

Gorinas, Cédric

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A Detailed Analysis of Childhood Victimization Using National Registers: Forms and Sequencing of Violence and Domestic Abuse

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DISCUSSION PAPER SERIES

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The Danish Centre for Social Research and IZA

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ABSTRACT

A Detailed Analysis of Childhood Victimization Using National Registers: Forms and Sequencing of Violence and Domestic Abuse*

Using highly detailed longitudinal data from Danish registers, this study overcomes limitations inherent in victimization surveys and compares the role of individual and family characteristics for five forms of childhood violence, including sexual assaults and threats. The study also examines repeated and poly-victimization and the factors underlying abuse by different types of domestic perpetrators. This study finds that children aged 0 to 12 are the most exposed to sexual abuse, aggravated violence, and domestic abuse; that 30% of young victims of sex and threats will be victimized again; and that the economic and physical vulnerability of the mother in particular is a strong risk factor for early abuse. This study shows the importance of national registers in uncovering under-researched areas of childhood victimization and identifying the most vulnerable groups.

JEL Classification: J12, J13

Keywords: victimization, domestic crime, violence, child abuse

Corresponding author:

Cédric Gorinas
The Danish Centre for Social Research
Herluf Trolles gade 11
1052 Copenhagen
Denmark

E-mail: gorinas@hotmail.co.uk

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Introduction

In the United States and Europe, the rates of sexual and violent victimization among children and adolescents are twice as high as those among adults. According to victimization surveys, about half of children aged 0-17 have experienced a form of assault, and two percent were sexually abused in the preceding year (Finkelhor et al., 2010; Finkelhor, 2011; WHO, 2013). Estimates of the lifetime cost of child maltreatment reach up to \$210,000 (Fang et al., 2012)—a total of \$56 billion in 1993 (Miller et al., 1996).

Scholars have extensively studied the origins of crime and victimization, largely drawing from social disorganization theory (Shaw and McKay, 1942) and routine activity and lifestyle theories (Hindelang et al., 1978; Cohen et al., 1981). In essence, the social disorganization theory posits that instability in the social environment can lead to crime, while the routine activity and lifestyle theories propose a more individual-based approach, viewing victimization as resulting from the combination of a motivated offender, a suitable victim, and an ineffective guardianship. Quantitative researchers have corroborated both theoretical implications again and again: They show that living in a socially and economically disadvantaged community constitutes the main determinant of violence and that violent victimization, in particular, is more common among more vulnerable and delinquent people (for empirical reviews see, e.g., Patterson, 1991; Finkelhor, 2011; WHO, 2013).

However, all the many well-documented studies notwithstanding, certain areas of victimization remain unexplored because victimization surveys, on which most of these studies rely, have inherent limitations (Finkelhor, 2011; Aaltonen et al., 2012; see also Levine, 1976). For example, these surveys often focus on specific types of victimization (e.g., peer or dating violence, emotional abuse) and typically neglect domestic crime, sexual abuse, or the reoccurrence of victimization (Finkelhor, 2011). Moreover, surveys often cannot cover certain segments of the population, such as very young children (Finkelhor et al., 2010), immigrants and their descendants (Lauritsen, 2010), rural populations (Sharpe, 2014), or people with low socioeconomic status (Catalano, 2007; see also Addington, 2008).

Furthermore, victimization surveys rely on self-reported data on both the crime and the individuals' socioeconomic background (Aaltonen et al., 2012). Yet individuals' recollection of an *experienced* crime might not match the legal definition of a crime, complicating the generalization of the results (Melchert and Parker, 1997; Fergusson et al., 2000; Hardt and Rutter, 2004). Moreover, if we want to understand the sequencing of crime and the factors leading to repeated victimization (i.e., an individual's multiple experience of the same form of victimization) and poly-victimization (i.e., an individual's experience of different forms of victimization), the lack of longitudinal data in victimization research is problematic (Finkelhor et al., 2010). Thus more work is necessary for obtaining a fuller picture of certain forms of young people's victimization and the risk factors underlying victimization.

This study sheds light on the broad spectrum of victimization among young people by exploiting Danish registers and combining police records of victimization with a series of longitudinal registers for both individuals and their families. In this study, "childhood victimization" refers to five forms of violence suffered by those aged 0 to 20: sexual assaults (from indecent exposure to rape), simple violence (a few beatings with limited consequences), aggravated violence (more serious beatings with consequences), robbery, and threats (threats to people's lives and pressure on witnesses). First, I examine and compare the role of individual and parental characteristics for the five forms of childhood victimization. Second, I exploit the longitudinal nature of the registers to examine the patterns and the risk factors of repeated and poly-victimization. Third, I investigate the factors underlying domestic crime perpetrated by different family members.

Even though the underreporting of violent victimization is undeniable (Tjaden and Thoennes, 2000; Catalano, 2005),¹ data from national registers can overcome several limitations of surveys. Yet, while register data is used extensively in research on offending, its use remains very limited in the field of victimization. Exceptions include Nilsson and Estrada (2006, 2007), Estrada (2006), Aaltonen et al. (2012), Aaltonen (2016), who use Nordic registers to examine adult victimization, including violence and

¹ The U.S. Bureau of Justice (2016) estimates the reporting rates of aggravated assaults at 68% and of sexual assaults and simple violence at 35 and 38%, respectively. In Denmark, reporting rates range between 25% (forced intercourse for adults) to 50% (robbery) (Balvig et al., 2013, Boesen-Pedersen et al., 2014). The Danish victimization registers also contain cases of third-reported victimization, which are particularly relevant for young victims (Felson et al., 2002).

property crime, the socioeconomic outcomes, and the neighborhood characteristics of victims. In contrast, this study draws an exhaustive picture of childhood *violent victimization* and uses a richer set of variables to capture the victims' background, including parents' health and criminal history, and to identify perpetrators.

This study makes three contributions to the literature on the risk factors underlying childhood victimization. First, the analyses are the first to draw on official, detailed, and longitudinal data on young victims and their families' characteristics for an entire population. I have access to individual data on demographic, socioeconomic, health outcomes, and criminal history, as well as victimizations reported to the police between 2001 and 2012. The data allows me to compare risk factors underlying different forms, and the reoccurrence, of childhood victimization. Second, I link victims to their perpetrators via a common case-specific identifier across police registers. I use this link to examine not only domestic crime perpetrated by different family members but also the differences between cases that receive further police investigation and those that do not.

Third, and more generally, I show the importance of administrative data for future research in childhood victimization and, eventually, for crime prevention policy. Indeed, such data can help reveal gray areas in this under-researched but highly important subject. Moreover, the findings in this study can help policy makers reduce crime by targeting prevention and protection programs at the most vulnerable groups (Fajnzylber et al., 2000; Lauritsen, 2010; Lauritsen and Heimer, 2010), preventing its reoccurrence (Farrell et al., 2005; Grove et al., 2012), and improving the lives of a great many children.

Methodology

Data

This study uses data from Danish administrative registers, available for each official Danish resident in the country via a secured access provided by Statistics Denmark. I focus on individuals aged 0 to 20 (hereafter, "children and adolescents") to draw a complete picture of the forms of victimization experienced at different stages of early life. I include young adults up to 20 years old, so that the sample

covers individuals who can be held criminally responsible (in Denmark, older than 15) when examining the overlap between offending and victimization. I use registers on demographic and socioeconomic variables (age, gender, ethnicity, income, labor market status, education), registers on hospital records (hospitalizations, diagnoses), police registers on criminal convictions (crime, date of conviction), police registers on criminal charges (crime, date of the charge), and police registers on victimization (crime, date of victimization, self-reporting of the crime, location). Note that, for each year, I draw information for the entire population aged 0-20; thus constructing a sample that is not censored but simply limited by the period available (2001-2012).

For each year between 2001 and 2012, I retrieve a large number of variables for each individual by linking registers to one another via a common anonymous ID code. In addition to an ID code for each person, the registers on demographic and socioeconomic variables contain separate ID codes for the mother, the father, the household and, when available, the official partner of the mother or the father. These other codes allow me to include official measures of an individual's family background.

The police registers contain a case-specific ID code, which I use to link victims and perpetrators who face a criminal charge and to determine whether a case involves several victims or offenders. The analyses start with the entire Danish population younger than 20 in the years 2001 to 2012 (N=16,714,142) and then focus on the reported victims of violence (N=64,600).

Analysis of childhood victimization

I analyze patterns of childhood victimization and the factors underlying its different forms in three stages. To distinguish victims from non-victims among children and adolescents, I first use the population of Danish children and adolescents to compare the mean of variables from the registers between each group. Second, I investigate the reoccurrence of victimization through childhood and adolescence with a sequencing analysis, which allows me to examine the sequencing patterns of different forms of victimization over time. Third, to investigate the risk factors behind different forms of victimization,

repeated and poly-victimization, and domestic abuse, I run ordinary least squares regressions with fixed effects.² The following two sections present the variables used in the regression analyses.

Dependent variables

The regression analyses in this study aim at identifying the significant risk factors underlying violent victimization among children and adolescents, where violence is defined in different ways. In each regression, the dependent variable is dichotomous and equal to 1 if the victimization is defined as type h , where h is denoted at the top of each column in each table and denotes either one of five forms of violence (sexual assaults, simple violence, aggravated violence, robbery, or threats), repeated victimization (i.e., several occurrences of the same category of victimization within year t or over the period), poly-victimization (i.e., several forms of victimization within year t or over the period) or domestic abuse perpetrated by one of four family members (i.e., a biological parent, a parent's new partner, a sibling, or another household member).

To investigate domestic abuse, I use the common case-specific ID code across police registers to link victims to charged perpetrators. I thus define a dummy variable equal to 1 if I can link a victimization case to a charged individual from the registers on charges, either in the same year or in a later year (65% of all childhood victimization in the period).³

I exclude victims of property crime (pickpocketing and theft) and categories with observations that are too few, too specific, or too difficult to interpret (breaches of restraining orders, threats against public authorities, and crime related to immigration laws).

² Probit estimations yield very similar results. Immigrants who did not immigrate to Denmark with their parents or whose parents did not already live in Denmark when they immigrated would be excluded from econometric specifications that control for parental variables. Similarly, as this project does not have access to income data after 2011, 2012 is excluded from the regressions.

³ I choose to link victims to charged, not convicted, perpetrators because Statistics Denmark has had a tradition for using charges as a way to measure "explained" crime (Statistics Denmark, 2015). Moreover, the court decision process takes significantly longer and using only convicted criminals would generate a larger attrition over time.

Independent variables

The independent variables represent risk factors and capture a series of variables on the individual's demographic, socioeconomic, health-related, criminal, and victimization characteristics.

Demographic variables include age (five groups), gender, and ethnic origin (western or non-Western origin). Socioeconomic variables capture an individual's family background: how many parents the individual lives with, large family, urbanization (i.e., whether a person lives in a municipality with more than 40,000 inhabitants), age difference with the parents, and each parent's marital status, level of education, employment situation, and income poverty (i.e., in the lowest 25th percentile of the income distribution). Health variables include information about both the individual (i.e., hospitalization in the previous 12 months, diagnosis for a mental or nervous illness in the previous 12 months) and each parent (i.e., any hospitalization in the previous six years). I also capture the criminal behavior of each parent (i.e., convicted in the previous six years) and individuals older than 16 (i.e., convicted in the previous 12 months).

In the section on domestic crime, I use the ID code for the official partner to identify a parent's new partner (not a biological parent). In the regression analyses in this section, I also control for the following victimization characteristics: the form of violence, whether the crime occurs in a different municipality than that of the individual's residence, whether the victim or a third person reports the crime, whether the victim is hospitalized within two days following the assault, and whether several victims or several offenders are involved. (The results do not change when I control for victimization characteristics in the other regression analyses.)

Mean comparison and Sequencing Analysis

Mean comparison

This section compares the means of central variables between victims and non-victims (individuals who do not appear in the victimization registers in the period) younger than 20 (Table I).

Table I about here

As in previous studies, Table I shows that a person's socioeconomic background is the major risk factor for violent victimization (e.g., Shaw and McKay, 1942; Sampson and Groves, 1989; Glaeser and Sacerdote, 1999; Levitt, 1999; Finkelhor et al., 2005; Lauritsen and Laub, 2007). Indeed, 44 percent of young victims of violence live in single-parent households, compared to 25 percent for non-victims. Moreover, two thirds of victims have either one or both parents with a yearly income (including social benefits) below the 25th percentile—whereas only 50 percent of non-victims do. The educational level of the parents constitutes another significant difference between victims and non-victims: Nearly 40 percent of victims' mothers or fathers are not educated beyond compulsory schooling (9th grade), compared to only 25 percent of non-victims. Likewise, in line with survey-based studies (e.g., Straus, 1994; Thacher, 2004; Butler, 2013), the table shows that victims are twice as likely as non-victims to have young parents (34 and 18 percent, respectively).

In terms of demographics, Table I shows that those aged 12 to 20, particularly males, are overrepresented among victims of violence. This finding makes sense for two reasons. First, a risky behavior leads to exposure to crime, not only as a victim but also as an offender (Hindelang et al., 1978; Cohen et al., 1981; Fisher et al., 1998). Second, delinquency is stronger during young adulthood and among males (e.g., Greenberg, 1985). In contrast, children and adolescents younger than 12, rarely sampled in earlier victimization surveys, are less likely to be victims.⁴ Furthermore, ethnic minorities—particularly of non-Western origin—are more exposed to crime (for similar U.S. evidence, see Straus and Smith, 1990; Ross, 1996; Lauritsen and Laub, 2007).

In terms of delinquent behavior, victims are three times more likely than non-victims to be ex-convicts (among adolescents older than 16) and children and adolescents with ex-convict parents are overrepresented among the victims. These findings are in line with those of studies showing that children inherit criminal behavior from their parents (e.g., Curtis, 1963; Widom and Wilson, 2015) and that victims tend to be prior offenders (Deadman and MacDonald, 2004; Allen, 2011; Entorf, 2015).

⁴ Among victims aged 0-6, 25% experienced their first victimization before age 3 and 50% before age 4.

For health, children and adolescents with earlier hospitalization or with earlier hospitalized parents are over-represented among victims. For example, 41 percent of victims have been hospitalized in the previous year, compared to 28 percent of non-victims; 2 percent have received a diagnosis for mental or nervous illness compared to 0.05 percent of non-victims; and 36 percent of victims' mothers have been admitted to the hospital in the previous six years, compared to 34 percent of non-victims' mothers. Earlier studies on child abuse show an association between childhood victimization and either parent's illness (Cicchetti and Rizley, 1981; Margolin and Larson, 1988) or the child's health (Tajima, 2000; Butler, 2013).

Finally, focusing on victims only, the bottom panel of Table I shows that the most common forms of violence reported in the registers are simple violence (47 percent), sexual assault (24 percent), and robbery (14 percent), followed by threats (9 percent) and aggravated violence (7 percent). Moreover, looking at repeated and poly-victimization, I show that in any year 4 percent of victims suffer several crimes—whether the same type or multiple types, while across all the years in the sample 9 percent and 10 percent of victims are repeated and poly-victims, respectively.

Overall, the findings in Table I are in line with those from victimization surveys: Young victims come from unstable environments in terms of socioeconomic background, criminality, and hospitalization history in the family.

Sequencing analysis

Most studies examining the factors leading to violent victimization focus on one single occurrence of violence, a particular form of crime or a limited range of crimes (e.g., Addington, 2008; Grove et al., 2012). However, other studies that have been able to follow children over time and cover multiple crimes show that many young victims become victims again of either the same crime (repeated victimization) or different ones (poly-victimization) (e.g., Finkelhor, 2011). Unfortunately, these studies also argue that poly-victimization and repeated victimization are more detrimental than a single victimization (Finkelhor

et al., 2005). This section contributes to the sparse literature on repeated and poly-victimization by examining the sequencing of victimization among children and adolescents over 2001-2012.⁵

The analysis starts with a graphical representation in Figure I of the form of crime under the first victimization for five age groups (0-6, 6-12, 12-15, and 18-20), and only for individuals who appear several times in the victimization registers between 2001 and 2012 (N=14,513). Figure I shows that young victims of sex, aggravated violence, and—to a lesser extent—victims of simple violence and threats are more likely to be victimized again. Indeed, 56 percent of sex victims younger than 15, 16 percent of threat victims aged 15-20, and 13 percent of victims of aggravated assaults aged 0-6 become victimized again.

Figure I about here

Table II examines crime sequencing, i.e., which forms of victimization occur and when, for selected age groups.⁶ The first two columns present the age-and-victimization groups that are followed over time. The group that is most often victimized again is threat victims aged 12-20: 32 percent become victimized a second time, and 10 percent a third time. The subsequent victimizations typically take the form of simple violence or more threats. This finding is in line with that of Brewster (2000), who also shows that threat victimization often precedes violence.

Table II about here

Sex victims are also at high risk of being victimized again: 28 percent of the 15-20 age group and 22 percent of the 0-15 age group. Up to 14 percent are repeat victims of sex a second time, and 5 percent a third time. Finally, I find that although 12 percent of victims of simple violence become repeat victims once, few are repeat victims twice or more. In sum, this sequencing analysis shows that sex victims and threat victims are at particularly high risk of repeated victimization, or victimization as “a condition rather than an event” (Finkelhor, 2011: 22).

⁵ Clearly, I might miss children and adolescents who were already known to the police as victims before the victimization registers started in 2001. I argue, however, that this problem is likely to be minor, given that second victimizations typically happen in the same year (31%) or the following year (29%). Interestingly, I also find that the period between two successive victimizations shrinks with the ranking of victimizations: 44% of third victimizations and 56% of fourth victimizations happen within a year of the previous victimization.

⁶ Due to data protection rules for results with only few observations, I cannot follow the reoccurrence of victimization of young victims of aggravated violence.

Regression analyses

Forms of violence

The first set of regression analyses investigates the factors related to five forms of victimization, as well as repeated and poly-victimization (Table III), using a sample of all children and adolescents who appear in the victimization registers in any year (i.e., one observation per person per year), with N=52,363. I discuss the results for each group of variables—demographic, socioeconomic, criminal, and health—successively.

Table III about here

In terms of demographics, children aged 0-6 are more likely to experience sexual abuse and aggravated assaults than the reference group (adolescents aged 15-18). Given that very young children are the most vulnerable (e.g., Finkelhor, 2011), this finding makes sense. In terms of multiple victimizations, all age groups are generally as likely as the reference group to be repeat victims (col. 6), while victims aged 0-12 are significantly less likely to be poly-victims (col. 7). Children and adolescents of non-Western descent are significantly more exposed to simple and aggravated violence and threats (cols. 2, 3 and 5).

Unstable family structure relates to childhood victimization (see also, e.g., Bronfenbrenner, 1979; Belsky, 1980). In this study, I find that victims of threats and aggravated violence, as well as repeated and poly-victims, typically do not live with their parents. In contrast, sex victims are more likely to live with their parents. The remaining estimates of the socioeconomic variables in Table III are in line with the literature: Victims of violence commonly come from a disadvantaged background. Yet this finding does not hold for victims of robbery (col. 4), likely because robbery is both a violent and a property crime (e.g., Becker, 1968).

In terms of health, children and adolescents with mental or nervous illness diagnoses are significantly more likely to be poly-victims and victims of simple violence. Moreover, having a previously hospitalized mother in particular is a significant predictor of violence (cols. 2 and 3), threats (col. 5) and poly-victimization (col. 7). In addition, criminal history, whether individual or parental, is only significant and positive for aggravated violence (col. 3).

Even though the register-based variables cannot capture some of the more qualitative risk factors underlying victimization, such as parents' substance abuse or their level of interaction with the child, the findings thus far are largely in line with the literature. This similarity strongly suggests that the detailed level of information and the possibility of controlling for local and time effects in register data are satisfactory and reliable for future research on childhood victimization.

Domestic abuse

This section examines the factors underlying domestic abuse perpetrated by four family members. The identification of the assailants in the data comes from the link between victimization and criminal charge registers. However, the police charge some, but not all, perpetrators. Thus a potential selection bias, hereafter referred as police investigation bias, might emerge if the likelihood of someone being charged depends not only on the characteristics of the case (and the information available to the police) but also on the victim's characteristics. Therefore, before looking into the factors associated with domestic abuse, this section starts by examining the characteristics underlying police investigation,.

The assessment of police investigation bias draws from regression analyses of an indicator for whether the police charge someone on the victim's and the case's characteristics. Results are briefly discussed and shown in Appendix 2. In sum, the analysis shows very little police investigation bias. Indeed, the probability that a criminal charge follows victimization is generally case-dependent, and not victim-dependent. Nonetheless, all other things equal, the police are more likely to investigate the victimization of very young children and that of previously convicted adolescents (see Appendix 2). Reasons behind these findings might be that the reporter of crime involving very young victims often knows the identity of the assailant and that ex-convicts fear typically fewer reprisals from their perpetrator.

The first analysis in this section is in line with the sparse police investigation literature (Allen, 2011) and supports the reliability of register data for research on domestic abuse. The section continues with the investigation of the factors underlying domestic abuse perpetrated by four categories of assailant:

a biological parent, a parent's new partner, a sibling (or half-sibling), or another member of the household, in Table IV.

Table IV about here

The top row of Table IV shows the frequency of each type of domestic abuse (in percent). Biological parents are the most common perpetrators of domestic abuse (7 percent of the sample), while each of the other categories represents approximately 2 percent of the sample. Further calculations show that, while simple violence is the most common form of domestic abuse, sexual assault represents about half of the abuses perpetrated by a biological parent or a parent's partner (I do not find that victims are assaulted by both a parent and a parent's partner; see also Appendix 1).

In the regression analyses, I run two specifications for each perpetrator category: one with the same controls as in Table III and one in which I add controls for the form of crime and whether the individual is a repeat or a poly-victim. Table III shows that the risk factors underlying child abuse greatly differ by perpetrator. In terms of demographics, young females have a 1-to-3 percent higher risk of domestic abuse than males. Furthermore, cols. 1-2 show that victims aged 0-6 or 6-12 are 50 and 16 percent, respectively, more likely to be abused by a biological parent than victims aged 15-18. Children and adolescents aged 6-12 are at the highest risk of abuse by a parent's partner (up to 2 percent more, cols. 3-4), while those aged 0-12 are significantly more likely to be abused by another household member (up to 17 percent more, cols. 7-8).

Moreover, compared to ethnic Danes, non-Western children and adolescents are more likely to be abused by a parent or another household member (cols. 1-2 and 7-8), but less likely to be victims of a parent's new partner (cols. 3-4). This result makes sense given that divorce rates are lower among non-Western minorities (Statistics Denmark, 2016).

In terms of socioeconomic characteristics, children and adolescents who live with only one parent (the non-abusive mother for 60 percent of the sample) are more likely to be abused by a step-parent (cols. 2-3) or another household member (cols. 7-8)—who most likely is a co-habiting but unofficial partner. In addition, children and adolescents with relatively young parents are more likely to be victims of a parent's partner (cols. 3-4) and less likely to be victims of siblings (cols. 5-6). Furthermore, the

likelihood of abuse by a biological parent (the father in 82 percent of the cases) is higher for children and adolescents with fathers who are jobless, in the bottom income group, or ex-convicts (i.e., abusing fathers are for the most part unemployed or out of the labor force, relatively poor, and criminal). Interestingly, children and adolescents with a mother who is well off economically and physically, and thus able to provide for her children, are significantly less likely to be abused. This finding is in line with the importance of wives' economic independence for preventing marital abuse (e.g., Anderberg et al., 2015).

Surprisingly, I do not find that victims with previous hospitalizations or mental or nervous illness diagnoses are more likely to be abused. While this finding contrasts with, for example, Kaufman and Zigler (1989), it makes sense given that abusive parents are less attentive to their children's needs (e.g. Butler, 2013) and might fear being reported by hospital staff. Thus I find that abused children and adolescents generally do not go to the hospital directly following victimization, and neither do they report the abuse themselves. These findings exemplify the challenges of identifying domestic abuse victims who typically are dependent on their perpetrators and victimized in the absence of witnesses (Felson et al., 1999).

Another valuable finding is that abuse does not always take place in the child's home. In particular, abuse by a biological parent is more likely to happen outside of the victim's home locality, most likely because the abuser no longer lives with the child. In contrast, victimization by another household member or a parent's partner is more likely to happen in the home locality and is therefore more likely to occur in the child's home.

Finally, adding controls for the type of crime (cols. 2, 4, 6, and 8) does not change the results. Instead, it shows that victims of a biological parent are likely to become repeat victims (col. 2).

Overall, this analysis brings new evidence to the literature on the factors underlying domestic abuse. Indeed, I find that abuse by a parent's partner generally takes place near (or in) the victim's home, while abuse by a biological parent happens in another municipality. The analyses also confirm that the economic and health vulnerability of the mother are central to child abuse, particularly for mothers of non-Western origin.

Conclusion

The empirical literature on young victims of violence clearly shows that the most vulnerable are children and adolescents growing up in an unstable, relatively poor, and criminal environment. Previous studies, however, are often limited in scope—either in terms of victims’ background variables or of the forms and intensity of crime—due to the inherent limitations of their data source: victimization surveys and interviews of young people and their families.

Preventing and reducing childhood victimization heavily depends on our knowledge of this subject, and thus on the quality and precision of the data available for investigating it. This study is the first to exploit longitudinal, detailed, and official data from national registers including police records of victimization, charges, and convictions, as well as population, hospital, and labor market registers. The two central questions guiding the analyses are whether register data represents a reliable source to study childhood victimization and, if it does, what new findings register data can bring in terms of both victims’ background and victimization crime.

With respect to victims’ age, for example, the study shows that victims aged 0-12 are more exposed to sexual abuse and aggravated violence, and to abuse by a biological parent or a parent’s new partner, compared to older children and adolescents. Once their victimization is known to the police, victims aged 0-6 are also more likely to have their perpetrators charged with the crime. As to the form of victimization, the analyses reveal, among other things, that one third of sex victims and one third of threat victims will be victimized again, and that abuse by a parent’s partner typically occurs near (or in) the victim’s home, in contrast to abuse by a biological parent.

In terms of crime prevention and child protection policy, the findings of this study call for an increased focus on the following groups: very young victims, victims of sexual abuse, threat victims, children and adolescents with a criminal record, and those with a mental or nervous illness diagnosis. Moreover, the findings suggest that victimization prevention initiatives need to target specific groups of mothers; especially young, unemployed, low-income earner, non-western mothers and mothers with earlier hospitalizations.

As to the reliability of register data in studying childhood victimization, the findings confirm those from earlier studies based on victimization surveys: Violent victimization is more common among children and adolescents from disadvantaged backgrounds. While official police data alone might not suffice for showing crime trends (Baumer and Lauritsen, 2010), I argue that the register data of the type used in this study (i.e., with its high level of detail) is reliable and can significantly contribute to the victimization literature.

Future research should exploit register data to examine other unexplored areas of childhood victimization. For example, more research could use the possibility of linking charged offenders and victims to investigate interethnic crimes and marital violence. Moreover, thanks to the longitudinal nature of the data, scholars could evaluate the detailed consequences of childhood victimization suffered at different stages of life on various outcomes (see, e.g., McMillan, 2001, for a review). Increasing the use of data from statistical bureaus and police authorities can only further encourage victims and witnesses to report crime, thereby eventually reducing child victimization.

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Figures and Tables

Table I. Summary statistics (means) for Non-Victims and Victims of Violence.

| | Non-Victims | Victims |
|--|-------------|---------|
| <i>Demographic variables</i> | | |
| Age 0-6 | 0.331 | 0.027 |
| Age 6-12 | 0.295 | 0.120 |
| Age 12-15 | 0.145 | 0.285 |
| Age 15-18 | 0.139 | 0.426 |
| Age 18-20 | 0.0895 | 0.142 |
| Male | 0.512 | 0.590 |
| Ethnic Dane | 0.899 | 0.894 |
| Non-Western | 0.0860 | 0.094 |
| <i>Socioeconomic variables</i> | | |
| Lives with both parents | 0.941 | 0.819 |
| Lives with one parent | 0.251 | 0.441 |
| 3 or more children in family | 0.289 | 0.242 |
| Urban | 0.414 | 0.479 |
| 1 or 2 young parents (<25 years old at birth) | 0.176 | 0.335 |
| Father income low 25th pctl | 0.238 | 0.317 |
| Mother income low 25th pctl | 0.333 | 0.362 |
| Father married | 0.686 | 0.541 |
| Father employed | 0.760 | 0.648 |
| Father primary school or dropout | 0.266 | 0.415 |
| Father secondary school | 0.451 | 0.408 |
| Father tertiary school | 0.283 | 0.178 |
| Mother married | 0.691 | 0.548 |
| Mother employed | 0.717 | 0.634 |
| Mother primary school or dropout | 0.234 | 0.381 |
| Mother secondary school | 0.414 | 0.390 |
| Mother tertiary school | 0.352 | 0.230 |
| <i>Health and criminal variables*</i> | | |
| Hospital previous year (child) | 0.276 | 0.410 |
| Mental/Nervous illness previous year (child) | 0.006 | 0.021 |
| Hospital previous six years (father) | 0.239 | 0.290 |
| Hospital previous six years (mother) | 0.342 | 0.363 |
| Convict in previous year (child ab. 16) ⁺ | 0.004 | 0.013 |
| Convict in previous six years (father) | 0.215 | 0.274 |
| Convict in previous six years (mother) | 0.0738 | 0.107 |
| <i>Victimization variables</i> | | |
| Sexual assault | | 0.239 |
| Simple violence | | 0.466 |
| Aggravated violence | | 0.072 |
| Robbery | | 0.135 |
| Threats | | 0.089 |
| # reports in year <i>t</i> | | 1.041 |
| Repeated victim in year <i>t</i> | | 0.019 |
| Poly-victim in year <i>t</i> | | 0.017 |
| # reports between 2001 and 12 | | 1.246 |
| Repeated victim between 2001 and 2012 | | 0.093 |
| Poly-victim between 2001 and 2012 | | 0.100 |

| | | |
|--------------|------------|--------|
| Observations | 16,649,542 | 64,600 |
|--------------|------------|--------|

Notes: Author's calculations from Statistics Denmark, using data on the Danish population younger than 20, 2001-2012. Victims are persons younger than 20 who appear in the victimization registers over the period; non-victims are the rest of the population in the same age group. Victimization in this table is a dichotomous variable equal to 1 if the person experiences at least one victimization in a given calendar year. *For victims, the previous year is the previous 12 months before the assault; for non-victims (parents), the previous calendar year (six years). *Means are for the age group 16-20: N(Non-Victims) = 3,810,521; N(Victims) = 36,696.

Figure I: Crime type of first victimization, by age group. Police reports of childhood victimization where the victim appears several times in the registers between 2001 and 2012.

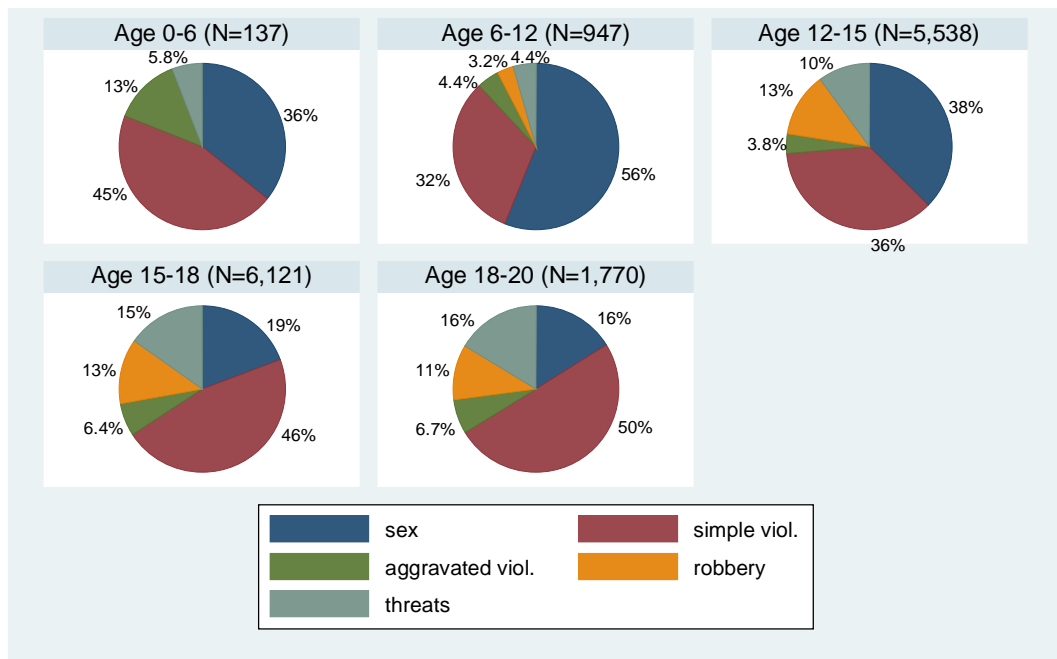


Table II: Reoccurrence of victimization, share by type of crime experienced in the 2nd and 3rd victimizations. Police reports of childhood victimization. 2001-2012

| <i>age group</i> | <i>1st crime</i> | <i>N</i> | <i>2nd crime: share of total N in age and first crime categories</i> | | | | | | | <i>3rd crime: share of total N in age and first crime categories</i> | | | | | | |
|------------------|-----------------------------|----------|---|------------------|-----------------|----------------|----------------|----------------------------------|---------------------------------|---|------------------|-----------------|----------------|----------------|----------------------------------|---------------------------------|
| | | | <i>Sex</i> | <i>Simple V.</i> | <i>Aggr. V.</i> | <i>Robbery</i> | <i>Threats</i> | <i>2nd crime: YES</i> | <i>2nd crime: NO</i> | <i>Sex</i> | <i>Simple V.</i> | <i>Aggr. V.</i> | <i>Robbery</i> | <i>Threats</i> | <i>3rd crime: YES</i> | <i>3rd crime: NO</i> |
| 0-15 | <i>sex</i> | 9,230 | 13.8% | 4.7% | 0.7% | 0.8% | 1.7% | 21.6% | 78.4% | 4.6% | 1.3% | 0.3% | 0.2% | 0.7% | 7.1% | 92.9% |
| 15-20 | <i>sex</i> | 7,697 | 13.2% | 8.3% | 1.5% | 1.1% | 3.5% | 27.6% | 72.4% | 3.7% | 2.6% | 0.6% | 0.3% | 1.6% | 9.0% | 91.0% |
| 0-15 | <i>simple v.</i> | 7,035 | 2.7% | 11.7% | 1.5% | 2.5% | 2.9% | 21.3% | 78.7% | 0.8% | 2.3% | 0.4% | 0.7% | 1.1% | 5.2% | 94.8% |
| 15-20 | <i>simple v.</i> | 23,804 | 1.1% | 10.4% | 1.9% | 1.8% | 4.1% | 19.3% | 80.7% | 0.3% | 2.3% | 0.5% | 0.4% | 1.3% | 4.8% | 95.2% |
| 12-20 | <i>threats</i> | 5,616 | 2.6% | 14.3% | 3.2% | 2.4% | 9.2% | 31.7% | 68.3% | 0.5% | 3.8% | 0.9% | 0.8% | 3.5% | 9.5% | 90.5% |

Notes: Author's calculations from Statistics Denmark. Each cell shows the percentage of young victims(aged 0-20) who experience a second and (or) a third victimization out of the total number of victims aged 0-20 in the corresponding age and first experienced crime (first three columns on each row). Number are for the entire period (2001-2012) and the most common crime groups. For example (first row), 13.8 percent of the children age 0-15 who experienced sexual assault as a first victimization will experience another sexual assault the second time they are victimized, while 7.1 percent of the children age 0-15 will be victimized a third time.

Table III: Factors underlying the probability of victimization by form of crime. Police reports of childhood victimization, 2001-2011

| | <i>Dep. var.: 1 or more victimization of type V in a year</i> | | | | | | |
|--------------------------------|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| | Sex | Simple V | Aggr. V | Robbery | Threats | Repeated | Poly |
| <i>Demographic variables</i> | | | | | | | |
| Age 0-6 | 0.177** (0.017) | -0.100** (0.019) | 0.069** (0.013) | -0.090** (0.012) | -0.057** (0.008) | -0.001 (0.005) | -0.015** (0.002) |
| Age 6-12 | 0.311** (0.010) | -0.164** (0.015) | -0.029** (0.005) | -0.061** (0.008) | -0.057** (0.005) | 0.003 (0.003) | -0.012** (0.001) |
| Age 12-15 | 0.087** (0.007) | -0.069** (0.007) | -0.036** (0.003) | 0.035** (0.010) | -0.018** (0.003) | 0.006** (0.002) | 0.002 (0.002) |
| Age 18-20 | -0.045** (0.005) | 0.045** (0.008) | 0.026** (0.005) | -0.036** (0.008) | 0.010* (0.004) | -0.003* (0.002) | 0.001 (0.002) |
| Male | -0.431** (0.008) | 0.250** (0.018) | 0.046** (0.003) | 0.145** (0.017) | -0.010** (0.004) | -0.009** (0.002) | -0.003* (0.001) |
| Non-Western | -0.102** (0.007) | 0.085** (0.014) | 0.071** (0.007) | -0.104** (0.017) | 0.051** (0.006) | -0.006* (0.003) | 0.004 (0.002) |
| <i>Socioeconomic variables</i> | | | | | | | |
| Lives with both parents | 0.030** (0.006) | -0.004 (0.009) | -0.009* (0.004) | 0.006 (0.006) | -0.023** (0.004) | -0.012** (0.003) | -0.008** (0.002) |
| Lives with one parent | 0.018** (0.006) | 0.015+ (0.008) | -0.015** (0.004) | 0.002 (0.005) | -0.019** (0.004) | -0.004+ (0.003) | -0.005* (0.002) |
| 3 or more children in family | 0.011* (0.004) | 0.010+ (0.006) | 0.000 (0.003) | -0.016** (0.004) | -0.005 (0.003) | -0.001 (0.002) | -0.000 (0.002) |
| Urban | 0.222** (0.003) | -0.192** (0.005) | -0.103** (0.002) | 0.216** (0.004) | -0.143** (0.002) | 0.005** (0.001) | 0.016** (0.001) |
| 1 or 2 young parents | -0.004 (0.004) | 0.015** (0.005) | 0.004 (0.003) | -0.014** (0.004) | -0.000 (0.003) | 0.002 (0.001) | 0.001 (0.001) |
| Father income low 25th pctile | 0.006 (0.004) | -0.008 (0.005) | 0.004 (0.003) | -0.009* (0.004) | 0.008* (0.003) | 0.004* (0.002) | 0.000 (0.001) |
| Mother income low 25th pctile | 0.002 (0.004) | -0.002 (0.005) | 0.001 (0.003) | -0.000 (0.003) | -0.000 (0.004) | 0.001 (0.001) | 0.001 (0.001) |
| Father married | -0.005 (0.005) | 0.009 (0.006) | 0.003 (0.003) | -0.005 (0.005) | -0.002 (0.004) | 0.003 (0.002) | 0.001 (0.001) |
| Father employed | 0.013* (0.005) | -0.016* (0.006) | -0.001 (0.003) | 0.002 (0.004) | 0.003 (0.004) | -0.000 (0.002) | -0.002 (0.002) |
| Father secondary school | 0.005 (0.004) | 0.003 (0.005) | -0.004 (0.003) | 0.005 (0.003) | -0.009** (0.003) | -0.003+ (0.002) | -0.001 (0.001) |
| Father tertiary school | 0.013** (0.005) | -0.010 (0.008) | -0.008* (0.003) | 0.024** (0.006) | -0.019** (0.004) | -0.001 (0.002) | -0.005** (0.002) |
| Mother married | 0.006 (0.005) | -0.006 (0.007) | -0.004 (0.003) | 0.005 (0.004) | -0.001 (0.004) | 0.000 (0.002) | -0.001 (0.002) |
| Mother employed | 0.002 (0.005) | -0.002 (0.006) | -0.004 (0.003) | 0.010* (0.005) | -0.006 (0.004) | -0.001 (0.002) | -0.000 (0.002) |
| Mother secondary school | -0.000 | 0.006 | -0.000 | -0.001 | -0.004 | -0.006** | -0.004** |

| | <i>Dep. var.: 1 or more victimization of type V in a year</i> | | | | | | |
|--------------------------------------|---|----------|---------|----------|----------|----------|----------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| | Sex | Simple V | Aggr. V | Robbery | Threats | Repeated | Poly |
| | (0.005) | (0.006) | (0.003) | (0.003) | (0.004) | (0.002) | (0.001) |
| Mother tertiary school | 0.001 | -0.001 | -0.008* | 0.025** | -0.017** | -0.006** | -0.006** |
| | (0.005) | (0.008) | (0.004) | (0.006) | (0.005) | (0.002) | (0.002) |
| <i>Health and criminal variables</i> | | | | | | | |
| Mental/Nervous illness previous year | -0.014 | 0.044* | -0.008 | -0.026* | 0.004 | 0.002 | 0.008+ |
| | (0.013) | (0.019) | (0.007) | (0.011) | (0.008) | (0.005) | (0.005) |
| Hospital previous six years (father) | -0.002 | 0.006 | 0.000 | -0.007+ | 0.003 | 0.001 | 0.000 |
| | (0.004) | (0.005) | (0.003) | (0.004) | (0.003) | (0.002) | (0.001) |
| Hospital previous six years (mother) | -0.014** | 0.009+ | 0.005* | -0.005+ | 0.005+ | 0.000 | 0.004** |
| | (0.004) | (0.005) | (0.002) | (0.003) | (0.003) | (0.001) | (0.001) |
| Convict previous year (child >16) | -0.024 | 0.025 | 0.055** | -0.044* | -0.012 | 0.003 | 0.011 |
| | (0.015) | (0.029) | (0.018) | (0.017) | (0.017) | (0.009) | (0.010) |
| Convict previous six years (father) | -0.009* | 0.005 | -0.001 | -0.001 | 0.005+ | 0.001 | -0.001 |
| | (0.003) | (0.004) | (0.002) | (0.003) | (0.003) | (0.001) | (0.001) |
| Convict previous six years (mother) | -0.006 | 0.004 | 0.009* | -0.007+ | -0.001 | 0.001 | 0.001 |
| | (0.006) | (0.008) | (0.004) | (0.004) | (0.004) | (0.002) | (0.002) |
| Constant | 0.279** | 0.332** | 0.191** | -0.045** | 0.243** | 0.010* | 0.011** |
| | (0.011) | (0.014) | (0.006) | (0.013) | (0.008) | (0.005) | (0.003) |
| Observations | 52,363 | 52,363 | 52,363 | 52,363 | 52,363 | 52,363 | 52,363 |
| Adjusted R-squared | 0.370 | 0.114 | 0.037 | 0.155 | 0.021 | 0.008 | -0.000 |

Notes: Author's calculations from Statistics Denmark. The sample includes all victims of violence younger than 20 in the period 2001-2011 (1 observation per person per year). The dependent variable is a dichotomous variable equal to 1 if the person appears in the victimization registers in the year as a victim of crime type V, where V is denoted at the top of each column. Coefficient estimates of linear probability regressions with local, time and local-by-time fixed effects are reported with robust standard errors clustered at the municipality level in parenthesis. For age and parents' education, the reference groups are "Age 15-18" and "Primary school or dropout." ** p<0.01, * p<0.05, + p<0.1.

Table IV: Factors underlying the probability of domestic abuse by perpetrator. Police reports of childhood victimization followed by a charge, 2001-2011.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|------------------------------|-------------------|---------|------------------|---------|----------|----------|---------------------|---------|
| | Biological parent | | Parent's partner | | Sibling | | Other household mb. | |
| <i>Share in total N</i> | 6.70% | | 1.78% | | 1.79% | | 2.45% | |
| <i>Demographic variables</i> | | | | | | | | |
| Age 0-6 | 0.510** | 0.502** | 0.014+ | 0.011 | -0.008** | -0.009** | 0.167** | 0.164** |
| | (0.017) | (0.016) | (0.008) | (0.008) | (0.003) | (0.003) | (0.015) | (0.015) |
| Age 6-12 | 0.198** | 0.201** | 0.017** | 0.014* | 0.002 | 0.001 | 0.039** | 0.045** |
| | (0.011) | (0.011) | (0.005) | (0.006) | (0.003) | (0.003) | (0.006) | (0.006) |
| Age 12-15 | 0.031** | 0.024** | 0.006** | 0.003+ | -0.001 | -0.002 | 0.008** | 0.008** |

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|--------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | Biological parent | | Parent's partner | | Sibling | | Other household mb. | |
| Age 18-20 | (0.003) -0.022** | (0.003) -0.030** | (0.002) -0.007** | (0.002) -0.008** | (0.001) 0.001 | (0.001) 0.001 | (0.002) 0.000 | (0.002) -0.003+ |
| Male | (0.002) -0.010* | (0.003) -0.032** | (0.002) -0.009** | (0.002) -0.008** | (0.002) -0.007** | (0.002) -0.005** | (0.002) -0.014** | (0.002) -0.028** |
| Non-Western | (0.004) 0.084** | (0.004) 0.075** | (0.002) -0.011** | (0.002) -0.011** | (0.001) 0.013** | (0.001) 0.013** | (0.002) 0.043** | (0.003) 0.038** |
| | (0.008) | (0.008) | (0.002) | (0.003) | (0.003) | (0.003) | (0.007) | (0.006) |
| <i>Socioeconomic variables</i> | | | | | | | | |
| Lives with both parents | -0.055** (0.005) | -0.051** (0.005) | -0.021** (0.003) | -0.021** (0.003) | -0.004+ (0.002) | -0.004+ (0.002) | 0.022** (0.003) | 0.024** (0.003) |
| Lives with one parent | -0.012* (0.005) | -0.009+ (0.005) | 0.007* (0.003) | 0.007* (0.003) | -0.006** (0.002) | -0.006** (0.002) | 0.008** (0.002) | 0.009** (0.002) |
| 3 or more children in family | 0.005 (0.004) | 0.006 (0.004) | -0.001 (0.002) | -0.001 (0.002) | 0.002 (0.001) | 0.002 (0.001) | 0.004 (0.003) | 0.004 (0.003) |
| Urban | -0.213** (0.004) | -0.192** (0.004) | 0.015** (0.002) | 0.013** (0.002) | 0.002 (0.001) | -0.000 (0.001) | -0.096** (0.004) | -0.085** (0.004) |
| 1 or 2 young parents | 0.006+ (0.003) | 0.005+ (0.003) | 0.004* (0.002) | 0.004* (0.002) | -0.004** (0.001) | -0.004** (0.001) | 0.002 (0.002) | 0.002 (0.002) |
| Father income low 25th pctl | 0.009* (0.004) | 0.010* (0.004) | -0.003 (0.002) | -0.002 (0.002) | 0.003* (0.001) | 0.003* (0.001) | 0.003 (0.002) | 0.004+ (0.002) |
| Mother income low 25th pctl | 0.001 (0.003) | 0.002 (0.003) | 0.005* (0.002) | 0.005* (0.002) | 0.003+ (0.002) | 0.003+ (0.002) | 0.006** (0.002) | 0.007** (0.002) |
| Father married | -0.002 (0.003) | -0.003 (0.003) | -0.016** (0.003) | -0.016** (0.003) | 0.001 (0.002) | 0.001 (0.002) | -0.006* (0.002) | -0.006** (0.002) |
| Father employed | -0.022** (0.005) | -0.021** (0.005) | 0.001 (0.002) | 0.001 (0.002) | 0.001 (0.002) | 0.001 (0.002) | -0.006+ (0.003) | -0.005+ (0.003) |
| Father secondary school | 0.004 (0.003) | 0.004 (0.003) | -0.000 (0.002) | -0.000 (0.002) | -0.001 (0.001) | -0.001 (0.001) | -0.000 (0.002) | -0.000 (0.002) |
| Father tertiary school | 0.004 (0.004) | 0.004 (0.004) | 0.002 (0.003) | 0.002 (0.003) | 0.000 (0.002) | 0.000 (0.002) | -0.001 (0.003) | -0.001 (0.003) |
| Mother married | 0.010** (0.004) | 0.010** (0.004) | 0.028** (0.003) | 0.028** (0.003) | -0.002+ (0.001) | -0.003+ (0.001) | 0.008** (0.003) | 0.008** (0.003) |
| Mother employed | -0.010* (0.004) | -0.011* (0.004) | -0.004+ (0.002) | -0.005+ (0.002) | -0.004** (0.001) | -0.004** (0.001) | -0.003 (0.002) | -0.003 (0.002) |
| Mother secondary school | 0.000 (0.003) | 0.001 (0.003) | -0.001 (0.002) | -0.001 (0.002) | 0.001 (0.001) | 0.001 (0.001) | 0.000 (0.002) | 0.000 (0.002) |
| Mother tertiary school | -0.006 (0.004) | -0.005 (0.004) | -0.000 (0.002) | -0.000 (0.002) | -0.001 (0.001) | -0.001 (0.001) | -0.005* (0.002) | -0.005* (0.002) |
| <i>Health and criminal variables</i> | | | | | | | | |
| Mental/Nervous illness previous year | -0.022** (0.006) | -0.026** (0.006) | -0.006 (0.004) | -0.006 (0.004) | -0.005* (0.002) | -0.005* (0.002) | 0.010+ (0.005) | 0.008 (0.005) |

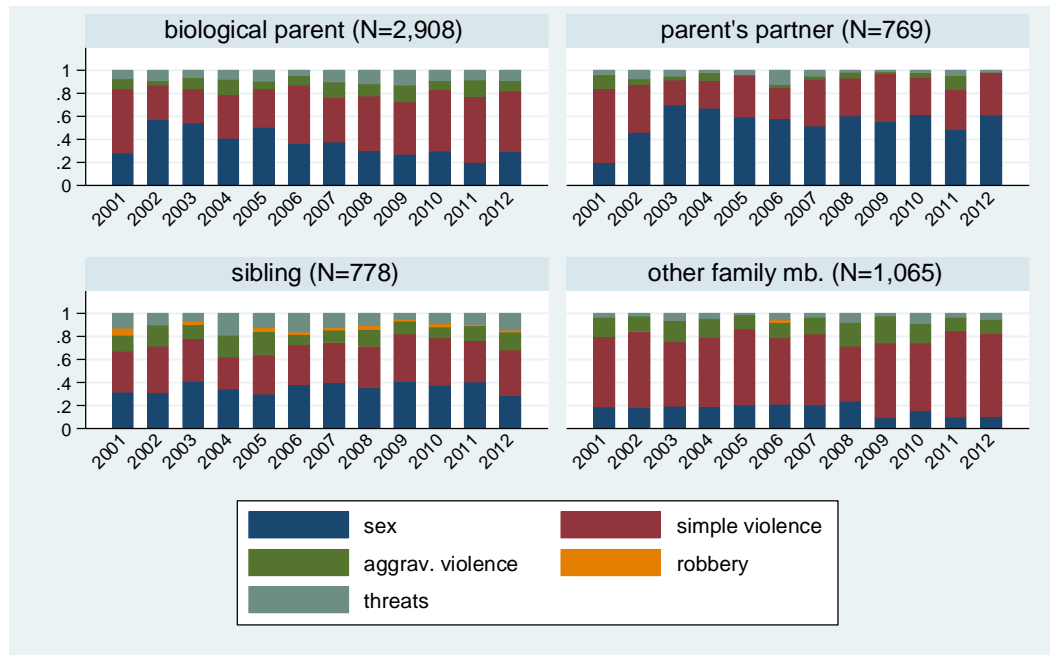
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|--------------------------------------|---------------------|---------------------|---------------------|---------------------|--------------------|--------------------|---------------------|---------------------|
| | Biological parent | | Parent's partner | | Sibling | | Other household mb. | |
| Hospital previous six years (father) | 0.003 (0.003) | 0.003 (0.003) | 0.001 (0.002) | 0.001 (0.002) | 0.003* (0.001) | 0.003* (0.001) | 0.001 (0.002) | 0.001 (0.002) |
| Hospital previous six years (mother) | 0.005 (0.003) | 0.005 (0.003) | 0.004* (0.002) | 0.004* (0.002) | -0.000 (0.001) | -0.000 (0.001) | 0.004* (0.002) | 0.004* (0.002) |
| Convict previous year (child >16) | -0.031** (0.009) | -0.037** (0.009) | 0.005 (0.008) | 0.004 (0.008) | -0.002 (0.006) | -0.002 (0.006) | 0.004 (0.008) | 0.001 (0.009) |
| Convict previous six years (father) | 0.009** (0.003) | 0.009** (0.003) | 0.001 (0.002) | 0.002 (0.002) | 0.000 (0.001) | 0.000 (0.001) | 0.003 (0.002) | 0.003 (0.002) |
| Convict previous six years (mother) | -0.003 (0.005) | -0.003 (0.005) | 0.003 (0.003) | 0.003 (0.003) | 0.000 (0.002) | 0.000 (0.002) | -0.001 (0.004) | -0.001 (0.003) |
| <i>Victimization characteristics</i> | | | | | | | | |
| Victim reports | -0.014** (0.003) | -0.022** (0.003) | -0.007** (0.001) | -0.007** (0.001) | -0.002* (0.001) | -0.002 (0.001) | -0.006** (0.002) | -0.010** (0.002) |
| Several victims | 0.011* (0.005) | 0.013** (0.005) | -0.006** (0.002) | -0.005** (0.002) | -0.001 (0.001) | -0.000 (0.001) | 0.002 (0.003) | 0.002 (0.003) |
| Several offenders | -0.000 (0.003) | -0.005 (0.003) | -0.010** (0.001) | -0.010** (0.001) | 0.002 (0.001) | 0.002 (0.001) | 0.009** (0.003) | 0.005+ (0.003) |
| Following hospitalization (48H) | -0.008** (0.002) | -0.036** (0.004) | -0.005** (0.001) | -0.008** (0.001) | 0.001 (0.001) | 0.002+ (0.001) | 0.001 (0.002) | -0.014** (0.003) |
| Other municipality | 0.020** (0.004) | 0.021** (0.003) | 0.001 (0.002) | 0.000 (0.002) | -0.000 (0.001) | -0.001 (0.001) | -0.015** (0.002) | -0.014** (0.002) |
| Sexual assault | | -0.080** (0.007) | | -0.000 (0.003) | | 0.006** (0.002) | | -0.048** (0.004) |
| Aggravated violence | | 0.000 (0.007) | | -0.003 (0.002) | | 0.004* (0.002) | | 0.005 (0.005) |
| Robbery | | -0.053** (0.003) | | -0.007** (0.002) | | -0.001 (0.001) | | -0.024** (0.003) |
| Threats | | -0.047** (0.005) | | -0.012** (0.002) | | 0.001 (0.002) | | -0.028** (0.003) |
| Repeated victim in <i>t</i> | | 0.024* (0.010) | | 0.000 (0.006) | | 0.004 (0.004) | | 0.004 (0.005) |
| Poly-victim in <i>t</i> | | 0.017* (0.009) | | 0.003 (0.005) | | 0.001 (0.003) | | 0.003 (0.004) |
| Constant | 0.233** (0.008) | 0.274** (0.009) | 0.011* (0.004) | 0.017** (0.004) | 0.005+ (0.003) | 0.003 (0.003) | 0.104** (0.005) | 0.127** (0.005) |
| N | 34,893 | 34,893 | 34,893 | 34,893 | 34,893 | 34,893 | 34,893 | 34,893 |
| Adjusted R-squared | 0.211 | 0.221 | 0.064 | 0.065 | 0.005 | 0.006 | 0.069 | 0.079 |

Notes: Author's calculations from Statistics Denmark. The sample includes all victims of violence younger than 20 in the period 2001-2011 with a matched charged offender (1 observation for each report). The dependent variable is a dichotomous variable equal to 1 if the victim's perpetrator belongs to the category shown in the column head (e.g., a

biological parent in cols. 1 and 2). Coefficient estimates of linear probability regressions with local, time, and local-by-time fixed effects are reported with robust standard errors clustered at the municipality level in parenthesis. For age and parents' education, the reference groups are "Age 15-18" and "Primary school or dropout." The reference group for crime category is simple violence. ** p<0.01, * p<0.05, + p<0.1.

Supplementary material - Appendix

Appendix 1: Domestic Victimization, by perpetrator's identity and year. Police reports of childhood victimization followed by a charge. 2001-2012



Appendix 2: Factors underlying the probability of further police investigation. Linear probability model estimates. Police reports of childhood victimization. 2001-2011

| | (1) | (2) |
|--------------------------------------|---------------------|---------------------|
| <i>Victimization characteristics</i> | | |
| Sexual assault | -0.071** (0.003) | -0.048** (0.004) |
| Aggravated violence | 0.086** (0.005) | 0.087** (0.006) |
| Robbery | -0.004 (0.007) | 0.004 (0.006) |
| Threats | 0.021** (0.005) | 0.019** (0.005) |
| Repeated victim in <i>t</i> | 0.001 (0.005) | 0.005 (0.007) |
| Poly-victim in <i>t</i> | 0.014* (0.006) | 0.022** (0.008) |
| Victim reports | -0.068** (0.003) | -0.069** (0.003) |
| Several victims | -0.396** (0.007) | -0.397** (0.008) |
| Several offenders | -0.489** (0.010) | -0.485** (0.011) |
| Following hospitalization (48H) | 0.000 | -0.001 |

| | | |
|--------------------------------|---------|----------|
| | (0.003) | (0.003) |
| Other municipality | 0.018** | 0.014** |
| | (0.004) | (0.003) |
| <hr/> | | |
| <i>Demographic variables</i> | | |
| <hr/> | | |
| Age 0-6 | | 0.009 |
| | | (0.010) |
| Age 6-12 | | -0.035** |
| | | (0.005) |
| Age 12-15 | | -0.037** |
| | | (0.004) |
| Age 18-20 | | -0.008* |
| | | (0.004) |
| Male | | 0.027** |
| | | (0.003) |
| Non-Western | | 0.005 |
| | | (0.005) |
| <hr/> | | |
| <i>Socioeconomic variables</i> | | |
| <hr/> | | |
| Lives with both parents | | -0.006 |
| | | (0.004) |
| Lives with one parent | | -0.008* |
| | | (0.004) |
| 3 or more children in family | | 0.002 |
| | | (0.003) |
| Urban | | -0.030** |
| | | (0.004) |
| 1 or 2 young parents | | -0.001 |
| | | (0.003) |
| Father income low 25th pctlle | | -0.004 |
| | | (0.003) |
| Mother income low 25th pctlle | | 0.000 |
| | | (0.002) |
| Father married | | -0.002 |
| | | (0.003) |
| Father employed | | -0.003 |
| | | (0.003) |
| Father secondary school | | -0.000 |
| | | (0.003) |
| Father tertiary school | | -0.003 |
| | | (0.004) |
| Mother married | | 0.002 |
| | | (0.003) |
| Mother employed | | -0.004 |
| | | (0.003) |
| Mother secondary school | | 0.000 |
| | | (0.003) |
| Mother tertiary school | | -0.001 |

| | | (0.004) |
|--------------------------------------|---------|---------|
| <i>Health and criminal variables</i> | | |
| Mental/Nervous illness previous year | | -0.014+ |
| | | (0.007) |
| Hospital previous six years (father) | | 0.005+ |
| | | (0.002) |
| Hospital previous six years (mother) | | -0.002 |
| | | (0.003) |
| Convict previous year (child >16) | | 0.032+ |
| | | (0.017) |
| Convict previous six years (father) | | 0.002 |
| | | (0.003) |
| Convict previous six years (mother) | | 0.003 |
| | | (0.004) |
| Constant | 1.103** | 1.085** |
| | (0.003) | (0.008) |
| Observations | 67,252 | 54,390 |
| Adjusted R-squared | 0.712 | 0.721 |
| Fixed effects | NO | YES |

Notes: Author's calculations from Statistics Denmark. The sample includes all victims of violence younger than 20 in the period 2001-2011 (1 observation for each report). The dependent variable is a dichotomous variable equal to 1 if the victimization case was followed by a charge. Coefficient estimates of linear probability regressions are reported with robust standard errors clustered at the municipality level in parenthesis. The specification in col. (1) only includes victimization variables. For age and parents' education, the reference groups are "Age 15-18" and "Primary school or dropout." The reference group for crime category is simple violence. ** p<0.01, * p<0.05, + p<0.1.