13 Digital sexual violence

Image-based sexual abuse among Danish youth

Sidsel Kirstine Harder, Kathrine Elmoose Jørgensen, Jonathan Priesholm Gårdshus and Jakob Demant

Introduction

Researchers, practitioners and policy-makers within the Nordic countries and elsewhere are currently addressing the non-consensual distribution of digital sexual images among young people. Studies have shown that previous campaigns against this new offence have created fear, rather than leading to 'safe sexting' as intended (Albury, Hasinoff & Senft, 2017; Powell & Henry, 2014). The field has a dire need for research on the characteristics of the young people who commit these crimes in order to better prevent image-based sexual abuse. In this chapter, we investigate such abuse by analysing its correlation with self-control and risk-oriented opportunities; the latter include variables that are relevant to establishing frameworks for prevention efforts.

To date, the emerging international body of research on the consensual digital sharing of sexual images has been focussed within the English-speaking world, with a majority of studies examining the risks of images being forwarded without the depicted person's consent. Powell and Henry (2016, 2017) have investigated the victimisation prevalence of technology-facilitated sexual violence and have stressed the importance of studying the prevalence of offending. With important exceptions, such as the work of Langlois and Slane (2017) and DeKeseredy and Schwartz (2016), few studies have looked into the causes and enablers of offending, and neither of these two studies sought to measure prevalence quantitatively (Henry & Powell, 2018). The lack of knowledge about what drives offenders could pathologise this group; it could also mean that practitioners risk missing out on important intervention points for the prevention of sexual violence in the digital sphere (Jørgensen, 2017).

Criminological researchers have underscored the importance of investigating levels of self-control among offenders of different forms of crime and have shown that poor self-control correlates with criminal behaviour (Grasmick, Tittle, Bursik & Arneklev, 1993; Reyns, Henson & Fisher, 2014). The aim of this paper is to investigate what characterises image-based sexual abuse offenders by examining the influence of self-control in conjunction with opportunities. We use quantitative survey data drawn from a Danish youth population to analyse some of the factors that predict the probability of sharing sexual images non-consensually. By

doing so, we seek a better sense of both the individual and social factors linked to committing this new form of crime.

Defining image-based sexual abuse

The digital sharing of sexual images is an emerging practice, and researchers are still defining and debating the concepts necessary for studying this new form of digital sexual behaviour (Barrense-Dias, Berchtold, Surís & Akre, 2017). Generally, ‘sexting’ refers to the *consensual* sharing of sexual images (or text messages) digitally; Drouin, Vogel, Surbey and Stills (2013, p. 25) define this practice as the ‘transmission of sexual material’ via phone or the Internet. But different scholars use different specifications of terms (Döring, 2014; Renfrow, Kucewicz, Mouradian & Schweigert, 2017; Walker & Sleath, 2017) regarding *consent* (to receive, send, distribute), *content* (nudity, or a lack of underwear or the wearing of intimate apparel), *form* (images, videos, text), *activity* (sharing, receiving, sending/posting, exchanging) and *media/sharing tools* (digital media/social network sites [SNS], phones, the Internet).

For the *non-consensual* sharing of sexual images, several unifying concepts for describing this new type of crime are consolidating presently. We use ‘image-based sexual abuse’ because the concept focusses concretely on the activity of *images* being shared without consent; this concept has recently become consolidated and is now among the most used concepts in the field (Maddocks, 2018).

McGlynn, Rackley and Houghton (2017, p. 28) developed the notion of image-based sexual abuse by drawing on Kelly’s (2013) development of a continuum for sexual violence. Kelly defines sexual violence as including

any physical, visual, verbal or sexual act that is experienced by the woman or girl, at the time or later, as a threat, invasion or assault, that has the effect of hurting her or degrading her and/or takes away her ability to control intimate contact.

(2013, p. 41).

Kelly expands the definition of sexual violence beyond the use of physical power and links different kinds of sexual violence to one another. By defining image-based sexual abuse as the ‘non-consensual creation and/or distribution of private sexual images’, McGlynn and colleagues (2017, p. 27) conceptualise a continuum of different kinds of sexual violence related to digital images while also linking such violence to other kinds of sexual violence. The term ‘abuse’ conveys harm to victims/survivors rather than evoking connections to child exploitation, as found in Henry and Powell’s closely related definition of ‘image-based sexual exploitation’ (Henry & Powell, 2015; Powell & Henry, 2017).

Henry and Powell’s definition (2018) is a sub-concept under the term ‘technology-facilitated violence’. They link their concept to the World Health Organization’s

(2012, p. 2) definition of sexual violence as encompassing ‘unwanted sexual comments or advances [...] against a person’s sexuality using coercion’. By sharing personal sexual images without consent, depicted people lose their ability to control for whom they appear in intimate circumstances. Previous research has shown that being exposed to image-based sexual abuse can lead to a range of harmful consequences, ranging from ‘trust issues, post-traumatic stress disorder (PTSD), anxiety, depression, suicidal thoughts, and several other health effects’ (Bates, 2017, p. 22); some of these other effects include negative coping mechanisms related to alcohol or drugs and victim blaming (Korenis & Billick, 2014; Walker & Sleath, 2017; Wolak & Finkelhor, 2011). We can compare these consequences to those of other forms of sexual violence, which further underlines the relevance of using the concept of image-based sexual abuse to place the non-consensual sharing of sexual images within this terminology.

The common purpose behind the numerous and synonymous concepts of image-based sexual abuse is to resist the popular term ‘revenge porn’. Maddocks (2018) argues that this renaming is itself an activist practice: by resisting the word ‘revenge’, one can counter victim blaming by pointing to the variety of motives behind the non-consensual sharing of digital sexual images (see also Bates, 2017). Those in the field resist the vocabulary of ‘pornography’ because the use of terms for legal sexual material risks legitimising non-consensual image sharing. Activists’ use of the term ‘digital rape’ instead problematises the online/offline distinction between types of sexual violence. While the use of the word ‘pornography’ risks equating different kinds of sexual activities, the use of the term ‘rape’ risks conflating image sharing with physical abuse. The intention is instead to link different abusive behaviors together as sexual violence; that linkage thus becomes another common denominator for the different concepts that currently designate non-consensual image sharing (Maddocks, 2018).

Previous research and scope of analysis

While non-consensual image sharing is illegal, researchers to date have primarily explored such sharing as a cultural and everyday phenomenon (e.g. Cooper, Quayle, Jonsson & Svedin, 2016; Handyside & Ringrose, 2017; Richards & Calvert, 2009; Ringrose, Harvey, Gill & Livingstone, 2013) rather than as a criminological research area. We address this research gap by drawing on criminological self-control theory combined with an opportunity perspective that includes the role of situational factors. We assume that engaging in certain practices – such as sending/receiving nude photos, having unprotected sex, and binge drinking – can lead to increased opportunities to commit image-based sexual abuse.

To investigate the influence of self-control on such abuse, we apply the classical framework within Gottfredson and Hirschi’s general theory of crime (1990). According to this theory, crime is motivated by self-interests. Those who have little self-control are thus more likely to commit crime because they

fail to consider what negative consequences their actions might have, as the attainment of personal gain overshadows any considerations of the possible juridical, social and personal consequences. In Gottfredson and Hirschi's understanding (1990), self-control is hence not simply related to deviant acts that lead to consequences in a juridical context. As Grasmick et al. (1993, p. 9) argue, 'Criminality, therefore, is subsumed under the personality trait [of] low self-control, but low self-control also predisposes people to engage in certain other kinds of irresponsible behaviors'.

Support for this approach to image-based sexual abuse may be found in a study of consensual sexting among college students conducted by Reyns and colleagues (2014), who argue that poor self-control is a predictor of consensual sexting, because people with poor self-control will be less likely to consider possible negative consequences. We extend their argument to imply that self-control is even more relevant to the criminal act of forwarding sexual images of others against their consent than to sexting images of oneself. People with little self-control may be more likely to sext, and their lack of self-control will also make them more likely to offend. We thus hypothesise that poor self-control will make the offense of image-based sexual abuse more likely to happen out of a need for instant gratification and personal interests and a lack of consideration of the negative consequences.

According to Gottfredson and Hirschi (1990), poor self-control is caused by specific early-childhood experiences, mainly within the context of the family, but Reyns and colleagues (2014) also stress integration with a more opportunity-oriented framework that goes back to the classic work of Cohen and Felson (1979). Drawing on victimisation research, Reyns and colleagues (2014, p. 279) state that poor 'self-control should directly influence participation in sexting, but [...] lifestyles and routine activities should mediate some of this effect'. They stress that not only someone's personal makeup, but also everyday risk routines, will make criminal behaviour more likely to occur. Inspired by Reyns and colleagues (2014), we draw on a more sociological definition of self-control that also takes into account those situational and social factors that can mediate the association between self-control and offending. Even when self-control is a stable trait, everyday lifestyles and routines are important supplements in explaining both consensual and non-consensual image sharing.

The situational and social factors incorporated into our study consist of two types of risk behaviours: online and offline. The first pertains to other sexting behaviours, namely the sending of consensual sexual imagery of oneself and the receiving of sexual images of others without their consent. The second form of risk behaviour includes offline risks pertaining to binge drinking and unsafe sexual activity. Previous studies have shown that (1) alcohol use is connected to sexual image sharing (Dake, Price, Maziarz & Ward, 2012), (2) offending is likely to happen during drunken situations and (3) offenders tend to get drunk more often than non-offenders (Klettke, Hallford & Mellor, 2014). These findings are especially interesting in the Danish cultural context, where alcohol has a central place in youth leisure activities (Demant & Østergaard, 2007).

Previous research has unanimously shown that being sexually active increases the probability of sexting and that unsafe sex and other types of sexual risk-taking are connected to sexting (Klettke et al., 2014), all of which leads to our hypothesis that sexual activity both online and offline will increase the probability of engaging in image-based sexual abuse. We thus assume that non-digital risk behaviours such as heavy alcohol consumption and sexual activity can likely increase the probability for image-based sexual abuse, as these are situations where sexual images can be produced and shared.

Hypotheses

Figure 13.1 schematically illustrates the relationships between self-control, opportunities and offending. As shown in the figure, we assume that self-control is linked to offending both independently and through opportunity variables, and that all variables are linked to age and gender.

We expect self-control to vary with demographic characteristics such as age and gender, as will the proportion of people who offend. Given the theoretical considerations on opportunities noted above, we also control for variables that measure drinking, consensual online/offline sexual activity and the non-consensual receipt of sexual images. Following Reyns and colleagues' (2014) model, we use *sexting consensually* and *receiving non-consensually* as two of our opportunity measures.

We expect people with poor self-control to more often be involved in activities that will give them opportunities to become offenders, which would result in a negative raw correlation between self-control and offending. In controlling for mediating opportunity variables, we ask whether self-control still has an influence even when people have been in opportune offending situations.

Empirical strategy

Our main research question asks about the influence of self-control, mediated by opportunities, on one's propensity to become an offender of image-based sexual abuse. We employ a logistic regression model in order to estimate the probabilities of sexting, given a score on the Brief Self-Control Scale, or BSCS

Figure 13.1 Model showing the relation between independent, dependent, background and mediating variables.

(Tangney, Baumeister & Boone, 2004), with standard errors clustered by institution. Regression estimates are presented in an odds ratio (OR). Figure 13.2 shows the predicted probabilities at selected values.

To assess the interplay of the relationship between self-control while controlling for demographic confounders and allowing for possibly mediating opportunity variables, we include control variables in two steps, as discussed by Aneshensel (2013). First, we estimate the relationship between self-control and offending, controlling for gender and age; second, we add the four opportunity variables to the model. The full model should provide an estimate of a direct effect of self-control independently of the other explanatory variables. A coefficient of self-control that changes between the two models would indicate mediation.

Data

Our data is drawn from a survey conducted and administrated by a partnership between several municipalities, research institutions and universities in Denmark (Dahl, Henze-Pedersen, Østergaard & Østergaard, 2018). In 2017, more than 60,000 young Danes responded to a survey on various health and social issues. The survey was collected by individual municipalities; since the process and selection varied between municipalities, properly investigating the representivity of the sample is impossible (Svendsen, 2018). Our sample consists of 61,289 Danes between the ages of 12 and 25, enrolled in either lower secondary school or secondary school,¹ who responded to every item used in the regression. Of the whole sample, the proportion who did not respond to the question about the non-consensual sharing of sexual images varied only slightly between educational status, with the lowest being 4.3% in common upper secondary schools and the highest being 5.9% among technical upper secondary schools. Of those aged 14 (the most frequent age in our sample), 51.3% were male. While this percentage was not significantly different from the 51.4% of all Danes aged 14 who are male, there were most likely numerous non-responses, which may have caused unaccounted-for bias.

Primary variables

Table 13.1 lists the range, average and standard deviations (SDs) of the variables included in our analysis.

The *dependent variable* measures image-based sexual abuse by asking whether the respondent had ‘shared a sexual image/video of *others* within the last 12 months, e.g. in their underwear or nude, without their consent’ (emphasis by italics and underlining in the questionnaire). Response options were ‘yes’, ‘no’, and ‘don’t know’. In our sample, 3.4% of the respondents were image-based sexual abuse offenders.

The primary *independent variable* is a psychometric scale that measures self-control. In our survey, self-control was measured by the BSCS (Tangney et al.,

Table 13.1 Summary statistics of all variables included in the models.

	<i>Count</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>SD</i>
Shared image of others without their consent (offender)	61,289	0	1	0.03	0.18
Self-control	61,289	-2.11	1.26	0.00	0.50
Male	61,289	0	1	0.47	0.50
Age	61,289	12	25	15.74	2.19
Safe sex	61,289	0	1	0.28	0.45
Unsafe sex	61,289	0	1	0.05	0.23
Shared image of one self (sexter)	61,289	0	1	0.13	0.33
Drunk 3+ times	61,289	0	1	0.09	0.28
Received image	61,289	0	1	0.14	0.35

2004). We use a reduced version of the scale with 13 items, an example of which is ‘Sometimes I take a risk, because it’s fun’. All items were answered on the same four-point Likert-type scale of ‘completely agree’, ‘slightly agree’, ‘slightly disagree’, and ‘completely disagree’. In our measurement, we used Gelman’s scaling for regressions, where the standardised measure is divided by two SDs (instead of the usual one) in order to make the coefficients’ directly comparable to untransformed binary predictors’ (2008, p. 2865) such as gender. The comparability only applies to binary variables with a mean of around 0.5 and thus does not apply to our opportunity variables, which are very skewed (Gelman, 2008). The scaling means that a one-unit change (e.g. from 0 to 1) of two SDs is approximately equivalent to answering each of the 13 questions that measure self-control by one step either higher or lower (e.g. from ‘slightly agree’ to ‘slightly disagree’). Our measure is approximately normally distributed and includes very few respondents with either extremely high or extremely low self-control values.

Background and opportunity variables

Our model controls for the influences of sex and age. Age and gender were self-reported, and the sample consists of 47.3% boys and men. While the age ranges from 12 to 25, most respondents were between 13 and 19 years old, with an average of 15.7 years ($SD = 2.2$). Slightly over half (51%) of our respondents were in elementary school.

Often binge drinking

The respondents were asked: ‘Think about the past 30 days. How many times have you been drunk from drinking alcohol? E.g. had difficulties walking

straight, not been able to talk clearly, vomited, or had difficulties remembering what went on?’ They were given six response options, ranging from none to more than ten times. To measure binge drinkers, we chose those respondents who reported to have been drunk three or more times during the past month, which encompasses 9% of the sample.

Sexual activity

The respondents were asked if they ‘had ever had intercourse’, with response options of ‘yes’ and ‘no’. The 44% who had had sexual experiences were asked which kind of contraception (if any) they had used during their most recent intercourse, with the following response options:

- ‘no contraception’, ‘safe periods’, or ‘interrupted intercourse’ (these three options were coded as ‘unsafe sex’ and included 5% of the population);
- ‘condoms’ or ‘birth-control pills’ (these two options were coded as ‘safe sex’ and included 28% of the population); or
- ‘other’ (not included).

We hypothesise that being sexually active – in particular having unsafe sex during the most recent intercourse – will increase the risk of committing image-based sexual abuse.

Sexting

The respondents were asked, ‘Within the last 12 months, have you shared a sexual image/video of *yourself*, for example in your underwear or nude?’ (emphasis in the questionnaire). The response options were ‘yes’, ‘no’ and ‘don’t know’. The 12.5% of both genders who answered ‘yes’ were coded as sexters.

Receiving digital sexual images

The respondents were asked, ‘Within the last 12 months, have you received a sexual image/video of someone else, for example nude or only wearing underwear, where the other person did not give his or her permission?’ The response options were ‘yes’, ‘no’ and ‘don’t know’; 14% answered that they had received images without the consent of the pictured person.

Results

Descriptive results

We found significant differences between offenders and non-offenders for both self-control and every situational variable. Among binge-drinking respondents,

10% were offenders of image-based sexual abuse, which was significantly more than the figure of 3% among those who did not binge drink often. At the same time, the binge drinkers had significantly poorer average self-control (-0.23 compared with 0.02). The differences in distributions for offending and self-control for those who had had unsafe sex were very similar to the patterns for binge drinkers, which indicates that the offenders were characterised by different offline sexual and social activities as well as lower levels of self-control compared to the rest of the population.

These differences were even more striking when we move from offline behaviours to looking at offenders' digital sexual activities. Among people who had sexted, 14% had also committed image-based sexual abuse, compared to 2% of those who did not sext. Sexters also had poorer self-control (-0.17 compared with 0.02). The difference was even more significant for receiving non-consensual images, which was highly correlated with offending through image-based sexual abuse: of those who received images, almost one-fifth had also offended, whereas only 1% of the youth who did not receive images non-consensually had offended. Image receivers also had poorer self-control (-0.23 compared with 0.04). The descriptive analysis of our sample of the Danish youth population agrees with previous findings on self-control from sexting research.

Before turning to estimating models, we will first present a descriptive overview of the relationships between all the variables we included in the analysis. Table 13.2 below presents the pairwise correlations of the variables in a correlation matrix; as the table shows, most of the pairwise correlation coefficients range between 0.10 and 0.25 (in absolute values). The strongest correlations are between age and safe sex and between receiving images and sharing images without consent. For gender, all correlations with opportunity variables are less than 0.10; other very weak correlations are safe sex, with both offending and self-control. The correlation between offending and self-control is

Table 13.2 Pairwise correlation coefficients of all the variables included in the study.

	1	2	3	4	5	6	7	8	9
1. Offender	-								
2. Self-control	-0.16	-							
3. Male	0.11	-0.18	-						
4. Age	0.03	0.04	-0.01	-					
5. Safe sex	0.05	-0.05	-0.05	0.49	-				
6. Unsafe sex	0.12	-0.11	0.08	0.22	-0.15	-			
7. Sexter	0.23	-0.13	-0.00	0.16	0.27	0.13	-		
8. Drunk 3+ times	0.12	-0.14	0.03	0.20	0.22	0.14	0.13	-	
9. Received image	0.34	-0.19	0.07	0.05	0.12	0.11	0.23	0.13	-

–0.16. When we move on to the multiple regression analysis, we will primarily focus on the relationship of these two variables while controlling for the correlations of the others.

Regression models

Table 13.3 presents estimates of the two models. Our key finding is that offending covaries negatively with self-control, and although some of the effect is mediated by opportunity variables, self-control also has an effect independently of these variables.

We now look at the coefficients and influences of the other explanatory variables in the model. Model 1 shows that the effect of self-control is smaller than the effect of gender, as the odds of offending are almost three times higher for men than for women. Our findings show that male respondents on average are more likely to become offenders, which is also true when controlling for the gendered differences in self-control, drinking behaviour and online/offline sexual activity in model 2.

Age is highly significant when modelled without opportunity variables, so although the OR is low, the probability of committing image-based sexual

Table 13.3 Regression table presenting estimates in odds ratios for the two models. Standard errors are clustered by institution

	<i>(Model 1)</i>		<i>(Model 2)</i>	
	<i>Shared sexual images non-consensually</i>		<i>Shared sexual images non-consensually</i>	
	<i>OR</i>	<i>CI 95%</i>	<i>OR</i>	<i>CI 95%</i>
Standardised values of Brief Self-control	0.22***	[0.21, 0.24]	0.42***	[0.38, 0.46]
Male	2.90***	[2.57, 3.27]	2.96***	[2.64, 3.32]
Age	1.10***	[1.07, 1.13]	0.97*	[0.94, 1.00]
Safe sex			1.06	[0.92, 1.22]
Unsafe sex			1.88***	[1.58, 2.24]
Send own sexual images			3.95***	[3.53, 4.42]
Drunk 3+ times			1.60***	[1.41, 1.83]
Received images non-consensually			12.72***	[11.33, 14.27]
Constant	0.00		0.00	
Observations	61,289		61,289	
Pseudo R ²	0.109		0.342	

* $p < 0.05$,

** $p < 0.01$,

*** $p < 0.001$

abuse increases throughout adolescence. In model 2, however, the OR of age is slightly lower than 1 and is only just significant, at the 5% level. Hence, it is not the effect of age alone that heightens the probability of offending; rather, the more important predictor is that people will have more opportunities to offend the older they get.

Adding the opportunity variables lowers the effect of self-control substantially: from an OR of 0.22 in model 1 to 0.42 in model 2. The 95% confidence intervals of self-control in models 1 and 2 do not overlap, so we may conclude that the drop in effect is statistically significant. This finding suggests that opportunities mediate a considerable part of self-control's effect on the probability of offending, in that some of the effect of self-control on sexting has to do with the way in which poor self-control brings about opportunities for committing image-based sexual abuse in the sexual or social sense. Receiving images in particular is a very strong predictor, but the other opportunity variables also show significant effects. Receiving images increases the odds of offending by 13 times, sexting increases the odds by four times and having unsafe sex increases the odds by 1.9 times (while having safe sex rather than not having sex does not increase the risk of offending); finally, being drunk often increases the odds by 1.6 times. The full model explains around a third of the variation in offending, but most of the explanatory power comes from the 'receiving images' variable.

Figure 13.2 shows the predicted probabilities for offending, dependent on self-control and based on the full model. We have chosen values for the other independent variables to be these variables' modal values (female, age 14, sexually inexperienced, not binge drinking, not sexting), except that we chose 'did receive images non-consensually', since very few people offend if they have not received images.² Other than the 'having received images' variable, these values are also those associated with a low probability of offending. Even though self-control on its own explains very little of the variation of offending – for example, including only this variable yielded a very low pseudo R^2 of 0.08 – when we looked at averages, we found a significant and substantial difference: the risk of offending was much higher for those with poor self-control compared to those with better self-control. As Figure 13.2 shows, when we look across the young people in our sample, those with very poor self-control (–1) had a predicted probability of offending of around 10%, compared to around 2% for those with very good self-control (1).

Variables are held at their modal values (female, age 14, sexually inexperienced, not bingedrinking, not sexting) except received (has received). The line is the expected probability, and the area is the 95% confidence interval.

Figure 13.2 The predicted probabilities for offending dependent on self-control, based on regression estimates of the full model.

Discussion

This chapter builds on a distinction between consensual and non-consensual forms of digital sexual interaction and the conceptualisation of image-based sexual abuse as a type of sexual violence. The study contributes to the field's understanding of these connections by investigating image-based sexual abuse in a criminological framework of self-control and by analysing the covariations with consensual forms of sexting and online/offline risk behaviours.

As Albury and Crawford have shown, consensual sexting, or 'the act of taking and transmitting naked or semi-naked pictures via mobile phones' (2012, p. 463), and non-consensual sharing too often become conflated under the headline of 'child pornography', thus leaving no space for young people to consent to or express and enjoy their own sexuality digitally. Lack of consent is key to the definition of image-based sexual abuse and is what separates such abuse from mainstream non-violent sexual practices. Although the term 'image-based sexual abuse' emphasises that the non-consensual exchange of sexual images is conceptually different from sexting, our empirical model shows that the two practices are correlated, as it is more common to offend if one is also a sexter. While other studies have examined the relationships between different kinds of sexting behaviour (Mitchell, Finkelhor, Jones & Wolak, 2012; Patrick, Heywood, Pitts & Mitchell, 2015), our analysis shows that receiving

images is strongly correlated with offending via image-based sexual abuse: of those who had received images, almost a quarter had also offended. In contrast, only 1% of the youth who had not received images had offended.

One characteristic that the offenders, sexters and receivers in our sample have in common is that on average they had poorer self-control compared to the other respondents. We have shown that self-control has a moderate effect on image-based sexual abuse, and we compared this effect to the effects of gender, age and opportunity variables. Our findings are in accordance with the general theory of crime as well as research that has linked self-control to criminal and deviant practices. Qualitative studies of the normalisation of sexual-image exchange have described this practice as being embedded in the everyday lives of young people. In addition to this insight, our contribution to the literature is to emphasise that image-based sexual abuse offenders may be characterised by one or more of the various important personality traits that mark other types of deviance. Our analysis has extended Reyns and colleagues' (2014) work on self-control and sexting by emphasising that self-control is not only linked to consensual sexting practices but also has a significant effect on the propensity of committing image-based sexual abuse, and that poor self-control further heightens the probability of offending in itself.

The few studies that have been conducted on image-based sexual abuse offenses to date have focussed on the affordances of technology (Langlois & Slane, 2017) or on the problematics of masculinity (DeKeseredy & Schwartz, 2016) as having impacts on men who share digital sexual images non-consensually. Technological and gendered dynamics are often seen to work together to exaggerate the tendencies of online rape culture (Powell & Henry, 2017). Our study contributes to this discussion by emphasising that although offenders are predominantly male, self-control and situational factors are relevant in explaining who commits image-based sexual abuse. Besides looking at offenders as parts of legitimising homo-social male groups, we should also consider that non-consensual sharers of sexual images are also young men, who are both at risk and risk takers.

Further research and prevention campaigns

The strong predictive effect of receiving images draws our attention to the role of the receipt of sexual images without consent. Previous research has measured the receipt of images and has explored the meaning of this receipt qualitatively (Mitchell et al., 2012). Receiving images might be considered a form of digital by-standing, but we still know very little about which experiences are connected to young people's receipt of images that they know have been shared without the consent of those who are depicted. Some of these bystanders are most likely consensual parties (for instance if they asked for the pictures), while others may be offended by receiving illegal materials if they have received them involuntarily. Conceptually, the bystander plays a crucial role, because the violation that occurs within image-based sexual abuse entails that an image must be non-consensually shared with a third party, but our findings suggest that this role is also very important in quantitative terms. In our data, we found that receiving images without consent was as common as sexting (with

consent), but we noted significant overlaps between these activities and offending. We suggest these overlaps as a new focus area for research.

In our data, four-fifths of the receivers did not offend, and thus we may think of the majority of receivers as intervening in image-based sexual abuse by *not* forwarding received images. Offending is hence not an automatic reaction among receivers, as self-control does have a substantial effect on offending within this group. This finding points to the importance of looking at both psychological personality traits and social/sexual situational factors within the last fifth of receivers who are also offenders: a group that includes three times more people than the offending group of those who share non-consensually without being receivers. We would encourage researchers to conduct qualitative explorations of these issues in order to form the basis for informed and knowledge-based prevention campaigns.

A successful campaign and dialogue against image-based sexual abuse should discern between sexting, receiving and offending in a manner well suited to include those who exhibit poor self-control, because these young people are more likely to give in to the temptation of offending through image-based sexual abuse. One way of exercising their self-control capabilities in this area could be to connect digital sexual risks to offline sexual risks (Albury et al., 2017). While the sharing of sexual images, either consensually or non-consensually, is a new practice, the offenders share some of the same characteristics that young people at risk in other spheres of life do. Instead of inventing new models of prevention, it might make sense to draw on some of the same risk-management strategies that we know from other everyday practices in young people's lives. Having unsafe sex is more or less as common among young people as offending through image-based sexual abuse is, and in accordance with previous research on consensual sexting (Klettke et al., 2014), we have found significant overlaps between the young people who engage in the two sexual activities. We thus suggest that qualitative researchers should explore these connections more thoroughly in order to help design prevention campaigns that will combine the different areas.

Limitations and strengths

Along with practitioners and politicians, sociologists are currently working on definitions to conceptualise sexual image sharing with or without consent. In order to develop adequate and concise concepts, we see a dire need for more qualitative research on the overlaps between the different forms of activities and young people's accounts of image-based sexual abuse. Such abuse is a new phenomenon in which social research is trying to catch up with young people's everyday and criminal practices. This scenario means that our findings still have numerous limitations, which might lead to more questions than the findings have answered.

Among the limitations of our data is that the sample is biased, in that the survey was only distributed in 31 out of 98 Danish municipalities. The

survey only included young people within the education system, and we cannot know who had entirely opted out of answering the voluntary survey. The results hence cannot be generalised to young people who are outside the educational system (at least after the mandatory education years); such youths are often marginalised within a society that expects young people to receive secondary education. The data is also drawn from self-reported responses, which carry biases related to reports of delinquent practices and personal issues, in that respondents are likely to be unwilling to admit to offending. That bias might be smaller in our survey, where all questionnaires were answered anonymously, and thus the survey might reveal more offending than crime statistics would. That being said, several factors apply to our study: (1) the survey is one of the only quantitative datasets available on image-based sexual abuse in Denmark, (2) the sample size is very large and (3) the questions are quite detailed, so the survey includes a range of different ways in which people can be involved in an activity: as offender, sexter, bystander and victim.

Within a quantitative framework, we believe that our most important limitation concerns the reliability and validity issues pertinent to the measurement scale we used for self-control. Tangney and colleagues (2004) developed the Brief Self-Control Scale as an instrument with 36 questions that measure various dimensions of task performance, impulse control, psychological adjustment, interpersonal relationships and moral dimensions. The authors found that a reduced version with 13 questions performed nearly as well, and the BSCS has since become ‘one of the most widely used instruments for measuring general trait self-control’ (Lindner, Nagy & Retelsdorf, 2015, p. 465). Previous studies in the literature have measured self-control using everything from 24 items (Grasmick et al., 1993) to three items (Lee, Moak & Walker, 2016); in light of the different possibilities, our use of 13 items thus falls within this range. The BSCS is not without its limitations, according to how the scale was developed, how it has been translated since then and how researchers use it. For example, we used a four-point Likert scale in the current study, whereas most other studies have used a five-point scale. This difference could affect how the variable is distributed; for example, we found that respondents typically ranked themselves as having more rather than less self-control. As for the reliability of our measure, it has internal consistency at the lowest acceptable level (Cronbach’s $\alpha = 0.72$). Whether these imperfections have resulted in less precise estimates or have skewed them in one direction or the other we cannot say. Finally, the low pseudo R^2 in our model (as shown in Table 13.3) suggests that many other factors beyond those that we have used in this study could be related to sexual digital violence, and we would especially encourage researchers to look into how other kinds of online/offline youth crime are associated with the non-consensual sharing of sexual imagery (Goldsmith & Brewer, 2015).

To bridge the gap between the online and offline contexts, future quantitative explorations of image-based sexual abuse could also include the associations

between offline peers and online crime. The opportunity structures could include the social dimensions of sexting, such as having friends who offend. Such an approach would be in line with Marganski's (2017, p. 188) findings; her work includes the normalisation of intimate behaviour that occurs through technology, and she argues that, especially in relation to youth, 'people may be more important in understanding behaviour than other measures of deterrence'. Marcum, Higgins and Ricketts tested this correlation vis-à-vis the sending of sexual images of oneself without the consent of the receiver and concluded that people who 'associate with deviant peers are more likely to engage in sexting' and that 'as self-control levels go down, the likelihood of sexting increases' (2014, p. 75).

In our design, we were unable to include variables for friends who engage in the non-consensual sharing of sexual images, but we have included other social opportunity structure variables. By measuring engagement in unsafe sex, binge drinking and sexting, we go beyond the individual and account for specific sexual and social interactions with or without digital means.

Conclusion

This chapter has presented one of the first quantitative explorations of digital sexual violence in the Nordic countries. We have used the general theory of crime to explore the occurrence and correlates of image-based sexual abuse among a large sample of young Danes. We found self-control to be a significant predictor of this type of digital sexual violence, even though a substantial part of the effect was mediated by opportunity variables, such as unsafe sexual practices, sexting and binge drinking. Image-based sexual abuse offenders tend to be boys and young men whose poor self-control and risky choices in their sexual and social behaviours characterise them as both at risk and as risk seekers.

Receiving images without the consent of those who are pictured is the strongest predictor for sharing images non-consensually, which points to the future targeting of preventive measures to reduce image-based sexual abuse by addressing bystanders. The connection between different mainstream, deviant and criminal practices within sexual image sharing is a complex issue related to consent, social behaviours and individual characteristics. We suggest that researchers should further explore the relationships between risky social, sexual and digital behaviours in a qualitative manner in order to generate new knowledge about image-based sexual abuse offenders.

Notes

- 1 Danish elementary school grades 7–9, or upper secondary school.
- 2 A total of 434 observations fit these criteria among the sample of 61,289, which was a sufficiently high number that statistical calculations were viable; while this number is a very small proportion of the whole sample, such low percentages are unavoidable in practice when looking at combinations of six variables.

References

- Albury, K., & Crawford, K. (2012). Sexting, consent and young people's ethics: Beyond 'Megan's Story'. *Continuum*, 26(3), 463–473. <https://doi.org/10.1080/10304312.2012.665840>
- Albury, K., Hasinoff, A. A., & Senft, T. (2017). From media abstinence to media production: Sexting, young people and education. In L. Allen & M. L. Rasmussen (Eds.), *The Palgrave handbook of sexuality education* (pp. 527–545). London: Palgrave Macmillan. https://doi.org/10.1057/978-1-137-40033-8_26
- Aneshensel, C. (2013). *Theory-based data analysis for the social sciences*. Thousand Oaks, CA: Sage. <https://doi.org/10.4135/9781506335094>
- Barrense-Dias, Y., Berchtold, A., Suris, J.-C., & Akre, C. (2017). Sexting and the definition issue. *Journal of Adolescent Health*, 61(5), 544–554. <https://doi.org/10.1016/j.jadohealth.2017.05.009>
- Bates, S. (2017). Revenge porn and mental health. *Feminist Criminology*, 12(1), 22–42. <https://doi.org/10.1177/1557085116654565>
- Cohen, L. E., & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review*, 44(4), 588–608. <https://doi.org/10.2307/2094589>
- Cooper, K., Quayle, E., Jonsson, L., & Svedin, C. G. (2016). Adolescents and self-taken sexual images: A review of the literature. *Computers in Human Behavior*, 55, 706–716. <https://doi.org/10.1016/j.chb.2015.10.003>
- Dahl, K. M., Henze-Pedersen, S., Østergaard, S. V., & Østergaard, J. (2018). *Unge opfattelser af køn, krop og seksualitet* (Young peoples perceptions of gender, body and sexuality). Copenhagen: VIVE – Viden til Velfærd. Det Nationale Forsknings- og Analysecenter for Velfærd.
- Dake, J., Price, J., Maziarz, L., & Ward, B. (2012). Prevalence and correlates of sexting behavior in adolescents. *American Journal of Sexuality Education*, 7(1), 1–15. <https://doi.org/10.1080/15546128.2012.650959>
- DeKeseredy, W. S., & Schwartz, M. D. (2016). Thinking sociologically about image-based sexual abuse: The contribution of male peer support theory. *Sexualization, Media, & Society*, 2(4), 1–8. <https://doi.org/10.1177/2374623816684692>
- Demant, J., & Østergaard, J. (2007). Partying as everyday life: Investigations of teenagers' leisure life. *Journal of Youth Studies*, 10(5), 517–537. <https://doi.org/10.1080/13676260701594828>
- Döring, N. (2014). Consensual sexting among adolescents: Risk prevention through abstinence education or safer sexting? *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 8(1). <https://doi.org/10.5817/CP2014-1-9>
- Drouin, M., Vogel, K. N., Surbey, A., & Stills, J. R. (2013). Let's talk about sexting, baby: Computer-mediated sexual behaviors among young adults. *Computers in Human Behavior*, 29(5), A25–A30. <https://doi.org/10.1016/j.chb.2012.12.030>
- Gelman, A. (2008). Scaling regression inputs by dividing by two standard deviations. *Statistics in Medicine*, 27(15), 2865–2873. <https://doi.org/10.1002/sim.3107>
- Goldsmith, A., & Brewer, R. (2015). Digital drift and the criminal interaction order. *Theoretical Criminology*, 19(1), 112–130. <https://doi.org/10.1177/1362480614538645>
- Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.
- Grasmick, H. G., Tittle, C. R., Bursik, R. J., & Arneklev, B. J. (1993). Testing the core empirical implications of Gottfredson and Hirschi's general theory of crime.

- Journal of Research in Crime and Delinquency*, 30(1), 5–29. <https://doi.org/10.1177/0022427893030001002>
- Handyside, S., & Ringrose, J. (2017). Snapchat memory and youth digital sexual cultures: Mediated temporality, duration and affect. *Journal of Gender Studies*, 26(3), 347–360. <https://doi.org/10.1080/09589236.2017.1280384>
- Henry, N., & Powell, A. (2015). Beyond the 'sext': Technology-facilitated sexual violence and harassment against adult women. *Australian & New Zealand Journal of Criminology*, 48(1), 104–118. <https://doi.org/10.1177/0004865814524218>
- Henry, N., & Powell, A. (2018). Technology-facilitated sexual violence: A literature review of empirical research. *Trauma, Violence, & Abuse*, 19(2), 195–208. <https://doi.org/10.1177/1524838016650189>
- Jørgensen, K. E. (2017). An explorative analysis of non-consensual online distribution of intimate visual material – between market dynamics and shame. Master's thesis, Department of Sociology, University of Copenhagen.
- Kelly, L. (2013). *Surviving Sexual Violence*. Oxford, UK: Polity Press.
- Klettke, B., Hallford, D. J., & Mellor, D. J. (2014). Sexting prevalence and correlates: A systematic literature review. *Clinical Psychology Review*, 34(1), 44–53. <https://doi.org/10.1016/j.cpr.2013.10.007>
- Korenis, P., & Billick, S. B. (2014). Forensic implications: Adolescent sexting and cyberbullying. *Psychiatric Quarterly*, 85(1), 97–101. <https://doi.org/10.1007/s11126-013-9277-z>
- Langlois, G., & Slane, A. (2017). Economies of reputation: The case of revenge porn. *Communication and Critical/Cultural Studies*, 14(2), 120–138. <https://doi.org/10.1080/14791420.2016.1273534>
- Lee, C.-H., Moak, S., & Walker, J. T. (2016). Effects of self-control, social control, and social learning on sexting behavior among South Korean youths. *Youth & Society*, 48(2), 242–264. <https://doi.org/10.1177/0044118X13490762>
- Lindner, C., Nagy, G., & Retelsdorf, J. (2015). The dimensionality of the Brief Self-Control Scale – An evaluation of unidimensional and multidimensional applications. *Personality and Individual Differences*, 86, 465–473. <https://doi.org/10.1016/j.paid.2015.07.006>
- Maddocks, S. (2018). From non-consensual pornography to image-based sexual abuse: Charting the course of a problem with many names. *Australian Feminist Studies*, 1–17. <https://doi.org/10.1080/08164649.2018.1542592>
- Marcum, C. D., Higgins, G. E., & Ricketts, M. L. (2014). Sexting behaviors among adolescents in rural North Carolina: A theoretical examination of low self-control and deviant peer association. *International Journal of Cyber Criminology*, 8(2), 68–78.
- Marganski, A. (2017). Sexting in Poland and the United States: A comparative study of personal and social-situational factors. *International Journal of Cyber Criminology*, 11(2). <https://doi.org/10.5281/zenodo.1037385>
- McGlynn, C., Rackley, E., & Houghton, R. (2017). Beyond 'revenge porn': The continuum of image-based sexual abuse. *Feminist Legal Studies*, 25(1), 25–46. <https://doi.org/10.1007/s10691-017-9343-2>
- Mitchell, K. J., Finkelhor, D., Jones, L. M., & Wolak, J. (2012). Prevalence and characteristics of youth sexting: A national study. *Pediatrics*, 129(1), 13–20. <https://doi.org/10.1542/peds.2011-1730>
- Patrick, K., Heywood, W., Pitts, M. K., & Mitchell, A. (2015). Demographic and behavioural correlates of six sexting behaviours among Australian secondary school students. *Sexual Health*, 12(6), 480–487. <https://doi.org/10.1071/SH15004>

- Powell, A., & Henry, N. (2014). Blurred lines? Responding to 'sexting' and gender-based violence among young people. *Children Australia*, 39(2), 119–124. <https://doi.org/10.1017/cha.2014.9>
- Powell, A., & Henry, N. (2016). Technology-facilitated sexual violence victimization: Results from an online survey of Australian adults. *Journal of Interpersonal Violence*. <https://doi.org/10.1177/0886260516672055>
- Powell, A., & Henry, N. (2017). *Sexual violence in a digital age*. London: Palgrave Macmillan.
- Renfrow, D. G., Kucewicz, K., Mouradian, K., & Schweigert, V. (2017). 'But that's not sexting': Accounts from emerging adults. In O. Sefiha & S. Brown (Eds.), *Routledge handbook on deviance* (pp. 322–363). New York: Routledge.
- Reyns, B. W., Henson, B., & Fisher, B. S. (2014). Digital deviance: Low self-control and opportunity as explanations of sexting among college students. *Sociological Spectrum*, 34(3), 273–292. <https://doi.org/10.1080/02732173.2014.895642>
- Richards, R. D., & Calvert, C. (2009). When sex and cell phones collide: Inside the prosecution of a teen sexting case. *Hastings Communications and Entertainment Law Journal*, 32, 1–40.
- Ringrose, J., Harvey, L., Gill, R., & Livingstone, S. (2013). Teen girls, sexual double standards and 'sexting': Gendered value in digital image exchange. *Feminist Theory*, 14(3), 305–323. <https://doi.org/10.1177/1464700113499853>
- Svendsen, K. (2018). Working paper: Afmelder for Ungeprofilundersøgelsen. Copenhagen: Komiteen for Sundhedsoplysning.
- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, 72(2), 271–324. <https://doi.org/10.1111/j.0022-3506.2004.00263.x>
- Walker, K., & Sleath, E. (2017). A systematic review of the current knowledge regarding revenge pornography and non-consensual sharing of sexually explicit media. *Aggression and Violent Behavior*, 36, 9–24. <https://doi.org/10.1016/j.avb.2017.06.010>
- Wolak, J., & Finkelhor, D. (2011). Sexting: A typology. Research bulletin (March), Crimes against Children Research Center, University of New Hampshire, 13.
- World Health Organization. (2012). Understanding and addressing violence against women. Sexual violence. Geneva: World Health Organization.