

3.4 Online Sexual Solicitation of Minors as a Specific Form of Sexual Online Grooming – Offender Data from an Adult Community-Based Sample

Anja Schulz¹ & Petya Schuhmann¹

¹Department of Forensic Psychiatry and Psychotherapy, University of Regensburg, Regensburg, Germany

Our knowledge on the prevalence of online sexual solicitation of minors and the characteristics of offenders is based on reports from youth surveys and interviews or case files of legally apprehended offenders. Yet these methodological approaches offer biased insight in the population of online solicitation offenders. Online survey studies may complement these approaches and allow an unprecedented estimate on how many adults engage in online sexual solicitation of minors. In an international online survey among 2,828 adult Internet users, 4.5% reported engaging in online sexual solicitation of adolescents (14 to 17 years) and 1.0% reported online sexual solicitation of children (13 or younger). Of the adults who reported soliciting minors online, 27.7% were identified as female and most were recruited from websites that focused on pedophilia-related content (55.4%). Participants reported equally high numbers of soliciting male and female minors. Sexual behaviors (sexual conversation, sending sexual pictures, receiving sexual pictures, webcam-based cybersex, offline sex) during the solicitation process were common for adolescent and child contacts. The findings imply the necessity to include female offenders and children as well as male minors as focus groups in prevention measures. Online surveys are discussed as valid instruments to investigate online sexual solicitation of minors.

Keywords: cybergrooming, online sexual solicitation, child sexual abuse, sexual offence behavior, online survey

Introduction

Children and adolescents are accessing the Internet on a regular basis, and the onset of Internet use is shifting to earlier ages (Feierabend et al., 2017; Rideout, 2013). In a representative German sample, a third of six- to seven-year olds report being online frequently (Feierabend et al., 2017). One of the most popular online activities is communicating with others (Feierabend et al., 2017). Online communication can serve to maintain existing relationships and to establish new contacts without being limited by personal or geographical boundaries (Chou & Peng, 2007; de Santis-teban & Gámez-Guadix, 2018; McKenna et al., 2002). In addition, the Internet can serve as an anxiety-free context to explore sexuality (Hill, 2011;

McKenna et al., 2001). On the other hand, children and adolescents as routine users of online communication represent an emerging group of potential targets for online sexual solicitation (Quayle et al., 2014), specifically because there is a lack of capable guardians online (Gallagher et al., 2006; Medaris & Girouard, 2002; Wortley & Smallbone, 2012). According to routine activity theory, crime is more likely to occur when suitable targets, absent guardians, and motivated offenders coincide (Cohen & Felson, 1979). Soliciting minors online for sexual purposes has therefore gained continuous interest in research and law enforcement in the past two decades.

Defining online sexual solicitation of minors

The sexualization of online contacts with minors can occur in diverse ways. This means that detecting and quantifying this phenomenon is difficult, as the conceptualizations vary between different empirical studies (Whittle et al., 2013). Two frequently used terms are online sexual solicitation (de Santisteban & Gámez-Guadix, 2018; Finkelhor et al., 2000; Wachs et al., 2012) and online grooming (Davidson et al., 2011; Montiel et al., 2016; Webster et al., 2012) to subsume sexual contacts with minors on the Internet.

Online sexual solicitation of minors has been defined as engaging “in sexual activities or sexual talk or give personal sexual information that were unwanted or, whether wanted or not, made by an adult” with a minor (Finkelhor et al., 2000, summary p. x). The concept has been renamed “unwanted sexual solicitation” in later publications (Wolak et al., 2006; Ybarra et al., 2007), and an age gap of five years between the victim and the adult has been added (Jones et al., 2012) to exclude consenting peer interactions (Jones et al., 2012).

Online grooming is defined as process to build a relationship between the minor and the adult in order to prepare the minor and their environment for sexual abuse (Wachs et al., 2012; Whittle et al., 2013). While proposed to be a linear progression including consecutive stages (O’Connell, 2003), linguistic analyses of chat logs between victims and offenders show a non-sequential process with concurring or cyclically recurring stages (Black et al., 2015; Lorenzo-Dus et al., 2016). Grooming is gradual and may include strategies such as manipulation and enticement to secure a child’s trust and compliance (Briggs et al., 2011; Gallagher et al., 2006; de Santisteban & Gámez-Guadix, 2017). Thus, online grooming as a lengthier

process could be distinguished from online sexual solicitation with different cognitive mechanisms and behavioral strategies among offenders (Wachs et al., 2012; Webster et al., 2012). The difference is reflected in an empirical study which shows that adolescent respondents report experiences of online solicitation (21.4%) significantly more frequently than experiences of online grooming (6.5%; Wachs et al., 2012).

How often does online sexual solicitation of minors occur?

The empirical prevalence estimates on online sexual solicitation are almost exclusively based on youth survey studies across different countries. These studies state prevalence rates from 7% to 25.2% of youth reporting experiences of online sexual solicitation (Chang et al., 2016; de Santisteban & Gámez-Guadix, 2018; Ferreira et al., 2011; Finkelhor et al., 2000; Jones et al., 2012; Livingstone et al., 2011; Montiel et al., 2016; Sklenarova et al., 2018; Wachs et al., 2012). As mentioned above, the numbers depend on the definition of online sexual solicitation in the respective study, specifically because many studies include any form of sexual interaction with peers (Chang et al., 2016; Ferreira et al., 2011; Finkelhor et al., 2000; Jones et al., 2012; Livingstone et al., 2011). As most peer interactions per se would not represent a legal concern, this approach has been criticized as overestimating the prevalence of online sexual solicitation of minors (Whittle et al., 2013). In addition, the age ranges of youth surveys vary considerable, for example, covering participants from nine to 17 (Livingstone et al., 2011) versus a single school grade (grade 10; Chang et al., 2016; Wachs et al., 2012).

It is important to note that the number of victims can only offer a one-sided insight into the prevalence of online sexual solicitation, as one adult perpetrator can cause multiple victims over a short period of time (Briggs et al., 2011; Webster et al., 2012). Moreover, an offender's characteristics are often not verifiable from the victims' perspective, unless webcam-based interaction or offline meetings took place (Lanning, 2001; Medaris & Girouard, 2002). Due to some offenders using misrepresentation during their online interaction with minors (Briggs et al., 2011; Quayle et al., 2012; Webster et al., 2012), this information may be biased.

On the other hand, some studies offer information on the number of adults who are convicted of committing online sexual solicitation based on crime records (Gallagher et al., 2006; Mitchell et al., 2005). These numbers

do not necessarily provide a representative estimate of the entire offender population: Most incidences of online sexual solicitation of minors are not reported to legal authorities or do not end in a conviction (Wolak et al., 2004). Moreover, many studies source their data from case files or offenders who were apprehended in a proactive investigation (Mitchell et al., 2005). These so-called sex stings (i.e., proactive law enforcement investigations with police posing as decoy victims who approach or interact with offenders) may only catch on to more aggressive or more unsophisticated offenders, rather than those who invest more time into grooming process (Briggs et al., 2011; Wolak et al., 2010). Hence, the information may not be readily transferable to all adults who engage in online sexual solicitation of minors.

In conclusion, empirical research on online sexual solicitation so far has provided a lot of insight, but the prevalence of adult offenders is still unclear. A community-based approach has been suggested as a promising approach to bridge the two research methods of youth surveys and samples with convicted offenders (Wolak et al., 2010). The Internet offers a research venue to recruit large samples and thereby include more individuals with specific characteristics that have a low base rate in the general population (Germine et al., 2012). Community-based online surveys have proven beneficial in surveys on sexuality in general (Harding & Peel, 2007) and in investigating illegal behaviors such as child pornography offenders (Ray et al., 2014).

MiKADO project: an online survey in an adult international sample

This chapter presents data from an online survey study (Schulz et al., 2015) that was part of the multicenter MiKADO project (acronym: Child sexual abuse – Etiology, Dark Field Offenders, Victims). MiKADO was funded by the German Federal Ministry of Family Affairs, Senior Citizens, Women and Youth (Osterheider et al., 2012). The online survey study was conducted at the University of Regensburg, Germany, and Abo Akademi, Turku, Finland, between 2012 and 2013. The major aims of this study were to assess the prevalence of adults who commit online sexual solicitation of minors (Schulz et al., 2015), their strategies (Bergen et al., 2015), and the association of the behavior with different psychopathological domains (Schulz et al., 2017).

The survey targeted adult Internet users in Germany, Sweden, and Finland. The sampling was conducted on websites offering social interaction in the three survey languages, German, Finnish, and Swedish. On 126 websites, the survey description was posted including a link leading to the survey website on a secure online server (<https://www.soscisurvey.de>). Participation was anonymous and the program did not store identifying information (i.e., IP address, referring browser).

The sample was a non-probability community sample of adult Internet users (Schulz et al., 2015). Of 7,733 survey accesses, a total of 2,828 participants (36.6%) were included. Excluded cases included less than the demographic items ($n = 4,074$; 52.7%) or did not respond to crucial items on online interaction ($n = 831$; 10.7%). The remaining participants were sampled in Germany ($n = 1,725$; 61.0%), Finland ($n = 991$; 35.0%), and Sweden ($n = 112$; 4.0%). Of these participants, 1,394 (49.3%) were male and 1,434 (50.7%) female. The age ranged from 18 to 80 ($M = 28.4$, $SD = 9.8$).

The online survey asked participants to report information about their demography, their online communication behavior, and various other variables (e.g., social anxiety, loneliness, and problematic Internet use; Schulz et al., 2017). Concerning demography, the survey contained single-item questions about age, sex, relationship, education, and employment status. Survey links, from where participants accessed the survey, assigned the country. The items on online sexual solicitation were constructed for this survey based on information of previous youth surveys and studies with adult offenders (compare Schulz et al., 2015).

Participants reported the sex (*female, male*) and age (adult: *18 or older*, adolescent: *14 to 17*, child: *13 or younger*) of their sexual online contacts in the past 12 months. If they were uncertain, participants were asked to respond according to “who you thought you were talking to”. The survey also asked the number of contact persons (*0, 1, 2–5, 6–10, 11–20, and more than 20*) and the duration of the online contact (*seconds, minutes to hours, days to weeks, and more than a month*) for each of the contact groups according to age and sex. Participants responded if they had communicated about sexual topics with any of these contacts. For the youngest contact group, they were asked if they sent sexual pictures of oneself or received sexual pictures of their online contact, engaged in cybersex, met offline, and/or engaged in sexual activities offline. Communication about sexual topics was defined as “making sexually insinuating or suggestive comments, sexual innuendo or flirting, conversing about sexual preferences, activities, pornography, or the like”. Participants were allocated to the online sexual

solicitation group if they reported any sexual online behavior with at least one adolescent or child contact.

Prevalence of adults who reported online sexual solicitation of minors in MiKADO

In the entire sample in the MiKADO study, 779 participants (27.5%) reported sexual online interaction with a contact they had not known offline beforehand within 12 months prior to the survey study. This includes 642 participants who reported sexual contact only with other adults, which accounts for 82.4% of those with sexual contacts online and 22.7% of the entire sample. In contrast, 137 participants reported online sexual solicitation of at least one minor, which pertains to 17.6% of those with sexual contacts online and 4.8% of the entire sample.

Compared to the prevalence of victims reported in youth surveys, the numbers of adult offenders in the present MiKADO study are relatively lower (Ferreira et al., 2011; Jones et al., 2012; Livingstone et al., 2011; Wachs et al., 2012). However, 40 participants (31.5%) reported contact with more than 20 different minors over the span of the year prior to the survey. This indicates that, despite relatively lower numbers of adult perpetrators, these individuals would have created a comparatively larger number of victims. This assumption coincides with reports from Webster and colleagues (2012) who report that a specific “hypersexual” subgroup of their offender sample quickly and aggressively approached dozens of youths within short periods of time. As discussed above, this is relevant as the number of victims in youth surveys can therefore not be representative of the number of offenders. Hence, the presented findings may not indicate a contradicting but rather complementary viewpoint for youth survey data.

Characteristics of adults who self-report online sexual solicitation of minors

The following sections report the characteristics of the 137 adults who self-reported having engaged in online sexual solicitation of minors. The participants were on average 25 years of age ($M = 25.4$, $SD = 7.8$). The majority of these participants were single (56.9%) and had an education of at least grade-12 level (69.8%). Just 14.2% reported being unemployed at the time of the study. The proportion of female participants who reported having

solicited a minor was 27.7%. Among participants with adolescent contacts, 30.6% self-identified as female. Among participants with child contacts, 17.2% identified as female. The majority were recruited on websites that focused on pedophilia-related content ($n = 76$; 55.4%). This included 49.1% of adolescents and 79.2% of contact with children.

Overall, participants who reported online sexual solicitation of minors were young and well educated. This finding concurs with previous studies on offender samples (Briggs et al., 2011; Seto et al., 2012). It is noteworthy that including adults as young as 18 and have them report solicitation of adolescents of age 14 to 17 may have caused the inclusion of offender-victim dyads that could be considered as peer interactions. However, there was a substantial proportion of female participants who reported online sexual solicitation of minors. These findings concur with reports based on youth surveys (Finkelhor et al., 2000) but does not correspond with studies that are based on convicted offenders or legal proceedings where the adult offenders were almost exclusively male (Briggs et al., 2011; Gallagher et al., 2006; Seto et al., 2012; Webster et al., 2012). It may be that female perpetrators are less likely reported to legal officials (Wijkman et al., 2010). Females are perceived as less likely to be an active agent in deviant sexual activities (Denov, 2001; Hayes & Baker, 2014). Consequently, victims may fear that their claims are not believed and therefore remain silent. Moreover, studies show that females who commit sexual offenses incur lower legal consequences than male offenders (Weinsheimer et al., 2017). Thus, they may be underrepresented in samples of convicted offenders. These findings indicate that awareness campaigns may need to be tailored to include female perpetrators as well.

It is noteworthy that most participants who reported soliciting minors were recruited from pedophilia-related websites. In contrast, the participants from pedophilia-related websites only accounted for a small subsample (13.2%) of the entire sample for this study. Hence, these individuals are disproportionally overrepresented in the group who engaged in online sexual solicitation of minors. Having accessed the survey from these websites indicates that these participants engaged with an online context addressing sexual interest in children. It is not adequate to assume all of these participants to have sexual interest in children or that none of the participants from other websites did. Yet, Holt and colleagues (2010) suggest that engaging with a specific Internet context can shape an individual's attitudes and behavior. This results from the fact that these websites provide technical skills and legal knowledge and strengthen offense-supportive cognition

(Cockbain et al., 2014). An offender-focused prevention strategy may be monitoring or restricting, at least for previously convicted individuals, access to such websites (Wortlay & Smallbone, 2012) as well as implementing rules of conduct to foster virtual guardianship (Palasinski, 2012).

Characteristics of minors who were solicited online based on self-report by adult perpetrators

Within the 137 participants who reported sexual solicitation of minors, 128 participants (4.5%) reported solicitation of at least one adolescent and 29 participants (1.0%) reported solicitation of at least one child. The majority reported online sexual interaction with more than one age group ($n = 110$; 80.2%). The most common reported combination was contacts with both adults and adolescents ($n = 85$; 62.5%), followed by contacts with all age groups ($n = 17$; 12.4%), contacts with adults and children ($n = 5$; 3.6%), and lastly with adolescents and children but no adults ($n = 3$; 2.1%). In contrast, 23 participants (16.7%) reported having talked exclusively with adolescents but not having sexual online contacts with other age groups. Four participants (2.9%) reported sexual online contacts only with children.

With regard to the sex of the minor who had been solicited, 90 participants (65.7%) reported online sexual solicitation of female minors and 72 participants (52.6%) reported online sexual solicitation of male minors. Hence, given the subsample of 137 adults who reported online solicitation of minors, a total of 18.2% interacted with minors of both sexes. Table 1 shows the number of adult participants who reported sexual contacts with male or female minors.

An important finding is the non-negligible number of adults who reported online sexual solicitation of children. In the past, youth surveys and studies of legal proceedings or offender samples identified mostly or exclusively adolescents as victims of online sexual solicitation (Briggs et al., 2011; Jones et al., 2012; Livingstone et al., 2011; Quayle et al., 2012; Webster et al., 2012). Cases with children below the age of 13 were reported as singularities (Briggs et al., 2011; Webster et al., 2012). In some respect, the present findings correspond to that, as most participants in the online sexual solicitation group reported interacting with adolescents and relatively fewer reported contact with children. This is also in line with studies that show that adolescents are the bigger user group of social sites routinely compared

Table 1: Sex of solicited minor as function of sex of the adult participant (N = 137)

	Total (N = 137) n (%)	Male adult (n = 99) n (%)	Female adult (n = 38) n (%)
Female adolescent contact	84 (65.6)	62 (62.6)	22 (57.9)
Male adolescent contact	67 (52.3)	41 (41.4)	26 (68.4)
Female child contact	17 (58.6)	13 (13.1)	4 (10.5)
Male child contact	16 (55.2)	14 (14.1)	2 (7.4)

to younger children (Livingstone et al., 2011) and are therefore more easily accessible targets. However, with routine Internet use shifting to younger users (Feierabend et al., 2017; Rideout, 2013) children may become more relevant as potential targets for motivated offenders. Hence, the presented results stress that adults who solicit children online should be considered in law enforcement and prevention procedures. In order to develop such appropriate procedures, it is also necessary to consider who the adults are that solicit adolescents and children online. Hence, it is important to have an insight in the characteristics of the offenders.

Reviewing previous empirical data from youth surveys (de Santisteban & Gámez-Guadix, 2018; Jones et al., 2012) and offender samples (Briggs et al., 2011; Webster et al., 2012), girls are more often targeted than boys. This is not reflected in the present data, as the adult participants similarly report soliciting female and male minors. One explanation may be that boys are less likely to report negative sexual experiences to parents and authorities (Wijkmann et al., 2010). This may result in fewer arrests and cause the disparity of the present results (and data from victim surveys) in comparison to studies with apprehended offender samples. Another explanation may be that offenders with male victims are more likely to use a friendship approach which may decrease the likelihood both of an offense being reported by the “befriended” youth or of an offender being detected in the more aggressive police sex stings (Grosskopf, 2010; Webster et al., 2012). On the other hand, some studies suggest that offenders against male minors rapidly introduce sex into the conversation (Kloess et al., 2017; van Gijn-Grosvenor & Lamb, 2016), and this immediate, “hypersexual” approach has been shown to cause a large number of victims simultaneously (Webster et al., 2012). Notwithstanding the cause of the disparities,

the findings of the presented study indicate it is important to facilitate disclosure of victimization by boys as well as girls.

Sexual behaviors associated with online sexual solicitation

Among the 137 participants who reported online sexual solicitation of at least one minor within the 12 months prior to the assessment, sexual conversation with a minor was the most common behavior they had engaged in with their contacts ($n = 134$; 97.8%). A total of 57 participants (41.6%) reported any other behavior than sexual conversation, which included sending sexual pictures to the minor, receiving sexual pictures from the minor, engaging in webcam-based cybersex, meeting offline, and engaging sex offline. This comprised 42 participants with adolescent contacts (38.9%) and 15 participants with child contacts (51.7%). Table 2 shows the frequency of sexual behaviors as reported by male and female adult participants in respect to their interactions with adolescent and child online contacts.

Table 2: Frequency of sexual behaviors associated with online sexual solicitation with adolescent and child online contacts as a function of participant sex

Sexual behavior	Total ($N = 137$)	Male adult participant		Female adult participant	
		Adolescent ($n = 91$)	Child ($n = 24$)	Adolescent ($n = 37$)	Child ($n = 5$)
Conversation	134 (97.8)	88 (96.7)	24 (100)	37 (100)	5 (100)
Send sexual picture	25 (39.7)	11 (23.9)	4 (8.7)	8 (47.1)	2 (11.8)
Receive sexual picture	38 (49.4)	19 (32.8)	10 (17.2)	7 (36.8)	2 (10.5)
Cybersex	29 (26.6)	14 (18.2)	6 (7.8)	10 (25.0)	1 (3.1)
Offline meeting	48 (40.0)	30 (34.5)	6 (6.9)	11 (33.3)	1 (3.0)
Offline sex	23 (53.5)	11 (36.6)	6 (100)	5 (45.5)	1 (100)

Notes. Most questions on sexual behaviors during the online interaction process were not obligatory; hence the number of participants who responded to these questions vary (sexual conversation: $N = 137$; sending and receiving sexual pictures: $N = 77$; cybersex: $N = 109$; meeting offline: $N = 120$; sex offline: $N = 48$, as this was filtered by saying yes to having met offline).

Online sexual conversation. As shown in Table 2, online sexual conversation with a minor was reported by 134 participants (97.8%). That indicates that three participants reported not engaging in sexual conversation with minors but there being still a sexual “outcome” of the online interaction (received sexual pictures from the youth: $n = 2$; engaged in sex offline: $n = 1$). All of these individuals were male participants who had reported their behavior with female adolescent contacts.

These data, although only referring to a small group, indicate that it is important to include nonsexual contact with minors as potential precursor to introducing explicit sexual topics. An interaction that superficially appears benign may serve to gain a minor’s trust to facilitate sexual contact and therefore serve as a grooming technique (O’Connell, 2003; Whittle et al., 2013). Detecting a sexual intent behind nonsexual interaction is difficult (Webster et al., 2012), although thorough linguistic analyses of chat language in adult-minor dyads may offer a first step (e.g., Kloess et al., 2017).

Online and offline sexual activities. As shown in Table 2, receiving sexual pictures from the minor was reported by 38 participants (49.4%). In contrast, sending sexual pictures of oneself to the minor was less common ($n = 25$; 39.7%). Engaging in cybersex via webcam was the least common online behavior reported by the participants ($n = 29$; 26.6%). Meeting offline was one of the most common behavioral outcomes of online sexual solicitation ($n = 48$; 40.0%). Of those who met offline, 23 reported engaging in offline sex with their minor contact (19.1% overall; 53.5% of those who reported an offline meeting). As shown in Table 2, all seven participants who met their child contact offline reported engaging with them in sexual activities ($n = 7$; 100%). Provided that the occurrence of sexual behaviors was similarly high in solicitation processes with adult contacts and with child contacts, these findings emphasize that, although representing a minority overall, adults who solicit children need to be considered.

Finally, considering the sex of the minor with whom participants had interacted, Table 3 provides an overview of sexual behaviors in respect to age and sex of the minor. Again, the findings show that participants reported engaging in sexual behaviors with female *and* male adolescents and children. As discussed above, there has been a lack of offender-related information concerning the solicitation of male victims because data based on interviews with offenders or case files of legal proceedings mostly focused on cases with female adolescent victims (Briggs et al., 2011; Seto

et al., 2012). The present findings suggest that online sexual solicitation of male and female minors is accompanied by similar sexual outcomes.

Table 3: Frequency of sexual behaviors associated with online sexual solicitation as a function of the sex of adolescent and child online contacts

Sexual behavior	Total (N = 131)	Adolescent contact		Child contact	
		Female (n = 65)	Male (n = 39)	Female (n = 14)	Male (n = 13)
Send sexual picture	25 (39.7)	10 (27.8)	9 (60.0)	4 (57.1)	2 (40.0)
Receive sexual picture	38 (49.4)	19 (44.2)	7 (43.8)	6 (85.7)	6 (54.5)
Cybersex	29 (26.6)	13 (24.1)	9 (31.0)	4 (33.3)	3 (23.1)
Offline meeting	48 (40.0)	31 (50.8)	10 (32.3)	4 (28.6)	3 (23.1)
Offline sex	23 (53.5)	9 (16.1)	7 (22.6)	4 (28.6)	3 (23.1)

Notes. The total size of this subgroup sample is smaller than 137 because the combination of sex and age category was not clearly identifiable for 6 participants.

Implications for practice and study limitations

To our knowledge, this study was the first to provide the prevalence and characteristics of adults who engage online sexual solicitation from a community-based approach. The therefrom-derived implications need to be considered with attention for the limitations. As an online survey, the study enables false responding. However, the anonymity of the Internet was shown to enhance truthfulness in responding (Suler, 2004). Participants could only assume who they were talking to unless a webcam interaction or a meeting took place. Although a reported adolescent contact may have actually been another adult, the participants’ pursuit of what they presumed an adolescent was taken as an important indicator of underlying motivation (Seto, 2010). The present data also focus on unknown contacts although some offenders may be familiar with their victims (Wolak et al., 2006). However, pursuing an offline abuse in an online context may represent a different offense mechanism. Hence, these individuals were excluded from the present study.

Overall, the findings of the MiKADO online sexual solicitation study reflect in some respect the data from online surveys, in that solicitation of male adolescents as well as solicitation perpetrated by female adults was

frequently reported. In other aspects, the findings complement data from offender interviews or legal case files which show a high occurrence of sexual behaviors during solicitation processes. One unprecedented aspect is the prevalence of children as targets of online sexual solicitation.

There are several implications for practice based on the present data. The findings of the presented study can inform prevention measures. Situational crime prevention suggests that worsening the cost-benefit ratio within specific situational settings can prevent individuals from committing a crime (Leclerc et al., 2011). This can be done by target hardening (Cockbain et al., 2011) and installing suitable guardians (Palasinski, 2012). Target hardening is a critical area of victim-focused prevention and can be addressed by awareness campaigns and trainings to build resilience among suitable targets of online sexual solicitation (Cockbain et al., 2011). Based on the presented results, these campaigns need to include younger and male children as well. The second important area is informing guardians to enable them to monitor and protect a potential target. This needs to include real guardians, such as parents, as well as the virtual guardians who come across risky interactions in the online environment (Palasinski, 2012; Transcrime, 2007). Again, the findings of this online survey suggest that interactions with female adults should not be dismissed as harmless and that awareness needs to be raised among guardians of younger children not to underestimate their behaviors online (Chou & Peng, 2007; Livingstone et al., 2011). Similarly, nonsexual conversations with adults on the Internet should be monitored by guardians.

In conclusion, the presented data report the number of adults who self-report soliciting adolescents and children from a community-based approach. These findings bridge reports from youth surveys and law enforcement information. Online survey methodology may be suitable to provide more information for the understanding of online sexual solicitation from an offender perspective in the future.

Note: A detailed report of these findings including group comparisons and statistical effect sizes can be found in Schulz, A., Bergen, E., Schuhmann, P., Hoyer, J., & Santtila, P. (2015). Online sexual solicitation of minors: How often and between whom does it occur? *Journal of Crime and Delinquency*, 53(2), 165–188. <https://doi.org/10.1177/0022427815599426>

Ethical approval

This study has been conducted in strict adherence to established ethical guidelines for scientific research. The ethical considerations and principles governing this research align with recognized standards and regulations to ensure the welfare and rights of all participants involved (informed consent, anonymity/ pseudonymity and confidentiality, voluntary participation, beneficence and non-maleficence, transparent communication).

References

- Bergen, E., Davidson, J., Schulz, A., Schuhmann, P., Johansson, A., Santtila, P., & Jern, P. (2014). The effects of using identity deception and suggesting secrecy on the outcomes of adult-adult and adult-child or -adolescent online sexual interactions. *Victims & Offenders*, 9(3), 276–298. <https://doi.org/10.1080/15564886.2013.873750>
- Black, P. J., Wollis, M., Woodworth, M., & Hancock, J. T. (2015). A linguistic analysis of grooming strategies of online child sex offenders: Implications for our understanding of predatory sexual behavior in an increasingly computer-mediated world. *Child Abuse & Neglect*, 44, 140–149. <https://doi.org/10.1016/j.chiabu.2014.12.004>
- Briggs, P., Simon, W. T., & Simonsen, S. (2011). An exploratory study of Internet-initiated sexual offenses and the chat room sex offender: Has the Internet enabled a new typology of sex offender? *Sexual Abuse: A Journal of Research and Treatment*, 23(1), 72–91. <https://doi.org/10.1177/1079063210384275>
- Chang, F.-C., Chiu, C.-H., Miao, N.-F., Chen, P.-H., Lee, C.-M., & Chiang, J.-T. (2016). Predictors of unwanted exposure to online pornography and online sexual solicitation of youth. *Journal of Health Psychology*, 21(6) 1107–1118. <https://doi.org/10.1177/1359105314546775>
- Chou, C., & Peng, H. (2007). Net-friends: Adolescents' attitudes and experiences vs. teachers' concerns. *Computers in Human Behavior*, 23(5), 2394–2413. <https://doi.org/10.1016/j.chb.2006.03.015>
- Cockbain, E., Brayley, H., & Laycock, G. (2011). Exploring internal child sex trafficking networks using social network analysis. *Policing*, 5(2), 144–157. <https://doi.org/10.1093/police/par025>
- Cohen, L. E., & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review*, 44(4), 588–608. <https://www.jstor.org/stable/2094589>
- Davidson, J., Grove-Hills, J., Bifulco, A., Petter, G., Caretti, V., Pham, T., & Webster, S. (2011). *Online Abuse: Literature Review and Policy Context*. European Commission Safer Internet Plus. <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.473.1618&rep=rep1&type=pdf>
- De Santisteban, P., & Gámez-Guadix, M. (2017). Persuasion strategies in online grooming of children: A qualitative analysis with sex offenders in prison. *Psychosocial Intervention*, 26(3), 139–146. <https://dx.doi.org/10.1016/j.psi.2017.02.001>

- De Santisteban, P., & Gámez-Guadix, M. (2018). Prevalence and risk factors among minors for online sexual solicitations and interactions with adults. *Journal of Sex Research*, 55(7), 939–950. <https://doi.org/10.1080/00224499.2017.1386763>
- Denov, M. S. (2001). A culture of denial: Exploring professional perspectives on female sex offending. *Canadian Journal of Criminology*, 43(3) 303–329.
- Feierabend, S., Plankenhorn, T., & Rathgeb, T. (2017). KIM-Studie 2016. *Kindheit, Internet, Medien*. Medienpädagogischer Forschungsverbund Südwest. https://www.mpfs.de/fileadmin/files/Studien/KIM/2016/KIM_2016_Web-PDF.pdf
- Ferreira, F. A., Martins, P. C., & Goncalves, R. A. (2011, June 12–16). *Online Sexual Grooming: A cross-cultural perspective on online child grooming victimization* [Poster Presentation]. 20th World Congress for Sexual Health, Glasgow, United Kingdom. http://repositorium.sdum.uminho.pt/bitstream/1822/16540/1/Online%20Sexual%20Grooming_a%20cross%20cultural%20perspective%20on%20online%20child%20grooming%20victimization.pdf
- Finkelhor, D., Mitchell, K. J., & Wolak, J. (2000). *Online victimization: A report on the nation's youth*. National Center for Missing & Exploited Children. <http://www.unh.edu/ccrc/pdf/jvq/CV38.pdf>
- Gallagher, B., Fraser, C., Christmann, K., & Hodgson, B. (2006). *International and Internet child sexual abuse and exploitation. Project Report*. Center for Applied Childhood Studies. <https://pure.hud.ac.uk/ws/files/6949373/1Gallagher2006.pdf>
- Germine, L., Nakayama, K., Duchaine, B. C., Chabris, C. F., Chatterjee, G., & Wilmer, J. B. (2012). Is the Web as good as the lab? Comparable performance from Web and lab in cognitive/perceptual experiments. *Psychonomic Bulletin & Review*, 19(5), 847–857. <https://doi.org/10.3758/s13423-012-0296-9>
- Harding, R., & Peel, E. (2007). VI. Surveying sexualities: Internet research with non-heterosexuals. *Feminism & Psychology*, 17(2), 277–285. <https://doi.org/10.1177/0959353507076563>
- Hayes, S., & Baker, B. (2014). Female Sex Offenders and Pariah Femininities: Rewriting the Sexual Scripts. *Journal of Criminology*, 2014, 1–9. <https://doi.org/10.1155/2014/414525>
- Hill, A. (2011). Sexualität in Zeiten des Internet. *Psychotherapeut*, 56(6), 475–484. <https://doi.org/10.1007/s00278-011-0866-8>
- Holt, T. J., Kristie, R. B., & Burkert, N. (2010). Considering the Pedophile Subculture Online. *Sexual Abuse: A Journal of Research and Treatment*, 33, 3–24
- Jones, L. M., Mitchell, K. J., & Finkelhor, D. (2012). Trends in youth Internet victimization: findings from three youth Internet safety surveys 2000–2010. *The Journal of Adolescent Health*, 50(2), 179–186. <https://doi.org/10.1016/j.jadohealth.2011.09.015>
- Kloess, J. A., Hamilton-Giachritsis, C. E., & Beech, A. R. (2017). A descriptive account of victims' behaviour and responses in sexually exploitative interactions with offenders. *Psychology, Crime & Law*, 23(7), 621–632. <https://doi.org/10.1080/1068316X.2017.129305>
- Lanning, K. V. (2001). *Child Molesters: A Behavioral Analysis*. Alexandria, VA.

- Leclerc, B., Wortley, R., & Smallbone, S. (2011). Getting into the script of adult child sex offenders and mapping out situational prevention measures. *Journal of Research in Crime and Delinquency*, 48(2), 209–237. <https://doi.org/10.1177/0022427810391540>
- Lorenzo-Dus, N., Izura, C., & Pérez-Tattam, R. (2016). Understanding grooming discourse in computer-mediated environments. *Discourse, Context & Media*, 12, 40–50. <https://doi.org/10.1016/j.dcm.2016.02.004>
- McKenna, K. Y., Green, A. S., & Gleason, M. E. (2002). Relationship formation on the Internet: What's the big attraction? *Journal of Social Issues*, 58(1), 9–31. <https://doi.org/10.1111/1540-4560.00246>
- McKenna, K. Y., Green, A. S., & Smith, P. K. (2001). Demarginalizing the sexual self. *The Journal of Sex Research*, 38(1), 302–311. <https://doi.org/10.1111/1540-4560.00246>
- Medaris, M., & Girouard, C. (2002). *Protecting children in cyberspace: The ICAC Task Force Program*. <https://www.ncjrs.gov/pdffiles1/ojdp/191213.pdf>
- Mitchell, K. J., Wolak, J., & Finkelhor, D. (2005). Police posing as juveniles online to catch sex offenders: Is it working? *Sexual Abuse: A Journal of Research and Treatment*, 17(3), 241–267. <https://doi.org/10.1007/s11194-005-5055-2>
- Montiel, I., Carbonell, E., & Pereda, N. (2016). Multiple online victimization of Spanish adolescents: Results from a community sample. *Child Abuse & Neglect*, 52, 123–134. <https://doi.org/10.1016/j.chiabu.2015.12.005>
- O'Connell, R. (2003). *A typology of child cybersexexploitation and online grooming practices*. Retrieved from http://www.jisc.ac.uk/uploaded_documents/lis_PaperJPrice.pdf
- Osterheider, M., Banse, R., Briken, P., Goldbeck, L., Hoyer, J., Santtila, P., Turner, D., & Eisenbarth, H. (2013). Frequency, etiological models and consequences of child and adolescent sexual abuse: Aims and goals of the German multi-site MiKADO project. *Sexual Offender Treatment*, 6(2), 1–7.
- Palasinski, M. (2012). Online security and cyberbystander relations in mobilizing sex abuse intervention. *Cyberpsychology, Behavior and Social Networking*, 15(10), 551–554. <https://doi.org/10.1089/cyber.2011.0641>
- Quayle, E., Allegro, S., Hutton, L., Sheath, M., & Löf, L. (2012). *Online behaviour related to child sexual abuse. Creating a private space in which to offend – Interviews with online child sex offenders*. Stockholm: Council of the Baltic Sea States.
- Quayle, E., Allegro, S., Hutton, L., Sheath, M., & Löf, L. (2014). Rapid skill acquisition and online sexual grooming of children. *Computers in Human Behaviour*, 39, 368–375. <https://doi.org/10.1016/j.chb.2014.07.005>
- Ray, J. V., Kimonis, E. R., & Seto, M. C. (2014). Correlates and moderators of child pornography consumption in a community sample. *Sexual Abuse: A Journal of Research and Treatment*, 26(6), 523–545. <https://doi.org/10.1177/1079063213502678>
- Rideout, V. (2013). *Zero to eight. Children's Media Use in America 2013*. Common Sense Media. <https://www.commonsensemedia.org/file/zero-to-eight-2013pdf-0/download>
- Schulz, A., Bergen, E., Schuhmann, P., & Hoyer, J. (2017). Social anxiety and loneliness in adults who solicit minors online. *Sexual Abuse: A Journal of Research and Treatment*, 29(7), 519–540. <https://doi.org/10.1177/1079063215612440>

- Schulz, A., Bergen, E., Schuhmann, P., Hoyer, J., & Santtila, P. (2015). Online sexual solicitation of minors: How often and between whom does it occur? *Journal of Crime and Delinquency*, 53(2), 165–188. <https://doi.org/10.1177/0022427815599426>.
- Seto, M. C. (2010). Child pornography use and Internet solicitation in the diagnosis of pedophilia. *Archives of Sexual Behavior*, 39(3), 591–593. <https://doi.org/10.1007/s10508-010-9603-6>
- Sklenarova, H., Schulz, A., Schuhmann, P., Osterheider, M., & Neutze, J. (2018). Online sexual solicitation by adults and peers – Results from a population based German sample. *Child Abuse & Neglect*, 76, 225–236. <https://doi.org/10.1016/j.chiabu.2017.11.005>
- Suler, J. (2004). The online disinhibition effect. *Cyberpsychology & Behavior*, 7(3), 321–326. <https://doi.org/10.1089/1094931041291295>
- Transcrime (2007). *Child pornography on the Internet: Evaluating preventive measures in order to improve their effectiveness in the EU member states*. http://www.transcrime.it/wp-content/uploads/2013/11/15_Child_Pornography_on_the_Internet1.pdf
- van Gijn-Grosvenor, E. L., & Lamb, M. E. (2016). Behavioural differences between online sexual groomers approaching boys and girls. *Journal of Child Sexual Abuse*, 25(5), 577–596. <https://doi.org/10.1080/10538712.2016.1189473>
- Wachs, S., Wolf, K. D., & Pan, C.-C. (2012). Cybergrooming: Risk factors, coping strategies and associations with cyberbullying. *Psicothema*, 24(4), 628–633.
- Webster, S., Davidson, J., Bifulco, A., Gottschalk, P., Caretti, V., Pham, T., Grove-Hills, J., Turley, C., Tompkins, C., Ciulla, S., Milazzo, V., Schimmeti, A., & Craparo, G. (2012). *EU Online Grooming Project_: Final Report*. European Commission Safer Internet Plus Programme. <http://www.europeanonlinegroomingproject.com>
- Weinsheimer, C. C., Woiwod, D. M., Coburn, P. I., Chong, K., & Connolly, D. A. (2017). The unusual suspects: Female versus male accused in child sexual abuse cases. *Child Abuse & Neglect*, 72, 446–455. <https://doi.org/10.1016/j.chiabu.2017.09.003>
- Whittle, H., Hamilton-Giachritsis, C., Beech, A., & Collings, G. (2013). A review of online grooming: Characteristics and concerns. *Aggression and Violent Behavior*, 18(1), 62–70. <https://doi.org/10.1016/j.avb.2012.09.003>
- Wijkman, M., Bijleveld, C., & Hendriks, J. (2010). Women don't do such things! Characteristics of female sex offenders and offender types. *Sexual Abuse: A Journal of Research and Treatment*, 22(2), 135–156. <https://doi.org/10.1177/1079063210363826>
- Wolak, J., Finkelhor, D., & Mitchell, K. (2004). Internet-initiated sex crimes against minors: Implications for prevention based on findings from a national study. *The Journal of Adolescent Health*, 35(5), 424.e11–20 <https://doi.org/10.1016/j.jadohealth.2004.05.006>
- Wolak, J., Finkelhor, D., Mitchell, K. J., & Ybarra, M. L. (2010). Online “predators” and their victims: Myths, realities, and implications for prevention and treatment. *Psychology of Violence*, 1(S), 13–35. <https://doi.org/10.1037/2152-0828.1.S.13>
- Wolak, J., Mitchell, K. J., & Finkelhor, D. (2006). *Online Victimization of Youth: Five Years Later*. National Center for Missing & Exploited Children. <http://www.unh.edu/ccrc/pdf/CV138.pdf>

- Wortley, R., & Smallbone, S. (2012). *Internet Child Pornography: Causes, Investigation, and Prevention*. Santa Barbara, CA: Praeger.
- Ybarra, M. L., Espelage, D. L., & Mitchell, K. J. (2007). The co-occurrence of Internet harassment and unwanted sexual solicitation victimization and perpetration: Associations with psychosocial indicators. *The Journal of Adolescent Health, 41*(6, Suppl 1), S31–41. <https://doi.org/10.1016/j.jadohealth.2007.09.010>