). Unintentional exposure is more often perceived as a common experience than intentional exposure (50.4% vs. 17.4%). Girls consistently more frequently reported emotional harm from exposure to SEIM than boys, but the difference was larger for unintentional exposure (58.7% vs. 30.9%) than intentional exposure (10.0% vs. 2.8%). Boys more frequently than girls reported that exposure to SEIM is a pleasant experience, but the difference was larger for intentional exposure (82.4% vs. 45.0%) than unintentional exposure (9.9% vs. 1.1%). Younger youth are more likely to report emotional harm from exposure to SEIM than older youth, but the difference is larger for intentional exposure than unintentional exposure. For example, 33.3% of those 8 to 10 years report that intentional exposure is bothersome versus 3.6% of those 11 to 12 years and 68.3% of those 8 to 10 years report that unintentional exposure is bothersome versus 55.3% of those 11 to 12 years. In sum, unintentional exposure more often results into emotional harm than intentional exposure and emotional harm is more likely to occur for girls than boys and, for younger youth.

Table 5.3: Emotional responses to intentional and unintentional exposure to SEIM (%), n=2,129

	Unintentional			Intentional		
	Pleasant	Common	Bothersome	Pleasant	Common	Bothersome
Gender						
boys	9.9%	59.2%	30.9%	82.4%	14.8%	2.8%
girls	1.1%	40.2%	58.7%	45.0%	45.0%	10.0%
Age						
8-10 years	1.2%	30.5%	68.3%	33.3%	33.3%	33.3%
11-12 years	4.3%	40.4%	55.3%	64.3%	32.1%	3.6%
13-14 years	7.2%	54.6%	38.2%	82.0%	15.0%	3.0%
15-16 years	7.0%	60.7%	32.3%	77.2%	19.0%	3.8%
17 years and older	5.7%	60.0%	34.3%	96.2%	3.8%	0.0%
Total	**5.9%**	**50.4%**	**43.7%**	**79.2%**	**17.4%**	**3.4%**

Factors shaping the risk of exposure and emotional harm

The second aim of this study was to investigate the factors related to youth's intentional and unintentional exposure to SEIM: demographic factors (gender and age), psychological factors (self-control and psychological well-being), parental mediation (supervision, restrictive mediation, monitoring and active mediation) and, technology-based factors (frequency of Internet use, online clicking and online disinhibition), Table 5.4 shows the main effects of the factors on intentional and unintentional exposure to SEIM. Table 5.5 shows the main effects of the factors on emotional harm.

Intentional exposure and unintentional exposure

As expected, youth's gender significantly affected intentional and unintentional exposure to SEIM (Table 5.4). Girls were less likely unintentionally exposed than boys and, girls were clearly less likely intentionally exposed. The gender difference was already visible in Table 5.2, but it also held when controlling for other potential correlates. In line with our expectations, youth's age was significantly related to intentional and unintentional exposure, the effect of age being stronger for intentional exposure than unintentional exposure. The age difference was already visible in Table 5.2, but it also held when controlling for other potential correlates. Internet behaviour is strongly associated with exposure to SEIM, but we found no striking differences for intentional and unintentional exposure: frequency of Internet use, online clicking and online disinhibition predict intentional as well as unintentional exposure. Contrary to our expectations, self-control was not only significantly related to intentional exposure, but to unintentional exposure as well. Youth with a lower level of self-control were more often intentionally and unintentionally exposed to SEIM than youth with a higher level of self-control.

Table 5.4: Multinomial Logistic Regression Predicting unintentional and intentional exposure (reference category=no exposure)

	Unintentional exposure		Intentional exposure	
	OR	95%	OR	95%
Demographic factors				
Girl	0.67**	0.58-0.76	0.06**	0.03-0.09
Age	1.15**	1.11-1.20	1.49**	1.36-1.62
Technology-based factors				
Frequency of Internet use	1.07**	1.02-1.13	1.29**	1.16-1.44
Online clicking	1.75**	1.50-2.05	1.70**	1.22-2.38
Online disinhibition	1.18**	1.08-1.29	1.20**	1.00-1.43
Psychological factors				
Self-control	0.42**	0.34-0.53	0.21**	0.13-0.33
Psychological well-being	0.95	0.85-1.07	0.78**	0.60-1.00
Parental mediation				
Supervision	0.80**	0.70-0.92	1.17	0.85-1.62
Restrictive mediation	0.94	0.81-1.08	0.53**	0.38-0.75
Monitoring	0.98	0.91-1.05	0.79**	0.67-0.95
Active mediation	1.02	0.96-1.08	0.95	0.83-1.10
$X^2 = 891,3$				
Nagelkerke $R^2 = 0,20$				

Note: *N*=6,299. Results of girls were compared with boys (reference group). **p*<.05,**p*<.01**.

As expected, youth with a lower level of psychological well-being more often were intentionally exposed to SEIM then youth with a higher level of psychological well-being. As for parental mediation, less supervision is associated with unintentional exposure and less restrictive mediation and less active mediation are associated with intentional exposure. In sum, the factors related to intentional and unintentional exposure to SEIM are largely similar, except for psychological well-being and strategies of parental mediation.

Emotional harm

Logistic regression analyses were conducted to test the hypothesized influence of factors on the likelihood of reporting emotional harm from exposure to SEIM (Table 5.5). The respondents who reported not being bothered by exposure to SEIM (n=1,471) constituted the reference group for those who were bothered by exposure to SEIM (n=630). In model 1, the demographic factors gender and age are included. Gender significantly affects the likelihood of reporting emotional harm: girls are 6.18 times as likely to report emotional from exposure to SEIM when compared to boys. Age is also significantly related to reporting emotional harm. The likelihood of reporting emotional harm decreases as youth get older. Model 1 explains 28 per cent of the variance (R^2=.28, p <.05). Model 2 reports the inclusion of technology-based factors, psychological factors and parental mediation. Gender and age retain their statistically significant associations with reporting emotional harm. The likelihood of reporting emotional harm increases as the frequency of Internet use decreases and as youth report decreased levels of online disinhibition. The psychological factors included in model 2 are significant factors to explain reporting emotional harm from exposure to SEIM. Youth with a higher level of self-control are 4.12 times as likely to report emotional harm compared to youth with a lower level of self-control. Youth with a lower level of psychological well-being are more likely to report emotional harm. As for strategies of parental mediation, only restrictive mediation and active mediation significantly affect the likelihood of reporting emotional harm. However, it is likely that these strategies of parental mediation follow from youth reporting negative experiences, rather than cause these experiences. The inclusion of technology-based factors, psychological factors and parental mediation increases the explained variance to 36 per cent (R^2=.36, p <.05). Model 3 reports the inclusion of intentional exposure to SEIM. Intentional exposure to SEIM decreases the likelihood of reporting emotional harm by 88 per cent. Gender, age, online disinhibition, self-control, psychological well-being, restrictive mediation and active mediation retain their statistically significant associations with reporting emotional harm. The inclusion of intentional exposure increases the explained variance of emotional harm to 44 per cent (R^2=.44, p <.05). In sum, the results show that the strongest predictors of reporting emotional harm from exposure to SEIM include being a girl, having a higher level of self-control and unintentional exposure.

Table 5.5: Multinomial Logistic Regression Predicting emotional harm (reference category=no emotional harm)

	MODEL 1		MODEL 2		MODEL 3	
	OR	95%	OR	95%	OR	95%
Demographic factors						
Girl	6.18**	4.98-7.66	5.80**	4.56-7.38	3.93**	3.05-5.06
Age	0.68**	0.64-0.72	0.73**	0.68-0.79	0.77**	0.72-0.83
Technology-based factors						
Frequency of Internet use			0.92*	0.84-1.00	0.94	0.87-1.03
Online clicking			0.88	0.68-1.14	0.87	0.66-1.13
Online disinhibition			0.80**	0.68-0.94	0.82*	0.69-0.96
Psychological factors						
Self-control			4.12**	2.78-6.11	4.21**	2.78-6.38
Psychological well-being			0.72**	0.58-0.88	0.68**	0.54-0.84
Parental mediation						
Supervision			1.00	0.77-1.28	1.02	0.79-1.33
Restrictive mediation			1.33*	1.04-1.71	1.32*	1.02-1.71
Monitoring			1.07	0.94-1.22	1.05	0.92-1.20
Active mediation			1.20**	1.08-1.35	1.19**	1.06-1.33
Exposure to SEIM						
Intentional					0.12**	0.08-0.18
	χ_2=476.4		χ_2=577.7		χ_2=734.3	
	R^2=0.28		R^2=0.36		R^2=0.44	

Note: *N*=2,101. Results of girls were compared with boys (reference group). Results of intentional exposure were compared to unintentional exposure. $p<0.05$,*$p<0.01$**.

5.4 DISCUSSION

Despite widespread concern about youth's intentional and unintentional exposure to SEIM, reliable data have been scarce. The aim of our study was to enhance our understanding of intentional and unintentional exposure to SEIM and the emotional harm resulting from these types of exposure. Based on a national survey among Dutch youth, we focused on the prevalence of exposure and emotional harm and, factors associated with exposure and emotional harm. In what follows, we specify the relation of our findings with previous research and; furthermore, we discuss the implications of our findings for policy measures and strategies aimed at enhancing the online safety for youth.

Prevalence of exposure

We found that a considerable proportion of youth were exposed to SEIM and that unintentional exposure was more common than intentional exposure. This indicates that exposure to SEIM can be characterized as normative for many youth. Furthermore, intentional and unintentional exposure occurs together, although in varying proportions. Generally speaking, boys and older youth reported more intentional and unintentional exposure than girls and younger youth. This result is in line with previous research (Bauwens, et al., 2009; Flood, 2007; Livingstone, et al., 2011; Livingstone & Bober, 2004; Wolak et al., 2007). Less than two tenth of those 8 to 10 years of age reported exposure to SEIM, the exposure largely being unintentional. Since children increasingly go online at a younger age and; furthermore, young children's Internet usage is increasing to the equivalent of older youth's previous use (Holloway, Green, & Livingstone, 2013, p. 7), it is likely that some of the children younger than 8 years are exposed to SEIM as well.

Unintentional exposure to SEIM significantly more often resulted in emotional harm than intentional exposure. Girls more often reported emotional harm than boys, the difference being larger for unintentional exposure. Age is significantly related to emotional harm. Younger youth reported significantly more emotional harm from unintentional exposure to SEIM as well as from unintentional exposure. This result is in line with previous research (Bauwens, et al., 2009; Livingstone, et al., 2011; Mitchell, et al., 2014).

Factors shaping the risk of exposure and emotional harm

Based on previous research, we investigated the following factors: demographic factors, psychological factors, parental mediation and technology-based factors. Our findings suggest that when comparing intentional and unintentional exposure to SEIM with no exposure, similar factors predict the two types of exposure, except for psychological well-being and strategies of parental mediation. The likelihood of intentional and unintentional exposure was greater among boys, older youth, youth who used the Internet more frequently, youth who displayed more unrestrained clicking behavior, youth with a higher level of online disinhibition and, youth with a lower level of self-control. The latter is in line with previous research (e.g., Buzzell, et al., 2006). The likelihood of intentional exposure was greater among youth with a lower level of psychological well-being. This is in line with previous research (Peter & Valkenburg, 2006; Ybarra & Mitchell, 2005). Weaker restrictive mediation and weaker monitoring were significantly related to intentional exposure and weaker supervision was related to unintentional exposure. To summarize, intentional exposure and unintentional exposure to SEIM seems to be an outcome of similar factors.

After selecting the group of respondents who had been exposed to SEIM, we analysed which factors were associated with emotional harm (compared to the group who reported no harm). Firstly,

we found that the likelihood of emotional harm was greater among girls and younger youth. Secondly, youth who use the Internet less frequently and who display a lower level of online disinhibition were more likely to report emotional harm. This indicates that frequency of Internet use is a protective factor: frequent Internet users are more capable in recognizing and avoiding unwanted content. Interestingly, a higher level of self-control was related to reporting emotional harm from exposure to SEIM. Youth with a lower level of self-control were more likely to report no emotional harm. A possible explanation for this relation could be that youth with a lower level of self-control are less concerned about reactions to and consequences of exposure to SEIM. Youth with a lower level of psychological well-being, youth with stronger parental mediation and youth who were unintentionally exposed, were more likely to report emotional harm. To summarize, the risk factors related to exposure to SEIM are inversely related to exposure resulting in emotional harm.

Since (1) intentional and unintentional exposure to SEIM can be characterized as normative for many youth, (2) the factors shaping the risk of intentional and unintentional exposure are largely the same, (3) intentional exposure is perceived as a positive experience for most youth and (4) unintentional exposure is more often related to emotional harm than intentional exposure, exposure to SEIM should be an integral part of media education and safety awareness initiatives directed at parents. Sexuality is an important developmental issue in young people's lives and SEIM currently is an important source of sexual information (Brown & L'Engle, 2009). Education about SEIM might help youth to contextualize sexual images and to put these images into perspective. Differentiating for age, however, is a prerequisite, since age influences youth's level of understanding, comfort with and interest in SEIM. Safety awareness initiatives might help parents to apply age-appropriate strategies of parental mediation before youth experience emotional harm. Research indicates that a substantial amount of parents were not aware that their child was exposed to SEIM and that parents were even less aware in the case of girls and younger youth (Livingstone, et al., 2011). It is likely that parents use the strategy of active mediation as a consequence of their child reporting emotional harm. However, this strategy might be protective for future negative online experiences.

Limitations and future research

The study had several limitations. First, the cross-sectional nature of the study did not allow for causal inferences. Specifically, it was not clear whether a low level of psychological well-being predicted intentional exposure to SEIM, or whether this was the outcome. Furthermore, it was not possible to establish the temporal order of parental mediation strategies, exposure to SEIM and, emotional harm. Future longitudinal studies are necessary to ascertain causal directions. Second, self-report studies on sensitive issues, such as exposure to SEIM, are prone to under-reporting and over-reporting (e.g., Tourangeau & Yan, 2007). For example, some youth might have responded that

they were not exposed to SEIM or that the exposure was mostly unintentional, because they were too embarrassed or ashamed to admit that the exposure occurred or, that they sought out SEIM. In the future, additional research relying on more objective measures is necessary. Third, the measure of emotional harm was rather limited by standards in the social science literature due to the fact that research on the possible effects of SEIM on youth – positive and negative – is impeded by ethical restrictions. However, this study does provide insight in the prevalence of emotional harm from a youth perspective, which is indispensable in the public policy debate regarding their online safety. Fourth, we examined a limited number of factors influencing the risk of intentional and unintentional exposure and, emotional harm. For example, age may only partly capture developmental differences that characterize youth and we did not address other developmental variables. The pubertal status is related to sexual development and research shown individuals vary in the age of puberty onset (Steinberg, 2008). One of the tasks of future research will be to analyze the complex array of factors – including new factors related to the rapidly changing online environment – that mediate the risk of intentional and unintentional exposure to SEIM and emotional harm resulting from exposure. Fifth, the operationalization of exposure to SEIM did not include a time frame. Therefore, it is possible that exposure inherently increases with age. However, we choose not to use an exact times frames, since it is questionable that youth are able to reflect on the precise time frame wherein exposure occurred (e.g., Andelman, Zima, & Rosenblatt, 1999). Finally, the information about parental mediation strategies came from youth and not from parents and youth may not correctly estimate the degree to which parents mediate their Internet use. For example, youth might be less aware of active mediation.

Conclusion

Despite these limitations, the findings of this study suggest that intentional and unintentional exposure to SEIM is normative for many youth and that intentional exposure is generally perceived as normal or pleasant and that unintentional exposure is significantly related to emotional harm. Factors related to intentional and unintentional exposure are largely similar and these factors are inversely related to emotional harm. Predominantly girls, younger youth, youth who used the Internet less frequently, youth with a lower level of online disinhibition, youth with a higher level of self-control were more likely to report that exposure to SEIM resulted in emotional harm.

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6 THE VICTIM-PERPETRATOR OVERLAP IN FINANCIAL CYBERCRIME

This chapter has been accepted for publication as: Kerstens, J., & Jansen, J. (in press.). The Victim-Perpetrator Overlap in Financial Cybercrime: Evidence and Reflection on the Overlap of Youth's Online Victimization and Perpetration. *Deviant Behavior*. doi: 10.1080/01639625.2015.1060796

Abstract

This study investigates the victim-perpetrator overlap for financial cybercrimes: auction fraud, virtual theft and identity fraud. Conducting a cross-sectional study among Dutch youth aged 10 to 18 (N=6,299), the results show that the victim-perpetrator overlap for financial cybercrime is considerable. Perpetration is strongly motivated by retaliation. The findings from the multinomial regression model show that low self-control and high online disinhibition are positively and significantly associated with victimization and perpetration. The findings demonstrate that the overlap between financial cybercrime victimization and perpetration is partially explained by retaliation, low self-control and online disinhibition, suggesting that state-dependency and individual heterogeneity explanations should be supplemented by explanations funded in the dynamics of the online environment.

6.1 INTRODUCTION

Studies on crime and deviance consistently indicate that victims and perpetrators are not mutually exclusive categories. Victims are more likely to be perpetrators than non-victims and perpetrators are more likely to be victims than non-perpetrators. Furthermore, victims and perpetrators share similar demographic and individual-level characteristics (e.g., Jennings, Piquero, & Reingle, 2012; Lauritsen & Laub, 2007; Posick, 2013; Schreck & Stewart, 2012). The positive correlation between victimization and perpetration is generally termed the victim-perpetrator overlap (Schreck & Stewart, 2012). The evidence for a victim-perpetrator overlap indicates that the strict dichotomization of victims and perpetrators, although practical for analytical purposes, does not contribute to an accurate understanding of criminality or deviance (Lauritsen, Sampson, & Laub, 1991). However, the evidence found for the victim-perpetrator overlap is based on offline crime and deviance. Currently, we see traditional crime and deviant behaviour migrating to the Internet and; in addition, crimes emerge in which online technology plays a crucial role (e.g., Stol, 2012).

The victim-perpetrator overlap on the Internet

To what extent the victim-perpetrator overlap found for offline crime and deviance can also be found for Internet crime and deviance is an under-researched area. To date, research has predominantly focused on the victim-perpetrator overlap in cyberbullying (e.g., Craig, Harel-Fisch, Fogel-Grinvald, Dotaler, Hetland, Simons-Morton, et al., 2009; Hinduja & Patchin, 2009; Vandebosch & Van Cleemput, 2009; Ybarra & Mitchell, 2004a). Research indicates that victims of cyberbullying engage in cyberbullying behaviour motivated by retaliation (Hinduja & Patchin, 2009, p. 72). This evidence supports state-dependent explanations for the victim-perpetrator overlap: prior victimization increases the probability of subsequent perpetration due to temporal changes in social variables (e.g., Lauritsen & Laub, 2007; Nagin & Paternoster, 2000). Research also found that a low level of self-control is positively associated with both victimization and perpetration of cyberbullying (Vazsonyi, Macháčkova, Ševčíková, Šmahel, & Černá, 2012). This evidence supports individual heterogeneity explanations for the victim-offender overlap: the association between victimization and perpetration results from the influence of relatively stable individual characteristics, for example, a low level of self-control established through ineffective socialization by caretakers (Berg, 2011; Lauritsen & Laub, 2007). State-dependent explanations emphasize the dynamic relation between victimization and perpetration and individual heterogeneity explanations emphasize that victimization and perpetration are related only inasmuch they both are related to static individual characteristics. Furthermore, theorists have repeatedly emphasized that certain characteristics of the online environment may influence individuals' behaviour (e.g., Suler, 2004). Behavioural changes on the Internet may increase the risk of online victimization and perpetration.

The online environment as a mediating factor

Researchers have noticed that on the Internet individuals behave in a way they would not normally do in the offline world, i.e., aspects of online technology create conditions for users to experience fewer behavioural inhibitions than in an offline context (Hinduja & Patchin, 2009; Joinson, 1998; Slonje & Smith, 2008). Suler (2004) termed this diminished internal censorship the 'online disinhibition effect'. Due to a variety of factors, including a high sense of (perceived) anonymity and a lower level of social control online, individuals, for example, are more likely to disclose detailed personal information or to deviate from social norms on the Internet (e.g., Spears, Slee, Owens, & Johnson, 2009). The former may influence victimization and the latter may influence perpetration. Only a few studies have investigated the link between online behaviour and cyberbullying. Veenstra (2012) found that victimization of cyberbullying is positively related to online self-disclosure[26] and that perpetration of cyberbullying is positively related to disinhibited behaviour online. Görzig and

[26] Online disinhibition acts as a precursor to online self-disclosure (Schouten, Valkenburg, & Peter, 2007, p.309).

Ólafsson (2013) investigated disinhibited self-representation online and disinhibited behaviour due to the lack of social control. Their study found that disinhibited self-representation online was significantly related to cyberbullying perpetration, while lack of social control online was not statistically significant. The findings of these studies suggest that, apart from the reciprocity between victimization and perpetration and the influence of individual characteristics, the online environment itself could act as a mediating factor in online victimization and perpetration.

Financial cybercrime

Although there is empirical evidence for a victim-perpetrator overlap in cyberbullying, it is important to note that the victim-perpetrator overlap might vary across different criminal and deviant behaviours (e.g., Jennings, et al., 2012). Furthermore, we do not know whether the online environment influences the victim-perpetrator overlap in other criminal and deviant behaviours. This study addresses these issues by investigating the victim-perpetrator overlap in relation to youth and financial cybercrimes. We focused on online auction fraud, virtual theft and identity fraud.

Online auction fraud

Youth purchase and sell goods on the Internet, for example via *Marktplaats.nl* [Marketplace.nl] (Pijpers, Marteijn, & Dijkerman, 2010). However, the advent of online auctions has also created possibilities for online auction fraud. There are two types of online auction fraud: (1) the buyer pays the agreed prize (or only a part of it) in advance and the seller does not deliver the article and (2) the seller delivers the article and the buyer does not pay the agreed prize (or only a part of it) (Taylor, Caeti, Loper, Fritsch, & Liederbach, 2006). Online auction fraud is punishable under Article 326 of the Dutch Penal Code. We define online auction fraud as the non-delivery and the non-payment of products purchased through an online auction site.

Virtual theft

Youth also purchase so-called virtual goods. According to Fairfield (2005, pp. 1053-1054) virtual goods share three legally relevant characteristics with real world goods. Virtual goods are (1) rivalrous, i.e., making use of a virtual good excludes others from simultaneously using it; (2) persistent, i.e., remaining existent when the computer is turned off; (3) connected, i.e., not existing in isolation and affecting other users or systems. Virtual goods can represent real world economic value and they can be stolen, which is referred to as 'virtual theft' (Strikwerda, 2012). In the Netherlands, several minors were convicted of theft under Article 310 of the Dutch Penal Code for the stealing of virtual goods in

Habbo[27] and *RuneScape*.[28] The Supreme Court of the Netherlands also decided on the *RuneScape* case.[29] Until now, only Dutch courts have held that taking virtual property is theft under existing law. It is, however, important to note that claims of virtual theft come before courts in an increasing number of jurisdictions (Rumbles, 2011). Since the volume of the virtual economy will only grow, it is expected that more criminal cases will follow (Lodder, 2011). We define virtual theft as the taking and removing of virtual objects without the owner's permission.

Identity fraud

In our current information society, identity management has become crucial (Rannenberg, Royer, & Deuker, 2009). With the digitization of personal characteristics and personal information, a new type of identity fraud has emerged: identity fraud on or via the Internet. In the literature, the term 'identity theft' is often used as a synonym for 'identity fraud'. Koops and Leenes (2006), however, argue that identity theft is a subset of identity fraud. Identity theft is the take-over of personal information without consent and identity fraud is the subsequent misuse of personal information to the disadvantage of the victim and/or to the (financial) gain of the perpetrator. In Dutch law, there is no separate legal provision for identity fraud; identity fraud consists of a number of activities that are punishable under various penal provisions. These penal provisions, for example, criminalize hacking, theft, forgery and fraud. We define identity fraud as taking over and subsequently misusing personal information without consent.

Research questions

Since research on the victim-perpetrator overlap in financial cybercrime is absent, our first question was to what extent youth are victims and perpetrators of online auction fraud, virtual theft and online identity fraud. Although there is no explicit theory of the victim-perpetrator overlap (Berg, 2011), research has found evidence for state-dependent and individual heterogeneity explanations for victimization and perpetration. Researchers, therefore, have emphasized the importance of combining both explanations arguing that the victim-perpetrator overlap reflects the total effect of state-dependency and individual heterogeneity (Miethe & Meier, 1994; Ousey, Wilcox, & Brummel, 2008). Based on arguments and findings from previous studies, we hypothesized (1) that victimization affects perpetration and vice versa and (2) that youth who are both victims and perpetrators of financial cybercrimes as opposed to non-involved peers will be more likely to have a lower level of self-control. Based on arguments and findings from studies on the influence of the online

[27] Rechtbank Amsterdam, 2 April 2009, LJN: BH9789, BH9790, BH9791.
[28] Gerechtshof Leeuwarden, 10 November 2009, LJN: BK2773, BK2764.
[29] Hoge Raad, 31 January 2012, LJN: BQ9251.

environment on (cyberbullying) behaviour (e.g., Suler, 2004; Veenstra, 2012), we hypothesized (3) that youth who are both victims and perpetrators of financial cybercrimes as opposed to non-involved peers will be more likely to exhibit disinhibited behaviour online. The current study further investigates whether the characteristics of pure victims, pure perpetrators and victim-perpetrators of financial cybercrimes differ.

6.2 METHOD

Sample and Procedure

For this cross-sectional study, data was used from *Youth & Cybersafety*, a 4-year Dutch research project on online victimization and perpetration among 6,299 youth aged 10 to 18 years (2009-2013) commissioned by the Dutch Ministry of Education, Culture and Science[30]. The research project *Youth & Cybersafety* was conducted by the *Cybersafety Research Group* of the *NHL University of Applied Sciences and the Police Academy* in the Netherlands. The questionnaire was developed on the basis of feedback from youth (n=25, divided over 4 focus groups) and tested in a pilot study (n=442) for validity and reliability and, to refine question wording, sequence and questionnaire length. In total, 6,433 participants filled in the online questionnaire. Validity checks for nonsensical answers resulted in the removal of 134 respondents of our dataset. The data-analysis was based on 6,299 completed questionnaires filled in by participants (51.2% male) attending primary school (29.3%) and secondary schools (70.7%). The age range of the sample was 11 to 18 years (M =13.0, SD =1.9). Data were collected between January 2011 and April 2011. Parental consent (opt-out) and adolescents' assent were obtained before participation. The response rate of our study was 96.4%.

Participants were not directly recruited; we randomly sampled primary and secondary schools. Schools exclusively providing special or practical education were excluded from the sample, since pupils attending these schools require a different research approach. Schools were sent a letter asking them to participate in the *Youth & Cybersafety* research project. Twenty seven primary schools and seventeen secondary schools from three different levels – pre-vocational education, higher general secondary education and pre-university education participated. Each participating school received a report in which the findings from the school were compared with the overall findings.

Data were collected using an online survey. The questionnaire was filled in at school during class in the presence of researchers and supervisors. We redesigned classrooms in order to create privacy for each respondent. Each respondent was provided with a unique code making it impossible to link answers to identifying information of the participant. At the start of the questionnaire,

[30] This research project was undertaken in accordance with the Code of Research established by the HBO-council (Andriessen, Onstenk, Delnooz, Smeijsters, & Peij, 2010).

participants were notified that: (1) the questionnaire would be about the Internet and financial cybercrime; (2) that the investigators had no chance to identify who had given the answers; (3) that they could stop at any point in time if they wished.

Participants aged 11 to 14 years were over-represented as well as participants attending pre-university education. Despite the large number of respondents, the sample is therefore not representative with respect to these characteristics.

Measures

Online auction fraud. Victimization of online auction fraud was measured using two items. Participants who had indicated to buy and sell goods via online auction sites such as Markplaats.nl or E-bay were asked two questions: 1) Have you ever bought something and paid for on the Internet, but never got what you paid for?; 2) Have you ever sold something on the Internet, sent the item to the buyer, but never received any payment? The response categories to the questions were 0 (*no*), 1 (*yes*) and 2 (*I don't know*). Perpetration of online auction fraud was measures using two items. Participants who had indicated to buy and sell goods via online auction sites were asked two questions: 1) Have you ever bought something on the Internet, received the item, but never paid for it?; 2) Have you ever sold something on the Internet, received payment, but never sent the item? The response categories to the questions were 0 (*no*), 1 (*yes*) and 2 (*I don't know*).

Virtual theft. Victimization of virtual theft was measured using one item. The question on victimization of virtual theft had the following introduction: Your bike can be stolen on the streets. On the Internet, it is also possible that someone steals from you. For example, a refrigerator in *Habbo*, a special sword in *RuneScape* or, a flying horse in *World of Warcraft*. When someone steals something from you on the Internet, without your consent, this is called virtual theft. After the introduction participants were asked: Have you ever had to deal with virtual theft? The response categories to the question were 0 (*no, never*), 1 (*yes, sometimes*) and 2 (*yes, several times*). Perpetration of virtual theft was measured using one item. Participants were asked: Have you ever stolen something from someone on the Internet? For example, a refrigerator in *Habbo*, a special sword in *RuneScape* or, a flying horse in *World of Warcraft*. The response categories to the question were 0 (*no, never*), 1 (*yes, sometimes*) and 2 (*yes, several times*).

Identity fraud. Victimization of identity fraud was measured using one item. The question on victimization of identity fraud had the following introduction: On the Internet, it is possible that someone – without your consent – misuses your personal information, such as your password or your (email) address. With this information someone can impersonate you and he or she, for example, can buy items on the Internet in your name or take away credits in a game. After the introduction participants were asked: Did someone misuse your personal information on the Internet, for example

your password or (email) address? The response categories to the question were 0 (*no, never*), 1 (*yes, sometimes*) and 2 (*yes, several times*). Perpetration of identity fraud was measured using one item. Participants were asked: Have you ever misused someone's personal information on the Internet? For example, to buy an item on the Internet and make someone else pay for it or to take away credits in a game. The response categories to the question were 0 (*no, never*), 1 (*yes, sometimes*) and 2 (*yes, several times*).

Motivation perpetrators. The motivation of perpetrators was measured by asking participants: Why did you steal something from someone on the Internet? and/or Why did you misuse someone's personal information on the Internet? Participants were asked to select the most relevant response category. The response categories were: (1) to bully someone, (2) for fun/entertainment, (3) to retaliate, (4) for financial gain. We added an 'other' category with an entry box in which participants could enter and explain their own answer. The answers to the 'other' category were recoded as one of the pre-selected categories or as 'other'.

Social environment characteristics[31]. Three social environment characteristics were included in the study: bond with parents, bond with peers and bond with school. Previous research indicates that these characteristics are related to the victim-perpetrator overlap and/or online victimization and perpetration (e.g., Schreck, Stewart, & Osgood, 2008; Ybarra & Mitchell, 2004b). The bond with parents was measured using four items. The questions were based on a study by Junger-Tas, Steketee and Moll (2008) and a study by Van Rooij and Van den Eijnden (2007). The items were rated on a 5-point Likert scale from 1 (*never*) to 5 (*always*) (Cronbach's α=0.71). The bond with peers was measured using six items. The statements were based on the Dutch version of the *Inventory of Parent and Peer Attachment* (Armsen & Greenberg, 1987) used by Van Rooij and Van den Eijnden (2007). The items were rated on a 5-point Likert scale from 1 (*totally agree*) to 5 (*totally disagree*) (Cronbach's α=0.79). The bond with school was measured using one item. Participants were asked: How do you think about school? Response categories were rated from 1 (*negative*) to 3 (*positive*).

Technology-based factors. Three types of technology-based factors were included in the study: frequency of Internet use, online disinhibition and online disclosure. Previous research indicates that these behaviours are likely to increase the likelihood of online victimization and/or perpetration (e.g., Li, 2007; Patchin & Hinduja, 2006; Smith, Mahdavi, Carvallo, Fisher, Russell, & Tippett, 2008; Walrave & Heirman, 2011). *Frequency of Internet use* was measured by asking participants to indicate how

[31] Appendix A provides an overview of the question wording for each of the following psychometric scales: parental bond, peer bond, online disinhibition, online self-disclosure and self-control.

many hours per day on average they were active on the Internet, varying from less than one hour per day to more than four hours per day. *Online disinhibition* was measured using seven items. Online disinhibition refers to a lower level of behavioural inhibitions explained by aspects of the online environment, such as anonymity online. The statements were based on studies on the online disinhibition effect (Suler, 2004) and a study by Schouten, Valkenburg, and Peter (2007). The items were rated on a five-point Likert scale ranging from 1 (*totally agree*) to 5 (*totally disagree*) (Cronbach's α=0.85). *Online self-disclosure* was measured using seven items. Self-disclosure can be defined as revealing intimate information about one's self (Derlega, Metts, Petronio, & Margulis, 1993). The topics were based on a study by Schouten, Valkenburg, and Peter (2007). The items were rated on a five-point Likert scale ranging from 1 (*I tell nothing about this*) to 5 (*I tell everything about this*) (Cronbach's α=0.91).

Parental mediation. Parental mediation refers to the interactions that parents have with youth about their media use (e.g., Nikken & Jansz, 2011). Previous research indicates that strategies of parental mediation are potentially protective factors for online victimization and perpetration (e.g., Dürager & Livingstone, 2012; Mesch, 2009). We measured youth's perception of parental mediation by asking one question for each of the four basic strategies of parental mediation: supervision (parent is present while using the internet), restrictive mediation (parent sets rules), monitoring (parents checks records afterwards) and active mediation (parents communicates on Internet use and safety). The response categories were 0 (*never*), 1 (*sometimes*), 2 (*(almost) always*).

Self-control. Self-control refers to the extent to which individuals are able to internally regulate their behaviour (Gottfredson & Hirschi, 1990). Previous research indicates that individuals with a low level of self-control are at a greater risk for perpetration (e.g., Pratt & Cullen, 2000) and victimization (e.g., Schreck, 1999). Self-control was measured using thirteen items. The statements were based on the 24-item scale developed by Grasmick, Tittle and Arneklev (1993). The six sub-components of the original scale – impulsivity, preference for simple tasks, risk-taking behaviour, physical activities, self-centredness, and temper – were represented. The items were rated on a 3-point Likert scale from 1 (*(almost) never*) to 3 (*often*) (Cronbach's α=0.74).

Data analyses

We used SPSS 22 to analyze the data. First, we examined the descriptive data related to victimization and perpetration of financial cybercrime with independent variables (sex, age, school type and educational level). Second, we conducted a multinomial analysis to determine which factors place

youth at a greater risk for victimization, perpetration or both, with particular attention to self-control and online disinhibition. The reference group in this analysis was youth who were neither a victim nor a perpetrator. This analysis sheds light on whether particular factors are unique to victimization, perpetration or to both.

6.3 RESULTS

Descriptive analysis

Online auction fraud

Of all youth, 55.3 per cent reported that they purchased products via an online auction site; 40.7 per cent reported having sold products. Of all youth, 5.2 per cent were a victim of online auction fraud and 3.1 per cent indicated that they were a perpetrator (see Table 6.1). Boys are more likely to be a perpetrator and a victim of online auction fraud than girls. Victimization and perpetration is more likely in secondary schools than in primary schools and among youth attending pre-vocational education. Perpetration is less likely among youth younger than 12 years.

Table 6.1: Prevalence of online crimes (in %)

	Online auction fraud		**Virtual theft**		**Online identity fraud**	
	victim	perpetrator	victim	perpetrator	victim	perpetrator
Sex	**	**	**	**		**
Male	6.9	4.5	20.9	15.8	8.9	6.4
Female	3.5	1.6	9.6	4.4	9.1	2.5
Age		**		**		**
(8-)10	3.9	1.3	11.0	3.3	7.5	1.5
11-12	4.9	2.2	15.4	7.7	8.9	3.6
13-14	5.2	3.8	16.0	12.8	8.8	5.1
15-16	6.2	4.3	15.6	12.3	9.6	5.7
17+	7.1	3.2	16.3	12.7	11.9	6.7
School type	*	**		**		**
Primary school	4.2	1.5	14.7	5.3	8.3	2.7
Secondary school	5.7	3.8	15.6	12.2	9.3	5.2
Educational level	**	**			**	
Pre-vocational education	7.4	4.8	14.4	13.2	11.2	6.0
Senior general secondary education	5.2	3.1	16.9	12.9	8.8	5.3
Pre-university education	4.0	2.9	16.1	10.6	7.4	4.2
Total	**5.2**	**3.1**	**15.3**	**10.2**	**9.0**	**4.5**

Note: N=6,299. * $p<0.05$, ** $p<0.01$

Of all youth that indicated being a victim of online auction fraud, almost 16 per cent reported being a perpetrator of online auction fraud as well (see Table 6.2). The victim-perpetrator overlap within the group of perpetrators is larger: more than a quarter of the perpetrators (26.8%) reported being a

victim of online auction fraud.

The victimization rate within the group of perpetrators is more than five times higher in comparison with the victimization rate within the group of non-perpetrators (26.8% versus 4.6%, $p<0.001$). The perpetration rate within the group of victims is more than six times higher in comparison with the perpetration rate within the group of non-victims (15.8% versus 2.4%, $p<0.001$).

Table 6.2: Victim-perpetrator overlap for online auction fraud, virtual theft and online identity fraud

	Online auction fraud	**Virtual theft**	**Online identity fraud**
Victims	*5.2 %, n=330*	*15.3 %, n=965*	*9.0 %, n=567*
% pure victim	84.2	65.9	81.8
% victim-perpetrator	15.8	34.1	18.2
Perpetrators	*3.1 %, n=194*	*10.2 %, n=642*	*4.5 %, n=281*
% pure perpetrator	73.5	48.8	63.3
% victim-perpetrator	26.8	51.2	36.7

Virtual theft

Of all youth, 15.3 per cent reported being a victim of virtual theft and 10.2 per cent reported being a perpetrator (see Table 6.1). Virtual theft is related to sex: boys are significantly more likely to become a victim and a perpetrator of virtual theft. Age, school type and educational level are not related with victimization. Perpetration of virtual theft is related to age: youth younger than 12 years are less likely to be a perpetrator of virtual theft. This age-effect is also reflected in the differences found for youth attending primary and secondary school.

Off all youth that reported being a victim of virtual theft, almost 34.1 per cent reported being a perpetrator of virtual theft as well (see Table 6. 2). The victim-perpetrator overlap was substantial for youth who reported being a perpetrator of virtual theft: more than half (51.2%) reported being a victim of virtual theft as well. The victimization rate within the group of perpetrators is almost five times higher in comparison with the victimization rate within the group of non-perpetrators (51.2% versus 11.2%, $p<0.001$). The perpetration rate within the group of victims is almost six times higher in comparison with the perpetration rate within the group of non-victims (34.1% versus 5.9%, $p<0.001$).

Online identity fraud

Of all youth, 9.0 per cent reported being a victim of identity fraud and 4.5 per cent reported being a perpetrator (see Table 6.1). Victimization of identity fraud is more common among youth attending pre-vocational education. Boys are more likely to be are perpetrator of online identity fraud. The likelihood of being a perpetrator of identity fraud increases with age. Off all youth that reported

being a victim of identity fraud, 18.2 per cent indicated being a perpetrator (see Table 6.2). The victim-perpetrator overlap within the group of perpetrators is considerably larger: 36.7 per cent reported being a victim of identity fraud. The victimization rate within the group of perpetrators is almost five times higher in comparison with the victimization rate within the group of non-perpetrators (36.7% versus 7.7%, $p<0.001$). The perpetration rate within the group of victims is almost six times higher in comparison with the perpetration rate within the group of non-victims (18.2% versus 3.1%, $p<0.001$).

Motivation for online perpetration

Four motivations for perpetration were assessed and 22.0 per cent of the perpetrators of virtual theft and 31.1 per cent of the perpetrators of identity fraud added responses to the 'other' category. A substantial amount of the responses in the 'other' category were either comments on a pre-selected category or labelling a pre-selected category differently. After recoding the answers, the 'other' category for virtual theft was 4.5 percent and 6.8 per cent for identify theft. The most important motivation for virtual theft is financial gain (48.1%), followed by fun/entertainment (28.2%), retaliation (13.1%) and bullying (8.9%). The most important motivation for identity fraud is fun/entertainment (35.9%), followed by financial gain (27.4%), retaliation (27.4%) and bullying (6.1%). Retaliation is more common among perpetrators of identity fraud than among perpetrators of virtual theft. Significantly more victim-perpetrators than pure perpetrators indicated that they were motivated by retaliation: 15.5 versus 9.2 per cent for virtual theft ($p<0.05$) and 26.9 versus 8.0 per cent for identity fraud ($p<0.001$).

Multinomial logistic regression

A multinomial regression analysis was conducted to predict financial cybercrime victimization, perpetration and victimization-perpetration. The results (see Table 6.3) reveal that victims, perpetrators and victim-perpetrators share similar characteristics. Being a boy, frequency of Internet use, a higher level of online disinhibition, a higher level of online disclosure and a lower level of self-control are all significant. Age is solely associated with victimization: the younger, the greater the likelihood of victimization. Less parental supervision and active mediation are associated with perpetration. A weaker bond with parents and less restrictive mediation are associated with victimization-perpetration.

Table 6.3: Multinomial logistic regression for variables predicting the profiles of youth who are pure victims (n=1,022), pure perpetrators (n=365), and both victim and perpetrator (n=497). Reference group is: neither victim nor perpetrator (n=4,415)

	pure victim		pure perpetrator		victim-perpetrator	
Predictor	OR	95% CI	OR	95% CI	OR	95% CI
Demographic factors						
Female	**0.65** **	0.56-0.75	**0.29** **	0.23-0.38	**0.23** **	0.18-0.29
Age	**0.93** **	0.89-0.98	0.96	0.89-1.03	0.99	0.93-1.05
Social environment characteristics						
Bond with peers	0.95	0.83-1.09	1.15	0.93-1.42	1.16	0.96-1.39
Bond with parents/caregivers	1.06	0.92-1.23	0.93	0.76-1.13	**0.79** **	0.67-0.94
Bond with school	0.91	0.81-1.03	0.88	0.73-1.07	0.89	0.75-1.05
Technology-based factors						
Frequency of Internet use	**1.13** **	1.07-1.20	**1.21** **	1.11-1.32	**1.34** **	1.24-1.45
Online disinhibition	**1.40** **	1.28-1.55	**1.24** **	1.07-1.44	**1.85** **	1.63-2.09
Online disclosure	**1.22** **	1.13-1.33	**1.34** **	1.19-1.51	**1.27** **	1.14-1.41
Parental mediation						
Supervision	0.97	0.84-1.13	**0.68** **	0.52-0.91	0.96	0.77-1.21
Restrictive mediation	0.92	0.78-1.08	0.81	0.62-1.04	**0.70** **	0.56-0.89
Monitoring (afterwards)	1.10	1.02-1.19	1.04	0.91-1.19	1.07	0.95-1.20
Active mediation	0.92	0.86-0.99	**0.84** **	0.74-0.94	0.93	0.84-1.03
Psychological factors						
Self-control	**0.70** **	0.54-0.91	**0.21** **	0.14-0.31	**0.24** **	0.17-0.34
χ^2 1087.13						
Nagelkerke R^2 0.21						

*Note: N=6,299. Results of girls were compared with boys (reference group). p<.01**.*

To examine differences between victims, perpetrators, victim-perpetrators and the group neither victim nor perpetrator, we conducted the same multinomial regression analysis, but with different reference groups: pure victim, pure perpetrator and, both victim and perpetrator (see Appendix B). Compared to pure victims, victim-perpetrators are more likely to have a weaker bond with parents. Characteristics that are associated with the likelihood of victimization have a significant stronger influence on victimization-perpetration: compared to pure victims, victim-perpetrators are more likely to have a lower level of self-control and exhibit a higher level of disinhibited behaviour. The difference between perpetrators and victim-perpetrators is less substantial. Perpetrators as well as victim-perpetrators have a lower level of self-control, but there is no statistically significant difference between these groups. Perpetrators and victim-perpetrators only differ with respect to online disinhibition: compared to perpetrators, victim-perpetrators are more likely to exhibit a higher level of disinhibited behaviour.

6.4 DISCUSSION

The current study assessed the relation between victimization and perpetration for financial cybercrime among Dutch youth aged 10 to 18 years. Since research on the victim-perpetrator overlap in financial cybercrime is absent, our first question was to what extent youth are both victims and perpetrators of online auction fraud, virtual theft and online identity fraud. Our findings indicate that there is a considerable overlap in financial cybercrime victimization and perpetration. This is consistent with research on the victim-perpetrator overlap in general and among youth specifically (Jennings, et al., 2012). Our findings also indicate that the victim-perpetrator overlap for online crime and deviance is not limited to cyberbullying (e.g., Hinduja &, Patchin, 2009; Ybarra & Mitchell, 2004a).

On the basis of arguments and findings from previous studies aimed at explaining victimization and perpetration, we hypothesized that (1) perpetration is the result of retaliation arising from victimization of financial cybercrime (2) youth who are both victims and perpetrators of financial cybercrime as opposed to non-involved peers will be more likely to have a lower level of self-control and (3) youth who are both victims and perpetrators of financial cybercrime as opposed to non-involved peers will be more likely to exhibit disinhibited behaviour online. We also investigated whether the characteristics of pure victims, pure perpetrators and victim-perpetrators differ significantly from one another. We examined five groups of potential correlates of the victim-perpetrator overlap: demographics, social environment characteristics, online behaviour, parental mediation and self-control. Three broad conclusions summarize our findings.

First, though perpetrators of financial crime reported various motives for their perpetration behaviour, perpetrators who are also a victim of financial cybercrime considerably more often mentioned retaliation as a motive for their perpetration behaviour. This is consistent with previous research which linked victimization to perpetration through retaliation (Hinduja & Patchin, 2009; Singer, 1986). This finding suggests support for an at least partial state-dependent explanation of the victim-perpetrator overlap, which is based on the assumption that an observed reciprocity between victimization and perpetration reflects the fact that victimization and perpetration transform individual's life circumstances in such a way that it increases the possibility of switching roles. Other motives for perpetration, such as 'for fun', were reported as well, which indicates that a dynamic influence of victimization on perpetration should not be overestimated.

Second, victims, perpetrators and victim-perpetrators are more likely to have a lower level of self-control. The link between low self-control and offline perpetration is well established in the literature and relatively recently this link is also found for offline victimization (e.g., Jennings, et al., 2012; Schreck, 1999). A study on cyberbullying found a link between a lower level of self-control,

victimization and perpetration (Vazsonyi, et al., 2012). Limited research on victimization and perpetration of cybercrime found that self-control is associated with certain, but not all types of cybercrime or, found that tests of self-control and cybercrime produced mixed results (Bossler & Holt, 2010; Bossler & Burruss, 2010). Our findings demonstrate that a low level of self-control partially explains victimization as well as perpetration of financial cybercrime. This suggests support for individual heterogeneity explanations: the relation between victimization and perpetration is spurious and victimization as well as perpetration is a manifestation of an underlying, relatively time-stable, heterogeneous condition.

Third, online disinhibition and online self-disclosure – which is attributed to online disinhibition (Schouten, Valkenburg, & Peter, 2007) – are significantly related to victimization, perpetration and the overlap between both. The influence of (characteristics of) the online environment on criminal and deviant behaviour is often suggested by theorists and only recently research has established a link between cyberbullying and online disinhibition (Görzig & Ólafsson, 2013; Veenstra, 2012). Our findings suggest that compared to offline crime, different dynamics might be operative for cybercrime and that the online environment acts as a mediating factor in online victimization and perpetration. Suler (2004) explored six factors which interact and supplement each other and which give rise to online disinhibition: anonymity, invisibility, asynchronity, solipsistic introjection, dissociation and minimization of authority. In essence, these factors encourage or entice the individual to deviate from social norms and rules prevailing in the offline reality. Following Suler (2004, p. 325), it can be argued that an individual's online criminal behaviour and offline non-criminal behaviour in fact reflects two dimensions of that individual, each revealed within in a different situational context. Individual characteristics, however, will interact with online disinhibition and influence the level of behavioural change online.

In line with our expectations, the overlap between victimization and perpetration of financial cybercrime can be partially explained by (1) retaliation, (2) a low level of self-control and (3) a high level of online disinhibited behaviour. In general, our analyses revealed that victims, perpetrators and victim-perpetrators of financial cybercrime share similar characteristics: being male; above average internet use; a higher level of online disinhibition and self-disclosure; a lower level of self-control. Our analyses also revealed that the profile of victim-perpetrators is more in line with the profile of pure perpetrators than of pure victims. Limited research on victimization in the online environment found that sex does not consistently predict all forms of online victimization and perpetration (Bossler & Holt, 2010; Hinduja & Patchin, 2009). It is, therefore, important to note that the role of sex might vary across different online criminal and deviant behaviours. Finally, we found that a weaker bond with parents and a lower level of restrictive parental mediation are significantly associated with being a victim-perpetrator of financial cybercrime, but not with being a pure victim

or a pure perpetrator. The former is consistent with limited research on social bonds in relation to bully-victims (e.g., Ybarra & Mitchell, 2004a). Previous research on restrictive mediation in relation to cyberbullying is inconclusive (e.g., Mesch, 2009). Research indicates that a weaker bond with parents is associated with offline victimization and perpetration (Esbensen, Huizinga, & Menard, 1999; Junger-Tas et al., 2010). Our analysis cannot explain how a weaker bond with parents and a lower level of restrictive parental mediation is associated with being both a victim and a perpetrator and not with being a pure victim and a pure perpetrator.

Prior to discussing the implications of our study, it is important to consider a few study limitations. First, our data is cross-sectional which allowed us to identify relations between variables, but it did not allow us to investigate temporal sequence or causality. For example, a weaker bond with parents can lead to victimization and perpetration, but victimization and perpetration can also weaken existing bonds with parents. Second, the study employed a self-report questionnaire which infers the possibility of reporting bias to provide socially desirable responses. Third, the number of risk factors included in our study is limited. It is quite possible that factors that were not included in our analysis may be able to account for victimization, perpetration or both. Fourth, as this is the first study to examine the influence of online disinhibited behaviour on the victimization and perpetration of financial cybercrime, additional research is required to corroborate the findings. The limitations of this study necessitate further research on the victim-perpetrator overlap.

With regard to implications, our findings suggest that incorporating the victim-perpetrator overlap into theoretical and empirical research provides a more encompassing view of crime and deviance. Furthermore, it is important to combine state-dependent and individual heterogeneity explanations for victimization and perpetration, since it is likely that these explanations are interactional. For example, impulsivity, a sub-component of self-control, may explain retaliatory behaviour. Finally, there is a need to conceptualize the role of the online environment and its distinctive characteristics in criminological theory and research. This would not only contribute to explaining cybercrime and deviance, but it may also be valuable in explaining the relation between offline victimization and subsequent online perpetration. For example, online disinhibition may explain online retaliatory behaviour following offline victimization. To conclude, state-dependent and individual heterogeneity explanations supplemented by explanations funded in the dynamics of the online environment can explain why there is a change in victimization and perpetration over time.

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Appendix A: Question wording for psychometric scales

Concept	Number of items	Questions or statements	Response categories	α
Parental bond	4	– Can you get along with your father/mother? – Does your father/mother trust you? – Do you have fun with your father/mother when you do something together, for example, going to the movies or play a game? – How often does your family eat dinner together?	1 (*never*) to 5 (*always*)	0.71
Peer bond	6	– I have a lot of friends. – I am popular with my classmates. – I can get along well with others. – I am happy with my friends. – I talk to my friends whenever I have a problem. – In my opinion, my friends and I get along well with each other.	1 (*totally disagree*) to 5 (*totally agree*)	0.79
Online disinhibition	7	– It is easier for me to express myself on the Internet than in real life. – Sometimes I present myself on the Internet as if I am someone else. – It is easier for me to talk with friends on the Internet than in real life. – On the Internet, I talk about things I am anxious to talk about in real life – I often go online to forget my problems. – I am more myself on the Internet than in real life. – I dare to do more things on the Internet than in real life.	1 (*never*) to 5 (*always*)	0.85
Online self-disclosure	7	Respondents were first asked to think of someone with whom they regularly communicated on the Internet. Next, they were asked to indicate how much they disclosed to this person about the following seven topics: – my personal feelings; – the things I am worried about; – my secrets; – being in love; – sex; – moments in my life I am ashamed of; – moments in my life I feel guilty about.	1 (*I tell nothing about this*) to 5 (*I tell everything about this*)	0.91
Self-control	13	– I am not easily distracted. – I say things on the spur of the moment without thinking. – I buy the things I like without thinking. – I enjoy projects that I know will be difficult. – I like to do things just for the thrill of it. – I am often restless in the classroom. – I often get into trouble because of the things I do. – I cannot sit still for a longer period. – I enjoy doing dangerous things. – I often hassle with others. – I will try to get the things I want. – I only look out for myself. – I lose my temper pretty easily.	1 (*(almost) never*) to 3 (*often*)	0.74

Appendix B: Additional multinomial analyses with 3 different reference groups

TABLE 6.3a: Multinomial logistic regression for variables predicting the profiles of youth who are neither victim nor perpetrator (n=4,415), pure perpetrators (n=365) and both victim and perpetrator (n=497). Reference group is: pure victim (n=1,022)

	Neither victim nor perpetrator		pure perpetrator		victim-perpetrator	
Predictor	OR	95% CI	OR	95% CI	OR	95% CI
Demographic factors						
Female	**1,55** **	1,34-1,80	**0,45** **	0,34-0,60	**0,36** **	0,27-0,46
Age	**1,07** **	1,02-1,12	1,02	0,95-1,11	1,06	0,99-1,13
Social environment characteristics						
Bond with peers	1,05	0,92-1,21	1,21	0,96-1,52	1,21	0,99-1,49
Bond with parents/caregivers	0,94	0,82-1,08	0,87	0,70-1,09	**0,75** **	0,61-0,91
Bond with school	1,10	0,97-1,24	0,97	0,79-1,19	0,97	0,81-1,17
Technology-based factors						
Frequency of Internet use	**0,88** **	0,83-0,93	1,07	0,97-1,17	**1,19** **	1,09-1,29
Online disinhibition	**0,71** **	0,65-0,78	0,88	0,75-1,04	**1,31** **	1,15-1,51
Online disclosure	**0,82** **	0,75-0,89	1,10	0,96-1,25	1,04	0,92-1,17
Parental mediation						
Supervision	1,03	0,89-1,19	0,70 *	0,52-0,95	0,99	0,77-1,27
Restrictive mediation	1,09	0,93-1,28	0,88	0,66-1,16	0,77 *	0,60-0,99
Monitoring (afterwards)	0,91 *	0,84-0,98	0,95	0,82-1,09	0,97	0,85-1,10
Active mediation	1,08 *	1,01-1,16	0,91	0,80-1,03	1,01	0,89-1,13
Psychological factor						
Self-control	**1,42** **	1,10-1,84	**0,30** **	0,20-0,46	**0,34** **	0,23-0,50
χ^2 1087.13						
Nagelkerke R^2 0.21						

TABLE 6.3b: Multinomial logistic regression for variables predicting the profiles of youth who are neither victim nor perpetrator (n=4,415), pure victims (n=1,022) and both victim and perpetrator (n=497). Reference group is: pure perpetrator (n=365)

	neither victim nor perpetrator		pure victim		victim-perpetrator	
Predictor	OR	95% CI	OR	95% CI	OR	95% CI
Demographic characteristics						
Female	3,41 **	2,63-4,43	2,20 **	1,66-2,92	0,78	0,56-1,09
Age	1,05	0,97-1,12	0,98	0,90-1,06	1,03	0,95-1,13
Social environment characteristics						
Bond with peers	0,87	0,70-1,08	0,83	0,66-1,04	1,01	0,78-1,29
Bond with parents/caregivers	1,08	0,88-1,32	1,15	0,92-1,43	0,86	0,68-1,08
Bond with school	1,13	0,94-1,36	1,03	0,84-1,27	1,00	0,80-1,26
Technology-based factors						
Frequency of Internet use	0,83 **	0,76-0,90	0,94	0,85-1,03	1,11 *	1,00-1,23
Online disinhibition	0,81 **	0,69-0,93	1,13	0,96-1,33	1,49 **	1,25-1,77
Online disclosure	0,75 **	0,66-0,84	0,91	0,80-1,04	0,94	0,82-1,09
Parental mediation						
Supervision	1,46 **	1,10-1,94	1,42 *	1,05-1,92	1,41	1,00-1,98
Restrictive mediation	1,24	0,96-1,60	1,14	0,86-1,51	0,87	0,64-1,20
Monitoring (afterwards)	0,96	0,84-1,10	1,06	0,92-1,22	1,03	0,87-1,21
Active mediation	1,19 **	1,06-1,34	1,10	0,97-1,25	1,11	0,96-1,28
Psychological factor						
Self-control	4,70 **	3,20-6,92	3,31 **	2,17-5,06	1,13	0,71-1,79
χ^2 1087.13						
Nagelkerke R^2 0.21						

TABLE 6.3c: Multinomial logistic regression for variables predicting the profiles of youth who are neither victim nor perpetrator (n=4,415), pure victims (n=1,022) and pure perpetrators (n=365). Reference group is: both victim and perpetrator (n=497)

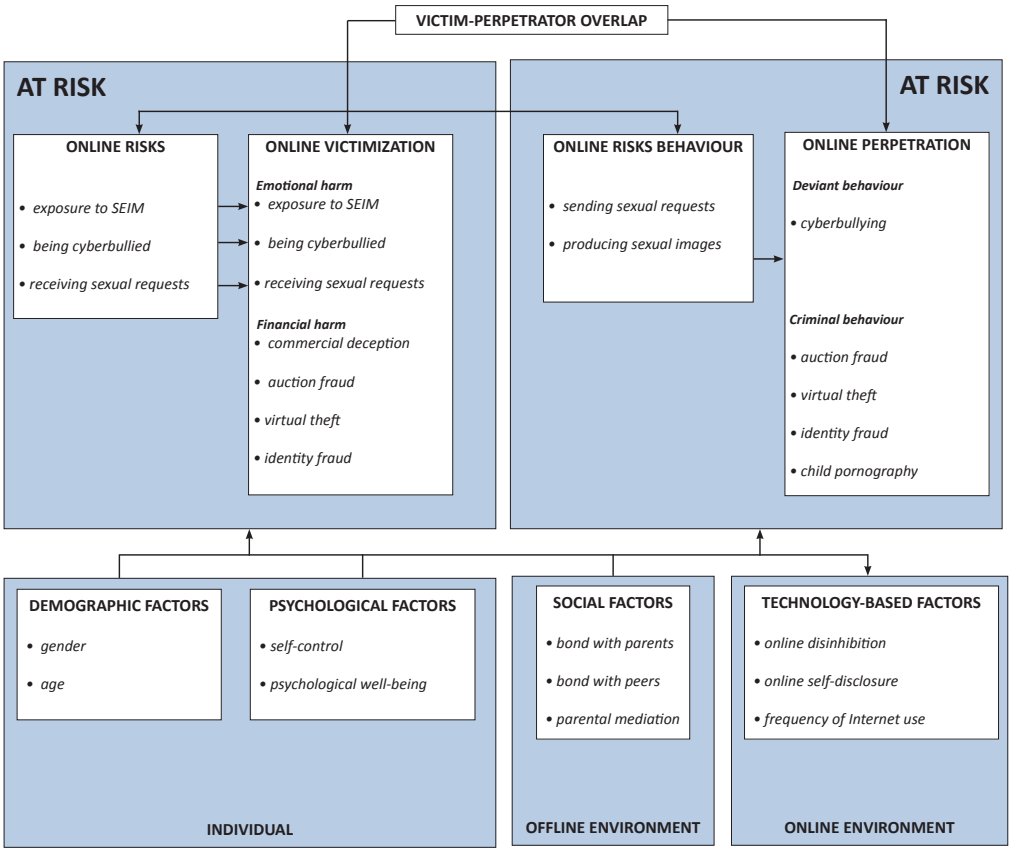
	neither victim nor perpetrator		pure victim		pure perpetrator	
Predictor	OR	95% CI	OR	95% CI	OR	95% CI
Demographic factors						
Female	4,36 **	3,42-5,57	2,81 **	2,16-3,67	1,28	0,92-1,79
Age	1,01	0,95-1,08	0,95	0,88-1,01	0,97	0,89-1,05
Social environment characteristics						
Bond with peers	0,87	0,72-1,04	0,82	0,67-1,01	0,99	0,77-1,28
Bond with parents/caregivers	1,26 **	1,06-1,49	1,34 **	1,10-1,63	1,17	0,92-1,47
Bond with school	1,13	0,95-1,33	1,03	0,85-1,24	1,00	0,80-1,25
Technology-based factors						
Frequency of Internet use	0,74 **	0,69-0,80	0,84 **	0,77-0,92	0,90 *	0,81-1,00
Online disinhibition	0,54 **	0,48-0,61	0,76 **	0,66-0,87	0,67 **	0,57-0,80
Online disclosure	0,79 **	0,71-0,88	0,97	0,86-1,09	1,06	0,92-1,22
Parental mediation						
Supervision	1,04	0,83-1,31	1,01	0,79-1,30	0,71	0,51-1,00
Restrictive mediation	1,42 **	1,13-1,79	1,30 *	1,01-1,68	1,14	0,83-1,57
Monitoring (afterwards)	0,94	0,83-1,05	1,03	0,91-1,17	0,97	0,83-1,15
Active mediation	1,08	0,97-1,20	0,99	0,89-1,12	0,90	0,78-1,04
Psychological factor						
Self-control	4,16 **	2,95-5,88	2,93 **	2,00-4,31	0,89	0,56-1,40
χ^2 1087.13						
Nagelkerke R^2 0.21						

7 SUMMARY AND DISCUSSION

Concerns about youth encountering online risks, youth engaging in online risky behaviours and youth involved in deviant or criminal online activities have become part of the discourse on youth and cybersafety, i.e., youth's safety on the Internet. The concerns can be traced back to the sociologically or psychologically based assumption that youth are in need of protection, either from others or from themselves (Coleman & Hagell, 2007; Jackson & Scott, 1999; Kelly, 2000, 2003; Sharland, 2006) and the assumed relation between media use and harmful effects (Wartella & Jennings, 2000). In sum, youth as a category are seen both as 'at risk' and 'a risk'. In this dissertation, being 'at risk' contained two elements: exposure to online risks and online victimization. Online risk can be defined as the 'heterogeneous set of intended and unintended experiences which increase the likelihood of harm to the Internet user' (Stakrud & Livingstone, 2009, p.4). Online victimization is a synonym for exposure to online risk and experiencing subsequent harm, a distinct negative outcome of exposure to risk (e.g., Livingstone, 2010). The distinction between risk and harm is important, since not all encounters with online risks result into harm and without evidence of harm resulting from online encounters; it is questionable to speak of risk (Livingstone, 2013, p. 18). This dissertation specifically investigated emotional harm as a result of exposure to online risks. Financial harm as a result of exposure to financial risks was not questioned separately; the underlying assumption was that exposure to these risks is intrinsic to financial harm. Being 'a risk' also contained two elements: online risk behaviour and online perpetration. Risk behaviour can be defined as behaviour that involves possible negative consequences (Boyer, 2006). Engaging in online risk behaviour might increase the likelihood of online victimization and online perpetration. In this dissertation, we limited online risk behaviour to sending online sexual requests and producing online sexual images. Online perpetration refers to engaging in behaviour that is generally considered deviant and to behaviour that is criminal according to law. Figure 7.1 presents the analytic framework for this dissertation. Despite the concerns about youth being 'at risk' and youth being 'a risk', empirical evidence has been scarce. Therefore, the aim of this dissertation was to provide a comprehensive picture of online risk and harm as a result of risk and, online risk behaviour, online deviant and criminal behaviour, thereby focusing on online sexual activities, cyberbullying and online financial risks. More specifically, this dissertation investigated (a) the prevalence of being 'at risk' among Dutch youth aged 10 to 18 years; (b) the prevalence of being 'a risk' among Dutch youth aged 10 to 18 years; (c) demographic, social, technology-based and psychological factors that shape the likelihood of being 'at risk'; (d) demographic, psychological,

social, and technology-based factors that shape the likelihood of being 'a risk'; (e) the overlap between online victimization and perpetration.

Figure 7.1: Youth being 'at risk' and being 'a risk' on the Internet – analytic framework



7.1 PREVALENCE OF YOUTH BEING AT RISK

Online risks

The dissertation showed that the prevalence of online risks for youth is substantial. Approximately three out of ten youth reported exposure to SEIM; being cyberbullied and receiving online sexual request is reported by one in four youth. More boys than girls are exposed to SEIM and more girls than boys are being cyberbullied; the prevalence of receiving online sexual requests is approximately equal for boys and girls. This finding is in line with the *EU Kids Online* survey in 25 European countries (Livingstone, Haddon, Görzig, & Ólafsson, 2011) and nationally representative studies from the United States, except for receiving online sexual requests. These studies found that more girls than

boys received sexual requests (Jones, Mitchell, & Finkelhor, 2012). The non-existing difference between boys and girls may be partly explained by the circumstance that our sample is Dutch. Studies have found that gender gaps in sexuality in liberal European countries, including the Netherlands, are narrowing. In the Netherlands, parents and youth consider sexuality as a normal part of youth's development, regardless of gender. In the United States, girls' sexuality and desire is discouraged (Schalet, 2000; 2004). Thus, receiving online sexual requests may be similar for Dutch boys and girls. The prevalence of online risks increases with age. The findings are in line with previous research, except for cyberbullying. The dominant view in the literature suggests a lack of association between age and being cyberbullied, but other studies have substantiated the relationship (Görzig & Frumkin, 2013). The mixed findings possibly result from the diverse range of age groups in samples (e.g., Livingstone & Smith, 2014). Analyses of the data suggest that the mixed findings may be attributed to a curvilinear relationship between age and being cyberbullied with a peak around mid-adolescence (13-15 years). The curvilinear relationship between age and being cyberbullied is congruent with findings in the traditional bullying literature, although the peak of traditional bullying usually occurs at a younger age (Tokunaga, 2010, p. 280).

Online risks as multidimensional constructs

Online risks are multidimensional constructs that encompass a variety of issues and behaviours: from pre-existing offline issues and behaviours extended to the online world to relatively new behaviours that originated with the advent of the Internet. To provide a more nuanced picture of online risks, this dissertation distinguished between intentional and unintentional exposure to SEIM, various types of cyberbullying and different kinds of sexual requests.

Unintentional exposure to SEIM, i.e., exposure without seeking or expecting this content, occurs more often than intentional exposure, i.e., deliberate searches for this content. This finding is in line with previous research (Bauwens, Pauwels, Lobet-Maris, Poullet, & Walrave, 2009; Flood, 2007; Livingstone, et al., 2011; Livingstone & Bober, 2004; Wolak, Mitchell, & Finkelhor, 2007). Boys reported more intentional exposure to SEIM than girls and girls substantially more often reported unintentional exposure. The latter is in contrast to previous research that has revealed that boys reported more intentional as well as unintentional exposure, although the difference found for boys and girls was less substantial (Bauwens, et al., 2009; Jones, et al., 2012). Intentional exposure to SEIM increases with age and unintentional exposure decreases with age. The former is consistent with youth's developmentally appropriate interest in sexuality which increases with age (Steinberg, 2008; Subrahmanyam & Šmahel, 2011) and in line with previous research on exposure to SEIM and offline pornography (Bauwens, et al., 2009; Brown & L'Engle, 2009; Wolak, et al., 2007). The latter is in contrast to previous research that has revealed that unintentional exposure increases with age

(Bauwens, et al., 2009; Cameron, Salazar, Bernhardt, Burgess-Whitman, Wingood, & DiClemente, 2005; Jones, et al., 2012). A possible explanation is that Dutch youth are in the group of most skilled European countries (Haddon, Livingstone, & the EU Kids Online Network, 2012) and that older Dutch youth have developed Internet specific skills and critical knowledge (Livingstone & Helsper, 2012), enabling them to avoid unintentional exposure to SEIM.

This dissertation investigated five types of cyberbullying: spreading cruel gossip, being called names or being threatened, being deliberately excluded, being sent upsetting messages and uploading upsetting images or videos. The online variants of traditional bullying, such as spreading cruel gossip online, occurred more often than types of bullying specifically limited to the online world. This finding is in line with previous research (Dehue, Bolman, & Völlink, 2008; Vandebosch & Van Cleemput, 2009). Significantly more girls than boys reported that someone had spread cruel gossip about them. In the literature, spreading gossip is categorized as a form of indirect bullying. Indirect bullying can be described as 'a noxious behaviour in which the target person is attacked not physically or directly through verbal intimidation, but in a circuitous way, through social manipulation' (Kaukiainen, Björkqvist, Lagerspretz, Österman, Salmivalli, Rotberg en Alblom, 1999, p. 83). Previous research on traditional bullying has indicated that girls tend to participate in more indirect forms of bullying (Carbone-Lopez, Esbensen, & Brick, 2010; Crick, & Grotpeter, 1995; Olweus, 1993; Owens, Shute, & Slee, 2000). According to Hinduja and Patchin (2008), cyberbullying involves more forms of indirect bullying and our finding that more girls than boys are being cyberbullied can be partly explained by the prevalence of spreading gossip among girls. The results on age differences in types of cyberbullying are mixed: being deliberately excluded decreased with age, spreading cruel gossip peaked around the ages 13-14, being called names or being threatened sharply increased around the ages 13-14, being send upsetting messages and uploading upsetting images or videos increased with age. The latter may be explained by the development of technological skills among older youth (e.g., Livingstone, et al., 2011). The findings suggest that distinguishing between various online bullying behaviours instead of treating cyberbullying as a single construct contributes to a better understanding of what actually happens online and to whom.

This dissertation investigated four types of online sexual requests: questions about sex, requests for sexual intercourse, questions about breasts and/or genitals and requests to undress in front of a webcam. Being asked questions about sex had the highest prevalence. It is likely that asking questions about sex can be placed in the broader context of youth's sexual development and the fundamental role of online communication (e.g., Subrahmanyam & Šmahel, 2011). Research has shown that youth, and particularly adolescents, use the Internet to discuss issues related to sexuality and require information about sex (Subrahmanyam, Greenfield, & Tynes, 2004; Suzuki & Calzo, 2004) and one out of three adolescents seemingly prefer online communication about sex over offline

communication (Schouten, Valkenburg, & Peter, 2007). Gender differences for types of online sexual requests were small, except for requests to undress in front of a webcam: girls received significantly more questions to undress. The prevalence of all types of online sexual requests increased with age.

Online victimization

Online victimization is conceptualized as having experienced harm as a result of an encounter with online risk. This dissertation investigated emotional harm as a result of exposure to SEIM, being cyberbullied and having received online sexual requests. Emotional harm was conceptualized as feeling bothered by the experience with online risks. This dissertation investigated four types of online financial victimization: commercial deception, auction fraud, virtual theft and identity fraud. Financial harm was not questioned separately.

Online victimization: emotional harm

Online risks often do not result into emotional harm: about one third of the youth who reported exposure to SEIM, being cyberbullied or having received online sexual requests reported emotional harm. Methodological differences aside, the findings are in line with limited research on the relation between online risks and self-reported harm (Livingstone et al., 2011; Ortega, Elipe, Mora-Merchan, Genta, Brighu, Guarini, et al., 2012b; Ybarra & Mitchell, 2008). Emotional harm was influenced by gender: girls reported significantly more often emotional harm as a result from exposure to SEIM – the difference between boys and girls was larger for unintentional exposure –, being cyberbullied and having received online sexual requests. As for types of cyberbullying, the gender difference was only significant for spreading cruel gossip and calling names or being threatened. Limited studies on emotional consequences of different types of cyberbullying suggest that the type of bullying influences the emotional response (Brighi, Melotti, Guarini, Ortega, Mora-Merchan, & Thompson, 2012; Gradinger, Stromeier, & Spiel, 2009; Juvonenen & Gross, 2008; Ortega, et al., 2012b). Emotional harm from exposure to SEIM and receiving online sexual requests decreases with age. A possible explanation is that older youth are more likely to use the Internet for sexual purposes and that they are more likely expose themselves to SEIM, while SEIM and online sexual requests may be developmentally inappropriate for youth who are younger and not sexually active (e.g., Bleakely, Hennesy, Fishbein, & Jordan, 2008; Lo & Wei, 2005; Thornburgh & Lin, 2002). The effect of age on emotional harm from being cyberbullied was less significant.

Online victimization: financial harm

Overall, the prevalence of online financial victimization – being a victim of commercial deception, auction fraud, virtual theft and identity fraud – was slightly higher than victimization (self-reported emotional harm) resulting from encounters with SEIM, cyberbullying, online sexual requests. Virtual theft victimization was the most prevalent; online auction fraud the least. Significantly more boys than girls reported online financial victimization, except for online identity fraud. No gender differences were found for identity fraud. As for age, the relationship between age and commercial deception victimization was curvilinear. A possible explanation may be that older youth are more capable to adequately use the advertising literacy they acquired (e.g., Livingstone & Helsper, 2006; Roozendaal, Lapierre, Van Reijmersdal, & Buijzen, 2011). No age effect was found for online auction fraud, virtual theft and online identity fraud.

Summary

Risks of SEIM, cyberbullying and receiving online sexual requests generally affected three in ten youth. Emotional harm from encounters with these online risks affected fewer than one in ten youth; the majority of youth indicated that they perceived encounters with online risks as neutral or pleasant. Whether or not encounters with online risks resulted in emotional harm was influenced by what actually happened online, for example, whether exposure to SEIM was intentional or unintentional. Online financial victimization generally affected one in ten youth. Online victimization was gendered: girls more often reported emotional harm and boys more often reported financial harm. To conclude, not all youth are 'at risk' online, not all encounters with online risks result into harm and online victimization is gendered.

7.2 PREVALENCE OF YOUTH BEING A RISK

Online risk behaviours

In this dissertation, we limited online risk behaviour to sending online sexual requests and producing online sexual images. Producing online sexual images is a relatively new phenomenon that emerged with the rise of mobile phones and webcams. Both behaviours are considered risk behaviours, since they increase the likelihood of being cyberbullied and being a (sexual) cyberbully, receiving unwanted online sexual requests, negative social consequences or criminal implications (e.g., Ringrose, Gill, Livingstone, & Harvey, 2012; Sacco, Argudin, Maguire, & Tallon, 2010; Ybarra, Espelage, & Mitchell, 2007). It is important to note that engagement in risk behaviour may not lead to negative consequences and may even be adaptive for youth's development (Jessor, 1992).

Sending online sexual requests

Sending online sexual requests is less common than receiving online sexual requests and sending is a practice confined to a relatively small group of youth. This finding is in line with previous research (Jones, et al., 2012; Livingstone, et al., 2011). Boys significantly more often sent online sexual requests than girls. This may indicate that traditional roles in sexualized interaction, i.e., males are supposed to be more active and females are supposed to be more passive in sexual exploration, can also be found online (e.g., Subrahmanyam, 2007). Sending online sexual requests significantly increases at the age of 15-16 years. Sending online sexual requests can be placed in the broader context of youth's sexual development and the fundamental role of online communication, just as receiving sexual requests. Research has shown that youth, and particularly adolescents, use the Internet to discuss issues related to sexuality and require information about sex (Subrahmanyam, Greenfield, & Tynes, 2004; Suzuki & Calzo, 2004) and one out of three adolescents seemingly prefer online communication about sex over offline communication (Schouten, Valkenburg, & Peter, 2007).

Producing online sexual images

A very small minority of youth produced online sexual images (less than five percent). Methodological differences aside, this finding seems in line with previous research (Lenhart, 2009; Livingstone & Görzig, 2012; Livingstone, et al., 2011). Percentages of producing online sexual images differed according to age: older youth produced more online sexual images than youth who are younger. This finding is in line with previous research (Lenhart, 2009; Livingstone et al., 2011; Mitchell, Finkelhor, Jones, & Wolak, 2012). The increase in producing online sexual images with age may be explained by developmental normal increase in sexual interest and subsequent sexual activity (Subrahmanyam & Šmahel, 2011). Boys produced more online sexual images than girls. The findings on gender differences in previous studies, however, are inconclusive. Some studies reported no gender differences (e.g., Lenhart, 2009), some studies that more boys than girls produce online sexual images (e.g., De Graaf, Meijer, Poelman, & Vanwesenbeeck, 2005) and a few studies reported that more girls than boys produce online sexual images (e.g., Mitchell, et al., 2012).

Online perpetration

In this dissertation, we limited online perpetration to being a perpetrator of cyberbullying, online auction fraud, virtual theft and identity fraud. Engaging in cyberbullying is considered to be deviant behaviour, although specific behaviours, for example sending threats or defamation, may be liable to punishment. Online auction fraud and identity fraud are digital forms of traditional crimes that have migrated to the online world and these crimes are usually referred to as cybercrimes. Virtual theft is a cybercrime that involves a specific aspect of computers or computer networks, namely virtuality

(Strikwerda, 2013). In the Netherlands, several minors were convicted of virtual theft and claims of virtual theft come before courts in an increasing number of jurisdictions (e.g., Rumbles, 2011).

Cyberbullying

A minority of youth engaged in cyberbullying behaviours and online variants of traditional bullying – predominantly spreading gossip – occur more frequently than forms of bullying that specifically require the use of online technology. It seems that the behaviour rather than the method of delivery is critical for cyberbullying perpetration (e.g., Bauman & Newman, 2013). Cyberbullying perpetration is considerably less common than perpetration of traditional bullying. This finding is in line with a recent meta-analysis on cyberbullying and traditional bullying by Modecki, Minchin, Harbaugh, Guerra, & Runions (2014). Boys are more often a perpetrator of traditional bullying than girls. No gender differences were found for cyberbullying perpetration. Previous research has consistently shown that perpetration of traditional bullying is gendered (e.g., Goldbaum, Craig, Pepler, Connolly, 2007; Hemphill, Kotevski, Tollit, Smith, Herrenkohl, Toumbourou, et al., 2012). Research on cyberbullying perpetration is inconsistent on gender differences. Some studies report no gender differences (e.g., Hinduja & Patchin, 2008), some report that boys are more often cyberbullying perpetrators (e.g., Wang, Iannotti, & Nansel, 2009), and some report more girl perpetration (e.g., Kowalski, Limber, & Agatston, 2008). These inconsistent findings may reflect differences in definition and methodology, for example, which types of cyberbullying are occurring. Research suggests that boys may be more likely to hack and girls may be more likely to spread gossip (Dehue, Bolman, & Völlink, 2008). Engaging in traditional bullying occurs more frequently at a younger age (12 years and younger) and decreases when youth get older. No significant age differences were found for cyberbullying. A possible explanation for the decrease of traditional bullying with age is that traditional bullying involves physical aggression and research indicates that physical aggression decreases with age (Björkqvist, Österman, & Kaukiainen, 1992). Previous research finding regarding age differences in cyberbullying perpetration diverge. Some studies reported no age differences (e.g., Hinduja & Patchin, 2009), other studies suggested that youth in lower secondary education were more often a perpetrator (Smith & Slonje, 2012) and other research found that youth in higher secondary education were more often a perpetrator (e.g., Ybarra & Mitchell, 2004). No clear conclusion can be drawn regarding cyberbullying perpetration and age differences.

Online auction fraud, virtual theft and identity fraud

A minority of youth was a perpetrator of cybercrime. Perpetration of virtual theft was the most prevalent and online auction fraud occurred the least. Significantly more boys than girls were a perpetrator of cybercrime. This finding is consistent with the vast literature on gender and

(cyber)crime (Kirwan & Power, 2012; Lauritsen, Heimer, & Linch, 2009; Steffensmeier & Allan, 2000). Perpetration of cybercrime increases with age. This finding seems in line with previous research. Although the relation between crime and age is complex and varies across categories of crimes (e.g., Fagan & Western, 2005), generally, the prevalence of perpetration peaks around 15 to 16 years and tends to diminish at a later age (Hirschi & Gottfredson, 1983; Loeber, Menting, Lynam, Moffitt, Southamer-Loeber, Stallings, et al., 2012). The age range of our sample was 10 to 18 years and; therefore, this dissertation cannot draw any conclusions about the age-crime curve, i.e., the assumption that crime perpetration is most prevalent during middle and late adolescence and then rapidly decreases in early adulthood (e.g. Hirsch & Gottfredson. 1983; Sweeten, Piquero, & Steinberg, 2013).

Summary

Online risk behaviour and online perpetration are confined to a relatively small group of youth. Producing online sexual images occurs the least. Online risk behaviour and online perpetration are gendered and increase with age, except for being a perpetrator of cyberbullying. The risks behaviours investigated in this dissertation are limited to two types of online sexual risk behaviour. Simply categorizing sending online sexual requests and producing online sexual images as risk behaviours may conceal whether these behaviours reflect the nature of developmentally normal youth practices. Therefore, identifying which characteristics are related to problematic online sexual interactions is a prerequisite to design more personalized tools for vulnerable youth.

7.3 CONTEXTUALIZING BEING AT RISK AND BEING A RISK

Being 'at risk' and being 'a risk' cannot be isolated from their context. For example, there is much concern over youth's safety when interacting with unknown others via the Internet since this might be prognostic for sexual victimization, while youth may believe that the Internet provides a safe environment for interaction with others and to explore their sexuality (e.g., Subrahmanyam, Šmahel, & Greenfield, 2006). In addition, research has shown that the alleged distinction between online and offline made by researchers is not as strict as presumed and that youth often perceive their online and offline interactions as a coherent experience (e.g., Reich, Subrahmanyam, & Espinoza, 2012). Research also indicates that online and offline risks are related (Subrahmanyam & Šmahel, 2011). Moreover, communicative roles – being a sender and a recipient – are often bi-directional, whether voluntarily or coercive. Focusing on one role while ignoring the other conceals the dialogic nature of online communication (e.g., Šmahel, Wright, & Cernikova, 2014). Finally, studies on crime and deviance have consistently shown that victims and perpetrators of deviant or criminal behaviour are not mutually exclusive categories (Jennings, Piquero, & Reingle, 2012). The relation between

victimization and perpetration is generally termed the victim-perpetrator overlap (Schreck & Stewart, 2011). To accurately understand online criminality and deviance, it is necessary to investigate the influence of victimization on perpetration on the Internet and vice versa. This dissertation investigated with whom youth interacted on the Internet, the interconnection between the online and offline world, the relation between communicative roles and, the relation between victimization and perpetration on the Internet.

Interaction, interconnection and communicative roles

Online sexual interaction predominantly occurred between same-aged or near-aged peers; approximately one in five youth did not know the gender or age of the sender of online sexual requests. Girls significantly more often received online sexual requests from unknown persons. Producing online sexual images almost exclusively occurs between peers of the opposite sex. As youth get older, they more often know the identity of the person with whom they engage in sexual online communication. Methodological differences aside, the findings are in line with previous research (Livingstone, et al., 2011; Mitchell, Wolak, & Finkelhor, 2007; Subrahmanyam & Šmahel, 2011; Šmahel, Wright, & Cernikova, 2014). Approximately half of the online sexual interactions occurred between youth and someone they were well acquainted with offline; about one third occurred between youth and someone solely known from the Internet. Producing online sexual images often occurred in the context of a romantic relationship. It is important to note that the designation 'knowing someone solely known from the Internet' does not say anything about the quality of the online relationship. Although online relations are often perceived as more shallow than offline relations, research suggests that when online friendships lasts over a year, their quality is comparable to offline friendships (Chan & Cheng, 2004). It is likely that the quality of online relationships is related to engaging in explicit sexual online interactions. Communicative roles in online sexual interaction are bi-directional: sending online sexual requests and producing online sexual images increases the likelihood of receiving online sexual requests. Interestingly, the context of online sexual interaction influences the likelihood of online victimization. Youth who interact with well-known peers and who send online sexual requests or produce online sexual images themselves are more likely to perceive online sexual interactions as common or pleasant. Conversely, youth who interact with unknown persons and persons solely known from the Internet are more likely to be victimized online: they more often report emotional harm and being cyberbullied. Previous research has indicated that receiving online sexual requests and producing online sexual images increases the likelihood of (sexualized) cyberbullying (Ringrose, et al., 2012; Seiler & Navarro, 2014). The findings indicate that the context of online sexual interaction plays an important role in explaining encounters with online sexual risk and engaging in online sexual risk behaviour, since these may be linked, and

online (sexual) victimization.

Overlap online victimization and perpetration

There is a considerable overlap in online victimization and perpetration: perpetrators of online auction fraud, virtual theft, identity fraud and cyberbullying are also victims. Perpetrators are also more likely to be a victim of more than one criminal or deviant online behaviours. This finding is consistent with previous research on the victim-perpetrator overlap in general and among youth specifically (Jennings, et al., 2012). Our findings also indicate that the victim-perpetrator overlap is not limited to cyberbullying (e.g., Hinduja & Patchin, 2009; Ybarra & Mitchell, 2004). Interestingly, being a perpetrator of traditional bullying and cyberbullying decreases the likelihood of emotional harm from being cyberbullied. A possible explanation is that retaliation is a general motivation for cyberbullying (e.g., Pandori, 2013; Saballa. Patchin, & Hinduja, 2013). It is likely that enforcing control over another through retaliatory behaviour decreases the impact of cyberbullying. The findings indicate while there is a distinction to be made between victims and perpetrators, this distinction should not be understood so as to imply dichotomization and that youth in the victim-perpetrator group may represent the most vulnerable group online.

7.4 FACTORS INFLUENCING BEING AT RISK AND BEING A RISK

Demographic factors

Gender differences in relation to being 'at risk' and being 'a risk' involved online victimization and online perpetration. Experiencing emotional harm from encounters with online risks was typically gendered: girls were more likely to experience emotional harm than boys. This finding is in line with previous research (Bauwens, et al., 2009; Jones, et al., 2012; Livingstone & Görzig, 2014; Livingstone, et al., 2011; Ortega, Elipe, Mora-Merchán, Genta, Brighi, Guarini, et al., 2012). As for SEIM, content analyses suggest that most mainstream pornography is intended for a male audience and focuses on men's desires and gratifications (Brosius, Weaver, & Staub, 1993; Gorman, Monk-Turner, Fish, 2010). This type of pornography can be referred to as 'male-targeted' (Van Oosten, Peter, & Boot, 2014). Although the Internet has increased the accessibility of 'female-targeted' pornography (Attwood, 2007), it is likely that youth are predominantly exposed to male-targeted SEIM (Löfgren-Mårtenson& Månsson, 2010). This type of SEIM is likely to be less appealing for girls – whether they are intentionally or unintentionally exposed to this material – and this could explain the negative impact of SEIM on girls. An alternative explanation is the double standard in relation to boys' and girls' sexual activity. Numerous studies on the sexual double standard have shown that generally girls' sexual

activity is often judged as negative (e.g., Crawford & Popp, 2003; Ringrose, Gill, Livingstone, Harvey, 2012; Tolman, 2002). The cultural norms concerning the acceptability of girls' and boys' sexuality imply that girls should experience less pleasure from pornography.

Research seems to indicate that there is drastic difference in the way boys and girls respond to peer-related online risks, i.e., cyberbullying and online sexual requests. As for cyberbullying, it is suggested that this may be related to the types of cyberbullying: girls place more importance on social contacts and; therefore, it is likely that the impact of online gossip or deliberate exclusion is more profound for girls (Nabuzoka, Rønning, & Handegård, 2009). An alternative explanation is the differential socialization by gender: boys may restrain emotional responses given that these are thought to be a female attribute (Ortega, Elipe, & Monks, 2012a, p. 149) and react indifferently or directly through physical actions.

As for being 'a risk', gender is related to cybercrime perpetration: being a boy increases the likelihood of being involved in online auction fraud, virtual theft and identity fraud. The literature consistently indicates that females are always less likely than males to commit criminal acts (e.g., Steffensmaier & Allen, 1996) and research suggests that this is also the case for cybercrime perpetration (Leukfeldt, Veenstra, Stol, 2013; United Nations Office on Drugs and Crime, 2013). Gender was not significantly related to cyberbullying perpetration. Previous studies on cyberbullying perpetration found inconsistent gender differences (Tokunaga, 2010). In so far as an overall picture can be described, girls can be as much involved in cyberbullying as boys, since cyberbullying is more verbal and indirect compared to offline bullying. Research on offline bullying has repeatedly documented that boys are more involved in physical and direct types of bullying and that girls are more likely to engage in indirect types of bullying (Crick & Grotpeter, 1995; Farrington, 1993).

Age differences in being 'at risk' and 'a risk' were limited. Encountering online risks and experiencing emotional harm is related to age, except for being cyberbullied. With increasing age, the likelihood of emotional harm from exposure to SEIM and from receiving online sexual requests decreases. These findings are in line with previous research (Bauwens, et al., 2009; Livingstone, et al., 2011; Mitchell, Jones, Finkelhor, & Wolak, 2014). Age does not influence emotional harm from being cyberbullied. This finding suggests that older youth are not less emotionally vulnerable than younger youth. Online risk behaviour is related to age. Older youth are more likely to send online sexual requests and produce online sexual images. It is largely acknowledged that (sexual) risk behaviour increases with age and that risk behaviour is typical for the period of adolescence (Boyer, 2006; Steinberg, 2008).

Psychological factors

This dissertation investigated two psychological factors, self-control and psychological well-being. A

low level of self-control refers to 'the tendency of people to pursue short-term interests without considering the long-term consequences of their acts' (Gottfredson & Hirschi, 1990, 177). The six different dimensions of self-control are: impulsivity, a preference for simple tasks, risk-seeking, physicality, self-centredness and, a bad temper (Grasmick, Tittle, Bursik, & Arneklev, 1993). Psychological well-being can be defined as 'people's positive evaluations of their lives' (Diener & Seligman, 2004, p. 1).

In this dissertation, self-control was one of the most significant predictors for being 'at risk' and being 'a risk'. Youth with lower levels of self-control were more likely to encounter online risks, to experience online financial victimization, to engage in online risk behaviour and, they were more likely to be a perpetrator of online deviant and criminal behaviour. This finding is in line with previous reseach (Bossler & Holt, 2010; Higgins, Jennings, Tewksbury, & Gibson, 2009; Holt, Bossler, & May, 2010; Pratt & Cullen, 2000; Vazsonyi, Machackova, Sevcikova, Smahel, & Cerna, 2012*J*. Interestingly, youth with lower levels of self-control were less likely to report emotional harm in relation to exposure to SEIM, being cyberbullied and having received online sexual requests. A possible explanation for the association of a lower level of self-control and reporting no emotional harm is that a low level of self-control is related to indifference towards reactions of the social environment, which falls within the dimension of self-centredness (Grasmick, et al., 1993). Previous research, for example, has indicated that self-centredness is specifically related to the use of SEIM (Buzzell, Foss, & Middleton, 2006). An alternative explanation, however, cannot be ruled out. The dimension of risk-seeking, for example, can co-act with impulsivity to result in spontaneous acts of retaliation after being cyberbullied and research suggests that problem-solving coping strategies are related to the emotional impact of encounters with (online) risks (e.g., Ortega, et al., 2012b). For some youth, retaliation might be a problem-solving coping strategy.

Youth with lower levels of psychological well-being were more likely to be victimized online, i.e., having encountered online risks and having reported subsequent emotional harm.[32] Psychological well-being was not related to online financial harm, online risk behaviour and online perpetration. The research on victimization and psychological well-being is scarce. The available literature indicates that the impact of victimization varies between different types of crimes (Hanson, Sawyer, Begle, & Hubel, 2010). For example, peer victimization can have severe consequences for youth's psychological well-being (e.g., Martin & Huebner, 2007) and victims of crimes against their person experience lower levels of psychological well-being than victims of property crimes (e.g.,

[32] Research indicatest that many of the concurrent correlates of victimization seem to be both antecedents and consequences of it, suggesting a vicious cycle by which children get trapped in the role of continued victimization (Card, 2003). The data used for this dissertation is cross-sectional; therefore, we cannot make conclusions about causality.

Denkers & Winkel, 1998). Research also found evidence of time dependence; for property crimes the impact on psychological well-being was short-term and for victimization of criminal or deviant behaviour the influence on psychological well-being persisted longer (Staubli, Killias, & Frey, 2014). The difference between the impact of peer-related online risks and the impact of online crime may explain why a lower level of psychological well-being is related to emotional harm and why psychological well-being is not related to financial harm. Regarding time dependency, it is also important to note that it is easier to reimburse financial loss than to compensate emotional harm. Interestingly, the finding that psychological well-being is not related to online risk behaviour is not in line with previous studies on (online) risk behaviour which indicate that youth who are less satisfied with their lives are more likely to engage in risk behaviours or, that engaging in risk behaviours may negatively affect psychological well-being (e.g., Livingstone & Helsper, 2007; Valois, Zullig, Huebner, Kammermann, & Drane, 2002). A possible explanation is that risk behaviour is also considered to be part of normal youth development (Baumrind, 1987) and necessary to experiment with, explore, develop and understand relationships and, to achieve autonomy (Irwin & Millstein, 1986; Siegel, Cousins, Rubovits, Parsons, Lavery, & Crowley, 1994). Furthermore, there is a shift in research that presents a more balanced view of the way in which technology intersects with sexuality in our contemporary society; sending online sexual requests and producing online sexual images is increasingly interpreted as an integral part of building and maintaining romantic and sexual relationships (e.g., Döring, 2014). This reveals the need to further reflect on what constitutes risk behaviour on the Internet and the need to discuss the demarcation between deviant and consensual online sexual requests and images (e.g., Wolak & Finkelhor, 2011).

Social factors

This dissertation investigated two social factors, the bond with parents and peers and, parental mediation. Theoretical perspectives on social bonding all emphasize that bonding is crucial for youth's development, either to facilitate a well-adjusted adaptation during the transition from youth to adulthood (Bowlby, 1979) or to help youth to control their attraction to illegal temptations (Hirschi, 1969). Specific bonds develop at different stages and as youth get older the importance and influence of peers increases considerably during adolescence (e.g., Steinberg & Silverberg, 1986). Most youth maintain the bond with parents during this period, while developing intimate (sexual) relationships with peers (Noller, Feeney, & Petersen, 2001) and striving for autonomy (Furman & Burhmester, 2001). This dissertation found no relation between the bonds investigated and online victimization, i.e., emotional and financial harm. Online risk behaviour - sending sexual requests and producing sexual images – and encounters with online sexual risks - intentional exposure to SEIM and receiving online sexual requests - were related to a weaker bond with parents and a stronger bond with peers.

Furthermore, youth who did not report negative experiences with cyberbullying tended to have a weaker bond with their parents. Sexual communication becomes normative for youth who are developmentally ready and the Internet provides unique opportunities for sexual experimentation and development (Subrahmanyam & Šmahel, 2011). Research, furthermore, has consistently indicated that youth predominantly communicate with peers (e.g., Livingstone, et al., 2011). Further research should reframe online sexual behaviours to normative youth behaviours, without minimizing dangerous online behaviours. This dissertation found that a weaker bond with parents increases the likelihood of online perpetration and being a victim-perpetrator. This finding is in line with previous research (e.g., Junger-Tas, Marshall, & Ribeaud, 2003; Walden & Beran, 2010). The relation between being a perpetrator of cyberbullying and a stronger bond with peers was significant, although the relation was not strong. A possible explanation is that peers may act as assistants of perpetrators or encourage their behaviour (e.g., Salmivalli, Lagerspretz, Björkqvist, Osterman, & Kaukiainen, 1996).

Although terminology varies, parental mediation generally refers to parental management of the relation between children and media (Livingstone & Helsper, 2008). Parents can apply various mediation strategies that potentially can protect their children from negative outcomes of media use. This dissertation investigated the four basic strategies of parental mediation: supervision (parent is present while using the Internet), restrictive mediation (parent sets rules), monitoring (parent checks records afterwards) and active mediation (parent communicates on Internet use and safety). Generally parental mediation was not related to being 'at risk' and being 'a risk', although this dissertation found that encounters with online risk and experiencing subsequent emotional harm were related to higher levels of active mediation, a strategy aimed at enhancing children's positive media use. Parental mediation generally not related to being ‘at risk’ and being ‘a risk’ might be related to parents not being really conscious about what their children do and encounter on the Internet (e.g., Dehue, et al. 2008). A possible explanation for the relation between active mediation and online victimization is that this strategy of parental mediation was imposed in reacting to youth experiencing harm in order to prevent further negative experiences (e.g., Duerager & Livingstone, 2012; Livingstone, et al., 2011).

Technology-based factors

This dissertation investigated three technology-based factors; online disinhibition, online self-disclosure and frequency of Internet use. A main finding of this dissertation is that online disinhibition is related to being 'at risk' and being 'a risk', i.e., online disinhibition is related to encountering online risks, online victimization, online risk behaviour and online perpetration. Online disinhibition refers to a lower level of behavioural inhibitions explained by aspects of the online environment (Joinson, 2007; Suler, 2004). Aspects of the online environment influencing online

behaviour are anonymity, which allows people to set aside certain aspects of their personality, reduced nonverbal cues and controllability of communication (Chui, 2014; Schouten, Valkenburg, & Peter, 2007). Online disinhibition is a relatively new theoretical perspective which tries to explain why some individuals may reveal intimate personal information online that they would not normally share with others and; similarly, why some individuals may act more cruel and deviant online during online interactions. The former is associated with online victimization; the latter with online perpetration. Research has suggested that youth may act differently online and feel distant from their online behaviour (Cassidy, Jackson, & Brown, 2009; Hinduja & Patchin, 2009; Whittle, Hamilton-Giachritsis, Beech, & Collings, 2013) and limited evidence has been found for the association between cyberbullying perpetration and higher levels of disinhibited online behaviour (Hinduja & Patchin, 2008; Smith, Mahdavi, Carvalho, Fisher, Russell, & Tippett, 2008; Udris, 2014).

This dissertation found a relation between online self-disclosure and perpetration of virtual theft and online self-disclosure and emotional harm from being cyberbullied. Self-disclosure can be defined as revealing intimate information about one's self (Derlega, Metts, Petronio, & Margulis, 1993). Research has indicated that online disinhibition positively influences online self-disclosure (Schouten, 2007).

This dissertation indicates that online disinhibition may partly explain why some youth are more 'at risk' and 'a risk' and that technology can affect youth's behaviour online with possible negative consequences. However, Suler (2004) distinguished two types of disinhibition; toxic disinhibition which involves cruel and deviant interactions and benign inhibition that promotes openness and kindness. Further research is needed to examine the differences between toxic and benign disinhibition and their influence on being 'at risk' and 'a risk' in specific online media environments, such as virtual worlds social media and commercial websites.

Interestingly, an increased level of Internet use is related to exposure to online risks and, less frequent Internet use is related to experiencing harm from exposure to online risks. The former is in line with previous research (Livingstone & Helsper, 2010). A possible explanation is that Internet experiences and digital literacy play a role in mediating between exposure to online risks and experiencing subsequent harm. Being 'a risk' on the Internet is related to frequency of Internet use: youth who use the Internet more frequently are more likely to engage in online risk behaviour and online perpetration. This dissertation did not investigate how the Internet was used. Future research should entangle the relation between various types of Internet use and types of online risk behaviour and online perpetration.

Summary

These findings indicate that several factors influence being 'at risk' and being 'a risk' on the Internet. Gender, online disinhibition and self-control were the most important factors. Given today's tendency

to reject any risk for youth (e.g., Gill, 2007), it is important to note, that while a lower level of self-control increases encounters with online risks, it does not increase emotional harm.

7.5 LIMITATIONS AND FUTURE RESEARCH

The present dissertation investigated youth being 'at risk' and youth being 'a risk' on the Internet cross-sectionally. Therefore, it is impossible to draw conclusions about causality and the development of being 'at risk' and being 'a risk' over time. However, this dissertation was the first to compare many different factors at the same time and may lay the groundwork for future longitudinal studies. Since the online environment is continuously changing (Hasebrink, 2014), longitudinal study designs should take into account how youth incorporate and repurpose technological developments and how these developments shape new practices and reproduce or disrupt traditional (offline) interactions.

This dissertation used self-report data which can be subject to biases including recall bias and social desirability bias (e.g., Peter & Valkenburg, 2011; Slater, 2004) and, for ethical reasons; it is difficult to precisely determine what youth mean by being bothered. However, research has indicated that self-reports improve as privacy and confidentiality are increased and confidential and anonymous surveys at school are considered more valid than telephone or personal interviews when parents may be present (e.g., Tourangeau & Yan, 2007; Turner, Ku, Lindberg, Pleck, & Sonenstein, 1998). The online questionnaire for this dissertation was filled in at school in classrooms redesigned to create privacy for each participant and answers could not be linked to identifying information of participants. Moreover, this dissertation adopted the perspective of youth as social actors in their own right, capable and competent to understand, negotiate with and act upon their environment and took a youth-centred approach by identifying youth's experiences and (inter)actions. Asking youth directly about their online experiences, furthermore, is necessary to uncover the likelihood of encountering online risks and the likelihood that risk encounters are experienced as harmful (e.g., Livingstone & Görzig, 2014).

This dissertation gave a comprehensive account of various factors influencing being 'at risk' and being 'a risk'. However, these factors explained only a part of the variance in being 'at risk' and being 'a risk' and; therefore, factors that were not included – for example, encountering offline risks, offline risk behaviour and offline perpetration/victimization – may also be of influence. It is unknown where being 'at risk' and being 'a risk' on the Internet is situated in the larger being 'at risk' and being 'a risk' context. Most youth do not treat the Internet as an ‘alternative world’, but simply as another place to act, meet and communicate (boyd, 2008) and the capacity to switch between offline and online social spheres has become an essential component of social competence. To enhance our understanding of youth 'at risk and 'a risk', it may be desirable for future research to also examine the

interaction between offline and online behaviours and their effects.

7.6 CONCLUDING REMARKS

The social position of youth is constructed by the combination of historically-based concepts of youth being 'at risk' – youth being vulnerable – and youth being 'a risk' – youth being a danger to others or themselves. Concerns about youth being 'at risk' and youth being 'a risk' have become part of the discourse on youth and cybersafety, i.e., youth's safety on the Internet. To support evidence-based policy making, this dissertation provided a comprehensive account of youth being 'at risk' and youth being 'a risk' on the Internet. On the one hand, this dissertation identified a small group of youth that may be especially vulnerable: youth who encounter online risks and experience subsequent victimization and youth who are both victims and perpetrators on the Internet. This group requires special attention, since they seem less likely to avoid or to deal with being 'at risk' and/or 'a risk' and this may be associated with the offline or online environment or with the interaction between these environments. On the other hand, the findings of this dissertation suggest that the emphasis in cybersafety policy for youth should lie on reducing online victimization rather than on reducing online risk and online risk behaviour. Being 'at risk' and being 'a risk' is predominantly associated with positive or neutral outcomes and not with emotional harm, although it should be noted that this dissertation did not investigate possible long-term negative consequences. Reducing online risk and online risk behaviour would also reduce positive outcomes or the opportunities afforded by the Internet. However, a prerequisite for a cybersafety policy focusing on reducing online victimization is a better understanding of youth's socio-technological environment, the operation of vulnerability and protective factors, while taking youth's experiences as a starting point.

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NEDERLANDSE SAMENVATTING

Voor jongeren is het gebruik van internet en online technologieën een integraal onderdeel van hun leven (Hasebrink, Livingstone, Haddon, & Ólafsson, 2009). Bezorgdheid over jongeren die online risico lopen en jongeren die online een risico vormen is onderdeel van het discours over jeugd en cybersafety, dat wil zeggen veiligheid op internet. Deze bezorgdheid hangt enerzijds samen met de veronderstelde kwetsbaarheid van jongeren (James, Jenks, & Prout, 1998) en anderzijds met het historische gegroeide beeld dat deze leeftijdscategorie geneigd is tot deviant en crimineel gedrag (Buckingham, 2008). Ondanks de zorgen die er bestaan, is wetenschappelijk onderzoek beperkt. De meeste studies onderzoeken bijvoorbeeld alleen of jongeren in aanraking komen met online risico's, maar gaan niet in op hoe jongeren de blootstelling aan online risico ervaren. Ook de wisselwerking tussen online daderschap en slachtofferschap is nog nauwelijks onderzocht. Het doel van dit proefschrift is om hier verandering in te brengen door een omvattend beeld te schetsen van jongeren die online risico lopen (*youth being at risk*) en jongeren die online een risico vormen (*youth being a risk*).

In dit proefschrift is gekeken naar (a) de prevalentie van online risico onder Nederlandse jongeren in de leeftijd 10-18 jaar, (b) de prevalentie van risicogedrag onder Nederlandse jongeren in de leeftijd 10-18 jaar, (c) demografische, psychologische, sociale en op technologie gebaseerde factoren die verband houden met risico en (d) de overlap tussen online slachtofferschap en online daderschap. De volgende risico's zijn onderzocht: seksueel expliciet internet materiaal, online seksuele verzoeken, online seksueel expliciete afbeeldingen (*sexting*), cyberpesten, commerciële misleiding, virtuele diefstal, online veilingfraude en identiteitsfraude.

Context en methode

De hoofdstukken van dit proefschrift zijn gebaseerd op de vierjarige cross-nationale studie *Jeugd & Cybersafety* (2009-2013), die is uitgevoerd in opdracht van het Ministerie van Onderwijs, Cultuur en Wetenschap. De data omvat 6.299 Nederlandse jongeren in de leeftijd van 10 tot 18 jaar. Respondenten werden geworven uit groep 7 en 8 van random geselecteerde basisscholen en van random geselecteerde scholen voor voortgezet onderwijs verspreid over Nederland. De dataverzameling vond plaats van medio januari tot medio april 2011. De online vragenlijst over seksuele onderwerpen is ontwikkeld in samenwerking met Rutgers, een kenniscentrum op het gebied van seksualiteit. In navolging van Livingstone (2010, 2013) is nagegaan welk deel van de jongeren is blootgesteld aan online risico's en welke jongeren dit als negatief hebben ervaren. Dit onderscheid is essentieel om inzicht te verkrijgen in welke factoren samenhangen met de kans op blootstelling aan online risico en welke samenhangen met de kans op een negatieve ervaring. De vergelijking van de kans op blootstelling met de kans op een negatieve ervaring geeft een genuanceerd beeld van de online ervaringen van jongeren.

Belangrijkste bevindingen

Hoofdstuk 2. In de eerste studie van dit proefschrift worden de ervaringen van 6.299 Nederlandse jongeren met achtereenvolgens cyberpesten, seksueel expliciet internet materiaal, online seksuele verzoeken, commerciële misleiding en online veilingfraude onderzocht. Daarnaast is gekeken naar welke factoren verband houden met de kans op online slachtofferschap, dat wil zeggen blootstelling aan een online risico en dit als negatief ervaren. De belangrijkste bevinding was dat online slachtoffers verschillen van jongeren die geen slachtoffer zijn met betrekking tot sekse, de mate van online disinhibitie en de mate van zelfcontrole. Meisjes, jongeren met een hogere mate van online disinhibitie en een lagere mate van zelfcontrole zijn significant vaker slachtoffer op Internet.

Hoofdstuk 3. Criminologen voeren momenteel een debat over de vraag of bestaande criminologische theorieën ook bruikbaar zijn voor de verklaring van cybercrime en deviant gedrag op internet of dat deze fenomenen nieuwe theoretische verklaringen vereisen. Het derde hoofdstuk heeft pesten als onderwerp. Dit is een vorm van deviant gedrag die zowel een offline als een online variant kent. Offline pesten wordt meestal aangeduid met de term 'traditioneel pesten'; voor online pesten is de term 'cyberpesten' gangbaar. Het doel van hoofdstuk 3 was te onderzoeken of de opkomst van internet heeft geleid tot het ontstaan van een nieuwe groep daders met specifiek kenmerken of dat cyberpesten in essentie hetzelfde is als traditioneel pesten, maar dan met nieuwe middelen. De studie liet zien dat de groep daders die zich uitsluitend bezighoudt met cyberpesten beduidend kleiner is dan de groep die zich uitsluitend bezig houdt met traditioneel pesten en dat online varianten van traditioneel pesten veel vaker voorkomen dan pestvormen die exclusief op internet mogelijk zijn. Daarnaast is er een kleine groep die dader is van zowel traditioneel pesten als van cyberpesten. Deze overlap suggereert dat het middel om te pesten minder van belang kan zijn dan het pesten zelf. De resultaten van de multinomiale logistische regressie analyses toonden aan dat daders van cyberpesten, in vergelijking met daders van traditioneel pesten en daders die zich bezighouden met beide vormen van pestgedrag, geen duidelijk onderscheiden profiel hebben. Onder meer een lage mate van zelfcontrole houdt verband met daderschap van pesten. Verder is er een verband gevonden tussen daderschap van cyberpesten en een hogere mate van online disinhibitie. Online disinhibitie hangt samen met specifieke kenmerken van de onlinewereld en deze kenmerken zijn dus van invloed op online gedrag. Vergeleken met jongeren die niet pesten, zijn daders van traditioneel pesten en cyberpesten significant vaker slachtoffer van beide vormen van pesten. De resultaten geven aan dat voor de verklaring van cyberpesten – en mogelijk ook voor online criminaliteit en deviant gedrag – rekening gehouden moet worden met de interactie tussen individuele kenmerken en specifieke kenmerken van de online omgeving en de interactie tussen de sociale offline en online omgeving.

Hoofdstuk 4. Het krijgen van online seksuele verzoeken wordt gezien als een risico voor jongeren (*being at risk*) en het produceren van online seksueel beeldmateriaal wordt beschouwd als risicogedrag (*being a risk*). Jongeren die online seksuele verzoeken krijgen, worden vaak afgeschilderd als slachtoffer; jongeren die online seksueel beeldmateriaal produceren, krijgen vaak de aanduiding 'dader'. Online seksuele interacties, waaronder het krijgen van seksuele verzoeken en het produceren van seksueel beeldmateriaal, kunnen echter ook gezien worden als een onderdeel van de seksuele ontwikkeling van jongeren. Experimenteren met seksualiteit hoort immers bij deze levensfase, ook op internet. Het is daarom belangrijk om een onderscheid te maken tussen online seksuele interacties die een normaal onderdeel zijn van de seksuele ontwikkeling en seksuele interacties die resulteren in

negatieve ervaringen of consequenties. In hoofdstuk 4 is de prevalentie van genoemde risico's onderzocht, evenals de negatieve ervaringen van jongeren èn hoe jongeren hun eigen gedrag evalueren. Daarnaast is de context waarin de gedragingen plaatsvonden onderzocht en is er gekeken naar factoren die verband houden met het krijgen van online seksuele verzoeken en het produceren van seksueel beeldmateriaal. Het krijgen van seksuele verzoeken komt relatief vaak voor; het produceren van online seksueel beeldmateriaal komt maar zelden voor. Een vierde van de ontvangers van een online seksueel verzoek heeft dit als vervelend ervaren; een derde van de jongeren die online seksueel beeldmateriaal heeft geproduceerd beoordeelde het gedrag achteraf als negatief, omdat het resulteerde in negatieve offline of online consequenties. Negatieve ervaringen en evaluaties kwamen significant vaker voor wanneer jongeren online contact hadden met relatief onbekenden en wanneer de motivatie voor online seksuele interactie ontbrak. Adolescenten, frequente internetters en jongeren die initiatief nemen bij online seksuele interacties kregen vaker online seksuele verzoeken en produceerden vaker online seksueel beeldmateriaal. Slachtofferschap van cyberpesten, een lagere mate van psychosociaal welzijn en een hogere mate van online disinhibitie hielden verband met negatieve ervaringen en negatieve evaluaties. De resultaten impliceren dat negatieve ervaringen en evaluaties van online seksuele interacties vooral worden beïnvloed door de offline en online context van deze interacties.

Hoofdstuk 5. Jongeren kunnen intentioneel – doelbewust – op zoek gaan naar seksueel expliciet internet materiaal of hier niet-intentioneel – toevallig – mee in aanraking komen. Dit geeft aanleiding tot bezorgdheid, omdat blootstelling aan dit materiaal mogelijk een negatieve invloed heeft op de seksuele en psychologische ontwikkeling van jongeren. In hoofdstuk 5 wordt de prevalentie van intentionele en niet-intentionele blootstelling aan seksueel expliciet internet materiaal onderzocht en de mate waarin beide vormen van blootstelling resulteren in een negatieve ervaring. Daarnaast wordt onderzocht welke factoren verband houden met blootstelling en welke factoren de kans op een negatieve ervaring vergroten. Uit de studie kwam naar voren dat een aanzienlijk deel van de jongeren is blootgesteld aan seksueel expliciet internet materiaal; niet-intentionele blootstelling kwam vaker voor dan intentionele blootstelling. Uit de multinomiale regressie analyse kwam naar voren dat intentionele en niet-intentionele blootstelling gerelateerd is aan dezelfde factoren, uitgezonderd sociaalpsychologisch welbevinden en mediaopvoeding-strategieën. Uit de regressie analyse kwam verder naar voren dat de kans op negatieve ervaringen groter is voor meisjes, jongere kinderen, niet-frequente internetters, jongeren met een lagere mate van online disinhibitie, jongeren met een hogere mate van zelfcontrole, een lagere mate van sociaalpsychologisch welbevinden en jongeren waarvan de ouders vaker mediaopvoeding-strategieën toepassen. De resultaten tonen aan dat risico lopen op internet (*being at risk*) niet automatisch leidt tot negatieve ervaringen. Dit onderstreept het belang van een genuanceerd beeld van online risico voor jongeren, opdat de aandacht vooral uitgaat naar jongeren die meer kans hebben op negatieve online ervaringen.

Hoofdstuk 6. Uit de wetenschappelijke literatuur is bekend dat er vaak sprake is van een overlap tussen daders en slachtoffers. Een dader loopt een verhoogd risico om zelf slachtoffer te worden en een slachtoffer heeft een grotere kans om zelf dader te worden. Dit verschijnsel wordt ook wel de slachtoffer-dader overlap genoemd. In verklaringen voor de slachtoffer-dader overlap staan twee benaderingen centraal: de '*state-dependency*-verklaring' en de '*heterogeneity*-verklaring'. De '*state-dependency*-verklaring' benadrukt dat het slachtofferschap zelf de kans op daderschap vergroot. Daderschap kan dan bijvoorbeeld gemotiveerd zijn door wraak. De '*heterogeneity*-verklaring' gaat uit van stabiele verschillen tussen individuen waardoor sommige individuen meer kans hebben om

slachtoffer en dader te worden dan andere individuen. Een lagere mate van zelfcontrole zou bijvoorbeeld de kans op dader- en slachtofferschap vergroten. Onderzoek naar de slachtoffer-dader overlap op internet heeft zich tot nu toe alleen gericht op cyberpesten. Het doel van het laatste hoofdstuk van dit proefschrift was om het onderzoek naar de slachtoffer-dader overlap op internet te verbreden naar online veilingfraude, virtuele diefstal en online identiteitsfraude. De slachtoffer-dader overlap voor alle drie de cybercrimes was aanzienlijk. Daderschap werd vaak gemotiveerd door wraakgevoelens en vergelding. Uit de multinomiale regressie analyse kwam naar voren dat een hogere mate van online disinhibitie en een lagere mate van zelfcontrole significant verband houden met dader- en slachtofferschap. De resultaten geven aan dat online daderschap en online slachtofferschap geen elkaar uitsluitende categorieën zijn. De resultaten geven verder aan dat in onderzoek naar de slachtoffer-dader overlap op internet rekening gehouden moet worden met de rol van online disinhibitie en de dynamiek van de online omgeving.

Conclusie

De studies in dit proefschrift leveren een belangrijke bijdrage aan ons begrip van jongeren die online risico lopen (youth being at risk) en jongeren die online een risico vormen (youth being a risk). Een belangrijke bevinding van dit proefschrift is dat negatieve ervaringen gerelateerd aan online risico zich beperken tot een relatief kleine groep jongeren en dat een kleine groep jongeren zich op internet bezig houdt met deviant of crimineel gedrag. Deze bevinding nuanceert de eerdere bezorgdheid over jongeren die online risico lopen en jongeren die online een risico vormen voor anderen. De groep jongeren die online negatieve ervaringen opdoet en jongeren die zowel dader als slachtoffer zijn op internet verdienen extra aandacht. Dit proefschrift laat zien dat de offline en de online omgeving en daarnaast de wisselwerking tussen offline en online omgeving van invloed is op deze kwetsbare groep. Door demografische (leeftijd, geslacht), psychologische (zelfcontrole, sociaalpsychologisch welbevinden), sociale (band met ouders, band met leeftijdgenoten, mediaopvoeding-strategieën) en op technologie gebaseerde factoren (online disinhibitie, online self-disclosure, frequentie internetgebruik) te identificeren, geeft dit proefschrift een genuanceerd beeld van welke jongeren online risico lopen, welke jongeren negatieve ervaringen opdoen, welke jongeren een risico vormen voor anderen en welke jongeren zowel dader als slachtoffer zijn op internet. De bevindingen van dit proefschrift impliceren dat beleid gericht op cybersafety de eigen ervaringen van jongeren als uitgangspunt dient te nemen. Daarnaast is inzicht in de sociaal-technologische omgeving van jongeren en de invloed van beschermende factoren en risicofactoren onmisbaar.

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No age group is more associated with risk than that of ‘youth’ and the advent of new media technologies especially elicits concerns on the additional risks for youth. The advent of the Internet has been no exception: in relation to Internet use, youth as a category are considered either as 'at risk' – being threatened and harmed by others – or as 'a risk' – being engaged in risky and criminal behaviours. Being 'at risk' on the Internet might result in harm and being 'a risk' might result in criminal behaviour, but whether it does and for how many it does, is still unknown. The distinction between risk and harm and, risk behaviour and criminal behaviour is important, since risk is also related to the opportunities afforded by the Internet and risk behaviour can be beneficial for youth's development. Protecting youth against all risk and preventing all risk behaviours might restrict youth's opportunities and negatively affect their development. Being 'at risk' and being 'a risk' on the Internet cannot be straightforwardly described: their context is crucial.

The aim of this dissertation is to provide a comprehensive picture of youth being 'at risk' and being 'a risk’ on the Internet, thereby focusing on sexually explicit Internet material, online sexual requests, sexually explicit images of oneself or peers, cyberbullying, commercial deception, virtual theft, online auction fraud and identity theft. More specifically, this dissertation investigates the prevalence of online risk, factors that shape the likelihood of being 'at risk' and being 'a risk' and, the overlap between online victimization and perpetration.

Joyce Kerstens (1965) studied Sociology at Radboud University Nijmegen. Currently, she is a researcher and project manager at the Cybersafety Research Group affiliated with the NHL University of Applied Sciences, the Police Academy and the Open University. Her research focuses on youth and online risks, digital evidence at crime scenes and, the government's role in maintaining law and order in cyberspace.

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