Child Sexual Abuse:

Crimes, Victims, Offender Characteristics, and Recidivism

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Cover illustration: Pia Moberg. The Japanese character “ma” means “interval, pause, space, that which is in between.”

Child Sexual Abuse:
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Kompendiet

Härliga, sedliga institution, heliga familj, oantastliga gudomliga instiftelse, som skall uppfostra medborgare till sanning och dygd! Du dygdernas påstådda hem, där oskyldiga barn torteras till sin första lögn, där viljekraften smulas sönder av despoti, där självkänslan dödas av trångbodda egoismer. Familj, du är alla sociala lasters hem, alla bekväma kvinnors försörjningsanstalt, familjeförsörjarens ankarsmedja, och barnens helvete!

August Strindberg

Ur Tjänstekvinnans son

ABSTRACT

Background: Epidemiological research on child sexual abuse relies on health care surveys, anonymized population surveys, and criminal statistics, each with its methodological limitations. This study aims at compensating for these limitations by combining a population-based cohort from a large, representative region of Sweden and a clinic-referred group from the whole of Sweden.

Subjects and Methods: For all 196 individuals in the Västra Götaland region who were convicted of child sexual abuse between 1993 and 1997, basic crime data, including relationships between victims and offenders, were collected. For all 185 individuals who were referred for a major forensic investigation for child sexual abuse during the same period, data covering mental health problems, including pedophilia according to the DSM-IV, were collected, as were sociodemographic and crime characteristics. For both study groups, the number of reconvictions for sexual and violent reoffending, as well as other criminality, was assessed.

Results: Girls were the victims in 85% of all cases of sentenced child sexual abuse, boys in 12%, and both sexes in 3%. Crimes were overall severe, with sexual penetration as the most common act. In most cases, the offenders were well known to the children. The crimes committed by total strangers, 27% of all cases, were most often hands-off in nature. Only 8% of all offenders were referred for a pre-trial forensic psychiatric investigation, and the sentences were mild in many cases. Immigrant offenders were at significantly increased risk for severe sentences, even after controlling for severity of crimes and criminal histories. The relapse frequency in the two study groups was quite low, ranging from 10% to 14% for sexual recidivism and approximately 12% for violent recidivism.

Conclusion: Sentenced child sexual abuse most often involves a severe sexual crime against a girl and is committed by a male relative or a male family friend. Compared to international studies, the relapse risk in sexual crimes was low, given the long follow-up period, but higher among offenders with extrafamilial victims compared to those with intrafamilial victims.

Keywords: child sexual abuse, sexology, mental disorder, pedophilia, risk assessment

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SAMMANFATTNING PÅ SVENSKA

Bakgrund: Epidemiologisk forskning avseende sexuellt våld mot minderåriga baseras i huvudsak på hälsoundersökningar, avidentifierade befolkningspopulationer och kriminalstatistik, samtliga med metodologiska begränsningar. I denna avhandling har vi, för att kompensera för dessa felkällor, kombinerat en populationsbaserad studie från en representativ del av Sverige med en studie av personer från hela landet som genomgått rättspsykiatrisk undersökning 1993–1997.

Undersökningspopulation och metod: 1) Alla kriminaldata inklusive relation mellan brottsoffer och förövare samlades in för samtliga 196 personer som dömts för sexuella brott mot minderåriga i Västra Götalands län åren 1993 till 1997. 2) Data från samtliga 185 personer som genomgått rättspsykiatrisk undersökning, dömda för sexualbrott mot barn under denna studieperiod innefattande psykisk sjuklighet, sociodemografiska uppgifter och brottskaraktäristik. Slutligen noterades också uppgifter för båda grupperna angående frekvens av återfall i sexualbrott och våldsbrott liksom annan kriminalitet.

Resultat: Flickor var offer i 85 %, pojkar i 12 % och båda könen i 3 % av samtliga fall av dömda sexualbrott mot barn under studieperioden. Brotten var överlag grova, med sexuell penetration som den mest förekommande handlingen. I de flesta fall var förövarna kända av barnen. Brott begångna av främlingar uppgick till 27 % av fallen och förövaren var oftast inte i fysisk kontakt med offret (hands-off crimes). Endast 8 % av förövarna fick genomgå en rättspsykiatrisk undersökning. Kriminalvårdspåföljderna var i många fall milda. Utlandsfödda förövare hade en signifikant ökad risk för hårdare straff vid likartade brott. Jämfört med internationella studier var återfallsfrekvensen i de båda grupperna låg, och varierade från 10 % till 14 % avseende sexuella återfallsbrott och cirka 12 % när det gällde våldsbrott.

Konklusion: Dömda sexualbrott mot barn innebär oftast att brottsoffret är en minderårig flicka som blivit utsatt för sexuellt våld av en biologisk släkting eller bekant. Återfallsrisken i sexualbrott var överlag låg särskilt med tanke på den långa uppföljningstiden, men något högre i de fall där förövaren inte tillhörde familjen eller var närmare känd för sitt indexoffer.

LIST OF PAPERS

This thesis is based on the following studies, referred to in the text by their Roman numerals.

I. Carlstedt A, Forsman A, Söderström H (2001). Sexual child abuse in a defined Swedish area 1993-1997. A population-based survey. *Archives of Sexual Behavior,* 30, 483-493.

II. Carlstedt A, Innala S, Brimse A, Söderström H (2005). Mental disorders and DSM-IV pedophilia in 185 subjects convicted of sexual child abuse. *Nordic Journal of Psychiatry*. 59, 534-537

III. Carlstedt A, Nilsson T, Hofvander B, Brimse A, Innala S, Anckarsäter H (2009). Does victim age differentiate between perpetrators of sexual child abuse? A study of mental health, psychosocial circumstances, and crimes. *Sexual Abuse: A Journal of Research and Treatment,* 21 (4) 442-454

IV. Nilsson T, Carlstedt A, Baudin C, Jakobsson C, Forsman A, Anckarsäter H. Child sexual abusers and recidivism: a 10 to 15 year follow-up study. Manuscript.

CONTENT

ABBREVIATIONS

ADHD	Attention-deficit/hyperactivity disorder
APA	American Psychological Association
BRÅ	The Swedish National Council for Crime Prevention (Brottsföre-byggande rådet)
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, fourth edition
GAF	Global Assessment of Functioning
ICD-10	International Statistical Classification of Diseases and Related Health Problems
ROC	Receiver Operating Characteristics
SPSS	Statistical Package for the Social Sciences
MRI	MRI is short for Magnetic Resonance Imaging. In medical applications it is often used as tomography to create three-dimensional pictures of tissues, eg, the brain. Another application is functional MRI, which reflects the functional activity of various regions of eg, the brain.

DEFINITIONS IN SHORT

Severe mental disorder	A Swedish judicial term, which is the basis for civil as well as forensic coercive psychiatric treatment.
Characteristics of severe mental disorder	It is not a medical or psychiatric diagnosis *per se* but is most often connected to psychotic states and sometimes brain damage with symptoms of confusion, thought disturbances, hallucinations, or delusions. Depression without psychotic features but with a strong suicidal risk is a severe mental disorder. Severe personality disorders with psychotic features or extreme compulsivity are examples.
Child sexual abuse	Child sexual abuse includes a wide range of actions between a child and an adult or older child. Most often body contact is involved. Exposing one's genitals to children with sexual intent or forcing them into sexual activities is sexual abuse. Using a child for pornography is another example. A detailed definition is given in the Swedish Penal Code (*Brottsbalken*).
Paraphilia	A sexual disturbance characterized in DSM-IV by recurrent intense sexual fantasies, urges, or behaviors, which can cause significant distress and impairment in social, occupational, and other areas of functioning. Paraphilias are seldom diagnosed in females. Fetischism and pedophilia are examples of paraphilia.
Pedophilia	Pedophilia is a sexual attraction to children that can be acted out or kept under control. In DSM-IV, pedophilia covers intense and recurrent sexual urges, fantasies, or behaviors involving preadolescent children for at least 6 months, causing clinically significant distress in several respects to this person.

Infantophilia	A subgroup of pedophilic individuals, referred to as infantophilics, are attracted to very young victims.
Incest	Sexual intercourse between close relatives regardless of their consent.
Forensic psychiatric Screening Investigation ("§7-examination")	This is a court-ordered forensic screening investigation performed on behalf of the National Board of Forensic Medicine by a forensic psychiatrist or a psychiatrist with special competence. The interview lasts up to three hours, and in most cases it aims at evaluating the need for a major forensic psychiatric investigation.
Forensic psychiatric investigation ("RPU")	A court-ordered procedure to assess whether a crime was committed under the influence of a severe mental disorder, if such a disorder is still present during the investigation, if there is need of institutional forensic psychiatric care, and if there is any risk for relapse into new serious criminality. The investigation is done by the National Board of Forensic Medicine, and is generally preceded by a psychiatric screening investigation. It lasts up to four weeks.
Forensic psychiatric care	Coercive psychiatric treatment, which may be a penalty meted out by the court.
Hands-on crimes	Crimes involving rape and other violent sexual activities, and other sexual abuse including physical contact with the victim.
Hands-off crimes	Crimes including acts such as exhibitionism, voyeurism, and different kinds of sexual harassment, which do not involve physical contact between the offender and the victim.

DSM-IV Diagnoses

The DSM-IV system assigns diagnoses on five diagnostic axes:

Axis I	Clinical psychiatric syndromes
Axis II	Developmental disorders and personality disorders
Axis III	Physical conditions
Axis IV	Severity of psychosocial stressors
Axis V	Highest level of social functioning

1 INTRODUCTION

Child sexual abuse is a widespread public health problem encountered across countries, cultures, and social classes. It has long been the focus of literature, legal texts, and research by hermeneutical methods. In popular texts, sexual abuse of children is often equated with pedophilia, which is a medical diagnosis with strict definitions (including an intense, recurrent, primary or exclusive sexual interest in prepubescent children), rather than merely a deviant, criminal behavior. Child sexual abuse is, however, much more than pedophilia, though there is a connection between the two. An unknown fraction of pedophilic individuals probably refrain from acting out their deviant sexual orientation, but a core of child sexual abuse offenders can be expected to fulfill diagnostic criteria for pedophilia.

The last few decades have seen epidemiological studies of child sexual abuse,[1] but there remains a need for systematic, population-based data on both this criminal behavior and the offenders. Many studies are hampered by sampling bias because pedophilic or sexual offender populations come from prison groups or legally mandated sexual treatment groups, while victims come from the mental health treatment system. Population screening through questionnaires or interviews are one possibility for capturing the full picture of child sexual abuse that would tap into the dark figure of unreported crimes and crimes that do not lead to a court sentence. This method, however, would have other sources of bias, especially a dependence upon individuals' recollections of events during childhood, the honesty of the offenders, and the impossibility of verifying information. Another inroad, which would be unable to capture the dark figure but which could provide more reliable and objective data, would be to study all convictions and offenders derived from a geographic area during a specified time frame. The Gothenburg Sexual Abuse Studies is a research program that started in the 1990s. From 1993 to 1997, it collected detailed information on convicted cases of child sexual abuse, both in cases from a defined geographical area and in offenders referred for pretrial forensic psychiatric assessments nationwide. It then followed these groups over time, collecting longitudinal data on criminal recidivism and long-term mental health. The program thus focused on the offenders, and the studies are file and register based. This is the first thesis based on the data collected in this ongoing project.

[1] Perez-Fuentes et al, 2012; Finkelhor et al, 2005

1.1 Legal classification

In Swedish legislation, legal statutes concerning sexual crimes in general are found in the sixth chapter of the Swedish Penal Law (*Brottsbalken)*.[2] The majority of statutes regarding sexual abuse against children are presented in chapter six, §§ 4–13. Amended legislation on sexual crimes was introduced on April 1, 2005, when a new legal classification—rape against children—was added with the aim of distinguishing this crime from rape against adults. This new law involves a sharpening of sanctions for sexual child abuse. The baseline data for this project, however, were all collected before these changes in legislation.

1.2 Child sexual abuse

Although the most common child sexual abuse victims are girls around the age of 10,[3] sexual violation of even younger children appears to be a considerable problem of largely unknown dimensions.[4] The notion that a category of child sexual abuse offenders may be specifically attracted to infants and toddlers has led to the suggestion that the term infantophilia (or nepiophilia) should be used as a diagnostic subcategory of pedophilia.[5] Most child sexual abuse crimes brought to court involve severe forms of intrusion, such as oral, anal, and vaginal penetration.[6] Research on child sexual abuse has produced partly contradictory data, depending on basic differences in study populations and designs. Victim surveys and clinically referred samples tend to yield the highest, as well as the most disparate, prevalence of sexual child abuse (ranging from 8% to 20%),[7] presumably due to variations in data collection techniques, memory effects in either direction, and scanty documentation in cases not tried in a court of law. The official crime statistics indicate a much lower incidence of child sexual abuse, in the range of per mille,[8] which suggests a large dark figure.

[2] SFS nr 1962:700
[3] Cupoli and Sewell, 1988; Finkelhor, 1994; Jaffe et al, 1975; Marshall et al, 1986
[4] Cupoli and Sewell, 1988; Dubé and Hébert, 1988; Schetky, 1991
[5] Cohen and Glynker, 2002; Greenberg et al, 1995
[6] Cross et al, 1995
[7] Jaffe et al, 1975; Painter, 1986; Finkelhor and Lewis, 1988; Finkelhor et al, 1990, Pereda et al, 2009
[8] Russel, 1983; Finkelhor and Hotaling, 1984, Johnson, 2002; Klit et al, 2002

1.3 Sexual behaviors and criminal careers

Sexual behaviors are complex and have multifactorial backgrounds. It is necessary to consider biological, medical, cultural, legal, and other factors, which together influence most sexual expressions. Legal and religious concepts have often provided guidelines aimed at restricting potentially harmful or divergent behaviors and calling for punishment when rules are contravened.[9]

There is a huge gender skew among perpetrators of child sexual abuse in that almost all sentenced offenders are male. It has been hypothesized that there might be a dark figure for sexual offenses committed by women against children,[10] but the lack of systematic studies lends no possibility for estimating the incidence of sexual crimes committed by women. The fact that male victims have been less likely than female victims to disclose experiences of sexual abuse may contribute to this uncertainty.[11]

It has been proposed that males convicted of sexual offenses against children show a systematic pattern of offending: they generally begin their sexual offending in their 30s, are already involved in nonsexual criminality by the time they initiate their first sexual contact with children, are characterized by criminal versatility, and show considerable variability in persistence with regard to both sexual and nonsexual offending.[12]

It has been shown that sexual offenders who abuse their biological daughters and those who abuse their step-/adopted- daughters are similar in respect to demographic and historical information, offense characteristics, and psychological and physiological measures,[13] though they might differ from the general sexual offender populations.[14]

1.4 Victims

Victims of sexual assault in childhood are often severely traumatized and may suffer physical and psychological consequences for the rest of their lives.[15] Most cases of child sexual abuse are never reported, however, and

[9] Hacking 1999
[10] Christiansen and Thyer, 2002
[11] Becker et al, 2001
[12] Smallbone and Wortley, 2004
[13] Greenberg et al, 2005
[14] Rice and Harris, 2002
[15] Beichtman et al, 1992

dark figures are thought to be high, as Swedish statistics based on representative self-reports show that 7–8% of all women and 1–3% of all men report that they were sexually abused before 15 years of age.[16] A higher prevalence has been reported internationally—up to 30% or even higher in some developing countries.[17] At the same time, victims of sentenced or officially documented child sexual abusers have been as low as 0.4–2.7 children per thousand in official government surveys from the US and Denmark.[18] It is thus essential to increase our knowledge in this area through high-quality large epidemiological studies. Information from questionnaire surveys may be corroborated or detailed through interviews or narrative. For ethical reasons, however, it is not possible to contact victims of sentenced child sexual abuse systematically. There are no official files on crime victims, and many sentences either have blocked the names of victims for their protection, or do not list all the victims of crimes targeting more than one child. This means that it is considerably more difficult to collect unbiased or systematic data on victims compared to collecting data on crimes or offenders.

1.5 Age at victimization

Some studies have indicated that the child sexual abuse offenders with the most pronounced mental problems are those with the youngest victims. Kalichman[19] reported more psychopathology and emotional disturbance among offenders with victims below the age of 12 than in those with teenage victims. Other studies that compare incest offenders according to the age(s) of their victim(s) have described more emotional problems, substance abuse, and psychiatric disorders in offenders whose victims are less than 6 years old than in offenders with 12- to 16-year-old victims.[20]

1.6 Psychological / psychiatric perspectives

A child sexual abuse offender may violate children for a number of reasons, eg, he fears them less than he fears adults; he lacks a mature partner, or sex with his mature partner is unsatisfying; he is indiscriminate in his choice of sexual partner; he is childish, likes the company of children, and lacks normal

[16] BRÅ, 2003
[17] Johnson, 2002
[18] Klit et al, 2002
[19] Kalichman, 1991
[20] Firestone et al, 2005

boundaries for social interaction; the child is simply available; or he finds children erotically attractive.[21] The psychological momentum behind deviant sexual behavior might be constituted of an increased sexual drive in general or by aggressiveness, dominance-seeking, or a need for intimacy and affection.[22]

Concerted scientific efforts to understand and prevent child sexual abuse have yielded a vast array of psychological offender classifications, theories, and explanatory models. Nevertheless, it is difficult to explain that offenders with an overall lack of obvious mental abnormalities commit these crimes that ordinarily are viewed as heinous in nature. This may lead clinicians and researchers to see mental disorders or abnormalities that would otherwise not be recognized.

High frequencies of mental disorders on Axes I and II of the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV)[23], have consistently been reported among sexual offenders,[24] but few studies have compared the psychopathology of offenders with adult victims to those who sexually abuse children,[25] or included a control group and assessors blind to group status. Studies of child sexual abuse offenders have described high frequencies of mood disorders, anxiety, substance abuse,[26] coping difficulties,[27] and low self-esteem,[28] poor social skills, elevated passive-aggressiveness, and an impaired self-concept.[29] These pathological personality traits seem to be related both to the motivation for and the failure to inhibit pedophilic behavior.[30]

Knowledge about neurodevelopmental disorders among sex offenders is scarce and difficult to compare between studies, but general intelligence has long been of interest in subjects with pedophilic behavior.[31] In a study on grade failure and/or special education needs in sexual offenders, the authors

[21] Wilson and Cox, 1983; Lawson, 2003; Mihailides et al, 2004; Ames et al, 1990
[22] Finkelhor and Araji 1986
[23] American Psychiatric Association, 1994
[24] Långström et al, 2004
[25] Dunsieth et al, 2004; Kafka et al, 2002; Leue et al, 2004
[26] Raymond et al, 1999
[27] Marshall et al, 2003
[28] Fischer et al, 1999; Marshall et al, 2003
[29] Marshall, 1997; Marshall et al, 1999; Emmers-Sommer et al, 2004; Cohen et al, 2002
[30] Cohen et al, 2002
[31] Seto, 2004

found that a history of failed grades and special education was twice as common among offenders who targeted children as in those who targeted adults. This association of failed grades/special education and offenders who target children was hypothetically ascribed to neurodevelopmental perturbation before or after birth.[32]

Sexual offenders with mental retardation were found to be more likely than offenders with normal intelligence to have prepubertal victims.[33] Along with non-right-handedness, a feature found to be greatly increased in offenders targeting children,[34] cognitive problems and early head injuries seem to be associated with an increased risk of childhood-onset neuropsychiatric disorders. Hypothetically, such soft signs of brain damage could be associated with an increased impulsivity and a decreased ability to inhibit impulsive acts, possibly in combination with an impaired self-censorship. But functional MRI studies are not in favor of this interpretation. In groups of pedophilic men and healthy male controls, no MRI frontal lobes pathology that would be consistent with impaired self-control were detected, but instead signs of impaired communication between different large and unspecific regions of the brain.[35] But this does not rule out an organic basis for impaired self-control in pedophilic individuals.

1.7 Pedophilia as a diagnosis

The word *pedophilia* comes from Greek and originally meant "child love" or "friendly love." The meaning was later changed to describe sexual attraction to children. Pedophilia can be described as a disorder of sexual preference, phenomenologically similar to hetero- or homosexual orientation, since it develops prior to or during puberty, and it is, by definition, stable over time according to diagnostic systems.[36] In contrast to hetero- and homosexuality, there is some grounds to argue that pedophilia is a mental disorder, since pedophilic acts obviously cause harm. The specific diagnosis of pedophilia is used in psychiatry as a medical diagnosis in both the ICD-10[37] and the DSM-IV,[38] albeit with little data to support its nosological validity. Very little is known about family aggregation, genetic effects, neurobiology and etiology,

[32] Cantor et al, 2006; Rice et al, 2008
[33] Blanchard et al, 2007; Cantor et al, 2005; Cantor et al, 2005
[34] Blanchard et al, 2007; Cantor et al, 2005
[35] Cantor et al, 2008
[36] DSM IV ICD10
[37] World Health Organization, 1993
[38] American Psychiatric Association, 1994

prevalence, prognosis, optimal treatment, and patterns of overlap with other mental disorders; ie, the type of information usually asked for when assessing the validity of a proposed mental disorder category.[39]

Both major diagnostic systems contain definitions of pedophilia as a psychiatric disorder distinguished from sexual child abuse in general. In the ICD-10, it is "a persistent or predominant preference for sexual activity with a prepubescent child or children," and in the DSM-IV, "recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving sexual activity with a prepubescent child or children over a period of at least six months." These descriptions, which may be useful when a patient seeks help for disturbing sexual impulses, are less useful in legal assessments, when most offenders find it difficult to describe the reasons behind their criminal behavior.

In a legal assessment, the diagnosis of pedophilia is usually not regarded as a serious enough mental disorder to rule out prison as a penalty. If, however, the compulsivity of the disorder is found by the forensic psychiatric investigation to be extremely pronounced, pedophilia can be classified as a serious mental disorder in the legal sense, ruling out prison, with forensic psychiatric care as a possible sentence.

1.8 Follow-up studies on recidivism

The typical rate of recidivism in sexual crime among all types of sexual offenders is about 10% to 15% for studies with follow-up periods of up to five years and around 20% after 10 years.[40] For some groups of child abusers characterized by psychopathic traits and sexual deviancy, rates as high as 35% have been found.[41] In a study following 419 released sexual offenders over an average time span of 7 years, 13% reoffended sexually.[42] Of those who were initially convicted of a child sexual offense, 16% relapsed into child sexual abuse. A study of 627 adult male sexual offenders, among whom 13% recidivated sexually and 21% violently, showed that incarceration had almost no preventive impact on sexual and violent recidivism.[43] On the contrary, to judge from a British review comparing 8 incarcerated with 8 non-incarcerated samples of sex offenders, incarceration correlates with higher

[39] Robins and Guze, 1970
[40] Hanson et al, 2003
[41] Hanson and Morton-Bourgon, 2005
[42] Looman and Abracen, 2010
[43] Nunes et al, 2007

rates of recidivism (20% among the former group, who relapsed during a follow-up period of six years or more, compared to 16% among the latter).[44] This could, however, be an effect of selection or other confounders.

Even though the relapse rates for sexual recidivism vary quite widely between studies, eg, from 6% in a Swedish nationwide cohort of all 1215 individuals released from prison 1993–1997[45] to about 25% to 35% for studies with follow-up periods exceeding 10 years,[46] a consistent finding is that sex offenders more frequently recidivate into violent, rather than sexual, criminality.[47] This applies even more to child sexual offenders who, for follow-up periods exceeding ten years, have shown reconviction rates for nonsexual offenses (property, violence, and drug offenses) in almost three out of four offenders.[48] This is clearly an argument against an understanding of sexual crimes as only motivated by sexuality.

Among possible risk factors for reconvictions or criminal recidivism in sex offender groups, age has been of interest with regard to recidivism into child sexual offenses, where data suggest that extrafamilial child sexual offenders show little reduction in recidivism risk until after the age of 50, while the recidivism risk in intrafamilial child sexual offenders is generally low (<10%), except in offenders aged 18 to 24.[49]

The victim's relationship to the offender is another risk factor related to recidivism among child sexual offenders, where those who offended children who were acquaintances relapsed to a larger extent (16%) than those who abused their biological children (5%) or their stepchildren (5%).[50] The low rate of recidivism into sexual offenses among incest offenders was also shown in a study where 6% relapsed into sexual offenses of any kind after a follow-up period of about 6 years. Higher scores on the Michigan Alcohol Screening Test and the Psychopathy Checklist-Revised were the only risk factors characterizing this group of recidivists.[51] One must bear in mind that the low relapse risk can be due to confounding factors, eg, the protective reaction of the caregiver, or the fact that the child is several years older when the abuser has served his sentence.

[44] Craig et al, 2008
[45] Långström et al, 2004
[46] Hanson et al, 2003
[47] Looman and Abracan, 2010; Nunes et al, 2007
[48] Parkinson et al, 2004
[49] Hanson, 2002
[50] Greenberg et al, 2000
[51] Firestone et al, 1999

Alcohol problems have also emerged as a risk factor for recidivism into new sexual offenses among extrafamilial child sexual offenders, together with an inclination to react with greater sexual arousal to assaultive stimuli involving children than to mutually consenting stimuli with children.[52] According to Hanson and Morton-Bourgon's meta-analysis,[53] those prone to relapse into new sexual offenses constitute a subgroup of persistent sexual offenders that are characterized by deviant sexual preferences and antisocial orientation (antisocial personality with traits such as impulsivity, substance abuse, a history of rule violation, and unemployment), regardless of whether they have molested children or adults.

Besides the main predictors for recidivism, the more dynamic factors of sexual preoccupation and general self-regulation problems have also emerged as risk factors[54]. Risk factors related to sexual recidivism among child sexual offenders could thus be summarized under the following categories: unusual sexual interests, antisocial identification, offender age, and relationship between offender and victim (eg, intra- versus extrafamilial, and incestuous versus nonincestuous).

[52] Firestone et al, 2000
[53] Hanson and Morton-Bourgon, 2005
[54] Hanson and Morton-Bourgon, 2005

2 AIMS OF THE THESIS

2.1 General aim

The overall aim of the thesis is to provide systematic information on representative groups of criminally convicted child sexual offenders.

2.2 Specific aims

1. To explore the occurrence in the population of sentenced sexual crimes against children and to establish basic data on *(a)* the crimes, *(b)* the victims, and *(c)* the population risk for victimization (paper I).
2. To establish population-based data on the convicted offenders of child sexual abuse, including *(a)* social and family circumstances, *(b)* substance abuse and mental disorders, *(c)* crime histories, *(d)* referrals to forensic psychiatric assessments, and *(e)* sentencing (paper I).
3. To show whether offenders meeting criteria for pedophilia systematically differ from other offenders in mental health (paper II).
4. To describe the subgroup of offenders with very young victims (five or younger) and to test possible differences from other offenders regarding mental disorders (paper III).
5. To follow the two groups of offenders and establish rates of reconvictions for sexual and other interpersonal crimes, and to identify predictors of reoffending (paper IV).

3 SUBJECTS AND METHODS

3.1 Gothenburg Child Sexual Abuse Studies

The project referred to as The Gothenburg Child Sexual Abuse Studies was started in 1998 and involves several separate studies on sexual offenders in clinical and epidemiological groups, where offenders, their crimes, and their victims, are described. Two study groups were used for the four register- and documentation-based studies on offenders of child sexual abuse presented here. By the Swedish legal definition, victims were under 15 years of age in both groups.

The first group (the population-based cohort) included all 196 individuals (men only) who were convicted for child sexual abuse in a geographically defined part of Sweden (Västra Götaland) between 1993 and 1997. The Västra Götaland region is considered representative for Sweden as a whole, as it includes a large city (Gothenburg), and urban, suburban, and rural areas. The second group (the clinic-referred group) included all 185 individuals (182 men and 3 women) in Sweden who had sexually abused children and been referred for a pretrial forensic psychiatric investigation by the court between 1993 and 1997. An overview of the study groups is given in Figure 1 on page 17. The population-based cohort was thus a full cohort, including all offenders of all cases of sentenced child sexual abuse (biased by the dark figure of offenses that were never sentenced, but not by any further attrition). In contrast, the clinic-referred group was a population-based group of all offenders in Sweden referred for forensic psychiatric investigation by the courts (about 8% of all offenders of child sexual abuse). Such an investigation is generally preceded by a psychiatric screening assessment ("§7-examination"). As the decision to request a screening assessment is made by the local courts, and strict guidelines for this selection are lacking, the representativeness of the group referred to screening may be flawed by the variations in court practice.[55] Once the screening process is finished, however, courts do have strict criteria for when to request a full forensic psychiatric investigation, based on the screening assessments made by specialist psychiatrists appointed by the National Board of Forensic Medicine. All forensic psychiatric investigations in Sweden are performed by the Board. As all offenders nationwide referred to forensic psychiatric investigations during a five-year period were included in this study, the risk

[55] Holmberg, 1994

that inconsistent referring principles at a specific court might have biased the sample at large was reduced.

The clinic-referred group could therefore be said to represent the population of mentally disordered child sexual offenders in the 1990s, if "disordered" defines the group who have, or display, sufficient symptoms to be suspected to have a severe mental disorder, such as psychoses, personality disorders with psychotic features or psychotic-like impulse dyscontrol, or significant depression or mania and/or highly compulsive states, rather than only a disorder that in legal terms is nonsevere, such as substance abuse, anxiety disorders, mild depression, or other more general mental health problems.

To some extent, the representativeness of the clinic-referred group may be clarified by comparing this group to the population-based cohort and by identifying predictors of court-referrals to forensic psychiatric investigations in the cohort study.

Paper I presented basic data on offenders, crimes, sanctions, and relationships between victims and offenders in the population-based cohort. In paper II, mental health problems were addressed in the clinic-referred group. DSM-IV diagnoses were used to determine whether DSM-IV pedophilia is associated with increased frequencies of other psychiatric mental disorders. In paper III, possible differences in offender characteristics were examined in relation to the age of the victims. Paper IV described the follow-up of both study populations using official registers. The data used from the different study groups for the four papers included in the thesis is detailed in Table 1.

Table 1. Study groups and data used in the four papers

	Sociodemo-graphic Variables	*Criminal History*	*Mental Disorder*	*Pedophilia*	*Childhood Mental Problems*	*Victim Age*	*Recidivism*
Paper I	*n=196*	*n=196*				*n=203*	
Paper II	*n=182*	*n=182*	*n=182*	*n=182*	*n=182*		
Paper III	*n=162*	*n=162*	*n=162*	*n=162*	*n=162*	*n=162*	
Paper IV	*n=359*	*n=359*					*n=193* *n=166*

3.2 Procedures

3.2.1 Population-based cohort (papers I and IV)

The region of Västra Götaland had 14 district courts at the time of the study. All were contacted and all court files involving sexual crimes were examined by the author. In total, 196 offenders were involved in these cases, all of whom were men. The documentation scrutinized in each case included the indictment, the complete police investigation (with video-taped or type-written interrogations of victims, offenders, and witnesses, all technical evidence, and the personal case study), the sentence (including any revisions in higher courts), and the forensic psychiatric reports in cases referred by the court to pretrial forensic psychiatric screening and/or full forensic investigations. All data on sex, age, socioeconomic conditions, health status, previous criminality, index crime, relationship to the victim, and legal consequences were registered by the author in a standardized protocol, which was later entered into a database for computerized analyses. The protocol overlaps partly with protocols for the Gothenburg Forensic Neuropsychiatric Project.[56]

3.2.2 Clinic-referred group (papers II, III, and IV)

According to Swedish legislation, no convicted offender can be sentenced to prison if found to have committed the crime under the influence of a *severe mental disorder* (see Definitions). Each year, the courts order some 550 individuals to undergo full forensic psychiatric investigations.[57] Such an investigation may be made only if the offender has confessed, and/or if the evidence of guilt is beyond doubt, and when the crime is serious enough to require a sentence involving incarceration.[58]

During the assessment period (generally four weeks), most subjects are kept on remand at a high-security forensic psychiatric unit. Subjects with substance abuse or dependence are detoxified before evaluation. The investigations are made by team members with varying but high professional competence, all of whom meet the demands to diagnose in accordance with the respective DSM-IV axis (Table 2).

[56] Soderstrom, 2002
[57] The National Board of Forensic Medicine, 2010
[58] Svennerlind et al, 2010

Table 2. Competence of forensic investigation team members in relation to the five diagnostic axes of DSM IV

Axis I:	*Clinical psychiatric syndromes*	*Psychiatrist/Physician*
Axis II:	*Developmental and Personality disorders*	*Psychiatrist and psychologist*
Axis III:	*Physical conditions*	*Physician*
Axis IV:	*Severity of psychosocial stressors*	*Psychiatric social worker*
Axis V:	*Highest level of social functioning*	*The whole team, including a nurse from the ward*

DSM-IV diagnoses are assigned by the team on the basis of clinical interviews, neuropsychological tests, personality and psychiatric assessments, physical and neurological examinations, extensive file reviews, and close observation on the ward. The uniform quality of the investigations and subsequent forensic psychiatric reports submitted to the courts is ascertained by the National Board of Forensic Medicine, which is the authority in charge of all investigation units in the country.

Using the registers of the National Board of Forensic Medicine, all cases referred to full forensic psychiatric investigations involving sexual crimes were identified and the court-ordered forensic psychiatric investigation reports, as well as all records and files collected during the investigation and the study period of the ensuing court sentences, were collected. Data covering socioeconomic conditions; family background; health status; psychiatric diagnoses; previous criminality; index crime; crime characteristics, including relationship to the victim(s); and legal consequences were registered in a standardized protocol, consistent with that used in the population-based cohort whenever possible, and later entered into an anonymized data file of all 185 subjects that constituted the original clinic-referred group.

3.2.3 Follow-up study

Follow-up data in the form of new sentences for recidivistic crimes covering all types of crimes, but with particular focus on sexual and violent crimes, was obtained in 2009 from the National Council for Crime Prevention's register on reported offenses. The follow-up time started with the date for the index conviction gaining legal force, and ended for both samples on December 31, 2008, unless deportation/emigration or death occurred earlier,

while the time until reconviction ended at two possible dates: the date of the first reconviction for a sexual reoffending, or the date of the first reconviction for violent reoffending (note that the first conviction for reoffending could include both sexual and violent acts, and when that occurred, it was counted as both sexual and violent reoffending). In addition, data were collected that covered all reconvictions for all types of criminality (recurrent sexual and violent included) that occurred during the full follow-up period from its start at index to its termination on December 31, 2008.

3.3 Subjects

Detailed numbers of participants in the two study groups and the different analysis presented in Papers I-IV are summarized in Figure 1.

3.3.1 Population-based cohort (papers I and IV)

The Västra Götaland region in Sweden has a population of about 1.5 million and includes Gothenburg, the second largest city in the country. The total number of convictions for any type of sexual crime during the study period, 1993–1997, was 496, according to statistics from the 14 district courts in the region. A total of 203 of the 496 sentences (40.8%) concerned child sexual abuse and included 196 offenders, all men, five of whom were sentenced twice and one three times. The median age of the offenders was 42 (range 18–86) at the time of sentencing and 39 (range 12–79) when the index crime was committed (or, when the abuse had gone on for a longer period, the first offense in an index series of offenses).

3.3.2 Clinic-referred group (papers II, III, and IV)

The clinic-referred group included all 185 sentenced child sexual abuse offenders (182 men and three women) in Sweden who, during a five-year period (1993–1997), were referred by the court for forensic psychiatric investigation.

Figure 1. Map of Sweden with approximate number of inhabitants during the study period 1993–1997. Map from Wikipedia

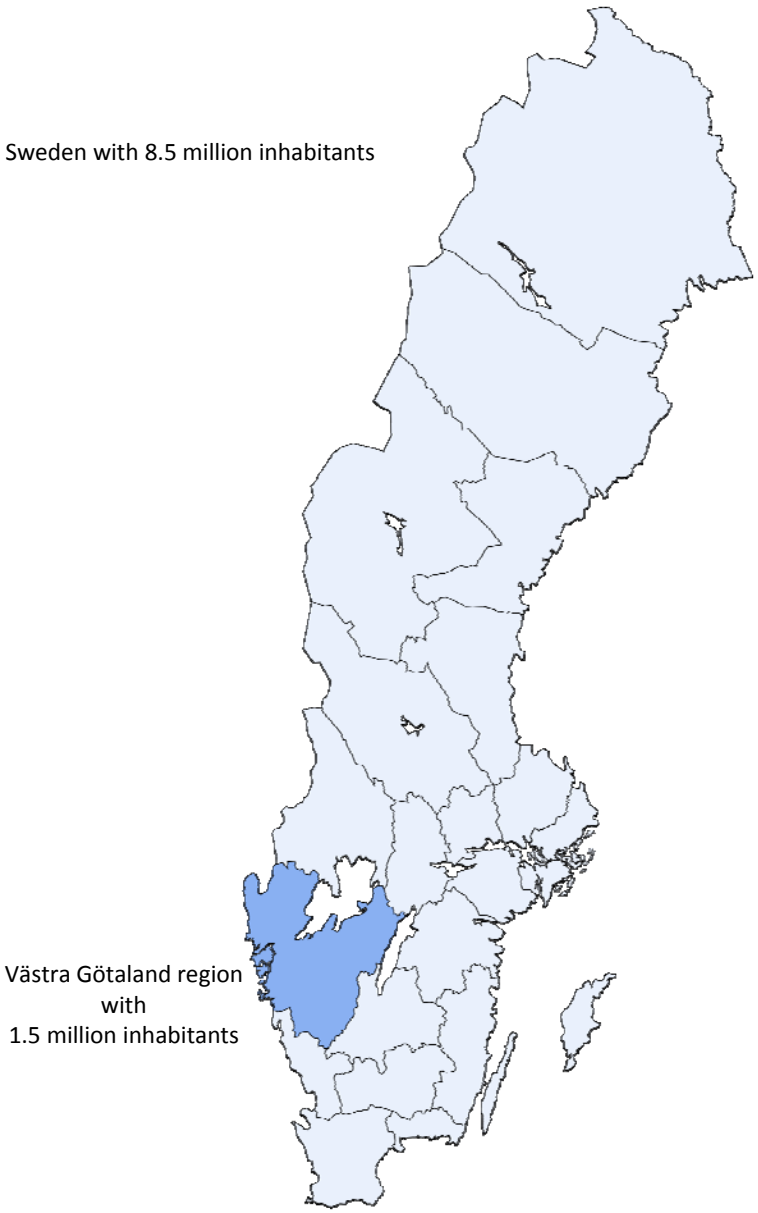
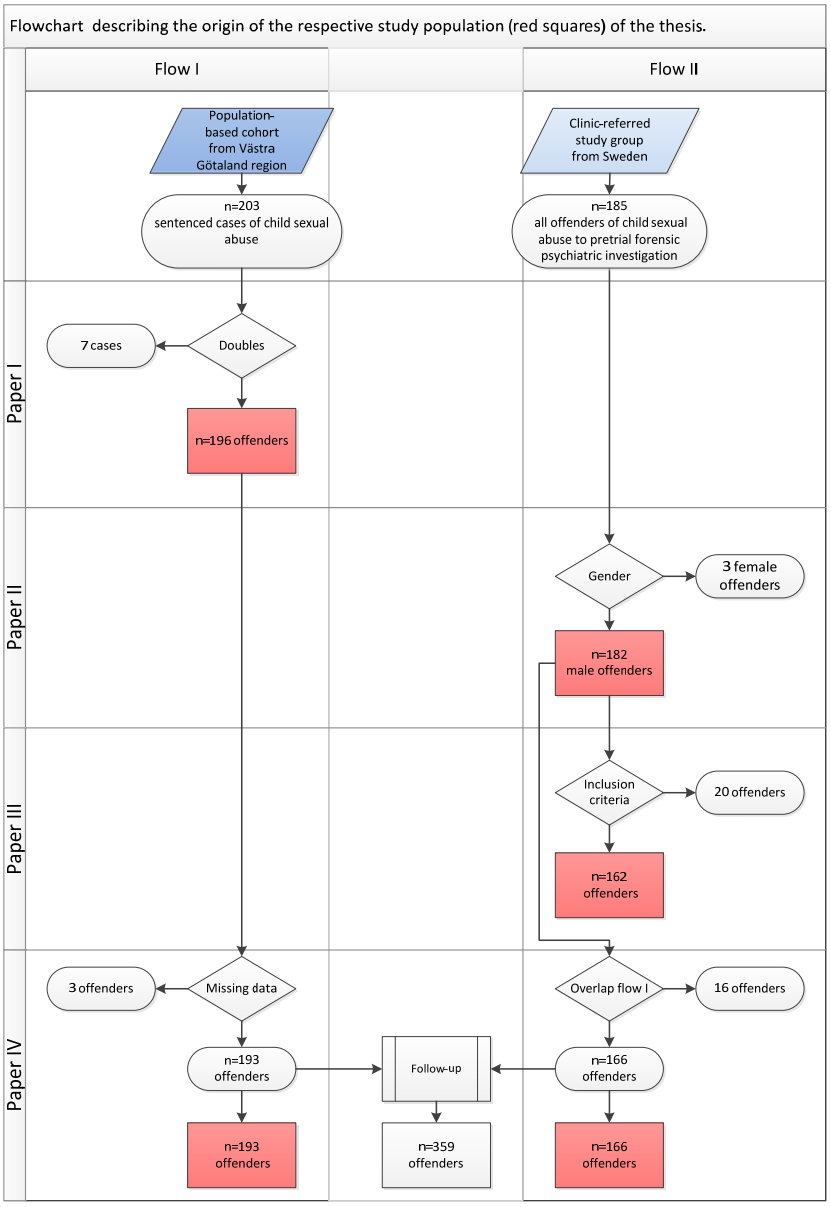


Figure 2. Flowchart describing the two study populations (the population- based cohort consisting of all offenders of sentenced child sexual abuse in the Västra Götaland region 1993–1997 and the clinic referred group consisting of all offenders of such crimes referred to a pretrial forensic psychiatric investigation in Sweden during the same period.



For paper III (analyses of covariation between mental health variables and victim age), 3 women were excluded (to facilitate comparisons), as were 20 men (14 because their index crimes involved victims of varying or unknown ages and 6 because of previous convictions for sexual crimes against children younger or older than their index victims). The remaining 162 subjects were grouped according to victim age. In cases involving repeated violations of the same child over several years, the offender was classified according to the victim's age at the initiation of the index crime under prosecution. The *very young* victim group included offenders with 0- to 5-year-old victims (n = 31, 19%), that is, preschoolers without regular contacts with social institutions outside the home unless enrolled in the day-care system. The offenders with *young* victims (n = 90, 56%) had preadolescent victims aged 6 to 11, and those with *adolescent* victims (n = 41, 25%) had victims aged 12 to 15. The corresponding frequencies in the background population from the Swedish region of Västra Götaland consisting of all cases of convicted child sexual abuse offenders between 1993 and 1997 (n = 196), regardless of whether they were referred for forensic psychiatric assessments or not, were similarly distributed, with 11% having very young victims, 57% having young victims, and 32% having adolescent victims, respectively.

3.3.3 Subjects retained in follow-up (paper IV)

Follow-up data were collected for 193 of the original 196 subjects in the population-based group, due to a mismatch of social security codes in two cases and deportation at index for the third. They were divided into two groups by their relationship to their index victim: intrafamilial (n = 143) and extrafamilial (n = 50). They belonged to the former group if they had some kind of relationship to the victim (family friend, acquaintance, or relative), and to the latter group if they were strangers to the victim.

From the clinic-referred group, 19 cases were excluded from further analyses; 16 since they also belonged to the Västra Götaland population (the population-based cohort), and 3 female offenders due to their small number. The final study population for follow-up thus consisted of 166 men. They were divided by their relationship to the index victim into either an intrafamilial (n = 124) or an extrafamilial (n = 39) group. Due to insufficient information, it was not possible to classify three subjects according to these groups.

3.4 Measures

3.4.1 Sociodemographics

Sociodemographic data from 1995, which was used as an average for the background population in Västra Götaland during the study period, was obtained from Sweden's Central Bureau of Statistics. Data on age, sex, and immigrant status was used for comparisons with the study group, whereas official statistics on civic status, education, and other variables were not specific enough for our purpose.

3.4.2 Crimes

All data on sex, age, socioeconomic conditions, health status, previous criminality, index crime, relationship to victim, and legal consequences were registered by the author in a standardized protocol for computerized analysis. For the clinic-referred study group, self-reported sexual orientation was also included. However, some of the data sought, such as whether or not the offender had been sexually abused in childhood, was unavailable in the majority of cases.

3.4.3 Mental disorders

All psychiatric diagnoses assigned in the forensic psychiatric investigations were adapted to DSM-IV criteria by the author. Clinical diagnoses had been assigned on the basis of interviews, neuropsychological tests, personality and psychiatric assessments, physical and neurological examinations, and extensive file reviews (including school, social, criminal, and medical records) according to the guidelines and routines adopted by the National Board of Forensic Medicine.

3.4.4 Pedophilia

In the process of re-examining the diagnoses registered in the court reports for the clinic-referred group, previously undiagnosed pedophilia was found in 22 subjects who met DSM-IV criteria by having committed repetitive child sexual abuse for more than six months despite social pressure to desist, or on a large number of occasions during the lifespan. The final count gave 38% with pedophilia, 6% who could not be determined because the clinical information required for the diagnosis (or its exclusion) was not known, and 56% who were not considered to meet diagnostic criteria for pedophilia.

3.4.5 Childhood mental/behavioral problems

Besides neurocognitive test assessments (generally by the Wechsler scales[59]), systematic diagnostic procedures for possible childhood-onset behavior disorders (such as attention deficit hyperactivity disorder (ADHD) or autism spectrum disorders) were carried out before or during the forensic psychiatric examination in a few cases only. Special attention was paid to features indicating childhood-onset behavioral or learning disorders in the documentation. As research proxies to clinical diagnoses, ADHD was considered indicated by notions of disruptiveness and special educational needs, learning disabilities by test-verified mental retardation or placement in special education classes, and autistic features by multiple reports of social interaction problems. This assessment was made by the author in consensus with Professor Henrik Anckarsäter.

3.4.6 Victim Age

The age of the victims at the time they were abused or when a prolonged time of repeated abuse first started was noted in each case. According to the Swedish Penal Code, 15 years of age is the limit for unlawful sexual activity with minors. Therefore, in this thesis, all victims of the respective offenders' index crimes are younger than 15. In some analyses, properties of the offenders were examined in relation to victim age.

3.4.7 Index sanctions

Index sanctions ranged from fines, conditional release, and probation to prison or compulsory forensic psychiatric treatment. We defined a severe sanction as prison more than two years, or compulsory treatment in a forensic hospital.

3.4.8 Violent and sexual recidivism

Follow-up data in the form of new sentences for recidivistic crimes covering all types, but with particular focus on sexual and violent crimes, was obtained in 2009 from the National Council for Crime Prevention's register on reported convictions.

General recidivism was defined as a new sentence for a criminal offense, while sexual recidivism included all sexual crimes against minors (under the age of 15) and/or adults (covering all sexual acts listed in the Swedish Penal Code), whereas violent convictions included murder, assault, intimate partner

[59] Wechsler 1981

violence, robbery, arson, exposing another individual to danger, and violations of the legislation against carrying arms/knives in public places. Aggravated or attempted crimes were counted similarly. Complementary data was also collected from the sentencing documents, providing information on the criminal acts and the offenders' relationships to their victims. Additional information about mortality was collected from registers provided by the National Board of Health and Welfare.

3.5 Data handling

Individual data for both study groups were collected and saved in paper forms and kept in individual folders. A computerized database for baseline data, one for each set of data, was then constructed and individual data was entered from the paper forms. When this procedure was completed, the database was coded. Follow-up data was handled in a similar manner; ie, it was collected from registers and sentences and then added to the computerized databases. However, due to technical problems that made it difficult to read parts of the computerized database of baseline data for the population-based cohort (the original SPSS file dated August 2000 and stored on a CD in the archives of the National Board of Forensic Medicine in Gothenburg was impossible to read in 2012, while Excel files used for statistical analyses in 2000 were still intact), a number of variables were checked against the original paper forms. This procedure revealed some minor input inconsistencies, but the level of errors did not exceed a few percent. At the same time, this procedure made it possible to update the baseline information covering mental health, drug abuse, and previous criminality. This was especially valuable with regard to baseline information about previous criminality, since the National Council for Crime Prevention's register on reported offenses consisted of more accurate information (more historical sentences) than the previously scrutinized sentences and court orders. The original folders are kept in a fireproof filing cabinet in locked storage to enable scientific revision, while the code lists linking code numbers to each individual are kept in a fireproof Chubb safe in a locked office.

3.6 Analytical and statistical methods

All analyses were conducted with the SPSS Statistics software, version 10.0 in paper I, 11.0 in paper II, 16.0 in paper III, and 19.0 in paper IV using two-tailed *p*-values. As the data could not be assumed to be normally distributed, descriptive and nonparametric statistics were consistently used, most often in

the form of chi-square tests and Fischer's exact test. Between-group differences were examined using Fischer's exact test for dichotomous variables and the Mann-Whitney U test for continuous variables, while associations between variables were analyzed by Spearman's rank-order correlations. Logistic regression was used to determine the relative contribution of several factors to the probability of a binary outcome. A Kaplan-Meyer survival analysis with a log-rank test was used to compare time in months until sexual and violent reoffending within the groups with intrafamilial versus extrafamilial victims at baseline. ROC-analyses were performed to examine the predictive ability of age at first conviction for sexual, violent, and total reoffending (reconviction) for both the population-based cohort and the clinic-referred study group, and also for Global Assessment of Functioning (GAF) score with the same outcome variables for the latter group.

It was not possible to calculate *time at risk*, since the dates of actual release from index prison sentences and compulsory forensic psychiatric care were unknown. However, for the majority of the population-based cohort, the time spent at liberty by far exceeded the time of the index sanctions. In the clinic-referred study group, 108 individuals did not receive a sentence of imprisonment, while 35 were incarcerated for less than one year and only 23 individuals for more than two years (prison or forensic psychiatric care), thus the time in freedom exceeded the time in sanction for this group as well.

Power analyses refer to the risk of type II errors (or false negative errors); ie, assuming that there is no difference or association when, in fact, there is one. This problem is mainly related to sample size and/or effect size of the studied variables. Firstly, the fact that significant differences were demonstrated for some of the studied variables could be used as an argument supporting the notion that our studies had sufficient statistical power. Secondly, given the size of our subsamples (ranging from the smallest group with n = 31 to the largest group with n = 146), and an estimated reasonable difference in proportion between these groups of about 0.30 (based on our results and earlier research), there will be a statistical power of at least 75% and at best 90%, depending on which subsamples are being compared. The fact that the null hypothesis could not be rejected in a majority of comparisons, ie, that the two populations' proportions were equal, supports the conception that there is no true difference between the compared variables, even if these negative findings have to be interpreted in view of the statistical power of the study. Findings that fit other published studies may therefore be regarded as more conclusive than findings that are in conflict with findings from other studies.

We have also done a power analysis with regard to our intent to identify predictors for negative outcomes. Due to this analysis, a multiple regression testing six predictors with an alpha equal to 0.05, a sample of at least 100 subjects, and a medium-to-large effect size will give a power of about 80%. Since our sample/cohort by far extends 100 subjects, insufficient power will not be a problem for the study of predictors.

3.7 Ethical considerations

The separate studies in the Gothenburg Sexual Abuse Studies were approved by the Research Ethics Committee at the Faculty of Medicine at the University of Gothenburg (Dnr Ö 034-02, Ö 035-02, and Ö 465-02).

The committee accepted that the studies were performed without obtaining the informed consent of the subjects. Contacting a sentenced offender years after their last contacts with the penal system may cause them considerable harm and distress. Criminal convictions are in the public domain. The decision of the Ethics Committee was motivated by weighting the infringement of personal integrity for those offenders who might not have consented to this data collection and the possible benefits to society of advancing knowledge in this field, not least by data sets covering all sentenced or assessed offenders and cases in a defined area and time period.

The project involved individuals who had committed crimes seen as most shameful and that cause serious suffering for the victims. Increased knowledge about this topic may counteract harmful prejudices and misconceptions towards offenders and victims alike. No personal data of the victims was collected or systematized (eg, personal identification numbers, names, or addresses).

4 RESULTS

4.1 Sentenced child sexual abuse

4.1.1 Crimes

The population-based cohort included 203 court cases concerning different types of sexual violations, such as vaginal, anal, or oral penetration, genital manipulation, other physical manipulations, and exhibitionism against children under the age of fifteen in a population of 1.5 million during a five-year period in the 1990s. The most common crime was sexual penetration (54%), followed by genital manipulation (13%), other physical manipulation (17%), and exhibitionism and other noncontact molestation (17%), and was overall similar across victim gender (Paper I).

Table 3. Type of sexual crime by victim gender and offender-victim relationship in the population-based cohort.

Relationship to victim	*Sexual Penetration (n = 109)*			*Genital Manipulation (n = 26)*			*Other Physical Manipulation (n = 34)*			*Hands-off Crimes (n = 34)*		
Sex of victims	♂	♀	♂ + ♀	♂	♀	♂ + ♀	♂	♀	♂ + ♀	♂	♀	♂ + ♀
Biological fathers (n = 42)	*1*	*26*	*1*	*1*	*7*	*-*	*-*	*5*	*-*	*-*	*1*	*-*
Other close relative (n = 24)	*1*	*15*	*1*	*-*	*2*	*-*	*-*	*4*	*-*	*-*	*1*	*-*
Stepfather (n = 28)	*-*	*18*	*-*	*-*	*6*	*-*	*-*	*2*	*-*	*1*	*1*	*-*
Family friend (n = 52)	*4*	*26*	*1*	*-*	*6*	*-*	*-*	*11*	*-*	*1*	*3*	*-*
Total strangers (n = 55)	*9*	*6*	*-*	*2*	*2*	*-*	*3*	*9*	*-*	*1*	*22*	*3*
Total number	*15*	*91*	*3*	*3*	*23*	*-*	*3*	*31*	*-*	*3*	*28*	*3*

The most serious violations, ie, penetrating sexual intercourse, were significantly more often committed by biological relatives, household members, and family friends than by strangers ($\chi^2 = 22.521$, df = 1, $p<.0001$). Girls were far more often abused by someone they knew or lived with than by strangers. Boys were most often abused by strangers (Table 3), but a close relative was the offender in the few cases of aggravated abuse of boys. A

similar pattern was observed in the clinic-referred group, but not further analyzed, as the full population-based findings are more representative (Papers I and II).

4.1.2 Victims

From a background population of 145 503 girls and 154 051 boys in Västra Götaland, a county representative for Sweden from an epidemiological aspect, 283 children (242 girls and 41 boys) were identified as the victims of the 203 sentenced crimes. The victims were girls in 85% of the cases, boys in 12%, and 3% of the cases involved children of both sexes (Paper I).

4.1.3 Population risk for victimization

From the background population of 145 503 girls and 154 051 boys in the Västra Götaland region, 283 victims of sentenced cases of child sexual abuse were identified (242 girls and 41 boys). The yearly risk of becoming the victim of a subsequently tried and sentenced offender of child sexual abuse was thus 33 per 100 000 girls and 5.2 per 100 000 boys. Assuming a constant risk in this region, 5 per 1000 girls and almost 8 per 10 000 boys would be the victim of such a crime during his or her first 15 years (Paper I).

4.2 Offenders

Here, results from the population-based cohort are given first and are more generalizable as the cohort is representative for the Swedish population of sentenced offenders of child sexual abuse, at least in the 1990s (Paper I). Additional information from the clinic-referred group is added when it provides greater detail on offenders of child sexual abuse who have or were suspected to have a severe mental disorder (ie, about 8% of all sentenced offenders) (Paper II).

4.2.1 Social and family circumstances

The median age of the offenders was 42 at the time of the sentencing (range 18–86) and 39 (range 12–79) when the index crime (or the first violation included in the index sentence) was committed. Seventy-one percent of the offenders were born and raised in Sweden, while 7% came from other Nordic countries, 6% from other European countries, and 16% from countries outside Europe. Forty-one percent were married, 7% lived alone but had a partner, 21% were divorced, and 29% were single. Fifty-eight percent had one or more biological children, and 46% lived with or shared custody of children (Paper I).

Nine percent had a university education, 24% upper secondary school, 43% nine-year comprehensive school, and 8% a few years of basic education. Forty-one percent had full-time employment or studies, and 7% part-time employment or studies (Paper I).

Compared to the total number of men above the age of 15 in the background population, the yearly risk for a man to be convicted of child sexual abuse was 7.44 in 100 000 (Paper I).

4.2.2 Substance abuse and mental disorders

No substance abuse was found in 48% of the offenders in the population-based cohort, while 21% were diagnosed with alcohol abuse or dependence and another 8% with polysubstance abuse or dependence. Drug abuse of a specific substance such as opioids, central stimulants, cannabis, sedatives, or anabolic steroids was found in less than 3%, while data on abuse was missing for the remaining 20% (previously unpublished data). The prevalence of substance-related disorders was similar in the clinic-referred group, ie, 28% of all subjects (Paper II).

In the population-based cohort, 7% of the offenders had experienced significant problems with peers during their child and adolescent years, while 5% had childhood mental problems that lead to treatment contact within the child mental health system. At baseline, mental problems and/or an ongoing contact with psychiatric services was found for 26% of the offenders in this group, most commonly due to anxiety and/or depression. Significant somatic morbidity, often combined with different forms of handicaps, was noted in 28% of the subjects (previously unpublished data).

In the clinic-referred group, according to the DSM-IV, thirty percent were diagnosed with a mood disorder, 17% with a psychotic disorder, and 18% with an anxiety disorder. Pedophilia was ascertained in 38%, while data was too sparse to ascertain or exclude this diagnosis in 6% of the subjects. Childhood mental problems were established in 51% of the offenders. These figures should be interpreted with caution since they are extracted from a highly selected population of child sexual offenders (Paper II).

Childhood mental problems were thought to exist in the histories of 51% of all subjects in the clinic-referred group. In this group of offenders, 12% were considered to have met the criteria for ADHD, 3% for conduct disorder, and 5% for an autism spectrum disorder, while 0.5% had Tourette's syndrome, 1% had other chronic tics, 6% had mental retardation, and 32% were

described as “different” and “odd,” and were bullied during childhood (Paper II).

As many as 57% of the subjects in the clinic-referred group was assigned a personality disorder diagnosis, and in most cases they fulfilled the criteria for more than one diagnostic category (Paper II).

4.2.3 Previous criminality

Among the 196 offenders in the population-based cohort, 14% had previously served time in prison and another 4% had formerly been sentenced to forensic psychiatric inpatient treatment on one or several occasions. Eight percent had previous convictions for violent crimes and 12% for sexual offenses. Taken together, 18% of child sexual abuse offenders were known violent or sexual offenders with criminal records, while about four in five had never received any criminal sentence that deprived them of their liberty, and two in three had never been sentenced (previously unpublished data).

Offenders who had previously been convicted for sexual crimes (12%) differed from nonrecidivists by having more substance abuse ($\chi^2 = 9.68$, df = 1, $p = .002$) and psychiatric disorders before the crime ($\chi^2 = 3.43$, df = 1, $p = .011$), and by a higher frequency of male victims ($\chi^2 = 14.39$, df = 1, $p<.0001$). They were more often a stranger to the victim ($\chi^2 = 16.38$, df = 1, $p<.001$) and had more often committed crimes that did not involve sexual penetration ($\chi^2 = 9.71$, df = 1, $p = .002$) (Paper I).

4.2.4 Referrals to forensic psychiatry

Twenty-seven percent of the population-based cohort was referred to a screening pretrial forensic psychiatric assessment, but only 8% to a forensic psychiatric investigation. Characteristic for cases referred to forensic psychiatry was that the crimes involved violent features ($\chi^2 = 9.05$, df = 1, $p = .003$), the victim was of the same sex as the offender ($\chi^2 = 8.38$, df = 1, $p = .007$), the offender had previous convictions for sexual offenses ($\chi^2 = 6.22$, df = 1, $p = .017$), and, most significantly, the offenders had a history of psychiatric treatment ($\chi^2 = 14.4$, df = 1, $p = .001$). No pretrial psychiatric evaluation was performed in 41% of offenders with a diagnosed psychiatric disorder, or in 50% of recidivists. The majority of offenders sentenced to imprisonment for more than 2 years (57%) never saw a forensic psychiatrist before sentencing (Paper I).

4.2.5 Sentences

In the population-based cohort a severe sanction was imposed in 22% of the cases, whereas 78% of the cases led to shorter prison terms, conditional sentences, or fines. Even in 109 cases of penetration, fines or probation were the only sanctions for 28% (Table 4). In a logistic model, the squared age of the offender ($p = 0.037$), violent features of the crime (OR = 8.51, $p < 0.001$), and immigrant status (OR = 5.03, $p < 0.001$) proved to be statistically significant, independent predictors of a severe sanction (Paper I).

*Table 4. Sanctions in the 201 court cases where a sentence could be imposed**

	Fines and/or probation	*Prison <1 year*	*Prison 1-2 years*	*Prison >2 years*	*Special hospital treatment*
Sexual penetration	*30*	*40*	*10*	*25*	*4*
Genital manipulation	*9*	*11*	*2*	*3*	*1*
Other physical manipulation	*22*	*5*	*1*	*2*	*4*
Hands-off crimes	*29*	*2*	*0*	*0*	*3*

**Two convicted perpetrators committed suicide before being sentenced.*

4.3 Pedophilia

These results are based only on the clinic-referred study group.

4.3.1 Pedophilia

At the pretrial forensic psychiatric investigations of the clinic-referred group, diagnoses of pedophilia according to the DSM-IV had been assigned in 28% of the cases and ruled out in 50%, while in 22% of the cases there was not enough information to ascertain whether the diagnostic criteria for pedophilia were fulfilled. After the reassessment of all cases for this study, another 22 subjects were identified who, based on the available files and documents, were thought by the authors to meet the diagnostic criteria for pedophilia. Thus, the final count was that 38% of the cases were given DSM-IV pedophilia diagnoses, while in 6% the clinical information was too sparse to ascertain or exclude pedophilia and in 56% of the cases a DSM-IV diagnosis of pedophilia was ruled out (Paper II).

Table 5. Features compared between subjects with and without DSM-IV pedophilia

	Non-pedophilia (n = 103)	*Pedophilia (n = 70)*	*Non-ascertainable Cases (n = 12)+missing data*	*p-value (two-tailed)*
Psychiatric morbidity				
Mood disorder	*29/103 (28%)*	*22/70 (31%)*	*12+0*	*n.s.*
Psychotic disorder	*19/103 (18%)*	*11/70 (16%)*	*12+0*	*n.s.*
Substance abuse	*34/103 (33%)*	*16/70 (23%)*	*12+0*	*n.s.*
Anxiety disorder	*17/103 (17%)*	*13/70 (19%)*	*12+0*	*n.s.*
Personality disorder	*58/98 (59%)*	*46/68 (68%)*	*12+7*	*n.s.*
Any childhood-onset psychiatric disorder	*50/90 (56%)*	*40/62 (65%)*	*12+21*	*n.s.*
Crime characteristics				
Previous sex crimes:				
Against adults	*5/103 (5%)*	*2/70 (3%)*	*12+0*	*n.s.*
Against minors	*6/99 (6%)*	*27/70 (39%)*	*12+4*	*<0.001*
Index crime				
Denial of index crime	*59/103 (57%)*	*48/69 (70%)*	*12+1*	*n.s.*
Influenced by alcohol/drugs	*30/96 (31%)*	*10/68 (15%)*	*12+9*	*0.017*
Penetration	*77/103 (75%)*	*55/70 (79%)*	*12+0*	*n.s.*
Same-sex victim	*14/94 (15%)*	*19/63 (30%)*	*12+16*	*0.028*
Physical force involved	*62/94 (66%)*	*35/64 (55%)*	*12+15*	*n.s.*
More than one violation involved	*67/100 (67%)*	*54/69 (78%)*	*12+4*	*n.s.*
Index sentence to forensic psychiatric treatment	*22/103 (21%)*	*27/70 (39%)*	*12+0*	*0.016*

4.3.2 Pedophilia and other mental disorders

No categorical diagnosis of a mental health problem differed in frequency between child sexual abuse offenders with and without a pedophilia diagnosis (Table 5) (Paper II).

4.3.3 Pedophilia and crimes

Men diagnosed with pedophilia proved to have younger victims, higher frequencies of same-sex victims, and were less often intoxicated when committing the index crime, compared to offenders without a diagnosis of pedophilia. Index sentences to forensic psychiatric treatment were more common among the offenders diagnosed with pedophilia (Paper II).

4.4 Very young victims

Possible relationships between sociodemographic and clinical features according to offenders and victim age, ie, 0–5 years as very young victims (19%), 6–11 years as young victims (56%), and 12–15 years as adolescent victims (25%), were subsequently assessed (Paper III).

4.4.1 Victim age and socioeconomics

No significant group differences were seen in the median age of the offenders at the time of the crime, nor in marital status (single, divorced, married/cohabiting), education, or means of support (employment, retirement pension, unemployment, or disability benefits). Moreover, the patterns of biological and social relationships between victims and offenders showed no statistically significant differences between groups. Still, biological fathers were notably more frequent in the youngest victim group (Table 6) (Paper III).

Table 6. Crime characteristics.

	Very Young Victims (n = 31)	*Young Victims (n = 90)*	*Adolescent Victims (n = 41)*	
Relationship to victim				
Biological father	*9 (29%)*	*23 (26%)*	*6 (15%)*	*n.s.*
Other close relative	*3 (10%)*	*11 (12%)*	*2 (5%)*	*n.s.*
Stepfather	*3 (10%)*	*14 (16%)*	*5 (12%)*	*n.s.*
Family friend	*10 (32%)*	*20 (22%)*	*15 (37%)*	*n.s.*
Total stranger	*6 (19%)*	*22 (24%)*	*13 (32%)*	*n.s.*
Type of crime				
Hands-on	*28 (90%)*	*86 (96%)*	*37 (90%)*	*n.s.*
Hands-off	*3 (10%)*	*4 (4%)*	*4 (10%)*	*n.s.*
Sex of victim				
Boys	*3 (10%)*	*16 (18%)*	*11 (27%)*	*n.s.*
Girls	*21 (68%)*	*69 (77%)*	*29 (71%)*	*n.s.*
Boys as well as girls	*7 (23%)*	*5 (6%)*	*1 (2%)*	*$p<0.01$*

4.4.2 Victim age and crime types

Penetration was by far the most common form of abuse in all three offender groups, and the period of time during which the abuse was carried out varied greatly, from a single occasion to innumerable acts over several years (Paper III).

4.4.3 Victim age and victim properties

Most victims, regardless of age, were girls, but the offenders with adolescent victims tended to have a higher proportion of male victims than did the other groups. Gender crossover cases, ie, offenders with both male and female victims, were significantly more common in cases with very young victims than in the groups with young or adolescent victims. All the biological fathers with young or adolescent victims had abused girls, see Table 6 (Paper III).

4.4.4 Victim age and sanctions

The age of the victim did not covary with the type or severity of the sanction. About one third of the offenders in each group were sentenced to forensic psychiatric treatment, and, in each group, more than 50% of those with prison sanctions were sentenced to terms of between 1 and 5 years (Paper III).

4.4.5 Victim age and mental disorders

Axis I and/or Axis II disorders were diagnosed in 93% of the offenders with very young victims, 83% of the offenders with young victims, and 93% of the offenders with adolescent victims. The frequency of mood disorders was significantly higher among offenders with adolescent victims, compared to offenders in the other two groups. Anxiety disorders were more common among the offenders with young victims, compared to those with adolescent victims (Table 7) (Paper III).

Table 7. Psychiatric diagnoses according to victim age.

	Very Young Victims (n = 31)	*Young Victims (n = 90)*	*Adolescent Victims (n = 41)*	
No psychiatric diagnosis	*2 (7%)*	*15 (17%)*	*3 (7%)*	*n.s.*
Any axis I disorder	*26 (84%)*	*68 (76%)*	*32 (78%)*	*n.s.*
Psychotic disorders	*4 (13%)*	*8 (9%)*	*6 (15%)*	*n.s.*
Mood disorders	*7 (23%)*	*20 (22%)*	*19 (46%)*	*p<.01*
Anxiety disorders	*4 (13%)*	*15 (17%)*	*1 (2%)*	*p<.01*
Pedophilia	*14 (45%)*	*35 (39%)*	*9 (22%)*	*p<.01*
Substance abuse/ dependence	*10 (32%)*	*38 (42%)*	*13 (32%)*	*n.s.*
Any childhood-onset behavior disorder	*19 (61%)*	*52 (58%)*	*27 (66%)*	*n.s.*

There was a significantly higher frequency of DSM-IV pedophilia in the offenders with very young victims, compared to the offenders with adolescent victims. Among the biological fathers, a pedophilia diagnosis was assigned in 6 of 9 (67%) of the offenders with very young victims, in 7 of 23 (30%) of the offenders with young victims, and in 1 of 6 (17%) of the offenders with adolescent victims. Behavioral and/or learning problems in childhood were noted in more than half of the subjects in each group without any significant difference (Table 7) (Paper III).

4.4.6 Victim age and sexual orientation

Irrespective of the victim's sex, the majority of offenders (77% of the offenders with very young victims, 76% of the offenders with young victims, and 83% of the offenders with adolescent victims) described themselves as heterosexual. The self-reported frequency of homosexuality was 7% in the offenders with very young victims, 2% among the offenders with young victims, and 5% in the offenders with adolescent victims, while the figures for self-reported bisexuality were 3%, 7.5%, and 5%, respectively. All but one of the 38 biological fathers in the incest cases described themselves as heterosexual. The exception was a bisexual father with a very young victim (Paper III).

4.5 Follow-up (both study groups)

4.5.1 Outcome during follow-up (population-based cohort)

The general follow-up time for the population-based cohort was just over ten years (124.3 months), with a minimum of 1 and a maximum of 191 months. Offenders with intrafamilial victims at index had significantly ($p<.02$) longer times until endpoint (130 months) than those with extrafamilial victims (106 months) (Paper IV).

Almost 31% were reconvicted at least once for a sexual, violent or nonsexual/nonviolent crime during the follow-up period, with 40% in the extrafamilial subgroup and 27% in the intrafamilial subgroup. In total, nearly 10% of the whole cohort was reconvicted for a sexual offense during follow-up, while 20% belonged to the extrafamilial subgroup and 6% to the intrafamilial subgroup ($p<.01$). Recurrent sexual reoffending was significantly ($p<.004$) more common in the extrafamilial subgroup compared to the intrafamilial subgroup, with recurrent rates of 12 % and 1.4%,

respectively. The overall relapse rate into sexual criminality corresponds to about one sexual relapse per 100 offender years.

In total, 12% were reconvicted for violent reoffending during the study period, with 20% in the extrafamilial subgroup and 10% in the intrafamilial subgroup. Repeated violent reoffending was significantly ($p<.005$) more common in the extrafamilial subgroup (16%) compared to the intrafamilial subgroup (3.5%). Finally, reconvictions covering both sexual and violent reoffending were only found in the extrafamilial subgroup, and displayed by 10% of the subjects. The overall relapse rate into violent criminality corresponds to slightly more than one violent relapse per 100 offender years.

4.5.2 Outcome during follow-up (clinic-referred study group)

The general follow-up time for the clinic-referred group was just above ten years (126.4 months), with a minimum of two weeks and a maximum of 191 months. Time until endpoint differed significantly ($p<.001$) between offenders with intrafamilial victims (139 months) and offenders with extrafamilial victims (94 months).

A total of almost 27% were reconvicted at least once for a sexual, violent, or nonsexual/nonviolent crime during the study period, with 46% in the extrafamilial subgroup and 19% in the intrafamilial subgroup ($p\leq.001$). Almost 14% of the whole group was reconvicted for a sexual crime during follow-up, where 31% belonged to the extrafamilial subgroup and 7% to the intrafamilial subgroup ($p<.001$). Recurrent sexual reoffending was also more common ($p<.02$) in the extrafamilial subgroup with 13%, compared to the intrafamilial subgroup with only 2.4%. The overall relapse rate into sexual criminality corresponds to slightly less than one and a half sexual relapses per 100 offender years (Paper IV).

All in all, 11% was reconvicted for violent criminality during follow-up, with 23% in the extrafamilial subgroup and 7% in the intrafamilial subgroup ($p<.015$). This difference did not remain significant with regard to recurrent violent reoffending (7.7% and 3.2%, respectively). Reconvictions covering both sexual and violent reoffending were significantly ($p<.009$) more frequent in the extrafamilial subgroup with 13%, compared to the intrafamilial subgroup, with barely 2%. Finally, the overall relapse rate into violent criminality corresponds to about one violent relapse per 100 offender-years (Paper IV).

5 MAIN FINDINGS

- Girls were the victims in 88% of cases of child sexual abuse.
- The most severe violations, such as penetration or other hands-on crimes, were more often committed by biological relatives, other members of the household, or offenders familiar to the child, than by strangers.
- The risk for a minor becoming the victim of a sentenced case of sexual abuse in the Västra Götaland region during his or her first 15 years was 5 per 1000 girls and almost 8 per 10 000 boys.
- Even in severe cases, forensic psychiatric investigations were rare, and sentences often surprisingly mild.
- Ethnic origins proved to be a strong predictor of a severe sanction, so that non-Scandinavian immigrants received more severe sanctions when the severity of the crime and the criminal histories were controlled for.
- Offenders with a diagnosis of pedophilia according to the DSM-IV did not differ significantly in mental disorders compared to other offenders.
- Offenders with victims below the age of 5 did not differ in psychiatric morbidity from those with older victims.
- Gender crossover cases, ie, offenders with both male and female victims, were significantly more common among the youngest victim group than in the groups with older victims.
- The overall rate of sexual and violent reoffending during the whole follow-up period was low, with 10% and 12% in the population-based cohort and 10% and 14% in the clinic-referred study group.
- Offenders with extrafamilial victims at index relapsed significantly more in both sexual and violent criminality compared to those with intrafamilial victims

6 DISCUSSION

Our investigations combined an epidemiologic approach with studies on a clinical population of child sexual offenders. To collect reliable information on the full spectrum of crimes and offenders, we studied all sentenced cases of child sexual abuse in a defined population, during a defined period of time. Findings based on ascertained cases of child sexual abuse complement those of studies of clinically referred groups and self-reported victim surveys. Nonsentenced and nonreported crimes must be considered whenever the data are interpreted.

6.1 General discussion of findings

6.1.1 Victim gender

The proportion of boys who are victims of child sexual abuse in all probability corresponds to the general prevalence of homosexuality in society, given the lower gender discrimination in the youngest victim group. In victim surveys, however, men report a higher prevalence of child sexual abuse experiences than are reflected by studies on sentenced cases, but with a larger proportion of female offenders. Even after considering problems with representativeness, we find that the scientific literature clearly supports the findings that girls are more often victims of child sexual abuse than boys.

6.1.2 Population-based risk

By using data from the population of the Västra Götaland region in 1995, we were able to relate our observations to the general population of Sweden and to calculate the risk of becoming a victim during childhood of a convicted sexual crime, or of becoming a sentenced offender, regardless of region. Our data support previous observations that children, particularly girls, are far more likely to be sexually abused in their familiar surroundings by people they know than by strangers.

6.1.3 Severity of the crime

We showed a relation to the severity of the crime, which increased with the offender's relational proximity to the victim. Indeed, severe sexual crimes were rarely committed by strangers in this population-based cohort, where the most severe crimes, including penetrating sexual intercourse with preschool children, were committed by biological fathers and other close relatives.

6.1.4 The dark figure

However, the dark figure of unrecorded sexual crimes against minors is unknown but likely to be vast. The extent to which some individuals in the area committed crimes elsewhere (eg, abroad), or were victimized elsewhere, could not be assessed. Conversely, some victims could live outside the studied region, meaning that the estimates are probably representative for Sweden but miss the tragic reality of sex tourism in developing countries. In that sense, our studies were based on a fraction of all possible sexual criminality against minors. Bearing this in mind, our aim was to establish at least some basic epidemiologic facts about cases that are well ascertained and proved in court.

The first study collected data from a group that in one core aspect is truly representative: all convictions for child sexual abuse in a defined geographic area were examined. These cases were all established as such by the courts, and therefore represent a conservative estimate of all cases.

The risk for victimization we found was smaller than in victim surveys, but not unlike other studies of ascertained cases, which have found between 0.4 and 2.7 victims of sexual child abuse in 1000 children,[60] which is more in the range of our findings of 0.8 to 5 victims in 1000 children.

The dark figure crimes may not correspond to the sentenced cases on a number of parameters. Strangers may be more difficult to identify for prosecution, but crimes by strangers are likely to be much more consistently reported to the police in the first place, compared to crimes in families.

There is also a possibility that some self-reported abuse would not have counted as such for any outside observer, or that it could even be the result of false memories. The true prevalence might therefore be assumed to fall somewhere between the rates of ascertained data and those of self-reported data, if one does not adhere to the theories of large-scale repression of memories of abuse that were in vogue in the 1970s and 1980s.

According to the Swedish Penal Code at the time of the baseline data collection (1993–1997), a sexual crime was not designated as rape unless the offender threatened or used violence to subdue the victim. Since physical violence is rarely required to restrain children, child sexual abuse was most often classified as “sexual intercourse with a minor.” This has now been changed in order to account fully for children’s vulnerability in these cases.

[60] Johnson, 2002; Klit et al, 2002

6.1.5 Severe sentences

Sentences were overall surprisingly mild in these mid-1990s samples. Given that in-patient forensic psychiatric treatment of sexual offenders may stretch out over decades, the short prison terms and the similar recidivism in the different sanction groups indicate disproportionate societal responses to offenders with mental illness.

A finding worth remarking was that offenders who were not born in Sweden had a significantly increased risk of receiving a severe sanction compared to native Swedes who had committed similar crimes.

6.1.6 Offender gender

In the studies presented here, virtually all offenders were male. There are at least some known types of women perpetrators of sexual child abuse: women who have relations with underage boys, and women who help their male partners abuse underage girls. Nevertheless, crimes of indecent exposure, sexually attacking children in public spaces, and sexual abuse of small children entrusted to one's care are virtually unheard of among women.

6.1.7 Mental helth problems

In the population-based cohort, mental disorders and substance abuse each had only a slightly higher prevalence than found in the general population.[61] The proportion who had documented contact with child psychiatric services was lower than the file-based prevalence of contact with the child and adolescent mental health services in Sweden, which is about a fifth of all individuals who have grown up in the country.[62]

In the clinic-referred group, however, we found high frequencies of DSM-IV disorders, including indications of childhood-onset mental health problems in the majority of offenders. Even higher frequencies (67% mood disorder, 64% anxiety disorder, and 60% substance abuse) were reported in an American study of 42 men with pedophilia who participated in court-ordered treatment programs.[63] Our studies, however, clearly caution against inferences of prevalence of mental health problems in relation to a specific type of crime as long as clinic-referred study groups only are known, and in the absence of population-based data.

[61] Mattison et al, 2010; Ojesjö et al, 1982; Hagnell et al, 1994
[62] Barnombudsmannen, 2010
[63] Raymond et al, 1999

6.1.8 Pedophilia

Further, the DSM-IV diagnosis of pedophilia was not associated with any specific type of mental health problem, although such problems were common. The present study, however, shows that psychiatric disorders were as common and as severe among nonpedophile child molesters as among pedophiles. This suggests that the pedophilia diagnosis does not reflect an increase in psychiatric vulnerability in general.

Do the significant differences found in crime-related factors indicate core distinctions between men who are pedophiles and those who are not? In previous studies a higher prevalence of male victims among offenders meeting criteria for pedophilia has been found[64], but in this study this tendency was not significant. This does not necessary mean that the same-sex attraction in pedophiles is same phenomenon as the homosexuality involved in adult sexual attraction. Research implies that there is no scientific support that homosexual men (androphiles) are overrepresented in crimes against prepubescent male children.[65] The slight overrepresentation of male victims in these studies compared to the prevalence of adult homosexuality among men may be explained in part by a tendency towards bisexuality in pedophiles, and in part by a nondiscrimination by pedophiles in crimes directed at the youngest victims, and in hands-off crimes (such as indecent exposure).

The DSM-IV diagnosis of pedophilia has been severely criticized for lack of reliability, validity, consistency, and accuracy. The arbitrary nature of the diagnosis is illustrated by the fact that the strict criteria, when systematically assessed, included 22 previously investigated but not identified pedophiles. In forensic psychiatry, all three main criteria would be fulfilled by any adult child molester (criterion C) who is experiencing the significant distress of incarceration (criterion B) for sexual fantasies and behavior involving a prepubescent child and persisting for at least 6 months (criterion A). The reliability of the diagnosis is obviously dependent on the offender´s self-reported information, and unless he provides a description of his erotic and/or emotional experiences of sexual attraction to minors, the diagnosis lacks two-thirds of its basis. The high rate of denial of the crime reflects a population that is reluctant to reveal private and possibly incriminating information. Therefore, we expect considerable underdiagnosing of pedophilia.

[64] Blanchard et al, 1999
[65] McConaghy, 1998

As defined today, DSM-IV diagnoses are not effective in disentangling pedophilia as a mental disorder from pedophilia as a socially unacceptable sexual interest combined with impaired behavior control. Strictly behavioral criteria to define legal and therapeutic measures as a consequence of specified attraction and behaviors such as pedophilia warrant consideration as an alternative to the tentative psychiatric diagnosis.

6.1.9 Victim age

Our study supported findings by other researchers that indicate that most victims are between 8 and 11 years of age.[66] However, we could not demonstrate that offenders with victims younger than five years of age had more psychiatric morbidity and/or psychosocial problems than those with older victims. As diagnostic patterns were very similar in these groups, we do not think that the lack of significant differences is due to a lack of statistical power to detect meaningful differences. Relationship to victim, previous conviction for child sexual abuse, index sanctions, and denial of the index crime did not differ significantly between the groups with very young, young, or adolescent victims. Neither did the type of crime; the most severe forms of abuse, such as penetration, were as common among very young victims as among older victims. The finding that offenders with very young victims were more indiscriminate regarding the sex of their victims corroborates earlier reports of such gender-crossover phenomena in the same victim age group.[67]

Contrary to findings in previous studies, the offenders with the youngest victims had neither more nor more severe mental disorders.[68] Offenders with adolescent victims, on the other hand, had almost twice as high a frequency of mood disorders as the other offenders. A still higher lifetime prevalence of mood disorders (around 70%) has been reported in the paraphilias.[69] A likely background to these mood disorders might be that individuals with socially unacceptable sexual preferences, like other categories suffering from distress and stigmatizing conditions, such as diffuse pain disorder, obesity, or unemployment, tend to develop depressive reactions. This does not, however, explain the higher frequency of mood disorders in those abusing pubescent children than in the groups with younger victims.

[66] Finkelhor, 1987
[67] Levenson et al, 2008
[68] Dunsieth et al, 2004
[69] Kafka and Hennen, 2002; Raymond et al, 1999

Due to equally high frequencies of signs indicating childhood-onset behavior disorders among the offenders in the different victim age groups, we could not replicate the findings of an association between low victim age and neurodevelopmental disorders among offenders.[70] A plausible factor in the high frequency of childhood-onset behavior disorders among child sexual offenders may be that adults with social interaction problems and emotional immaturity feel more comfortable interacting with children than with adults. It has been suggested that a sexual interest in children may be an aspect of arrested psychological development and that child sexual offenders are drawn to children in the age group most congruent with their own emotional and cognitive levels.[71] Adult sexual needs combined with limited comprehension of interpersonal cues may lead to mistaking emotional contact-seeking behaviors in children for sexual invitations.

6.1.10 Longitudinal studies of sexual child abuse

The overall rates of reoffending were quite similar in the population-based and the clinic-referred groups, ranging between 10% and 14% for relapses into sexual crimes and being 11% to 12% into violent crimes. These figures are quite low compared to what international studies with similar follow-up periods have found for sexual offenders, where the relapse rate varies with the length of the follow-up period from about 10%–15% after five years to 30%–40% when the studied periods approach 20 years.[72] Our results are more in line with previous studies that have found low rates of recidivism, eg, a Swedish study of imprisoned sexual offenders who were followed for nearly six years after release, where no more than 6% were reconvicted for sexual crimes and another 10% for violent nonsexual criminality,[73] and an American study, where 447 child sexual offenders showed a recidivism rate as low as 9% for sexual recidivism over a 13-year period.[74] The low rate of reconviction is even more apparent with regard to violent reoffending, since our data clearly differs from what has been found in previous studies,[75] especially those with follow-up periods exceeding ten years, in which twice as many child sexual offenders as in our groups had recidivated into violent crime.[76] In another longitudinal study of a mixed group of offenders who had undergone a pretrial forensic psychiatric investigation and subsequently been

[70] Rice et al, 2008
[71] Finkelhor and Araji, 1986
[72] Hanson et al, 2003
[73] Långström et al, 2004
[74] Patrick and Marsh, 2009
[75] Looman and Abracen, 2010
[76] Parkinson et al, 2004

sentenced to either forensic psychiatric treatment, prison, or noninstitutional sanctions, as many as nearly 50% were identified as violent reoffenders over a 15-year follow-up period.[77] Thus, to judge from our data, reconviction rates among sexual offenders, especially for sexual reoffending, seem to lie at the lower end of the spectrum, compared to what has generally been found in follow-up studies, even if these figures must be weighed against the fact that establishing figures for child sexual abuse recidivism is a problematic task. It is difficult to pinpoint the reasons for this rather low reoffending rate, but they should probably be sought in differences in legislation and correctional systems between countries, the sociocultural context surrounding children (eg, day care system, school, and child health facilities), and the shameful and heinous nature of sexual crimes acting as an impediment preventing individuals from reoffending once they have been exposed as child molesters.

Reconviction rates were consistently found to be higher among offenders with extrafamilial victims compared to offenders with intrafamilial victims; ie, significant differences were seen in favor of offenders in the intrafamilial group, who, within both samples, recidivated about half as often into sexual and violent criminality as did offenders in the extrafamilial group. Extrafamilial offenders more often showed a pattern of recurrent recidivism for both sexual and violent criminality and significantly more reconvictions where both types of crimes were committed. There was also a difference between the extrafamilial and the intrafamilial offender groups with regard to sexual and violent relapse patterns; ie, the time until the occurrence of reoffending for both the population-based cohort and the clinic-referred group. Sexual and violent relapses occurred more often in the beginning of the follow-up period in the extrafamilial group, while relapses were more spread out over the whole follow-up period in the intrafamilial group.

All in all, recidivistic offenders, especially within the extrafamilial group, appeared more disposed to frequent diversified criminality consisting of both sexual and nonsexual violent criminal behaviors. This is in line with what contemporary research has shown,[78] and supports the notion that relapse-prone child sexual offenders, especially offenders with extrafamilial victims, do not demonstrate a specific criminal behavior pattern limited to sexual offending, but show a general tendency to act with criminal versatility, including both violent, sexual, and general criminality. Those most prone to relapse thus seem to constitute a group of persistent sexual and violent

[77] Lund et al, 2012
[78] Looman and Abracen, 2010; Nunes et al, 2007

offenders that, according to Hanson and Morton-Bourgon,[79] could be characterized as antisocial, impulsive drug abusers with manifest self-regulation problems.

6.2 Strengths and limitations

Our first population-based study provided an epidemiologic picture of all convicted sexual crimes against children in a defined region of Sweden, which can be generalized for all of Sweden and serve as a background for future studies in this field of research. In our clinic-referred studies we were able to collect very detailed data of the offenders' health and social conditions from all forensic psychiatric evaluations of this kind of crime during a 5-year period in Sweden. This provided detailed knowledge of the convicted offenders included in the study. But this selected group has limited representativeness, since it included only 8% of all sentenced child sexual offenders. A re-examination of the forensic reports revealed that the pedophile diagnosis had been overlooked in many cases. This means that for diagnoses of pedophilia and childhood-onset disorders, diagnostic procedures were, to a large extent, file-based and retrospective in character, thus based on research criteria rather than clinical judgment. On the other hand, adult diagnoses were based on thorough evaluations by multi-professional teams, generally supported by structured instruments and cognitive tests.

By merging epidemiologic data with information from court documents and forensic psychiatric reports, we have come to understand the phenomenon of child sexual abuse in relation to the general population. This merging allowed us to extract detailed information on the cohort of convicted offenders of sexual crimes against children and to pursue more in-depth analyses of the small group of offenders who are referred to pretrial forensic psychiatric assessments by the courts, in turn enabling us to study them in far greater detail than other offenders.

As the first population-based cohort study shed light on the limitations of the procedure of selecting offenders to screening and full pretrial forensic psychiatric investigations, the generalizability of the results from the clinic-referred group could be assessed, at least in a Swedish context. For example, mental health problems were considerably more common in clinic-referred offenders, while substance abuse was not.

[79] Hanson and Morton-Bourgon, 2005

Questions of diagnostic validity and reliability could not be addressed in this study, given the clinical nature of the diagnostic process in forensic psychiatric investigations. However, the diagnostic work-ups in these investigations are thorough, and the psychiatric reports are solid expert opinions made to hold up to close examination in court.

In the statistical analyses we found several differences that did not reach statistical significance. This might be due to a lack of statistical power when comparing the smallest subgroups. Another reason might be found in the diagnostic procedure itself, where the criterion of reported prolonged sexual interest in minors was replaced with objectively known sexual offenses over a time period of at least six months. In all probability, this resulted in a homogenous group of pedophiles, but the nonpedophilic group of child molesters might instead have been "diluted" by pedophile offenders not identified by this procedure, thus possibly reducing group differences.

6.3 Clinical implications

The group of child sexual abusers is generally known to be heterogeneous. Such observations are corroborated by our own studies. The common denominator of the child sexual abusers is having touched a child sexually (or a sexual hands-off crime in some cases). The background might be anything from the mere curiosity of an older child to a medical or mental disorder, sometimes in the form of genuine pedophilia, meaning an ongoing sexual attraction to children. Only 27% of all child sexual abusers in Västra Götaland are referred for a forensic psychiatric screening investigation after a selection procedure that is far from systematic. The frequencies of referred cases therefore vary widely from one court to another, jeopardizing the recognition of cases of pedophilia and other psychiatric disorders as a background factor of child sexual abuse. Moreover, in most cases, the diagnosis of pedophilia alone and/or some other psychiatric disturbances such as personality disorders do not meet medicolegal definitions of mental disorders severe enough to exclude a prison sentence. All in all, a majority of child sexual abusers, pedophilic or not, therefore end up in prisons rather than in forensic psychiatric settings. Even if there are treatment programs for perpetrators of sexual crimes in prisons, the diagnosis of pedophilia and other psychiatric disorders might be overlooked in many cases due to a general lack of psychiatric competence in prisons. As a consequence, a subgroup of child sexual abusers in Sweden might not get any psychological or medical treatment, which could leave them at an increased risk for relapse into similar or other types of violent criminality. This situation might be avoided if it

were mandatory to refer most child sexual abusers to a forensic psychiatric investigation, which could then lay the groundwork for treatment programs in forensic psychiatric clinics as well as in prisons.

7 CONCLUSION

It proved possible to calculate the occurrence in the population of sexual crimes against children and to establish basic but population-based statistical facts on such crimes; eg, the risk of being sexually abused during childhood. It was also possible to characterize offenders of child sexual abuse in terms of social and family circumstances, health care contacts, substance abuse, mental disorders, crime histories, referrals to forensic psychiatric treatment, and sentences. We found that the offender was unknown to the victim in only 27% of all cases, and that the most serious hands-on offenses, including penetration, occurred in the family, with the typical constellation being a father, grandfather, or close male family friend molesting a girl. Offenders victimizing very young children did not differ from other offender groups in age, pattern of psychiatric diagnoses, social and family circumstances, or health care contacts. Nor did offenders meeting the diagnostic criteria for pedophilia differ from other child sexual offenders in any of these aspects. In fact, our results did not corroborate the notion that pedophilia is a distinct diagnostic category, although child sexual offenders in general have an increased psychiatric morbidity. Despite increased mental health problems, few offenders were referred for a pretrial forensic psychiatric investigation, and the sentences were, in many cases, mild. Immigrant offenders were at a significantly increased risk for severe sentences, even after controlling for severity of crimes and criminal histories. Finally, according to our data, the relapse risk in sexual crimes is overall low, especially with regard to the long follow-up period, but more common among offenders with extrafamilial victims compared to those with intrafamilial victims.

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