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Child sexual abuse and family outcomes

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Abstract

This study aimed to examine the association between different characteristics of sexual abuse and adverse family outcomes in later life. Through archived court files, a large sample of Dutch men and women who have been sexually abused as a child could be identified. Outcome variables were assessed 33 years after the abuse, when the victims were 44 years of age on average. Being abused by a nuclear family member was associated with teen pregnancies, young marriage, and divorce. Younger ages at time of abuse were related to decreased marriage rates. Penetration, violence, and repeated victimization were not related to adverse outcomes. We found that these effects were not the same for males and females. Furthermore, compared to the average Dutch population, CSA victims experienced more divorce, and female CSA victims were more often childless, had more children, and more often were teenage parents.

Keywords: Childhood sexual abuse, Marriage, Divorce, Teenage parenthood

Background

Child sexual abuse (CSA) can be a traumatizing event. Research has shown that victims generally have less positive outcomes as they transition to adulthood than non-victims, on numerous domains (de Jong et al. 2015). CSA victims have worse physical health (e.g., Irish et al. 2010), have more sexual problems (e.g., Senn et al. 2008; Neumann et al. 1996), suffer more often from depression or posttraumatic stress disorder (Paolucci et al. 2001; Neumann et al. 1996; Jumper 1995; Chen et al. 2010), and have lower self-esteem (Jumper 1995) than those not sexually abused as a child. Although supported by less extensive empirical evidence, CSA victims as compared to non-victims are also likely to attain lower educational levels (Hyman 2000; Alexander et al. 2000; Peleikis et al. 2005), have lower incomes (Hyman 2000; Roberts et al. 2004; Barrett et al. 2014), are more likely to be arrested in adulthood (Siegel and Williams 2003; Widom and Ames 1994), and are more likely to experience relationship violence (Noll et al. 2009), divorce or separation (Fleming et al. 1999; Colman and Widom 2004; Nelson et al. 2002; Mullen et al. 1994; Whisman 2006), and teen parenthood (Roberts et al. 2004; Schilling et al. 2007; Anda et al. 2001; Noll et al. 2009; Woodward et al. 2001; Mullen et al. 1994; Friesen et al. 2010). As such, CSA appears to have a pervasive negative influence in victims' lives.

However, there are two caveats to these findings. First, some authors have stressed that differences between victims and non-victims may not be solely attributable to the sexual victimization, but may at least partly be explained by underlying characteristics on which victims and non-victims differ as well. For example, Rind et al. (1998) found that while CSA victims were psychologically less adjusted than controls, this effect was largely explained by family factors, such as neglect, family structure, or traditionalism. A meta-analysis on college samples supported this conclusion (Rind and Tromovitch 1997). Studies that are able to 'isolate' the effect of child sexual abuse in a methodological sense are for obvious reasons very hard to conduct, as perpetrators may be expected to select victims in a non-random fashion from the population.

Second, the nature of sexual victimization is probably a significant moderating factor. Not all kinds of sexual abuse are likely to have similar life-long negative impact, and in fact there are indications that the more intrusive or aggressive the abuse was, the severer the consequences are. For instance, a variety of studies have shown more invasive forms of sexual abuse (e.g., penetration) to be most strongly related to lower relationship quality (Whisman 2006; Mullen et al. 1994; Friesen et al. 2010; Feinauer et al. 1996), more interpersonal violence (Fleming et al.

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1999), more adverse educational outcomes (Mullen et al. 1994; Boden et al. 2007), more sexual problems (Fleming et al. 1999; Mullen et al. 1994), and increased risk of teenage pregnancies (Friesen et al. 2010; Mullen et al. 1994). Also, closer ties to the perpetrator have been found to strongly affect employment outcomes (Hyman 2000), and increase chances of interpersonal violence in later relationships (Yoshihama and Horrocks 2010). In addition, abuse with multiple occurrences was found to increase chances of interpersonal violence (Yoshihama and Horrocks 2010). Finally, abuse occurring at a young age (before age 11) and abuse involving threats or actual violence, have been found to be related to an increased risk of teenage pregnancies (Anda et al. 2001). Besides these characteristics, the gender of the victim is found to be a moderating factor. For instance, CSA has been associated with a lower quality of romantic relationships for female victims, while this was not found for male victims (Colman and Widom 2004). In addition, the effect of CSA on physical interpersonal violence was smaller for females than for males (Luo et al. 2008; Afifi et al. 2009). A strong link between CSA and adverse economic consequences was found for male victims, while such effects were not found for female victims (Barrett et al. 2014). However, the effect of gender is not consistent. For instance, Colman and Widom (2004) found a larger effect of CSA on divorce for abused males than for abused females, while Nelson et al. (2002) found the opposite to be true. Thus, although the characteristics of the abuse and the gender of the victim seem to matter findings from studies that investigated the differential impact of various kinds and settings of child sexual abuse have also generated inconclusive results, likely partly because of differences in study designs and operationalizations. Studies that do investigate the difference in impact of various types of CSA in a systematic manner are rare.

This study aims to add to the literature in two ways. We study CSA victim outcomes in the following domains: marriage, divorce, and teen parenthood. Our first and main objective is to compare these outcomes by the nature of the sexual abuse. In particular, we will study whether outcomes differ by the nature of the sexual victimization per se (penetration versus other types of abuse), the presence of violence or threats of violence, repeatedness of the abuse, victim's gender and age, and the victim's relationship with the perpetrator(s). In doing so, we use validated data on sexual abuse from court records that we match with data from the Municipal Population Register on marriage, divorce and parenthood. As such, we have no loss to follow-up and our data are liable to recall issues to a very limited extent only. In addition to this main objective, we will gauge outcomes against those of average Dutch citizens, where possible.

Definition of child sexual abuse

Varying definitions of CSA are used in the literature. Most researchers agree that physical contact with a child in a sexually coercive situation constitutes CSA. While some authors also include non-contact behavior in their definition of CSA, we only include CSA with contact. Such contact may range from touching body parts inappropriately to genital penetration. This way we focus on a clearly delineated, relatively homogeneous set of sexually abusive behavior.

Different authors also use different age limits for the victim. Some authors use an age limit of 12 years, others 16 years (e.g., Mullen et al. 1994), others yet use 18 years as a cutoff. We chose 18 years as a cutoff age because persons under 18 are considered minors in the Netherlands. All sexual acts with persons below 16 years of age constitute a crime in the Netherlands. From 16 years they constitute a crime if force was used, or if the victim cannot be considered to have been able to freely consent to the sexual acts, such as in a doctor–patient relationship.

Method

Sample

Our sample consisted of 910 victims of child sexual abuse. Victims were sampled as follows. We extracted criminal court files from all jurisdictions in the Netherlands where criminal court files from the years 1980–1985 have been archived.[1] These are 14 jurisdictions: Alkmaar, Almelo, Amsterdam, Assen, Breda, Dordrecht, The Hague, Groningen, 's-Hertogenbosch, Leeuwarden, Middelburg, Rotterdam, Utrecht, and Zwolle. In these years studied, the Netherlands had 19 distinct jurisdictions, and we secured access to the files of 14. The sampled jurisdictions cover both large cities as well as rural areas, and, based on what is known about these jurisdictions, do not differ in the manner in which the police dealt with sexual abuse cases, prosecutorial policies or the manner in which criminal cases were dispositioned in the different courts from other jurisdictions. We therefore consider our sample to be representative for the Netherlands for that period.

From the searched archives all files containing at least one sex offense were analyzed. Next, these cases had to meet three criteria to be included in our study. First, the victim had to be under the age of 18. Second, the abuse had to constitute hands-on sexual abuse. Third, the perpetrator had to have been proclaimed guilty of

[1] Permission for study was obtained from the Central Prosecutor's Office, the Dutch Council for the Judiciary, each particular archive that held court records, and the Bureau Registratie Persoongegevens that holds the GBA register data. Ethics clearance was obtained from the Ethics Committee of the Faculty of Law (CERCO) of the VU University Amsterdam.

the abuse, meaning that a judge found the sexual abuse proven. As the Netherlands does not have plea-bargaining, we therefore assume for all cases we selected that the perpetrator committed the sexual abuse against the victim.

Given the date the register data was searched, victims were on average 44 years at the end of observation. Of all victims, 3.6 % were deceased and 3.23 % had emigrated out of the Netherlands. However, this is likely to be an under-registration, as such events happening before the introduction of the Municipal Population Register in 1994 prevent persons from being included in our study. For these victims the observation period ended at the age they died or emigrated. All in all, the youngest age at the end of observation in our sample was 18; the oldest age was 57.

Sexual abuse variables

The information present in the criminal court files varied across jurisdictions. While courts are required by law to destroy certain parts of the files after a statutory period of 20 years (such as police transcripts and photographed evidence) and archive the remaining 'trimmed' file, they are also by law required to preserve at least some documents (such as the document with the charges and the verdict). In practice, many courts are lagging behind in the removal of parts of the court files and we therefore often found documents that were still present such as detailed accounts of the examination in court, or files on the police investigation such as transcriptions of hearings of perpetrators or victims.

From the court files, we coded the following characteristics if they were available: nature of the abuse, in case of repeated abuse we coded the period in which the abuse took place as well as the estimated number of times the abuse had occurred, circumstances of the abuse, relationship of the perpetrator(s) to the victim(s), as well as victim and perpetrator name and demographics. Some victims had been abused in one situation by multiple perpetrators, others had been abused in multiple situations by different perpetrators; in such cases victims may have suffered different types of abuse (e.g., fondling in one situation and rape in another situation), the relationship with the perpetrator may vary (one perpetrator may have been a classmate, another perpetrator the father), and the victim's age may vary as well. This pertained to 20 % of victims, and in such cases we noted that victims were abused multiple times, and we coded the presumably most 'intrusive' or serious entry of each characteristic across all situations as pertaining to that victim (e.g., 'rape' over 'fondling', 'father' over 'classmate', and age 8 over age 17). While this is done to prevent statistical complications due to victims appearing multiple times, this solution has obvious disadvantages as it entails loss of information.

Outcome variables

Data on marriage, divorce, and children were obtained from the Dutch Municipal Population Register (commonly abbreviated to GBA in Dutch). This register was established in 1994 and is a complete registration of all Dutch citizens as well as all non-Dutch individuals officially residing in the Netherlands. It also contains historical data, so individuals who died or emigrated since 1994 are retrievable as well. It contains, among other things, demographic information such as date of birth, information on parents, dates of marriage and registered partnerships (that have the same legal status as marriage in the Netherlands), dates of divorce and relationship dissolution, and full demographic information on children born to persons registered. It does not include information on cohabitation. It should be noted that while children born to unmarried couples are almost always registered with their biological mother, for a father this occurs only if he officially acknowledges the child as his.

Matching procedure

For matching purposes, we noted from the court files each victim's family name, full birth names and date and place of birth if present. Some courts—as a standard—noted only family names and initials, and not all noted the date or place of birth of victims. Next, we used the identifying demographic information (full names, date and place of birth) to match the sexual abuse variables to the demographic outcome variables in the GBA. We matched records automatically at first. Next, we hand searched the register in case one name turned up multiple matches, or in cases where no match was returned at all. There were several possible reasons for the failure to find a match. For victims who had more common family names, matches could not always be ascertained. In addition, some court files contained incomplete demographic information, which made it harder to find a match. In other cases it may have been that persons never lived in the Netherlands, persons died or emigrated before 1994, or it may also have been that a spelling error was made in the registered names in the court files. It is theoretically possible that a person under the given name is living in the Netherlands but unregistered. This is however highly unlikely; coverage of the register is extremely good, in part because a registration is needed for many official acts such as filing out a tax statement.

We are not able to say exactly for how many victims we were unable to find a matching register record because people may be registered in different court cases under slightly different names. For example, if a victim is registered as C. Maas (a fictional, common family name), and in another court case there is a victim registered as C.P. Maas, and for neither a match could be found, we cannot be sure whether C. Maas and C.P. Maas are the same person, and we therefore miss a match for one victim, or whether they are different persons and we are thus unable to find a matching record for two victims. Therefore, we summarize the matching outcome as follows: for 1592 court file records we were able to find 1003 matching victims. Some victims appeared in multiple court files. The 1003 victims constituted a sample of 910 unique victims. After matching, identifying information was removed and victims were labeled with a number chosen by the researchers.

Analysis

Independent samples t tests and Mann–Whitney U tests were used to assess whether there was a difference in abuse characteristics between males and females. T tests were used when the test variable was continuous, which was only the case for age of the victim. Differences in other abuse characteristics were tested using Mann–Whitney U tests, as these variables were categorical.

Next, we tested the extent to which family outcomes (teen pregnancy, whether sample members ever married, whether sample members married very young, and whether those who married ever divorced) were related to the sexual abuse characteristics using logistic regression analyses. We employed multivariate models, because we expected many of the characteristics of the abuse to be interrelated. We performed these analyses both for the entire sample as well as for male and female victims separately. As some categories of variables were sparsely filled, we recoded a number of variables to fewer categories. In particular, we recoded age of victim into four categories (0–4, roughly the period before children form memories; 5–11, age at elementary school; 12–16, puberty; 17–18, late adolescence). This allowed us to also examine a possible non-linear effect of age. Furthermore, the use of violence was recoded into a categorical variable indicating whether or not actual violence had been employed by the perpetrator, or the abuse involved threats of violence that did not lead to actual violence. The relationship of the victim to the perpetrator was coded into three categories (victim's nuclear family; acquaintances, friends, or non-nuclear family members; and strangers). Because there was a large number of missing data, we decided to include an additional category 'unknown'.[2] Finally, we recoded the nature of the sexual abuse into three categories (non-genital sexual contact; genital sexual contact; and penetration).

In the logistic regression analysis we included the following predictors: severity of the abuse, violence during the abuse, and repeated abuse. Additionally, we added two predictors as categorical variables: the victim's age and the relationship to the perpetrator. For age of the victim we used the youngest age group as the reference group. All the categories of the relationship to the offender were contrasted to the nuclear family. We did an additional survival analysis to test if early marriage and divorce were interrelated. We used duration of the marriage as the time variable and divorce as status variable. The predictors in the model were similar to that of the logistic regression analysis.

We employed a standard significance level of 5 %, and tested two-sided, unless we had grounds to expect relationships to lie in one direction. The latter was the case for the relationship to the perpetrator (where we expected victims who have been abused by a nuclear family member to be at greater risk for negative outcomes), use of force (where we expected victims who suffered physical violence to be at greater risk of negative outcomes), the severity of the abuse (where we expected victims who experienced genital touching and penetration, respectively, to be at increased risk of negative outcomes) and repeated abuse (where we expected victims who suffered repeated sexual abuse to be at greater risk of negative outcomes) (see, for instance, Beitchman et al. 1992).

Results

Sample

The sample was comprised of 910 victims, of which 73.8 % were female. Victims' abuse started on average at age 12, with the youngest victim being 2 years and the oldest being 17 years old at the time of the abuse. At the end of the observation period, victims were on average 44 years old (range 18–57).

A summary of the abuse characteristics is presented in Table 1. The majority of the victims (56.9 %) experienced penetration during the abuse, of which 25.1 % consisted of solely oral penetration, 67.1 % consisted (also) of genital penetration, and 7.8 % involved (also) anal penetration. Unfortunately, in many cases (43.5 %) there was no mention of the relationship between

[2] All logistic regression analyses were also performed with 'unknown relationship to perpetrator' recoded to missing, remaining these cases list-wise from the logistic regression analysis. Results in these cases were similar; all significant main effects found in this paper held (only the effect on marriage of the highest age group for women did not). These analyses are not reported in this paper.

Table 1 Abuse characteristics by gender

Abuse characteristics	Males	Females	All
N = 910	26.2 %	73.8 %	100 %
Mean age at abuse (years)[a]	10.9 (*SD* = 2.9)	11.9 (*SD* = 3.7)	11.6 (*SD* = 3.6)
Invasiveness of abuse, at least			
Non-genital fondling	0.0 %	5.2 %	3.8 %
Genital fondling	49.2 %	35.7 %	39.3 %
Penetration	50.8 %	59.1 %	56.8 %
Relationship to offender[a]			
Biological parents	2.5 %	13.4 %	10.5 %
Others from nuclear family	4.6 %	9.1 %	7.9 %
Other family	0.4 %	3.9 %	3.0 %
Ex-boyfriend/ex-girlfriend	0.0 %	1.3 %	1.0 %
Others known to victim	22.3 %	18.8 %	19.7 %
Others unknown to victim	10.1 %	15.9 %	14.4 %
Relationship unknown	60.1 %	37.6 %	43.5 %
Experienced violence[a]			
Threats	3.4 %	6.0 %	5.3 %
Actual violence	12.6 %	34.7 %	28.9 %
Multiple abuse[a]	63.3 %	40.9 %	46.3 %

[a] Differences between males and females are significant at $p < 0.001$

victim and offender. A little over half of the abuse cases concerned a single abuse situation; 46.3 % of victims had been abused multiple times or by multiple perpetrators. This could range from being abused twice to being abused repeatedly over several years.

Gender

Abuse characteristics for male and female victims separately are also presented in Table 1. Male victims were on average somewhat younger at the time of the abuse than females (10.9 vs. 11.9 years old, $t(529{,}415) = -4.25$, $p < .001$). None of the male victims experienced non-genital fondling, while 5.2 % of female victims did. Genital contact without penetration was experienced by 49.2 % of the male and by 35.7 % of female victims. Penetration occurred in 50.8 % of male victims and 59.1 % of female victims. However, these differences were not significant. Differences in the relationship with the abuser were significant ($Z = -6.57$, $p < .001$), with female victims more often being abused by a family member (26.3 vs. 7.6 %) or a stranger (10.1 vs. 15.9 %). Also, for female victims the relationship to their abuser remained more often unknown (60.1 vs. 37.6 %). In addition, significantly more male victims were abused multiple times than female victims (63.3 vs. 40.9 %, $Z = -5.43$, $p < .001$). Interestingly, male victims were far less likely to experience violence during their abuse than female victims were (12.6 vs. 34.7 %, $Z = -6.93$, $p < .001$).

Outcomes

Most victims had at least one child (74.2 %); they had 1.8 children on average (*SD* = 1.5). Of the female victims, 19.6 % were childless, and they had 2.0 children on average (*SD* = 1.5), both of which are somewhat higher compared to the average Dutch woman from their birth cohort (17.6 % and 1.76, respectively) (Statistics Netherlands 2014c). On average, victims were 27.3 years old when they became a parent (*SD* = 5.6), ranging from 15 to 49 years. Female victims gave birth to their first child at an average age of 26.5 (*SD* = 5.2), which is 3 years younger than the average Dutch woman in the same birth cohort (Statistics Netherlands 2014c). 6.4 % of all victims became a parent during their teens. However, teenage parenthood for female victims was 8.2 %, while for men this was much lower at 1.3 %. This rate for female victims is four times as high as that of women in the general population (Statistics Netherlands 2014a). Comparable data on number of children and parenthood for men were unavailable at Statistics Netherlands.

The majority of the victims married at least once (66.2 %), and they were on average 27.1 years old at the time of their first marriage (*SD* = 6.4). Many married young: at 21 years of age, 16 % had already been married at least once. However, almost half of the ever-married sample members also divorced at least once (47.3 %), a rate that is also noticeably higher than the divorce rate of 36 % found in the general population (Statistics Netherlands 2014b).

Relationship of sexual abuse characteristics with outcomes

Teenage parenthood[3]

For the entire sample of victims, only the victims' relationship with the offender was related to teenage parenthood (see Table 2). Individuals who were abused by a nuclear family member were 3–12 times more likely to become a teenage parent than victims who were abused by other perpetrators. Age at abuse, severity of the abuse, violence during the abuse, and repeated abuse were not related to teenage parenthood. For female victims the findings were comparable with those of the total sample of victims. For male victims, the model could not be estimated, because only three men became a parent during their teens.

Marriage

While not marrying is not necessarily a negative outcome, marriage may be regarded as part of a conventional

[3] Teenage parenthood is defined as parenthood up to age 19.

Table 2 Logistic regression model for teenage parenthood

Predictor	All OR (*p*)	Females OR (*p*)
Relationship to offender (contrasted to nuclear family)		
Acquaintances, friends, or non-nuclear family	0.31 ($p < .005$)	0.39 ($p < .05$)
Stranger	0.09 ($p < .001$)	0.11 ($p < .005$)
Relationship unknown	0.23 ($p < .001$)	0.29 ($p < .01$)
Age at abuse (contrasted to 0–4)		
4–11	0.53 ($p = .35$)	0.58 ($p = .43$)
12–16	0.53 ($p = .35$)	0.49 ($p = .29$)
17–18	0.53 ($p = .40$)	0.44 ($p = .28$)
Severity of the abuse	1.15 ($p = .63$)	1.24 ($p = .45$)
Violence during abuse	1.07 ($p = .70$)	1.06 ($p = .74$)
Multiple abuse	0.56 ($p = .12$)	0.63 ($p = .27$)

The model could not be estimated for males

life path. For the entire sample of victims, whether or not they ever married was not affected by the relationship to the offender (see Table 3). Only age at the abuse was related to the likelihood to marry. Compared to those abused during the first 4 years in life, older victims were two to three times more likely to get married. The effect size increased for each consecutive age group, suggesting that the older victims were at the time of abuse, the more likely they were to get married. Severity of the abuse, violence, and repeated abuse were not related to having been married. When disaggregating by sex, for male victims the effect of age disappeared, but for female victims the effect remained significant.

Looking at early marriage (i.e., marriage before age 21) specifically, we only found an effect of the relationship to the offender: abuse by a nuclear family member, as opposed to the perpetrator being a stranger, increased the odds of early marriage (OR = 3.39, $p < .05$) (see Table 4). While we previously found age at the abuse to be associated with marriage, it was not related to *early* marriage. Also, we did not find an effect of severity of the abuse, violence during the abuse, or repeated abuse. When disaggregating by sex, for female victims the effect of relationship to the offender remained significant (OR = 2.89, $p < .05$). Again, for male victims, the model could not be estimated due to the small number of men who had married before age 21.

Divorce

Lastly, for those victims who had ever married, chances of divorce turned out to be affected only by the relationship to the offender (see Table 5). Divorce occurred less often among victims of stranger abuse compared to victims of abuse by a nuclear family member (OR = 0.39, $p < .01$). Age at abuse, severity of the abuse, violence during the abuse, and repeated abuse were not related to divorce. Separate analyses for male victims did not yield significant results, suggesting that males' chances of divorce were not affected by the studied abuse characteristics. However, for female victims the effect of stranger perpetrators held (OR = 0.348, $p < .01$), and an additional effect of violence during the abuse was found (OR = 1.22, $p < .10$).

It could however be the case, that effects found for divorce were actually due to the fact that divorce may have been more likely in those who marry early, as they had a lengthier 'exposure period'. We tested this using Cox regression, which allowed us to control for censoring: using this technique we investigated the duration to divorce in all those who ever married, using the same predictor variables. Based on this analysis, we concluded that divorce occurred less often among victims abused by a stranger compared to nuclear family member (OR = 0.61, $p < 0.10$), even though the effect was only significant tested one-sided. Thus, the effect of the relationship to the abuser on divorce, while reduced in size, remained.

Table 3 Logistic regression model for marriage

Predictor	All OR (*p*)	Males OR (*p*)	Females OR (*p*)
Relationship to offender (contrasted to nuclear family)			
Acquaintances, friends, or non-nuclear family	0.97 ($p = .89$)	0.62 ($p = .41$)	1.40 ($p = .23$)
Stranger	0.81 ($p = .46$)	0.75 ($p = .69$)	1.05 ($p = .88$)
Relationship unknown	0.71 ($p = .12$)	0.79 ($p = .67$)	0.88 ($p = .63$)
Age at abuse (contrasted to 0–4)			
4–11	2.20 ($p < .05$)	1.45 ($p = .65$)	2.79 ($p < .05$)
12–16	2.62 ($p < .05$)	1.89 ($p = .45$)	2.98 ($p < .05$)
17–18	3.33 ($p < .01$)	5.97 ($p = .20$)	3.17 ($p < .05$)
Severity of the abuse	0.87 ($p = .32$)	0.72 ($p = .26$)	0.92 ($p = .58$)
Violence during abuse	1.04 ($p = .69$)	0.95 ($p = .81$)	1.04 ($p = .69$)
Multiple abuse	0.89 ($p = .50$)	1.11 ($p = .75$)	1.01 ($p = .98$)

Table 4 Logistic regression model for early (before age 21) marriage within those ever married (N = 602)

Predictor	All OR (*p*)	Females OR (*p*)
Relationship to offender (contrasted to nuclear family)		
Acquaintances, friends, or non-nuclear family	0.75 ($p = .39$)	0.91 ($p = .80$)
Stranger	0.30 ($p < .05$)	0.35 ($p < .05$)
Relationship unknown	0.46 ($p < .05$)	0.62 ($p = .21$)
Age at abuse (contrasted to 0–4)		
4–11	1.86 ($p = .56$)	2.24 ($p = .45$)
12–16	2.81 ($p = .33$)	2.91 ($p = .32$)
17–18	3.46 ($p = .25$)	3.27 ($p = .28$)
Severity of the abuse	1.08 ($p = .70$)	1.09 ($p = .70$)
Violence during abuse	.91 ($p = .26$)	0.86 ($p = .30$)
Multiple abuse	0.71 ($p = .19$)	0.78 ($p = .45$)

The model could not be estimated for males

Discussion

We found that female victims of CSA compared unfavorably to average Dutch women of their birth cohort; they had an elevated risk of teenage pregnancies and divorce. Female victims also had higher rates of early marriage, and remained somewhat more often unmarried than average. Furthermore, they tended to remain more often childless than the average Dutch female. However, if they had children they had slightly more children than average. Although we have to be careful when interpreting these findings due to the lack of a matched control group, these findings are in line with the literature on victims of CSA regarding teenage pregnancies, divorce, parenthood (Peleikis et al. 2005), and number of children (Noll et al. 2009; DiLillo et al. 2000). Obviously, due to the lack of a control group, it is impossible to attribute these characteristics to the sample members' CSA victimization. For most outcome measures, we had no comparison data for male victims.

Second, we investigated to what extent characteristics of the sexual abuse were related to any of these outcomes. As many of the characteristics of the abuse were interrelated (with younger victims for instance less often suffering violence and penetration), we employed multivariate models. We found that being abused by a nuclear family member, as compared to other types of perpetrators, predicted teen pregnancies. Contrary to what was expected based on previous research we did not find an effect on teenage parenthood of penetration, the abuse occurring before age 11, or the presence of violence. We further found being abused by a nuclear family member to be related to early marriage and divorce, and being abused at younger ages to be related to a lower likelihood to marry. In addition, for female victims, violence during the abuse was related to higher risk of divorce.

We discuss three pertinent issues with regard to these findings. First, we did not find effects on all dependent variables. This could be due to the analysis being underpowered: some of the outcomes were rare events, and some categories of independent variables sparsely filled, especially for the smaller subgroup of male victims. There may also be heterogeneity in effects for subgroups we did not distinguish. For instance, much may depend on whether victims received adequate care after the abuse, which was information we did not have. More research here is needed. Some of our (absence of) findings do not match those in the literature. Given that some abuse characteristics are interrelated, our multivariate models will have allowed only the unique contributions of variables to emerge. Also, de Jong et al. (2015) previously reported that CSA appears to be associated with the *quality* of adult roles rather than the transition to these roles per se. Therefore, it is possible that abuse characteristics affect

Table 5 Logistic regression model for divorce within those ever married (N = 602)

Predictor	All OR (*p*)	Males OR (*p*)	Females OR (*p*)
Relationship to offender (contrasted to nuclear family)			
Acquaintances, friends, or non-nuclear family	0.74 ($p = .26$)	0.88 ($p = .87$)	0.64 ($p = .14$)
Stranger	0.39 ($p < .01$)	0.42 ($p = .40$)	0.35 ($p < .01$)
Relationship unknown	0.68 ($p = .15$)	0.59 ($p = .47$)	0.63 ($p = .14$)
Age at abuse (contrasted to 0-4)			
4–11	0.80 ($p = .70$)	0.54 ($p = .65$)	0.79 ($p = .71$)
12–16	1.11 ($p = .86$)	0.93 ($p = .96$)	0.98 ($p = .97$)
17–18	1.48 ($p = .51$)	4.85 ($p = .38$)	1.22 ($p = .76$)
Severity of the abuse	1.06 ($p = .70$)	1.08 ($p = .85$)	1.12 ($p = .49$)
Violence during abuse	1.16 ($p = .16$)	0.77 ($p = .45$)	1.22 ($p < .10$)
Multiple abuse	1.03 ($p = .90$)	1.60 ($p = .30$)	0.87 ($p = .59$)

the quality of marriage and parenthood more than entering into marriage or having children per se.

Second, even though for a number of outcomes a model for male victims could not be estimated, for some measures we did find different effects for male and female victims. This is in line with the literature, which has reported that effects might be gendered (Colman and Widom 2004; Nelson et al. 2002).

Third, we found that, across the board, the 'relational setting' of the sexual victimization rather than its violence, serious or repeated nature was related to negative outcomes. Thus, it was whether sexual violence was perpetrated by a person to whom the victim is close, or in a relationship of dependence (such as a father or stepfather), or whether that victimization occurred when the victim was still young and much more dependent on adult (parental) help and support, that impacted on outcomes, more than the specific nature of the abuse. Why that is the case is a matter for further investigation. A possible explanation could be that boys and girls who are victimized by their nuclear family members may want to escape from the family home, either to avoid the perpetrator or to try and leave behind a dysfunctional family that may have led to the abuse in the first place. In trying to do so, they may make the transition to starting a family for themselves or marrying in a sense 'too' young, which in turn increases the risk for divorce later on. Support for this may be found in the fact that the relationship to the perpetrator was not related to marriage in general, but was related to *early* marriage. Another explanation may be the breaking of trust that abuse by a nuclear family member, which is often a father, may incur—especially for young victims—attachment problems. This may lead to victims distrusting men or their partners, leading to dysfunctional relationships. In addition, when a father is the abuser, victims lose a person they would possibly otherwise go to for help; it may thus be that victims of intra-familial abuse received less support and care after the abuse. In that case, it may actually be the lack of support that drives the association, rather than the abuse per se. It is also possible that a third variable explains both the abuse and the adverse family outcomes, such as family or neighborhood characteristics. Support for this may be found in the finding that especially abuse within the family, which could be a marker for family disadvantage, is associated with adverse outcomes. Research with tailored comparison groups is needed here.

Our design has a number of strengths and weaknesses. While the use of court records is a strong feature of this study, because they are marred less from subjectivity and memory issues than most retrospective methods, it has shortcomings as well. With sexual abuse rarely reported to the police, and reported cases not often resulting in conviction, we are likely to have missed out on a large proportion of sexual abuse cases. While our sample of child sexual abuse cases is representative of Dutch court proceedings on sexual crimes, it is likely not representative of all occurrences of child sexual abuse. Particular kinds of abuse are more likely to be reported to the police and to be prosecuted and end up in conviction. Based on the available literature, these are more often cases of stranger abuse and more serious kinds of abuse (Cross et al. 1994; Stroud et al. 2000). In addition, the use of register data, while attractive because of its complete coverage, objectivity and precision, has disadvantages too. First, information on cohabitation and dating relationships was not available. Second, while almost all mothers are known to officially register their biological children, it is well known that for biological fathers this occurs less often. Thus, more male victims in our data will have fathered (and cared for) children than we were able to see. Another limitation of this research is the lack of information on possible confounding variables, such as socioeconomic status of the victims, family dynamics, or neighborhood disadvantages.

Our research has distinct strengths too, for instance, the use of independently assessed sexual abuse information from the court files. Use of these files also implied that information on the abuse had been collected and stored, and did not have to be retrieved from memory when the study was conducted. Thus, even though some memory loss may have occurred when the court files were compiled, this is arguably likely to be considerably less than if the same information would have been collected retrospectively. A second strength is that, by using the judge's verdict to determine the severity of the abuse, this severity was determined more objectively than when only the narrative of the victim would have been used. While the victim's testimony is an important part of the evidence, and is therefore often still the basis for which facts are found to be proven, a judge will investigate more facts that can or cannot support the claims. Third, through the use of archived court files, we were able to follow up victims for a very long time, on average around 33 years. At the time of outcome assessment, victims were on average 44 years old, thus in mid-life. Their relatively high average age, an age where most women are past childbearing age, and most of those who marry will have done so, enables us to assess the aftermath of different kinds of sexual abuse in terms of marriage, childbearing, and the likelihood of divorce. In addition, by using court files and register information, the study was conducted without burdening victims, and with no selective loss to follow-up as compared to a survey.

Conclusion

We studied a large sample of males and females who had been sexually abused as a child, prospectively followed up well into adulthood. For all victims, the abuse consisted of contact sexual abuse and for over half of it entailed penetration. Almost half of the victims were abused multiple times, and over a quarter experienced violence during the abuse. Using register data we had objective data on a number of family outcomes in adulthood.

Overall, this study found that being abused by a nuclear family member, as compared to other types of perpetrators, predicted teenage parenthood, early marriage and divorce. We found being abused at younger ages to be related to lower marriage rates. In addition, for female victims, violence during the abuse was related to higher risk of divorce. No effects of the invasiveness of the abuse were found.

These findings suggest it is more the 'relational setting' of the sexual victimization rather than the nature of the abuse itself, that has the most impact on the victim. More in-depth research is however needed. Unravelling the mechanisms through which CSA victims are affected in their later lives requires larger samples (particularly to be able to estimate effects for male victims), tailored comparison groups, and information on more domains of victims' early and adult lives. All in all, our analyses present a first step in understanding effects of CSA on life domains such as family formation, and show how especially victims abused by people they may expect to shield them from harm, are affected the most in their later lives.

Authors' contributions

RdJ was responsible for data collection. Both RdJ and CB were responsible for analysis, the interpretation of the findings, drafting and revising the manuscript. Both authors read and approved the final manuscript.

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Competing interests

The authors declare that they have no competing interests.

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