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PREDICTORS OF RECIDIVISM IN A POPULATION OF CANADIAN SEX OFFENDERS: PSYCHOLOGICAL, PHYSIOLOGICAL, AND OFFENCE FACTORS

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ABSTRACT

The primary objective of the present study was to investigate the relationship between psychological, physiological and offence variables and recidivism in a sample of 588 sexual offenders assessed at the Sexual Behaviours Clinic (SBC) of the Royal Ottawa Hospital between the years 1983 and 1992, and who were convicted of a contact sexual offence, perpetrated against an adult female, or against a male or female child.

The 588 sexual offenders who formed the recidivism sample in the study were categorized into one of the following four groups, based upon victim characteristics of the index offence: 1) Incest group consisted of 251 subjects who had sexually assaulted a related male or female child under age 16 years: 2) Child Molester (CM) group was composed of 192 subjects who had sexually assaulted an unrelated male or female child under age 16 years; 3) Rapist group was composed of 86 individuals who had perpetrated a sexual assault against an unrelated female 16 years of age or older ; and 4) a Mixed group composed of 59 individuals who had sexually aggressed against both related and unrelated children, or who had sexually assaulted both a child and an adult female.

Results of statistical tests indicated that there were significant differences between the four groups on the majority of variables investigated in the study, including demographic characteristics, criminal history, psychiatric history, alcohol and drug abuse, degree of psychopathy, degree of violence used in committing the index offence, and the degree of sexual assault of the index offence. Results were generally consistent with the

literature in finding that overall, Rapists were the most extreme group. More Rapists used excessive violence in committing the index offence, were more likely to have been under the influence of drugs or alcohol when the index offence was committed, had more extensive criminal histories, and were more psychopathic, than the other offender groups.

Results of statistical tests carried out to compare recidivists and non-recidivists within each of the four groups indicated variables that were significantly correlated with recidivism differed for each of the groups. For the Incest group, age, employment status at the time of assessment, a history of drug abuse, previous forensic contact, a self-reported history of violence, degree of psychopathy, a history of physical abuse in childhood, family violence in childhood, placement outside the home before age 16 years, family criminality, family alcohol abuse, alcohol abuse at the time of assessment, anger and hostility, degree of violence used in committing the index offence, degree of sexual assault of the index offence, and having previous convictions for both non-violent and violent, non-sexual offences were correlated with recidivism. For the CM group, age, a history of drug abuse, previous psychiatric contact, previous forensic contact, a self-reported history of violence, degree of psychopathy, physical abuse before age 16 years, family violence in childhood, alcohol abuse at the time of assessment, anger and hostility, the degree of violence used in the index offence, and having previous convictions for non-violent and for violent, non-sexual offences were correlated with recidivism. There were no variables correlated with recidivism for the Rapist group. For the Mixed group, deviant sexual arousal to child stimuli and having previous convictions for non-violent offences were correlated with recidivism.

A significant discriminant function for the Incest group, composed of age, degree of psychopathy, and a self-reported history of violence, was able to correctly classify 91.6% of non-recidivists and 45.6% of recidivists. For the CM group, degree of psychopathy and previous convictions for non-violent offences was able to correctly classify 77.9% of non-recidivists and 55.1% of recidivists. However, degree of psychopathy alone was able to improve correct classification of CM non-recidivists to 78.8%, and of recidivists to 58.3%. For the Mixed group, deviant sexual arousal scores were able to correctly predict 57.1% of non-recidivists and 69.6% of recidivists. Overall, classification was improved from 10% to 22% in the various sub-groups of offenders. No variables were able to improve prediction of recidivism beyond chance levels for the Rapist group.

An exploratory aspect of the study considered the impact of victim gender on recidivism in offenders who had sexually assaulted children under 16 years of age. Incest and CM offenders were reclassified to form a group of 310 heterosexual offenders, and 113 homosexual offenders, based upon victim gender. Statistical tests revealed few differences between the heterosexual and homosexual groups. However, the groups were distinguished by variables that were correlated with recidivism. For the heterosexual offenders, being unmarried, a self-reported history of violence, a history of drug abuse, previous forensic contact, previous convictions for sexual, for violent, non-sexual, and for non-violent offences, degree of psychopathy, anger and hostility, alcohol abuse at the time of assessment, deviant sexual arousal, receiving at least one DSM diagnosis at the time of assessment, placement outside the family home before 16 years of age, and having used

threats or physical violence in the index offence were correlated with recidivism. A discriminant function, composed of deviant sexual arousal score, previous non-violent convictions, degree of psychopathy , and self-reported history of violence improved classification of non-recidivists by 22.6%, and of recidivists by 23.4%. For the homosexual group, previous forensic contact, degree of psychopathy, anger and hostility, physical abuse in childhood, family violence in childhood and having used threats or violence in the index offence were correlated with recidivism. A discriminant function composed of the score for anger and hostility, degree of psychopathy, and family violence in childhood improved classification of non-recidivists by 16.4%, and of recidivists by 16.5%.

Results are discussed with respect to the relevance of offender typology in enhancing the development of scientific tools to predict recidivism in populations of sexual offenders.

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CHAPTER 1

Introduction

The exponential growth in the sexual victimization literature over the past 15 years reflects the seriousness of sexual violence in North American society. Canadian statistics indicate that 50% of females and over 30% of males report to have experienced some form of sexual victimization (Badgley et al., 1984). The literature also confirms that sexual victimization has resounding consequences which extend beyond the persisting negative effects for victims (Briere, 1992; Russell, 1986; West, 1991), to include adverse consequences for the victim's family (Manion, Firestone, McIntyre, Ensom & Wells, 1994), and astounding financial costs for the community (Prentky & Burgess, 1990). Freeman-Longo and Knopp (1992) have estimated the judicial costs associated with a single incidence of child victimization to be up to $200,000, while those for a life conviction exceed $600,000.

The pervasiveness of sexual offending, coupled with the tremendous psychological and financial burden imposed by these crimes, has resulted in increased effort on the part of the courts and mental health professionals to find an effective deterrent for sex offenders. The dramatic increase in the number of specialized sex offender treatment programs (Bradford, 1990; Marques, Day, Nelson & West, 1993; Marshall & Barbaree, 1988; Pithers, 1993; Quinsey & Earls, 1990), reflects the current perspective that offender rehabilitation, in addition to, or instead of incarceration, represents the most promising means of reducing victimization. In tandem with the move towards a mental health approach to sexual offending

is the increased focus of researchers on recidivism (Furby, Weinrott & Blackshaw, 1989). Recent studies have endeavoured to identify and illuminate variables which accurately predict recidivism, in part so that those variables which are amenable to treatment can be targeted for intervention (Barbaree & Marshall, 1988; Harris, Rice & Quinsey, 1993; Marques, Day, Nelson, Miner & West, 1991; Pithers & Cumming, 1989; Quinsey, Harris, Rice & Lalumiere, 1993; Rice, Harris & Quinsey, 1990; Rice, Quinsey & Harris, 1991). However, pervasive methodological shortcomings have hindered our ability to provide a sound empirical base upon which the judiciary and mental health professionals can base their decisions. Given the failure of clinical judgement to predict recidivism (Hall, 1988; Quinsey & Maguire, 1986), it is imperative that future researchers improve methodology so that accurate statistical prediction of recidivism is possible.

Relevance of the Present Study

The present study had two major goals: 1) to develop a descriptive profile of all contact sex offenders assessed at the Royal Ottawa Hospital's (ROH) Sexual Behaviours Clinic (SBC) and 2) to determine the relationship among physiological measures, psychological factors, offence history, and recidivism in sex offenders against children and against adults.

The SBC is the major assessment and treatment facility for the Ottawa-Carleton region and has therefore assessed over 1,700 sex offenders since its inception in 1983. Because the clinic was originally designed as a research and training facility, the assessment process has incorporated the use of an extensive battery of medical, psychological and physiological measures.

Major shortcomings of many previous studies include the small number of subjects available and the limited variety of paraphilias represented. The population of sex offenders assessed at the SBC is both large and comprehensive. The large number of subjects available and the variety in offence type allowed for more sophisticated design and analyses than has been afforded previous researchers. Perhaps of even greater importance is the fact that most studies have used subjects who are presently incarcerated, or just released from correctional institutions. The use of these types of subjects may result in data which are less representative of all sex offenders coming to the attention of the courts. At the SBC, assessments are conducted prior to, or immediately following the court appearance or sentencing of the offender. Therefore, this data may be more representative of all sex offenders, than that utilized in previous research. In addition, many existing studies have been conducted in the U.S., and it is unknown how well findings generalize to Canadian populations. Results of this study respond to this query, while findings should generalize to other Canadian jurisdictions.

Theoretical Explanations for Sexual Offending

Given the proliferation of published studies of sexual offenders in recent years, it is somewhat surprising that there have been few comprehensive theories offering satisfactory etiological explanations. Theories that have been advanced conceptualize sexual offending from a feminist perspective (Herman, 1990), as a biosocial phenomenon (Malamuth, Heavey & Linz, 1993), and using a behavioral paradigm (Laws & Marshall, 1990). Although each of these frameworks offers a satisfactory explanation for some types of sexual offences, none are able to account for the variability in offence or victim characteristics. Offender classification systems have also been developed in an attempt to provide the underpinnings for research,

decision-making and treatment (Prentky & Knight, 1991). Although taxonomic systems have been instrumental in guiding research and in describing subgroups of sexual offenders, their ability to predict reoffending has yet to be systematically investigated.

In response to the need for a parsimonious theory, Hall and Hirschman (1991) have integrated elements of previous models into a quadripartite model of sexual aggression. According to this model, sexual aggression is facilitated by the interaction of four motivational components: 1) physiological sexual arousal; 2) cognitions that justify sexual offending; 3) negative emotional states which the authors term "affective dyscontrol" (p.664); and 4) personality or trait variables. Subsumed under each of the four categories are numerous factors which multivariate models have identified as important etiological correlates. To illustrate, the physiological component would include deviant sexual arousal as indicated by plethysmograph data. Cognitions motivating sexual aggression may include hostile attitudes towards women, the acceptance of interpersonal violence, and cognitive evaluations that the aggressive act is not harmful to the victim. The affective dyscontrol component may incorporate present emotional states such as depression or anger. Substance use may also be subsumed under the affective dyscontrol category. The fourth component reflects developmental experiences such as childhood abuse, learning disabilities, and educational attainment that may have adversely impacted on adult functioning. As well, long-term personality disturbances and psychopathy are reflected by this dimension. Hall and Hirschman (1991) assert that the four components are critical in increasing the probability of sexual aggression, yet underscore the importance of environmental contingencies in the commission of a sexual offence. Indeed, the literature has identified the presence of alcohol, provocation,

and characteristics of the index offence as important correlates of sexual assault. Of relevance to the present work is that some research has found significant positive relationships between recidivism rates and situational variables, notably, offence characteristics and the presence of alcohol (Furby et al., 1989; Harris et al., 1993; Marques et al., 1991; Marshall & Barbaree, 1988; Tracy, Donnelly, Morgenbesser & Macdonald, 1983). Although Hall and Hirschman (1991) discuss this theory as it pertains to the etiology of sexual offences against adults, the theory appears to be general enough to incorporate offences against children as well.

A Review of Recidivism Studies

Methodological Issues

Existing recidivism studies have been extensively criticized as failing to meet methodological standards that are endorsed by the scientific community, and have led reviewers to debate the meaningfulness of significant findings (Alexander, 1993; Furby et al., 1989; Marshall, Jones, Ward, Johnston & Barbaree, 1991; Quinsey, Harris, Rice & Lalumiere, 1993). The problem of interpreting study results is compounded by methodological variation across studies. Nevertheless, Marshall (1993), arguing for a "methodologically tolerant" climate (p. 524), states that the urgent need to expand the existing knowledge base, coupled with the relative infancy of the field, override such criticisms. Marshall continues to argue that the complexity of sexual aggression itself, and the difficult nature of the population are insufficient causes for abandonment, but instead demand increased efforts to overcome methodological obstacles.

The following review of recidivism studies subsumes a discussion of methodological problems that have plagued research conducted to date. Among the issues included in the

following discussion are: problems in defining recidivism; self-reporting versus official records of reoffence; length of follow-up; sampling issues such as small sizes, unique sample characteristics, and inadequate sample description; and attrition. Thus, it is difficult to determine the accuracy of reported recidivism rates.

Defining recidivism

The Oxford Dictionary defines a recidivist as "one who relapses into crime" (p. 1032). Although this definition seems straightforward, acts constituting a relapse in sex offenders have been differentially considered. It may be argued that a true relapse would be the recommission of the same type of sex offence, while a broader definition would consist of the recommission of any type of sex offence, even if different from the original one. However, because many sex offenders have histories which include extensive non-sexual criminal activity (Baxter, Marshall, Barbaree, Davidson & Malcolm, 1984; Prentky & Knight, 1993), violent but non-sexual offences might constitute recidivism as well. A third definition considers all offences, including victimless crimes such as property offences. Finally, a more recent definition considers parole violations, suggesting that while a parole violation may not constitute a crime, it is an indicator that a criminal relapse is imminent (Marques et al., 1993).

As might be expected, studies have reported higher recidivism rates when broader definitions have been used than when investigators have restricted their definition. This is illustrated by the findings of two separate studies undertaken at a Canadian Mental Health Centre with seriously disturbed sex offenders, which found that recidivism rates varied according to the definition of recidivism. Rates of 31%, 43% and 58% were reported for a sample of 136 extrafamilial child molesters when recidivism was defined as the reconviction of

a sex offence, reconviction for any violent offence (including sex offences), and reconviction for any offence, respectively (Rice et al., 1991). Similar figures of 28%, 43% and 59% were obtained for a sample of 54 rapists (Rice et al., 1990). As might be expected, rates of recidivism increase as the definition of recidivism is broadened.

Measuring Outcome

The majority of recidivism studies have relied on official records of arrest and/or convictions for outcome data. However, as pointed out by Abel and Osborn (1992), official arrest rates may be a poor indicator of the number of acts that have been carried out. First, the victim literature suggests that a large number of offences are never reported to authorities, particularly when the victim is a child. For example, Russell's (1983) study of over 900 community women found that only 2% of intrafamilial cases, and 6% of extrafamilial cases of child sexual abuse were ever reported to police. Of those that are reported, almost half are "unsubstantiated" at the investigation level, leading prosecutors to drop charges (Conte, 1991). Finally, even if an arrest is made, plea bargaining may lead to the conviction charge being different from the actual offence, or charges for one offence may be dropped in exchange for a guilty plea on another charge (Furby et al., 1989). Thus, official records of sexual offences are certain to be gross underrepresentations of the actual number of crimes that are committed.

An alternative means of measuring the frequency of paraphiliac behaviours is by means of offender self-reports. Abel and Osborn (1992) assert that when offenders are ensured confidentiality, self-reports are a more accurate indicator than official records. A study of convicted child molesters conducted by Kaplan and his colleagues found that when no

guarantee of confidentiality was provided, subjects self-reported 1.9 child molestations, as compared with their official record of 2.2 convictions (Kaplan, Abel & Cunningham-Rathner, 1990). However, when the investigators guaranteed confidentiality, the same subjects confessed that they had carried out 54.6 child molestations on average. In another study conducted by Abel and his colleagues, rapists admitted to having perpetrated an average of seven rapes, while voyeurs, exhibitionists and frotteurs reported that they had, on average, each carried out 500 paraphiliac acts (Abel, Becker, Cunningham-Rathner, Mittleman & Rouleau, 1988). Despite such evidence, the exact relationship between self-reporting and actual criminal sexual activity is not known (Furby et al., 1989). Further, relying solely on self-reports as an outcome measure sacrifices scientific rigor, in that self-report measures lack objectivity.

Length of Follow-up

As expected, studies have demonstrated that longer follow-up periods are associated with higher rates of recidivism (Hanson, Steffy & Gauthier, 1993; Marques et al., 1991; Marshall & Barbaree, 1988; Prentky & Burgess, 1990). Furby and her colleagues (1989) point out that a long follow-up period is needed in order to detect many recidivists. Although some offenders may have committed new crimes shortly after their release, it may take many years before they come to the attention of authorities. Furthermore, Soothill and Gibbens (1978) found that, for their sample of 178 mixed offenders, the seriousness of the type of offences did not decline when period at risk exceeded five years. Marques and her colleagues (1991) concluded from a re-analysis of data collected by Sturgeon and Taylor in 1980, that a minimum of five years at risk was necessary for official records to detect approximately 75%

of offenders who recidivated. Data presented by Hanson, Steffy and Gauthier (1993) indicate that approximately 10% of their sample of 197 child molesters were reconvicted more than 10 years post-release, with some reconvictions occurring as much as 31 years post-release. These findings are substantiated by Alexander's recent analyses of treatment outcome studies (1993). Based upon results of 60 studies, Alexander's data indicate that it took five years or longer for official reports to detect recidivism in half (48.6%) of treated offenders and in substantially more than half of untreated ones (68.5%). Thus, it may be concluded that the longer the period of follow-up, the more accurate the rate of recidivism.

Sampling Issues

Sample size and characteristics have also impacted on reported recidivism rates. Many studies have utilized samples which are too small to yield reliable statistical results. Alexander's (1993) meta-analysis of 15 studies illustrates this point. Of the 15 studies included in the analyses, 10 contained fewer than 100 subjects in total. Small sample size is particularly problematic when samples have been divided into groups, as in treatment outcome studies. Small cell sizes may have masked important group differences because there was insufficient statistical power, leading to increased probability that a Type II error has been made. In other words, small samples may have led researchers to erroneously conclude that there were no differences between treated and untreated groups of offenders (Furby et al., 1989).

Subject characteristics are equally important when considering recidivism rates. Some studies have reported recidivism rates for all offender types grouped together (Berliner, Miller, Schram & Milloy, 1991; Dwyer & Rosser, 1992; Pithers & Cumming, 1989; Soothill

& Gibbens, 1978), while others have made gross distinctions between offender types, such as that made between rapists and all other types, by Tracy and his colleagues (1983). Studies have indicated however, that subgroups of offenders exhibit different recidivism patterns. For example, Alexander's (1993) review of 68 treatment outcome studies indicated that for untreated offenders, exhibitionists evidenced the highest reoffence rate (57%), followed by that for child molesters (35.6%), while rapists had the lowest rate (24%). However, when Alexander considered treated offenders, almost equal proportions of exhibitionists and rapists reoffended (21.7% and 21.9% respectively), whereas a smaller proportion of child molesters reoffended (16.2%). Additionally, Marshall and Barbaree (1988) found that their group of incest offenders recidivated at approximately half the rate of extrafamilial child molesters, regardless of whether or not they had received treatment. Barbaree and Marshall's data also suggest that the category of extrafamilial child molesters might benefit from finer discrimination, based on victim gender. These investigators found in their sample that treated offenders whose victims were males had lower recidivism rates than those who had perpetrated their crimes against females. However, the sample consisted of only 68 treated offenders in total, thus the number comprising each category was small. This finding awaits replication before any conclusions can be drawn, but shows promise in potentially identifying variables amenable to treatment (i.e., deviant sexual arousal). In summary, studies indicate that it is important to consider both offender type and whether or not the sample was treated in assessing rates of recidivism. Further, collapsing data across groups of offenders to compare recidivism rates for treated versus untreated subjects appears to be an irrelevant exercise. Given the variability in recidivism rates for different classifications of offenders,

grouping all together would not be an accurate reflection of any group's rate (Correctional Service Canada, 1993).

Disparate rates of recidivism reported for samples drawn from two distinctly different populations illustrates the confounding impact of psychiatric factors. In studies utilizing samples of rapists and child molesters released from a maximum-security psychiatric institution, recidivism rates (defined as the reconviction for a new sex offence), for both groups was approximately 30% (Rice et al., 1990; 1991). In marked contrast to these figures, a sample of offenders (N=613) who qualified to receive treatment as an alternative to incarceration, had a reconviction rate of approximately 5%. Although the mental health of this sample was not specified, it is reasonable to assume that psychiatric profiles were unremarkable, in order that subjects qualified for the sentencing alternative (Berliner et al., 1991).

Other sample characteristics that have shown some relationship to recidivism rates are evident in treatment outcome studies.[1] Specifically, there is some indication that whether treatment is voluntary or mandatory, as well as whether offenders complete treatment or drop out impacts on recidivism rates. Somewhat surprising, are the results of Alexander's (1993) meta-analysis of 46 studies which considered voluntary versus mandatory treatment. The data suggest that recidivism rates are slightly lower with mandatory treatment, a finding which, if replicated, has substantial policy-making implications. With respect to treatment completers versus drop-outs, it is not surprising that reported recidivism rates for drop-outs are significantly higher than those for completers (Alexander, 1993; Marques et al., 1993; Miner

[1] The discussion of treatment outcome studies is limited to only the most general factors impacting on recidivism. A more comprehensive discussion is beyond the scope of this work.

& Dwyer, 1994). The reported recidivism rate for the Marques et al. sample is higher than what might be expected; over 33% of treatment drop-outs were arrested for new sex offences. Although recidivism figures reported in the Rice et al. studies (1990; 1991), were based upon reconvictions rather that rearrests, these investigators found that approximately 30% of their psychiatric samples reoffended. Although Rice and her colleagues failed to specify what, if any, treatment their subjects received, given that their samples were drawn from a more extreme population (i.e., psychiatric patients), higher rates would be expected, relative to the Marques sample, which had excluded psychiatric cases.

Differentiating Sex Offenders

A considerable portion of the sex offender literature makes broad distinctions between groups of child molesters and groups of rapists, based upon the age of the victim (Bard et al., 1987; Freund & Blanchard, 1989; Malcolm, Andrews & Quinsey, 1993; Rice et al., 1990; Pithers & Cumming, 1989). However, as descriptive studies of sex offenders continue to be forthcoming, the heterogeneity evident within these two broad classifications has called the appropriateness of this dichotomy into question, and it has been asserted that finer discrimination among groups of sex offenders is needed to elucidate correlates of reoffending behaviour (Bard et al., 1987; Barbaree & Marshall, 1991). Thus, incest offenders have been distinguished from extrafamilial child molesters (Williams & Finkelhor, 1992; Freund, Watson & Dickey, 1991; Marshall, Barbaree & Eccles, 1991), while the category of extrafamilial molesters has been further subdivided according to victim gender (Freund & Blanchard, 1989; Freund & Watson, 1992; Marshall & Barbaree, 1988; Marshall, Barbaree & Butt, 1988; Marshall, Barbaree & Christophe, 1986; Murphy, Haynes, Stalgaitis & Flanagan, 1986;

Prentky, Knight, Rosenberg & Lee, 1989). Similarly, investigators have attempted to discriminate among subtypes of rapists (Barbaree & Marshall, 1991; Barbaree & Serin, 1993; Warren, Reboussin, Hazelwood & Wright, 1991). Important factors presumed to have discriminatory power that have received attention from researchers include physiological sexual arousal (Barbaree & Marshall, 1991; Barbaree & Serin, 1993; Freund & Watson, 1991; Marshall, Barbaree & Eccles, 1991; Murphy, Haynes, Stalgiatis & Flanigan, 1986; Pithers, 1993); criminal history (Barbaree & Marshall, 1988; Bard et al., 1987; Baxter et al., 1984; Hall, 1988; Marshall, Barbaree & Butt, 1988; Marshall, Barbaree & Christophe, 1986; Prentky & Knight, 1993); early life experiences such as being the victim of sexual or physical abuse, or dysfunctional family of origin (Groth, 1979; McCormack, Rokous, Hazelwood & Burgess, 1992; Petrovitch & Templer, 1984; Prentky & Knight, 1993; Prentky et al., 1989; Rivera & Widom, 1990; Seghorn, Prentky & Boucher, 1987); and psychopathology (Harris, Rice & Cormier, 1991; Kalichman, 1991; Quinsey & Walker, 1992; Serrin, Malcolm, Khanna & Barbaree, 1994). Unquestioningly, the majority of studies have focused on deviant sexual arousal.

Sexual Arousal

The use of the penile plethysmograph to measure and record sexual arousal follows directly from the "sexual preference" hypothesis (Barbaree & Marshall, 1991). According to this hypothesis, paraphiliac behaviour occurs because sexual arousal is maximal to cues of violence, humiliation, and age inappropriate subjects (Barbaree, 1990; Freund & Blanchard, 1989; Lalumiere & Quinsey, 1994; Proulx, Aubut, McKibben & Cote, 1994). In general, studies have found a stronger relationship between sexual offending and deviant arousal

patterns among groups of pedophiles than rapists (Barbaree, 1990; Barbaree & Marshall, 1988; Baxter et al., 1984; Malcolm et al., 1993; Serin et al., 1994). Pithers (1993) proposes that for pedophiles, deviant arousal is best conceptualized as a trait, whereas for rapists, state variables may be important in eliciting deviant sexual arousal. That is, when calm, rapists' arousal patterns may be similar to non-sex offending males. However, under conditions of anger, violence, or alcohol ingestion, rapists may display deviant arousal. Although these variables have been subject to investigation, results are inconclusive at the present time, and it is postulated that a complex interaction of factors, including anger, violent cues, and alcohol operates in some instances and for some offenders in the commission of sexual crimes (Barbaree, Marshall & Lanthier, 1979; Barbaree, Marshall, Yates & Lightfoot, 1983; Quinsey, Chaplin & Upfold, 1984; Wormith, Bradford, Pawlak, Borzecki & Zohar, 1988).

It is also important to consider methodological issues when assessing the ability of phallometry to detect sex offenders. Lalumiere and Quinsey (1994) point out that phallometric assessment of deviant arousal is assumed to underestimate sexual interest, particularly in samples of rapists (Lalumiere & Quinsey, 1994). For example, stimulus modality and content have been shown to affect arousal levels, and also that these effects are not constant across offender type (Abel, Blanchard & Barlow, 1981, Lalumiere & Quinsey, 1993; Murphy et al., 1986). Furthermore, the ability of a large majority (80%) of sex offenders to fake, or suppress arousal has been empirically demonstrated (Hall, Proctor & Nelson, 1988), although semantic tracking tasks have been developed which effectively control for these responses (Proulx, Cote & Achille, 1993; Quinsey & Chaplin, 1988).

Recent studies which have investigated the sensitivity (i.e., probability of detecting deviant sexual arousal in offenders) and specificity (i.e., probability of not detecting deviant sexual arousal in non-offending individuals) have found that for rapists, when specificity is 90%, sensitivity is approximately 60% (Lalumiere & Quinsey, 1993), whereas for pedophiles, at a specificity level of 95%, 55% of non-admitting offenders are detected (Freund & Blanchard, 1989). Thus, phallometric measures of deviant arousal continue to be valid discriminators of sexual deviance among incarcerated populations and those residing in mental health facilities. More importantly, studies have found that high deviance quotients characterized chronic child molesters and those who used excessive force in carrying out their paraphiliac acts (Barbaree & Marshall, 1989; Freund et al., 1991; Marshall et al., 1986; 1991). Although empirical evidence is somewhat less clear in samples of rapists, sexual arousal to violent, but non-sexual violence directed toward women, as well as arousal to scenes depicting humiliating treatment of the female victim, have been found to discriminate among groups of rapists and non-offenders (Proulx et al.,1994; Quinsey et al., 1984).

Childhood antecedents

In noting the higher prevalence rates of childhood sexual abuse and family dysfunction among offender populations, theoreticians have posited that some individuals may dissociate from their own traumatic experiences by identifying with their aggressor and hence perpetuate a cycle of abuse in adulthood (Finkelhor & Brown, 1985; McCormack et al., 1992; Ryan, 1989). Although some empirical findings suggest that a history of childhood sexual abuse is more prominent among child molesters than rapists (Prentky & Knight, 1993; Seghorn et al., 1987), other investigations have yielded similar rates of between 25% and 35% for both

groups (Baxter et al., 1984; Groth, 1979), rates which are considerably higher (16%) than those obtained in a national survey of community men (Finkelhor, Hotaling, Lewis & Smith, 1990).

Characteristics of the abuse sustained by offenders indicates that experiences have often been protracted and incestuous, and in many cases, involved victimization by more than one offender, or by adult women (Groth, 1979; McCormack et al., 1992; Petrovich & Templer, 1984). Interesting differences have also emerged between groups of rapists and child molesters. Seghorn and his colleagues (1987) found that rapists were three times more likely to be victimized by family members, while child molesters tended to be victimized more often by strangers. Groth (1979) reported that 75% of the child molesters he studied were victimized prior to adolescence, yet for rapists, victimization often occurred (40%) during adolescence, and was often perpetrated by a female family member. Also, the incidence of forced sex was greater among child molesters, while the experiences of rapists were described as pressured sex.

Other family variables have also been implicated in the etiology of sexual offending. Among these, high occurrences of physical abuse and emotional neglect have been documented (Prentky & Knight, 1993; Seghorn et al., 1987; Williams & Finkelhor, 1992), disturbed mother relationships (Okami & Goldberg, 1992; Williams & Finkelhor, 1992), and family criminality and substance use (Baxter et al., 1984; Williams & Finkelhor, 1992).

There is also some indication that childhood trauma may be more prevalent among recidivists. McCormack and her colleagues (1992) found that 76% of 41 serial rapists they studied reported some form of childhood sexual abuse, with the nature of the abuse in half of

these cases incestuous. Hanson, Steffy and Gauthier (1993) noted that of the 197 child molesters they studied, 15% of those who had been sexually victimized in childhood reoffended more than 12 years after release from prison, while none of the non-abused molesters reoffended after that period of time (cited in Hanson, 1991).

Results of a principal components analysis performed by Prentky and his colleagues (1989) yielded four developmental variables which made unique contributions to the variance of both sexual and general aggression in a sample of 82 incarcerated offenders, 54 rapists and 27 child molesters. These factors were labelled caregiver inconstancy, institutional history, physical abuse and neglect, and sexual deviation and abuse in the family. Subsequent multiple regression analyses found that different factors were predictive of sexual aggression than were predictive of general aggression. Sexual aggression was predicted by caregiver inconstancy (less time spent with individual caregivers and many changes in caregivers) and by sexual deviation and abuse in the family of origin. In contrast, institutional history (more changes in institutions and longer periods of time spent in institutions) and physical abuse and neglect were predictive of general aggression. These researchers also investigated the impact of these variables on degree of aggression. Over 87% of sexual aggression cases, and 81% of general aggression cases which involved extreme violence scored above the mean on both predictor components. Frequency of criminal activity was not predicted by any of the components. Thus, it was concluded that developmental antecedents may be more important in determining the nature and severity of violence in criminal acts, rather than the frequency of criminal activity. It is important to note that the sample utilized in this study was composed of either extremely violent, or repetitive offenders. Correlations between study variables and frequency

of criminal activity may have been reduced because the criminal careers of violent offenders were cut short by prompt incarceration.

Collectively, study results implicate developmental factors in the etiology of sexual offending, yet it is difficult to draw any conclusions due to the methodological inconsistency evident across studies. Few studies have made childhood antecedents the focus of inquiry; most have not included matched controls for comparative purposes. However, it is important to consider that many studies have either reported on serendipitous findings or have included background information in describing study samples. Nevertheless, it appears that while a history of family dysfunction or childhood abuse (emotional, physical or sexual) is insufficient in explaining the etiology of sexual offending, it is probable that such background characteristics interact with other situational and cognitive factors to explain illicit sexual behaviour (Hanson, 1991; Howells, 1981; Garland & Dougher, 1990; Marshall & Barbaree, 1990).

In the absence of empirical work that has focused on the relationship between negative childhood factors and recidivism in samples of sex offenders, it is unknown at present whether adverse events in childhood are present in the backgrounds of recidivists in greater proportions than in the backgrounds of non-recidivists. In this respect, the present study is exploratory. Nevertheless, theoretical formulations which have cited learning, conditioning, and modelling as psychological processes responsible for an individual's progression from sexually abused to sexual abuser (Marshall & Barrett, 1990; McCormack et al., 1992), also appear to be able to account for other negative background characteristics. To extrapolate, just as aberrant sexual behaviours are modeled and theorized to be learned in childhood, so

are family alcoholism, criminality, and other negative behaviours. In environments that are replete with such behaviours, it is likely that such behaviours are well-learned and incorporated into the child's repertoire. Similarly, a single negative childhood factor, such as sexual abuse, that is protracted, may also be a highly conditioned behaviour, which is likely to be repeated, barring intervention aimed at extinguishing it. Thus, it is postulated that recidivists would evidence higher rates of all forms of negative childhood experiences, because the repetition of their criminal behaviour suggests that these behaviours have been well incorporated into the individual's behavioural repertoire. Furthermore, having experienced a negative environment in childhood on multiple dimensions suggests that recidivists may possess few alternative prosocial behaviours, thus ensuring a continuation of their antisocial acts.

Psychopathology

As Blader and Marshall (1989) point out, it is commonly held that sexual assault, more than any other type of crime, results from the perpetrator's disturbed psychological functioning. Clinical accounts of rapists portray them as motivated by issues of power and control, of anger and hostility (Groth & Burgess, 1977). Pedophiles are depicted as passive, dependent, socially inept individuals, who are often anxious, depressed, or narcissistic. Unlike rapists, pedophiles are assumed to be low in aggression, and non-violent in their behaviour (Groth, Hobson & Gary, 1982; Tingle, Bernard, Robbins, Newman & Hutchinson, 1986).

In their review of 11 MMPI studies of sex offenders, Okami and Goldberg (1992) found that only one of these studies reported significant elevations; the Psychopathic deviance subscale and Lie scales were significantly elevated in a sample of 78 mixed offenders studied

by Panton in 1978 (cited in Okami & Goldberg, 1992). However, because the sample included all types of offenders, it is not known how mean profiles for subgroups of offenders may have varied. For example, Kalichman (1991) compared the MMPI profiles for three groups of offenders, categorized according to victim age, and found that the child molesters evidenced more regressed pathology, whereas the group of offenders against adults were described as more antisocial. The group of child molesters also had a mean score on a measure of trait anxiety that was one standard deviation above that of a normative sample, and was also higher than that for the offenders against adults.

Williams and Finkelhor (1990), in their review of incestuous father studies, noted that all five studies they located which had examined depression in incestuous fathers had found significantly elevated levels, compared to non-incestuous fathers. Williams and Finkelhor (1990) reported a similar finding for anxiety among incestuous fathers. These authors concluded that at least one-quarter to one-third of incestuous fathers appear to have "normal" personality functioning, and that the majority did not show major psychiatric impairment.

It has been found that many sex offenders have extensive criminal histories, which often include non-sex offences and victimless crimes (i.e., property offences) (Baxter et al., 1984; Prentky & Knight, 1993; Serin et al., 1994). Measures of antisocial behaviour, such as impulsivity, delinquency, and past criminality, have been higher among groups of rapists, than among groups of child molesters (Kalichman, 1991; Serin et al., 1994), and have also been found to correlate with the amount of violence used to carry out the index offence (Bradford & McLean, 1984).

Baxter and his colleagues (1984) investigated the criminal histories of 128 incarcerated sex offenders, who had been subdivided according to victim age. Consistent with prevailing views that rapists are more antisocial, these investigators found that rapists had more extensive criminal histories than did either pedophiles or hebephiles, with sex offences comprising only one-fourth of all offences committed (compared with half for pedophiles), that rapists committed their first sex offence at an earlier age, and that rapists were more likely to incorporate the use of force and threats than were pedophiles. Interestingly, hebephiles were the most likely to use weapons when carrying out a sexual assault, and also were slightly more likely to use other forceful and threatening means.

Thus, in assessing psychopathy, rapists and hebephiles appear to meet criteria more than pedophiles do. Little is known about psychopathy among incest offenders. Williams and Finkelhor (1990) concluded from their review of incest studies using the MMPI to assess antisocial personality characteristics, that incest offenders evidenced moderate levels of psychopathy and acted out these tendencies in ways that avoided detection by authorities. To date, use of the Psychopathy Checklist (Hare, 1980) in samples of incest offenders has been limited.

Substance Abuse

Studies that have examined addiction and/or drug/alcohol intoxication at the time of offending (Baxter et al., 1984; Bradford & McLean, 1984; Hucker et al., 1986; Rada, Laws & Kellner, 1976; Rada, Laws, Kellner, Stivastava & Peake, 1983) have yielded varying rates of between 30% and 50% for alcoholism, with rapists slightly more likely to report a high frequency of alcohol consumption than pedophiles. Langevin and Lang (1990) estimated that

two in five rapists and one in three pedophiles are heavy drinkers, or addicted to alcohol. Williams and Finkelhor (1992) found that 57% of the incestuous fathers in their study (N = 234) reported problems with alcohol, compared to 44% of the non-incestuous control fathers, a difference which was not significant. However, significant differences have been reported by other investigators (Langevin et al., 1985). As Williams and Finkelhor point out, it is important to consider that many incest offenders exonerate themselves by blaming their offending behaviour on alcohol (Williams & Finkelhor, 1990).

With respect to intoxication at the time of offending, more rapists appear to have been intoxicated than child molesters (Rada et al., 1976; 1983), yet these findings are not unequivocal (Baxter et al., 1984). However, there appears to be a strong link between alcohol intoxication and degree of violence used when carrying out the index offence (Bradford & McLean, 1984; Rada et al., 1983).

It is more difficult to ascertain the prevalence of drug use among sex offenders because reported rates have varied more than for alcohol use; rates have varied from 9% (Bradford & McLean, 1984) for drug addiction in a sample of mixed offenders, to 73% for illicit drug use at any time for bisexual pedophiles (Hucker et al., 1986). In general, it appears that use of illicit substances plays less of a role in sexual offending than does alcohol consumption, and less of a role in the commission of a sexual crime than when other types of offences are committed (Hucker et al., 1986).

Predicting Recidivism

Increasingly, research efforts have been directed at improving clinica' determinations of recidivism by identifying statistical predictors. To date, univariate analyses have yielded a

number of significant correlates of recidivism, including physiological measures of deviant sexual arousal (Barbaree & Marshall, 1988; Malamuth et al., 1993; Rice et al., 1990; 1991), criminal history (Hall, 1988; Hanson et al., 1993; Quinsey & Walker, 1992; Rice et al., 1990; 1991), demographic variables such as offender age, marital status and employment status at the time of conviction (Hanson et al., 1993; Marques et al., 1993), victim characteristics such as age and gender (Hall, 1988; Marshall & Barbaree, 1988; Quinsey et al., 1995), and offender psychopathy (Malamuth et al., 1993; Quinsey et al., 1995; Rice et al., 1990). However, empirical support has not been consistent across studies, and may be due in part to sampling and methodological issues previously discussed. In attempting to explain greater amounts of variance in the prediction of recidivism, investigators have begun to test multivariate models, hypothesizing that it is a composite of interacting variables that accounts for sexual offending (Hall & Hirshman, 1991; Malamuth et al., 1993).

Hall (1988) investigated the ability of a linear combination of variables including past criminal behaviour, age, IQ and degree of psychopathy to predict sexual and non-sexual offences in a sample of 342 non-psychotic sex offenders. Results of a multiple regression analysis indicated that the unique variance explained by past offences equalled the amount of shared variance of all other variables combined. A discriminant analysis correctly classified 87% of sexual reoffenders against adults and 93% of non-offenders. However, these variables failed to predict sexual reoffending against children. One reason given by Hall to explain this failure, was that sexual offences against children are difficult to detect in general.

In a re-analysis of data from 178 sex offenders assessed at a maximum security psychiatric facility, Quinsey and his colleagues (1995) weighted predictors according to the

strength of each variable's univariate correlation with recidivism. For both sexual recidivism and violent failure (which included sexual offences and non-sexual offences), significant predictors were criminal history, including both sexual and non-sexual offences; deviant sexual arousal as determined by plethysmography; and psychopathy as indicated by a score of 19 or more on the Psychopathy Checklist. Marital status (i.e., single) also emerged as a significant, albeit weaker, predictor. Although the predictor variables were the same regardless of whether sexual recidivism or violent failure was considered, the relative strength of individual predictors varied differentially. Psychopathy was the most important factor in predicting violent reoffending, whereas a history of previous sexual offences was the strongest individual predictor of sexual recidivism. Although this sample was composed of child molesters (n=128), rapists (n=28) and individuals whose victims included both children and adults (n=26), all subjects' data were entered into the multiple regression analyses. Thus, it may be that these predictor variables reflect factors that are most salient in predicting recidivism among child molesters, since the sample contained proportionately more child molesters than other types of offenders. Further, the groups differed at the outset, with rapists evidencing higher Psychopathy Checklist scores, more personality disturbances, and more victim injury than the child molesters. Therefore, it may be that psychopathy is a stronger predictor for rapists than it is for child molesters. Replication of these results is needed to firm up findings.

Finally, in a recent Canadian study, dynamic and static predictors of recidivism were investigated in a large sample of child molesters and rapists who were followed an average of 64.5 months (Proulx, Pellerin, Paradis, McKibben, Aubut & Ouimet, 1997). These authors

found that rapists who recidivated were younger and had more previous convictions than rapists who did not recidivate. Child molesters who committed a new sexual offence were distinguished from their non-recidivist counterparts by higher pedophilic indices, a greater frequency of male victims, and greater frequency of unrelated victims, and more previous sexual charges. They were also younger and more likely to have lived alone than non-recidivist child molesters. Attempts to predict recidivism using psychometric data, which included instruments tapping anger, depression and anxiety, life satisfaction and distorted cognitions, were unsuccessful in this study. Nevertheless, this study is important in that it was the only one to consider that variables might differentially influence recidivism in groups of child molesters and rapists.

Summary

Despite the growing sex offender literature and the increased methodological sophistication employed in recent empirical work, sexual recidivism is not well understood. Recidivism rates themselves have been subject to considerable variability, with reported figures ranging from 0% to over 85% (Furby et al., 1989). Much of this variability can be attributed to methodological limitations which have plagued existing studies. Sampling issues, such as small sizes, sampling from extreme populations, and combining all offender subgroups have undoubtedly led to discrepant rates from study to study. Measurement problems have also contributed to variability in reported rates. Among these issues are inconsistency in operational definitions, calculation of "at risk" periods, and length of follow-up periods.

It is also possible that methodological limitations have contributed to inconsistent findings among studies which have attempted to identify reliable and valid correlates of

reoffence. Variables such as deviant sexual arousal, distorted cognitions, offender characteristics such as age, marital status and psychiatric status, past criminal activity, and victim characteristics, such as age and gender have all been found to delineate recidivists and non-recidivists. However, none of these factors has been found to be a significant correlate of recidivism across studies. It is therefore not surprising that efforts to generate statistical models of prediction have met with limited success; generalizeability is questionable because models have been developed using select samples, and may not represent the larger population of sex offenders. Nevertheless, the urgent need to reduce the incidence of sexual victimization, as well as the need to minimize the financial burden imposed because of offender incarceration, mandates continued research effort despite the inherent difficulties.

The Present Study

The present study consisted of three parts. First, a descriptive profile of all contact sex offenders referred to the Royal Ottawa Hospital's Sexual Behaviours Clinic (SBC), who perpetrated a sexual assault against an adult female, or against a male or female child under age 16 years was developed. To the author's knowledge, this represents the first comprehensive description of consecutive referrals of sex offenders to a large Canadian clinic. It may also provide a more legitimate perspective on the types of sex offenders and the offences they commit, than is presently available.

The present retrospective study also examined the relationship between recidivism and psychological and physiological variables in a group of incest offenders, a group of child molesters, a group of rapists, and also in a group of mixed offenders. Because the SBC was initially developed as a research and training facility, the data have been systematically

collected, using a variety of standardized procedures (i.e., phallometric measurement of deviant sexual arousal), and instruments. As well, the sample in the present study were unique in that assessments preceded any treatment, whereas some samples employed by other researchers have received some form of sex offender treatment (Barbaree & Marshall, 1988; Berliner et al., 1991; Marshall & Barbaree, 1988; Rice et al., 1990; Rice et al., 1991). In addition, the large sample size afforded the opportunity to examine the differential impact of recidivism variables in sub-groups of offenders, without compromising statistical power. A third component of the study reclassified offenders against children as heterosexual, homosexual, or bisexual, according to victim gender. Statistical analyses that were performed for the incest, child molester, rapist and mixed groups were repeated for the heterosexual and homosexual categories. Multivariate statistical techniques were used to explore the nature of statistical predictors of recidivism within all sub-groups of offenders. Findings may generalize to other Canadian jurisdictions given the large and complete nature of the study sample.

Defining Recidivism

The present study considered rates for overall recidivism, for sexual recidivism and for non-sexual recidivism. Overall recidivism reflected the recommission of any type of criminal offence. Sexual recidivism was defined as the recommission of any sex offence (Furby et al., 1989, p.8). Acknowledging that research findings have confirmed that some sex offenders commit subsequent non-sexual crimes (e.g., Rice et al., 1990; 1991), violent recidivism was considered to be violent, non-sexual offences. Third, the category of non-violent recidivism reflected subsequent offences which were non-sexual and non-violent, such as property crimes, obstruction of justice offences, and driving offences.

Delineating Groups of Sex Offenders

The initial study design considered three broad categories of sexual offenders based on the index offence: 1) incest offenders; 2) extrafamilial child molesters (CM); and 3) offenders against adults (rapists). In order to facilitate comparative analyses, definitions used in the study are consistent with those used by other Canadian researchers.

Rapists were those offenders who coerced or forced sexual activity on an unrelated female age 16 or over (Qunisey et al.,1995). Incest offenders were individuals whose sexual activities were perpetrated against a female or male family member who was under age 16 at the time of the offence. This included surrogate fathers, surrogate grandfathers, uncles, and cousins, as well as biological fathers and grandfathers. Child molesters (CM) perpetrated sexual activity against an unrelated female or male child who was aged 16 years or less at the time of the offence.

This study tested the following primary and secondary hypotheses:

Primary Hypotheses

1. Rates of recidivism would differ according to the category of offender.

a) Child molesters would have the highest sexual recidivism rate, followed by that for rapists, and incest offenders would have the lowest sexual recidivism rate.

b) Rapists would have a higher recidivism rate for non-sexual reoffences (i.e., violent and non-violent offences) than child molesters or than incest offenders. The recidivism rate for non-sexual offences for the child molesters and the incest offenders would not differ from each other.

2. The group of recidivists within each category of rapists, child molesters, and incest offenders would score significantly higher on the Psychopathy Checklist compared to the group of non-recidivists for each respective group.

3. The group of recidivists within each category of rapists, child molesters, and incest offenders would have significantly more psychiatric disturbance as indicated by a higher incidence of DSM-III-R (Diagnostic and Statistical Manual, American Psychiatric Association, 1987) diagnoses than the group of non-recidivists for each respective group.

4. The group of recidivists within each category of rapists, child molesters, and incest offenders would have significantly higher scores of deviant sexual arousal than the group of non-recidivists within each respective group.

Secondary Hypotheses

5. The group of recidivists within each category of rapists, child molesters, and incest offenders would have a significantly higher incidence of negative childhood experiences (i.e., sexual abuse, physical abuse, and linear family history of alcohol abuse, drug abuse, mental illness and criminal activity) than the group of non-recidivists within each respective group.

6. The group of recidivists within each category of rapists, child molesters, and incest offenders, would evidence significantly more affective dyscontrol, as indicated by higher mean scores on the Michigan Alcohol Screening Test, the Buss-Durkee Hostility Index and the Brief Psychiatric Rating Scale, than the group of non-recidivists within each respective group.

7. The index offences for the group of recidivists within each category of rapists, child molesters, and incest offenders would be significantly more "serious" offences, as indicated by a greater degree of violence and greater degree of sexual assault, than the group of non-recidivists within each respective group.

CHAPTER 2

Research Design and Method

Subjects

A total of 1,535 patients was seen at the SBC from its inception in 1983 until 31 December, 1992. From the total number, cases were selected for inclusion in the present study if the following criteria were met: 1) the subject was male: 2) the subject was found guilty of a criminal offence by the Courts, and the conviction was either for a contact sexual offence, or for assault, but documentation contained in medical files indicated that the offence was sexual in nature[1]; 3) the sexual offence for which the subject was initially referred to the SBC (index offence) was perpetrated against a child under the age of 16 years, or was perpetrated against a female age 16 or older (adult female); 4) official information was available which indicated whether the subject had been charged or convicted of a subsequent criminal offence, or had remained free of further criminal activities. In most cases, this information was obtained from police records (CPIC records), but in several cases in which CPIC records were unavailable, correspondence from lawyers indicated that subjects had been charged with, convicted of, or incarcerated for a new offence; 5) the subject had signed an informed consent at the time of assessment (See Appendix A). Based upon this criteria, the final recidivism sample consisted of 588 subjects categorized into one of the following four groups, based on victim characteristics of the index offence: 1) Incest group. 251 subjects who had committed an offence(s) against a related male or female child who was under 16 years of age at the time of the offence(s); 2) Child Molester group (CM). 192 subjects who

[1]This was to ensure that cases in which plea bargaining resulted in reduced charges were not lost from the study.

had perpetrated an offence(s) against an unrelated male or female child who was under the age of 16 years at the time of the offence; 3) Rapists, 86 offenders who had committed a sexual offence(s) against an adult female who was not biologically related to the subject; 4) Mixed Offender group, 59 subjects who had offended against both related and unrelated children under the age of 16, or had offended against both children and adult females.

Ethics

The present study did not require the active participation of any subject. Data were collected from medical records of the Royal Ottawa Hospital. To ensure the subjects' anonymity, identifying information was replaced by a research code.

Procedure

All subjects underwent a routine assessment at the SBC which included several components. Upon arrival at the clinic, a psychiatric interview was conducted by a staff psychiatrist. During the interview, the subject's written consent was obtained for completion of questionnaires, phallometric testing and biomedical assessment procedures, which may have included blood testing, urinalysis, CT scan, and other procedures as requested by the physician. The assessment process also incorporated the assessment of sexual arousal by means of pleysthmography, psychological testing, and elicited social and demographic information.

Materials

Measurement of Sexual Arousal

Apparatus: Sexual arousal was measured at the SBC as part of the assessment procedure for most subjects, using equipment manufactured by Farrell Instruments. Changes in penile

circumference in response to audio/visual stimuli were measured by means of an Indium-Gallium strain gauge and monitored by a CAT200. These data were then fed into an IBM compatible computer for storage and printout.

Stimuli Presentation: The order of stimuli presentation, held constant for all subjects, was computer controlled, using MPV-Forth, version 3.05 software provided by Farrall Instruments. Videotapes were presented first, using a Toshiba VHS Video Cassette Recorder, and were viewed on a Hitachi 14" colour screen. The second stimuli set presented were slides, projected via a Kodak Echtographic slide projector onto a 40 X 40 screen. Finally, subjects were presented with one or more of three series of audiotapes, according to the nature of the subject's sexual offence. Audiotapes were played on a Realistic portable cassette recorder through stereo headphones.

Stimulus Materials

All subjects who consented to undergo pleysthmographic assessment of sexual arousal received three stimulus modalities: videotapes, slides, and audiotapes, under two sets of instructions. In the arouse condition, individuals were instructed to allow themselves to become aroused if they felt aroused. Conversely, in the suppress condition, subjects were instructed to suppress any arousal they felt , to the best of their ability. For the present study, variables of interest consisted of the pedophile indices and the rape indices, under both arouse and suppress instructions. Although all of these indices were calculated from data generated in the audiotape modality, the videotape and slide stimuli are described to give the reader a thorough understanding of the assessment process.

Videotapes: Prior to the presentation of the first stimuli set (slides), subjects viewed an explicit videotape depicting mutually consenting sex between adults, either heterosexual, homosexual, or both, depending upon the orientation of the subject. This procedure serves to mitigate the "warm-up" effect commonly observed during phallometric assessments, and hence increases response reliability (Baxter et al., 1986). The use of a powerful erotic stimulus also serves to allay any apprehension that the subject may have when arriving at the laboratory, and primes him for subsequent stimuli. This baseline measure facilitated later comparisons, as subjects were asked to report when they felt they had achieved a full erection.

Slides: The pedophilic slide assessment consists of a series of 36 slides depicting nude males and females ranging in age from five years to adult. Slides were presented in a fixed random order, and consisted of four slides of each of four age categories for both males and females. Four "neutral" slides depicting landscapes were also included. Each slide was presented for a period of 20 seconds, following which, at least 20 seconds was allowed for return to baseline before presentation of the next slide.

Audiotapes: Audiotapes consist of vignettes (Abel et al., 1981) of approximately two minute duration which describe sexual activity varying with respect to age, sex, and degree of consent, coercion and violence portrayed. Each subject was presented with one or more sets containing one vignette from each category. Each subject was tested under arouse and suppress instructions.

The female child series consists of descriptions of sexual activity with a female partner/victim for eight categories. The male child series consists of eight corresponding vignettes involving a male partner/victim but also includes one scenario involving an adult

female partner. For each of the female child and male child series, two equivalent scenarios for each category were included. Categories are: 1) child initiates; 2) child mutual; 3) non-physical coercion of child; 4) physical coercion of child; 5) sadistic sex with child; 6) non-sexual assault of child; 7) consenting sex with female adult; 8) sex with male or female child relative (incest).

The audiotape series used to identify sexual attraction to rape includes two scenarios of two minute duration for each of three categories: 1) consenting sex with adult female; 2) rape of adult female; 3) non-sexual assault of adult female.

Calculation of the Pedophile and Rape Indices

The pedophile index under arouse and suppress instructions, which was computed by the Research Assistant at The SBC at the time of assessment, was calculated by dividing the subject's highest response[2] to a child stimulus by the response to the adult mutually consenting stimulus. Similarly, the rape indices were computed by dividing the subject's response to the rape stimulus by the response to the adult mutually consenting stimulus.

Determining the Pedophile and Rape Indices

As previously noted, subjects who offended against children (under 16 years of age) were presented with stimuli of female children or of male children, as determined by the attending psychiatrist at the time of the initial forensic interview. Usually, the determination was made based upon the gender of the victim in the index offence. However, in some cases, the psychiatrist ordered pleythsmograph assessment for both male and female child stimuli. Thus, these cases had two sets of pedophile indices (PI). For the present purpose, the

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[2]response expressed as percentage of full erection.

pedophile index that was used in analyses was the index corresponding to the gender of the victim. For subjects whose victims included both male and female children, the higher index was used, because a higher index indicates a more deviant response, and is presumed to reflect the subject's preferred sexual partner.

For subjects in the Mixed group, many had both a rape index and one or two pedophile indices. For subjects who offended against their own children and unrelated children, the pedophile index was selected according to the criteria outlined previously. However, for offenders who offended against children and adults, the higher of the rape index or pedophile index was used. In these cases, it may be argued that the victims were ones of convenience, and that the act of sexual aggression itself was the driving force behind the offence. Based on this index determination criteria, the pedophile index was used for 46 offenders (82.0%). For the remaining 10 cases (18.0%), the rape index was the higher value. However, due to the small number of Mixed offenders with a rape index, no comparative analyses were performed. It should also be noted that 5 of these 10 subjects were determined to be low responders, as outlined in the following section.

The Problem of Low Responders

Most researchers in the area of sexual offenders concur that subjects who are considered to be low responders are those whose response, or mean response to stimuli is less than 5mm. of change in penile tumescence (Freund & Blanchard, 1989; Malcolm, Andrews & Quinsey, 1993; Marshall, Barbaree & Christophe, 1986; Quinsey & Harris, 1990). At the SBC, a response of 100% (full erection) is assumed to be a 30 mm. pleysthmograph response; a response of 16.6% would thus constitute a low responder. Currently, there is considerable

controversy in the literature about the appropriateness of including or omitting low responders from statistical analyses. To address this concern, the present study performed statistical analyses twice, once with low responders included, and once with low responders excluded. It should be noted that the variable "maximum response" that was used to determine whether or not a subject was considered a low responder represented the subject's maximum response to any stimuli, and was not a mean score. Using this criteria, 70 subjects in the Incest group were classified as low responders (29.2%), 45 child molesters (25.2%), 22 rapists (27.2%) and 12 offenders (20.3%) in the Mixed group.

Pencil and Paper Inventories

1) Bradford Forensic Assessment Form (Bradford, 1992).

This inventory consists of 29 items which elicit demographic and historical information. Items 23 through 26 pertain to characteristics of the subject's index offence, such as degree of violence and degree of sexual assault. Responses to all items are categorical. Responses on the inventory , which are completed by the physician during the initial psychiatric interview, are primarily based upon subject's self-reports. This inventory is shown in Appendix B.

2) Bradford Sexual History Inventory (Bradford, Pawlak, Boulet & Curry, 1991).

This self-report inventory, which is also completed by the subject during the initial psychiatric interview, consists of 65 items grouped into 9 categories, which inquire about sexual activity in the subject's past and present life. Of relevance to the present study are Sections A and B (14 items in total), which pertain to sexual episodes involving an older person, which occurred during the subject's childhood and/or adolescence. A copy of Section A and B of this inventory appears in Appendix C.

3) Michigan Alcoholism Screening Test (MAST; Selzer, 1971).

The MAST is a self-report inventory containing 24 items which represent the common signs of alcoholism such as work problems due to alcoholism, medical problems associated with alcoholism and alcohol withdrawal symptomatology. Respondents answer "yes" or "no" to each of the items. Degree of problem associated with alcoholism is reflected in the total number of "yes" responses, while positive responses to any of items 9, 20 or 21 are considered diagnostic (Selzer, 1971). In addition to being extensively used as a screening tool for alcoholism, it has been incorporated in research with samples of sex offenders (e.g., Hucker et al., 1986; 1988; Rada et al., 1976; 1983). A copy of this test appears in Appendix D.

5) Buss-Durkee Hostility Inventory (BDHI; Buss & Durkee, 1957).

The BDHI contains 75 True-False statements which provide a measure of seven constructs representing general hostility: 1) assault; 2) indirect hostility; 3) irritability; 4) negativism; 5) resentment; 6) suspicion; and 7) verbal hostility (Buss & Durkee, 1957). An additional construct captured by the BDHI is guilt. Factor analysis reveals that the BDHI represents two constructs, one which is attitudinal, and the other representing aggressive behaviours. Research has found that among sex offenders, BHDI scores for violent rapists have been significantly higher than those for non-offending controls (Rada, Laws & Kellner, 1976). A copy of the BDHI appears in Appendix E.

6) Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962).

The BPRS is an inventory designed to provide clinician ratings on psychiatric symptomatology in 16 domains, such as anxiety, emotional withdrawal, somatic concerns, and other symptomatology. For each domain, the clinician is required to rate the degree to which

symptomatology is present in the subject. Ratings may range from a low score of 0 (not present) to 6 (extremely severe). In addition to providing information about specific symptomatology, a total score provides an overall indication of psychiatric disturbance. An acceptable internal consistency coefficient of .63 has been reported (Dingemans, 1990). The authors reported good interrater reliability, with coefficients ranging from .56 for "Tension" to .87 for "Hallucinatory Behaviour" (Overall & Gorham, 1962). A copy of the BPRS appears in Appendix F.

7) Psychopathy Checklist-Revised (PCL-R; Hare, 1991).

The PCL-R consists of 20 clinical rating scales designed to assess behaviours (e.g., impulsivity; promiscuous sexual behaviour; criminal versatility) and personality characteristics (e.g., glibness/superficial charm; grandiose sense of self worth; callous/lack of empathy) considered fundamental to psychopathy. Rigorous testing has indicated that the PCL-R is a psychometrically sound instrument; the reported alpha coefficient, aggregated across seven samples of incarcerated males from Canada, the U.S. and England was .87 (Hart, Hare & Harpur, cited in Hare, Forth & Strachan, 1992). Valid PCL-R ratings can be made on the basis of high quality archival information. Prorated scores may be computed for cases in which there is insufficient information to score up to five items. The PCL-R is beginning to receive widespread use in sex offender research (Harris et al., 1993; Quinsey et al., 1995; Serin et al., 1994). For the present purpose, the primary investigator and a research assistant, who were trained on scoring the PCL-R, completed the checklist from information contained in medical files. A copy of the PCL-R appears in Appendix G.

Outcome Data

CPIC records were obtained from the Ottawa Police and were matched to individual subjects according to name, date of birth, and index offence particulars. CPIC records contain the individual's criminal history and include details such as the date of the charge or conviction, the nature of the offence, the disposition of the incident (i.e., convicted, charges withdrawn, stay of proceedings, etc.) and sentence/penalty imposed in cases of convictions. In some cases, CPIC records indicated the date an offender was released from prison. CPIC information was used to determine inclusion criteria (i.e., the subject was convicted of index offence), to determine whether the subject recidivated, and if so, the date of recidivism, and the nature of the new offence. CPIC records also contain a correctional system identification number, which was used to collect dates of incarceration for some offenders from the federal and provincial systems. A sample CPIC record in presented in Appendix H

Calculation of Time "At Risk"

In order for an offender to have been considered eligible for recidivism, he must have been free to commit a crime; he could not have been incarcerated or held in secure custody for reasons of mental illness. The "at risk" period was determined to be from the first day of eligibility following the index offence to the date when a new charge/conviction was incurred. As stated previously, some CPIC records contained release dates which were used as the first day of time "at risk". However, in cases where this information was unavailable from CPIC records, or from the federal and provincial correctional systems, the CPIC record was used to estimate the first day of eligibility. This date was calculated based upon an offender having served two-thirds of his sentence (i.e., mandatory release) for the index offence, if the CPIC

record indicated that he received incarceration as a penalty for the index offence. The offender remained "at risk" until the date he was charged/convicted of a new offence, as indicated by the CPIC record.

Treatment of the Data

The goals of statistical analyses performed on the data were two-fold: 1) to detect and examine differences between recidivists and non-recidivists within each of the groups, with analyses grouped according to statements of hypotheses and 2) to detect and examine overall differences between the groups, in order to provide a more comprehensive description of the sample. All data were analyzed using SPSS 6.1 for Windows.

Prior to performing statistical tests, which were selected according to the nature of the data at hand and the purpose of the test, the data were screened to ensure that assumptions underlying tests were not violated. In general, outlying cases were detected by visual inspection of normal probability plots, and by using the criteria of plus or minus three standard deviations from the mean (Tabachnick & Fidell, 1989). Values of outlying cases were adjusted upward or downward according to the direction of the problem , rather than deleted. This method is appropriate when case retention is desirable (Tabachnick & Fidell, 1989); the adjusted case still maintains its rank, but does not unduly influence the group mean. This method was successful in improving distributions and eliminating skewness in most instances. However, some variables also required transformations to meet assumptions of normality of distribution. Special treatment of these variables is discussed as results are presented. Statistical tests generated by SPSS, such as the Lilliefors test and the Levene test,

were used to screen for normality of distribution, equality of variances and homogeneity of variance.

Missing data, interspersed throughout the data set, posed a particular problem in the study. Rather than substitute values (because of the large amount of missing data for some variables), cases were deleted from the analysis of that variable (Tabachnick & Fidell, 1989). Nevertheless, the amount and nature of missing data precluded the use of multivariate statistical techniques. In general, chi-square or Mann-Whitney U tests were used to analyze categorical data; interval data were analyzed using t-tests or analysis of variance techniques. A priori comparisons were tested at the .05 probability level. For multiple comparisons, the family-wise alpha level was set at .05; the significance level for individual tests was adjusted using the Bonferroni method. The Bonferroni LSD test was selected for post-hoc analyses (Delucchi, 1993; Zwick, 1993). Some of the categorical variables which were analyzed by means of chi-square tests, consisted of three or more categories, which produced frequency tables composed of six or more cells. Although chi-square results permit a conclusion about the difference between observed and expected frequencies, the number of cells does not permit conclusions about where the difference lies. To determine this, additional chi-square tests would be required for each possible comparison included in the overall analyses. Because of the large number of variables, categories for certain variables, and number of groups, the number of required analyses at this level would be in the hundreds. In addition to reducing statistical power (because of multiple comparisons with a small number in some cells), the reader would be overwhelmed. Furthermore, such detailed analyses were beyond

the scope of the present study. For this reason detailed analyses were performed only when they pertained to hypothesis testing.

CHAPTER 3

The SBC Population and the Recidivism Sample

Overview of Results

The primary focus of the present study was to investigate the relationship between recidivism and the psychological, physiological and offence characteristics of sexual offenders. However, a secondary purpose was to describe the population of offenders seen at the SBC during the first 10 year period, from the clinic's inception in 1983 to the end of 1992, because descriptions of a sex offender population normally seen in Canadian centres have been absent in the literature. Following a review of population characteristics, the recidivism sample is described. The next chapter presents statistical analyses, which focused on comparing recidivists and non-recidivists within each category of sexual offenders. Correlates of recidivism for each of the offender groups are reviewed next, following which, results of a discriminant function analysis are presented. Finally, the impact of offender sexual orientation on recidivism, either heterosexual, homosexual, or bisexual, is explored.

The SBC Population

A total number of 1,535 patients were seen at the SBC over the 10-year period covered by the present study. As Table 1 indicates, the majority, 1,519 patients, were male; the remaining 16 patients were females. Marital status was known for 54.9% (N = 841 cases) of the total population. The majority, 33.8% (n = 519) of these patients were single, 16.2% (n = 249) were living in married or common-law relationships, and the remaining 4.8% (n = 73) were separated, divorced, or widowed. As table 2 indicates,

Table 1:. Characteristics of SBC Population: Categorical Variables

Variable		n	Percentage
Gender:	Male	1,517	99.0
	Female	16	1.0
Marital Status:	Single	519	33.8
	Married/ CL	249	16.2
	Sep/Div/Wid	73	4.8
	Unknown/missing	694	45.2
Referral Source:	Defense Attorney	349	22.7
	Judge	209	13.6
	Probation/Parole	127	8.3
	Child Protection	48	3.1
	Physician	305	19.9
	Psychiatric Emerg	12	0.8
	Self-referred	88	5.7
	Unknown/missing	336	21.9
Prior Convictions:	None	695	45.3
(self-reported)	1-40	478	31.1
	Unknown/missing	362	23.6
Primary Sexual :	Pedophilia	544	35.5
Deviation	Incest	450	29.3
	Exhibitionism	156	10.2
	Rape	126	8.2
	Sexual Dysfunction	40	2.6
	Sadism	38	2.5
	Transvestism	25	1.6
	Other*	68	4.4
	No deviation	70	4.6
	Unknown/missing	18	1.1
Secondary Sexual:	Incest	58	3.8
Deviation	Sadism	37	2.4
	Exhibitionism	26	1.7
	Pedophilia	24	1.6
	Rape	19	1.2
	Other*	65	4.2
	No secondary deviation	1288	83.9
	Unknown/missing	18	1.1

* includes atypical paraphilia, fetishism, frotteurism, voyeurism, scatologia, masochism, transvestism

Table 2: Characteristics of SBC Population: Continuous Variables

Variable	N	Range	M	SD
Age	1533	12yrs.-78 yrs.	34.2 yrs.	12.4
Years Education	1156	0 - 23	10.8	3.3

mean age at the time of assessment, which was known for all but 2 patients (N=1,533), was 34.2 years (SD = 12.4). Level of education was known for 1,156 cases , which represents slightly more than 75 % of the population. The mean number of years of education for the population was 10.8 (SD = 3.3), and ranged from 0 years to 23 years.

An examination of referral sources indicated that almost one-half of the sample (47.7 %) was experiencing legal difficulty because of sexual behaviour at the time of the initial assessment. The largest single category of referral source was defense attorneys, who referred 22.7% (n = 349) of the population. Judges referred 13.6% (n = 209), 8.3% (n = 127) were sent by probation or parole officers, and 3.1 % (n = 48) were referred by child protective services. Physicians and psychiatric emergency services referred 19.9% (n = 305), and 0.8% (n = 12) respectively. In 5.7% (n = 88) of cases patients sought assessment on their own. Source of referral was categorized as "other" in 4.0% of cases (n = 61), and was unknown for the remaining 21.9% (n = 336) of the population. When patients were asked about prior convictions, 31.1% (n = 478) reported that they had at least one prior conviction and 45.3% (n = 695) reported no prior convictions. Self-reported criminal history was unknown for 23.6% (n = 362) of the population.

Following the initial psychiatric interview, patients were assigned on or more sexual deviation classifications, based upon characteristics of charges or convictions the individual was facing, and also upon information elicited during the interview. In a small minority of cases, 4.6% (n = 70) , no assignment was made; files for an additional 1.1% of cases (n = 18) did not contain this information. Primary sexual deviation assignments were made for 1, 517 cases as follows: pedophilia, 35.5% (n = 544); incest, 29.3% (n =

450); exhibitionism, 10.2% (n = 156); rape, 8.2% (n = 126); sexual dysfunction, 2.6% (n = 40); sadism, 2.5% (n = 38); transvestism, 1.6% (25); other (which includes atypical paraphilia, fetishism, frotteurism, voyeurism, scatologia and masochism), 4.4% (n = 68). In 14.9% of cases (n = 229) an additional sexual deviation category was assigned. In 3.8% of cases (n = 58) the secondary sexual deviation was incest; sadism, 2.4% (n = 37); exhibitionism, 1.7% (n = 26); pedophilia, 1.6% (n = 24); rape, 1.2% (n = 19); other, 4.2% (n = 65).

In summary, the data indicate that the majority (64.8%) of individuals assessed at the SBC during the 10 year study period presented because of sexual difficulties involving children. The balance of the population presented with a variety of other paraphilias and sexual disorders. Almost half (44.6%) were referred by legal personnel: attorneys, judges or probation and parole officers. The remainder were referred by physicians, psychiatric emergency services, or sought assessment on their own. The population was almost exclusively male. Overall, there was considerable range in age, education level, marital status, and criminal history.

Characteristics of the Recidivism Sample

Of the 1,535 patients seen at the SBC during the study's 10-year period, 1,037 medical files were reviewed to determine whether subjects met inclusion criteria for the recidivism sample. The remaining 498 files were not reviewed for one of the following reasons: 1) the subject presented with a complaint of sexual dysfunction, transvestism or other non-criminal sexual behaviour; 2) the subject was charged with, or convicted of a non-contact sexual offence such as scatologia (i.e., making obscene telephone calls),

voyeurism or exhibitionsim; 3) the subject was female; 4) the subject was classified as a Young Offender.

Of the total 1,037 files that were reviewed, 588 met the study's inclusion criteria, and 449 were excluded for the following reasons:

1) in 26 cases the offender was under age 18 at the time of the offence (Young Offenders)

2) in 194 cases initial charges were for non-sexual offences

3) initial charges did not result in a conviction in 58 cases

4) in 20 cases it was unclear, according to CPIC information, whether subject was convicted or not

5) there was no physical contact between the offender and the victim in 20 cases

6) no recidivism information was available for 98 cases

7) 1 case was an American citizen who was referred for assessment

8) in 1 case the sole victim was an adult male

9) 31 cases were classified as "dangerous offenders" or "not criminally responsible" Subjects were held in secure custody and did not have the opportunity to reoffend.

The final recidivism sample consisted of 588 subjects who were distributed among the four groups as follows: Incest offenders, 42.7% ($\underline{n}$ = 251); Child Molesters (CM), 32.7% ($\underline{n}$ = 192); Rapists , 14.6% ($\underline{n}$ = 86); and Mixed , 10.0% ($\underline{n}$ = 59). Overall, the age of subjects in the final recidivism sample ranged from 16.8 years[1] to 73.9 years ($\underline{M}$ = 38.0 years). As Table 3 shows, after adjusting significant alpha to .002 for multiple comparisons, mean age was significantly different between the groups, $\underline{F}$ (3) = 21.08, $\underline{p}$

[1]One subject was initially assessed for suspected sexual deviance at age 16.8 years and was reassessed after age 18, when the index offence was committed. Age was computed at the time of the initial assessment.

Table 3: Summary of Group Differences for Continuous Data: Demographic Variables Incest, CM, Rapist and Mixed Sexual Offender Groups

Variable	Group	n	M	SD	F	p	Post-Hoc
Age	Incest	251	40.54	10.99	21.08	.0001 *	CM>R
	CM	191	37.71	12.18			M>R
	Rapist	84	29.56	6.84			I>R
	Mixed	59	39.53	12.45			I>CM
Years Ed	Incest	225	9.91	2.71	3.56	.01	
	CM	181	10.92	3.94			
	Rapist	78	9.91	2.98			
	Mixed	57	10.21	3.42			

*indicates statistical significance

<.0001. The Incest, Mixed and CM groups were significantly older (Ms = 40.5 years, 39.5 years, and 37.7 years for Incest, Mixed and CM respectively) than the Rapist group (M = 29.6 years). The Incest group was also significantly older than CM group . On average, years of education, which ranged from 0 to 22 years, was 10.3 years. There was no difference between the groups on years of education.

Table 4 presents a summary of group differences for categorical demographic and historical variables at the time of assessment. The table indicates that largest proportion of subjects were living in married or common-law relationships (40.1%), although an almost equal proportion (35.9%) were single. The remaining 23.9% were separated, divorced or widowed. A significant difference between observed and expected frequencies for the groups emerged, X^2 (6, N = 548) = 96.6, p < .00001. Approximately one-half of the sample (52.9%) was employed at the time of assessment.

Examination of historical variables indicated that almost one-third (32.8%), of the total sample had a history of violent behaviour; a significant group difference emerged, X^2 (3, N = 473) = 31.49, p < .00001. Inspection of cell frequencies revealed that Rapists evidenced more than twice the rate (61.4%) of previous violence than incest offenders (27.5%) or child molesters (26.4%), and almost twice the rate of mixed offenders (33.3%).

According to CPIC records, almost one-half of the sample had prior criminal convictions (47.5%), ranging in number from 1 to 51. The most frequent type of past conviction was for a non-violent offence (39.3%), which included property, fraud, driving, and obstruction of justice offences. Observed frequencies for the groups were significantly

Table 4: **Demographic and Historical Variables**
Incest, CM, Rapist and Mixed Sexual Offenders

Variable	Group	n	Percentage Group	X^2 (DF)	p
Marital Status: Single	Incest	34	14.5	96.58 (6)	.00001*
	CM	90	51.1		
	Rapist	51	64.6		
	Mixed	22	37.3		
M/CL	Incest	131	56.0		
	CM	55	31.3		
	Rapist	16	20.3		
	Mixed	18	30.5		
Sep/Div/W	Incest	69	29.5		
	CM	31	17.6		
	Rapist	12	15.2		
	Mixed	19	32.2		
Employed at Assmt	Incest	129	59.4	9.20 (3)	.03
	CM	85	50.6		
	Rapist	29	39.7		
	Mixed	29	51.8		
Hx. of Violence	Incest	56	27.5	31.49 (3)	.00001*
	CM	39	26.4		
	Rapist	43	61.4		
	Mixed	17	33.3		
Prior Non-Violent Convictions	Incest	80	33.3	19.30 (1)	.0002*
	CM	67	38.7		
	Rapist	51	60.0		
	Mixed	20	35.1		
Prior Violent Convictions	Incest	27	11.3	61.36 (1)	<00001*
	CM	31	18.1		
	Rapist	43	50.6		
	Mixed	10	17.5		
Prior Sex Convictions	Incest	16	6.7	21.69 (1)	.00008*
	CM	37	21.4		
	Rapist	13	15.5		
	Mixed	13	22.8		

*indicates statistical significance

Table 4 cont'd

Variable		Group	n	Percentage Group	X^2 (DF)	p
Admit to Index	Admit	Incest	175	73.5	20.61 (6)	.002*
		CM	109	58.9		
		Rapist	45	57.7		
		Mixed	34	63.0		
	Deny	Incest	48	20.2		
		CM	63	34.1		
		Rapist	21	26.9		
		Mixed	18	33.3		
	Amnesia	Incest	15	6.3		
		CM	13	7.0		
		Rapist	12	15.4		
		Mixed	2	3.7		
Hx Alcohol Abuse		Incest	93	42.3	15.17 (3)	.002*
		CM	72	42.6		
		Rapist	48	66.7		
		Mixed	22	40.0		
Hx Drug Abuse		Incest	52	23.9	52.61 (3)	.00001*
		CM	53	31.4		
		Rapist	48	66.7		
		Mixed	9	16.7		
Prev Psychiatric Contact		Incest	99	45.4	19.96 (3)	.0002*
		CM	105	62.9		
		Rapist	49	67.1		
		Mixed	38	67.9		
Prev. Forensic Contact		Incest	27	12.4	27.99 (3)	.00001*
		CM	51	30.7		
		Rapist	25	35.2		
		Mixed	19	33.9		
Prev. Forensic Admission		Incest	10	4.6	23.56 (3)	.00003*
		CM	28	16.9		
		Rapist	16	22.9		
		Mixed	10	17.9		

* indicates statistical significance

different than those expected by chance, X^2 (1, N = 555) = 19.30, p ,= .0002; Rapists evidenced the highest rate of previous convictions for non-violent offences (60.0%). Violent, non-sexual offences were present in the criminal records of 20.1% of the sample. A significantly greater proportion of Rapists (50.6%) had previous convictions for violent, non-sexual offences than expected by chance, X^2 (1, N = 555) = 61.36, p < .00001. Overall, the rate of previous convictions for sexual offences was lower (14.3%) than that of the other offence categories. There was a significant difference overall, between observed and expected frequencies for the groups, X^2 (1, N = 555) = 21.69, p = .00008. Inspection of cells indicated that group frequencies ranged from 22.8% for the Mixed group, 21.4% for the CM group, 15.5% for the Rapists, to 6.7% for the Incest group. Pearson correlation coefficients, computed to determine how closely offenders' self-reports of previous convictions matched CPIC figures, indicated a moderate relationship for total number of convictions, r (N = 404) = .60, p < .001. The number of violent, non-sexual offences, or number of non-violent offences were not significantly correlated with the number of sexual convictions.

Almost two-thirds, 65.4% of the sample admitted to their index offence, 27.0% denied they had committed the offence and 7.6% claimed amnesia for the event. The proportion of deniers, admitters, and amnesia claimers was significantly different between the groups, X^2 (6, N = 555) = 20.61, p = .002; the proportion of CM offenders who denied their offence was greater than expected by chance, while the proportion of Incest, Rapist and Mixed offenders who denied the index offence was similar to the expected proportion in each group.

Almost one-half (45.5%) of the sample had a history of alcohol abuse. A chi-square computed to test differences between the groups for observed and expected frequencies was statistically significant, X^2 (3, N = 516) = 15.17, p = .002. A similar result also emerged when groups were compared on history of drug abuse, X^2 (3, N = 513) = 52.61, p < .00001. Overall, a smaller proportion of subjects had a history of drug abuse (31.6%) than alcohol abuse.

A psychiatric history was present in 56.6% of all cases, and was significantly different between the groups, X^2 (3, N = 514) = 19.96, p = .0002. The groups were also significantly different on prior contact with a forensic unit, X^2 (3, N = 510) = 27.99, p < .00001; 23.9% of the total sample had such contact. A smaller percentage (12.6%) had previous admissions to a forensic unit; a significant between-groups difference was observed, X^2 (3, N = 509) = 23.46, p = .00003.

In summary, the groups were significantly different on most historical and demographic variables, including: age; marital status; history of violence; number of previous convictions for sexual, violent non-sexual and non-violent offences; history of alcohol abuse; history of drug abuse; previous psychiatric contact; previous forensic contact; previous inpatient forensic contact; and whether they admit, denied or claimed amnesia for the index offence.

Between-Groups Analyses of Study Variables

Psychopathy

The Revised Psychopathy Checklist (PCL-R; Hare, 1991) was completed for 535 of the 588 subjects who were included in the recidivism sample. The remaining 53 cases

did not have sufficient information to complete the PCL-R. For cases that had insufficient information to score five or fewer items, prorated scores were computed and used in analyses. Prior to completing the PCL-R for the recidivism sample, a random sample of 100 cases was scored by both the primary investigator and a research assistant, both of whom participated in a training workshop conducted by an expert on PCL-R administration and scoring. Interrater reliability for the random sample, assessed by means of a Pearson product moment coefficient, was judged to be satisfactory, $r = .88$, $p < .0001$. The remaining cases were then scored by either of the raters, although several cases judged to be extremely difficult to score by one of the raters were discussed and scored by both raters together.

As shown in Table 5, a one-way ANOVA computed for groups and total PCL-R scores yielded a statistically significant result, $F(3, 531) = 18.15$, $p < .0001$). Results of post-hoc comparisons indicated that the mean score for the Rapist group was significantly higher than that for the Incest group, significantly higher than the mean for the CM group, and significantly higher than that for the Mixed group (Ms for Rapists, Mixed, CM, Incest = 24.96; 20.62; 18.32; 18.10 respectively). In the present sample Rapists had, on average, a greater degree of psychopathy than the other offender groups.

Affective Dyscontrol

Three variables were theorized to represent affective dyscontrol in the study: 1) alcohol abuse, as indicated by total MAST score; 2) hostility, as measured by the BDHI; 3) degree of psychiatric disturbance, as measured by the BPRS. Because of the problem

Table 5: Summary of Between-Groups ANOVA Results Incest, CM, Rapist and Mixed Sexual Offenders

Variable	Group	n	M	SD	F (DF)	p	Difference
PCL-R	Incest	230	18.10	6.84	18.15 (3,531)	<.0001*	R>I
	CM	171	18.32	8.00			R>CM
	Rapist	76	24.96	8.23			R>M
	Mixed	58	20.62	6.96			
MAST	Incest	160	10.11	14.29	3.18 (3,338)	.02*	R> CM
	CM	105	7.74	10.66			
	Rapist	43	13.58	14.39			
	Mixed	34	6.06	8.27			
BDHI	Incest	236	27.56	11.82	0.18 (3,545)	.91	
	CM	180	27.99	13.44			
	Rapist	80	29.36	12.07			
	Mixed	57	28.67	13.49			
BPRS	Incest	127	11.42	8.16	0.29 (3,274)	.83	
	CM	95	10.62	7.36			
	Rapist	29	11.90	7.98			
	Mixed	27	11.07	7.23			
PI-Arouse	Incest	240	.87	1.04	9.82 (2, 462)	.0001*	M>CM
All Ss	CM	179	1.36	1.79			M>I
	Mixed	46	1.84	1.70			CM>I
PI-Suppress	Incest	237	.82	1.03	5.60 (2,456)	.004*	CM>I
All Ss	CM	179	1.27	1.54			
	Mixed	46	1.20	1.38			
PI-Arouse	Incest	169	1.06	1.10	9.25 (2,333)	.0001*	M>I
Low Resp	CM	134	1.68	1.93			CM>I
Removed	Mixed	33	1.42	1.60			
PI-Suppress	Incest	167	.96	1.10	6.45 (2,328)	.002*	CM>I
Low Resp	CM	133	1.56	1.65			
Removed	Mixed	31	1.44	1.54			

* indicates statistical significance

of missing data, tests of significance were computed for each inventory separately, rather than by multivariate methods.

The MAST was completed by 342 subjects in the sample. Data screening revealed seven extreme high scores in the CM group, three extreme high scores in each of the Rapist and Mixed groups. All scores were adjusted downward. A log transformation was performed on the adjusted data to further improve the distribution prior to conducting tests of significance. Although untransformed scores are reported in the text and in Table 5 to facilitate interpretation, transformed scores are presented in Appendix I. The BDHI was completed by 553 subjects in the sample. Data screening revealed eight extreme high scores in the groups, one in the Incest group, two in each of the CM and Rapist groups, and three in the Mixed group. The values of these scores were reduced to improve distributions prior to performing statistical tests. A completed BPRS, which assessed degree of psychiatric disturbance, was available for 278 subjects.

The result of a one-way ANOVA computed for total MAST scores was statistically significant, F (3, 338) = 3.18, p = .02, indicating significant differences between the groups. Results of post-hoc tests indicated that the Rapist group had a significantly higher mean MAST score (M = 13.58), indicative of a greater problem with alcohol consumption, than the CM group (M = 7.74).

The groups were not significantly different on hostility, as measured by the BDHI, or on degree of psychiatric disturbance, assessed by means of the BPRS.

Sexual Arousal : The Pedophile Indices (PI)

Initially, all of the grouped data were positively skewed for the pedophile index. Numerous extreme high cases were present in both arouse and suppress conditions in each of the groups. In the Incest group, seven cases were extreme scores under arouse instructions; four were outliers in the suppress condition. There were eight extreme cases in the arouse condition for the CM group, and six cases in the suppress condition. In the Mixed group there were four extreme scores in the arouse condition, and three in the suppress condition. All of these scores were reduced to improve distributions. To further improve the distributions, a log transformation was performed on the PI score plus a constant[2] prior to performing statistical tests. To facilitate interpretation of the data, descriptive statistics for the PI are reported for untransformed scores. However, Appendix I reports results in transformed form.

A one-way between groups ANOVA was performed to determine whether mean PI scores for the Incest, CM and Mixed groups differed. Table 5 indicates that the result for the arouse condition was statistically significant, F (2, 462) = 9.82, p = .0001. Post-hoc tests indicated that the mean for the Mixed group (M = 1.84) was significantly higher than that for the CM group (M = 1.36), and significantly higher than that for the Incest group (M = .87). The mean for the CM group was also significantly higher than that for the Incest group. When low responders were excluded from a subsequent analysis, the ANOVA was statistically significant, F (2, 333) = 9.25, p = .0001. Post-hoc results found that the mean for the Mixed group (M = 2.23) was significantly higher than that for the Incest group (M = 1.06). Post-hoc results also indicated that the CM group mean (M

[2] This was to prevent transformations of 0 values; see Tabachnick & Fidell, 1989.

= 1.68) was significantly higher than the Incest group mean. However, the significant difference between the Mixed and CM groups disappeared when low responders were excluded.

Results of the between-groups ANOVA for the suppress condition were also statistically significant, F (2, 456) = 5.60, p = .004. Post-hoc results indicated that the CM group mean (M = 1.27) was significantly higher than that for the Incest group (M = .82). Excluding low responders from the analysis did not alter statistical findings. F (2, 328) = 6.45, p = .002. Again, the CM group mean (M = 1.56) was significantly higher than the Incest group mean (M = .96).

Psychiatric Diagnoses

The data were analyzed to determine whether groups differed on frequency of diagnoses, or on the presence or absence of specific disorder clusters, including paraphilias, adjustment disorders, substance abuse disorders, affective disorders, and personality disorders. Table 6 presents a summary of psychiatric diagnoses for the groups.

Overall, the number of diagnoses per subject ranged from 0 to 10. Of the total sample, 46.1% was diagnosis-free (n = 271), 22.8% had received one diagnosis only (n = 134), and the remaining 30.7% (n = 183) had received multiple diagnoses (two or more). The result of a chi-square, computed to compare observed and expected frequencies for the groups on number of diagnoses received (none, one only, or multiple diagnoses), was statistically significant, X^2 (6, N = 588) = 12.74, p = .05.

Multiple comparisons (alpha adjusted to .01) performed to determine whether groups differed on the presence or absence of specific types of disorders yielded a

Table 6: Summary of Psychiatric Diagnoses by Offender Group Incest, CM, Rapist and Mixed Sexual Offenders

Variable	Group	n	Percentage Group	X^2 (DF)	p
Number of DSM Diagnoses					
None	Incest	111	44.2	12.74 (6)	.047*
	CM	80	41.7		
	Rapist	52	60.5		
	Mixed	28	47.5		
One Only	Incest	61	24.3		
	CM	41	21.4		
	Rapist	15	17.4		
	Mixed	17	28.8		
Multiple	Incest	79	31.5		
	CM	71	37.0		
	Rapist	19	22.1		
	Mixed	14	23.7		
Paraphilic Disorder Present	Incest	128	51.0	17.39 (3)	.0006*
	CM	103	53.6		
	Rapist	24	27.9		
	Mixed	30	50.8		
Adjustment Disorder Present	Incest	25	10.0	5.76 (3)	.12
	CM	18	9.4		
	Rapist	3	3.5		
	Mixed	2	3.4		
Affective Disorder Present	Incest	19	7.6	9.44 (3)	.02
	CM	19	9.9		
	Rapist	0	0		
	Mixed	3	5.1		
Personality Disorder Present	Incest	11	4.4	5.01 (3)	.17
	CM	9	4.7		
	Rapist	8	9.3		
	Mixed	1	1.7		
Substance Abuse Disorder Present	Incest	30	12.0	3.62 (3)	.31
	CM	21	10.9		
	Rapist	13	15.1		
	Mixed	3	5.1		

*indicates statistical significance

statistically significant result for paraphilic disorder, $X^2(3, N = 588) = 17.39$, $p = .0006$. Overall, 48.5% of the sample had at least one diagnosis for a paraphilia, although the percentage ranged from 27.9% for the Rapist group to 53.6% for the CM group. There were no significant differences between observed and expected frequencies for the other disorder clusters.

Negative Childhood Experiences

As presented in Table 7, negative childhood experiences were operationalized as a history of sexual abuse, a history of physical abuse, family violence, outside placement prior to age 16 years, and a family history of alcohol abuse, drug abuse, mental illness, and criminality. Multiple comparisons (significant alpha set at .006) were performed on the data to determine whether observed and expected frequencies of each of the variables differed for the offender groups. There were no statistically significant differences for any of the variables.

Overall, 34.0% of the total sample reported a history of sexual abuse, and 39.5% disclosed a history of physical abuse. Almost one-half of the total sample, 48.9%, reported that they had experienced some form of family violence while growing up. Approximately one-third, 30.2%, of the sample stated that they had been placed outside the home prior to age 16. Alcohol abuse by one or more members of the family was reported by 45.8% of the sample. A small proportion of the total sample, 8.8%, reported that a family member had abused drugs while they were growing up. Family mental illness was reported by 18.8% of the sample, and family criminality was disclosed by 12.4% of the subjects.

Table 7: Summary of Chi-Square Results
Offender Group by Negative Childhood Experiences
Incest, CM, Rapist and Mixed Sexual Offenders

Variable	Group	n	Percentage Group	X^2 DF=3	p
Hx Sexual Abuse	Incest	90	35.9	2.13	.55
	CM	64	33.3		
	Rapist	24	27.9		
	Mixed	22	37.3		
Hx Physical Abuse	Incest	80	40.4	2.10	.55
	CM	53	35.1		
	Rapist	28	43.1		
	Mixed	20	44.4		
Hx Family Violence	Incest	104	52.8	8.16	.04
	CM	59	39.6		
	Rapist	36	57.1		
	Mixed	23	51.1		
Outside Placement <16 years	Incest	62	28.8	3.36	.34
	CM	47	28.7		
	Rapist	29	39.2		
	Mixed	15	27.8		
Family Alcohol Abuse	Incest	113	48.9	3.48	.32
	CM	73	40.3		
	Rapist	38	49.4		
	Mixed	24	45.3		
Family Drug Abuse	Incest	26	11.4	----	---
	CM	15	8.8		
	Rapist	4	5.5		
	Mixed	1	2.0		
Family Mental Illness	Incest	43	18.8	0.83	.84
	CM	31	17.6		
	Rapist	17	22.4		
	Mixed	10	17.9		
Family Criminality	Incest	36	15.7	4.88	.18
	CM	18	10.5		
	Rapist	5	6.9		
	Mixed	6	11.5		

-- indicates invalid X^2 due to small cell sizes

Characteristics of the Index Offence

Between-groups comparisons of variables assessing characteristics of the index offence, such as degree of sexual assault, degree of violence, whether or not the offender was under the influence of drugs or alcohol at the time, and whether the offender had a single, or multiple victims are presented in Table 8. The nine categories, which comprised the item "Degree of Violence" of the index offence, were recoded into one of three new ones to deal with the problem of small cell frequencies: 1) no violence; 2) threats of physical harm 3) physical injury. For the item measuring degree of sexual assault, six responses were possible, ranging from "nil" to "sexual assault with excessive violence". Because the study was restricted to hands-on offenders, only three categories applied to the sample: 1) touching; 2) penetration; 3) sexual assault with excessive violence. To control the family-wise error rate, multiple comparisons were performed at the .006 alpha level.

The groups were significantly different for the category of touching, as the most intrusive (serious) form of sexual assault, X^2 (3, N = 569) = 25.15, p = .00001. Group frequencies ranged from 18.3% for the Rapist group, 28.1% for the Mixed, 34.6% for the Incest, to 48.4% for the CM group. The groups were also significantly different on the penetration category, X^2 (3, N = 569) = 50.09, p < .00001, and on the sexual assault with excessive violence category, X^2 (3, N = 569) = 175.78, p < .00001. Group proportions for penetration as the most serious sexual act committed ranged from 13.4% for the Rapists, to 44.0% for the CM, 49.1% for the Mixed and 58.1% for the Incest groups. The lowest proportions of Incest (7.3%), and CM offenders (7.6%), used excessive

Table 8: Summary of Chi-Square Results
Offender Groups By Seriousness of Index Offence
Incest, CM, Rapist and Mixed Sexual Offenders

Category	Group	n	Percentage Group	X^2 DF = 3	p
Degree of Sexual Assault					
Touching	Incest	85	34.6	25.15	.00001*
	CM	89	48.4		
	Rapist	15	18.3		
	Mixed	16	28.1		
Penetration	Incest	143	58.1	50.09	< .00001*
	CM	81	44.0		
	Rapist	11	13.4		
	Mixed	28	49.1		
Excessive Violence	Incest	18	7.3	175.78	< .00001*
	CM	14	7.6		
	Rapist	56	68.3		
	Mixed	13	22.8		
Violence of Act					
None	Incest	199	79.6	105.97	< .00001*
	CM	145	75.5		
	Rapist	18	21.4		
	Mixed	35	59.3		
Threaten	Incest	20	8.0	13.42	.004*
	CM	12	6.3		
	Rapist	14	16.7		
	Mixed	11	18.6		
Physical Injury	Incest	31	12.4	91.75	< .00001*
	CM	35	18.2		
	Rapist	52	61.9		
	Mixed	13	22.0		
Influenced by Drugs/Alcohol					
	Incest	72	29.3	36.03	<.00001*
	CM	49	26.5		
	Rapist	50	61.7		
	Mixed	16	28.1		

*indicates statistical significance

Table 8 cont'd

Category	Group	n	Percentage Group	X^2 DF = 3	p
Number of Victims					
Single	Incest	170	68.0	95.09	<.00001*
	CM	96	51.1		
	Rapist	61	73.5		
	Mixed	0	0		
Multiple	Incest	80	32.0		
	CM	92	48.9		
	Rapist	22	26.5		
	Mixed	56	100.0		

* indicates statistical significance

violence in carrying out their offence; the proportion of Mixed offenders was 22.8%, and 68.3% for Rapists.

The groups were also significantly different on the three categories comprising the degree of violence variable, 1) no violence used, X^2 (3, N = 585) = 105.97, p < .00001; 2) threats of violence or injury, X^2 (3, N = 585) = 13.42, p = .004; 3) physical injury, X^2 (3, N = 585) = 91.75, p < .00001. Threats of violence ranged from 6.3% for the CM group, 8.0% for the Incest, 18.6% for the Mixed and 16.7% for the Rapist group. Actual victim injury was inflicted by 12.4% of Incest offenders, 18.2% of CM offenders, 22.0% of Mixed offenders, and 61.9% of the Rapists.

Significant between-group differences also emerged for the variable "influence of drugs or alcohol", X^2 (3, N = 569) = 36.03, p < .00001, and for whether the offender had one or multiple victims, X^2 (3, N = 578) = 95.09, p < .00001. Rapists (61.7%) were the most likely to have been under the influence of drugs or alcohol, while the proportions of offenders in the other three groups were approximately equal (percentages were 26.5, 28.1, 29.3 for CM, Mixed and Incest respectively). As the label implies, all of the Mixed offenders (100%) had multiple victims. Almost one-half, 48.9%, of CM offenders had multiple victims, compared to 32.0% of Incest offenders, and to 26.5% of Rapists.

Victim Characteristics

Offenders were asked about the characteristics of their victims during the initial psychiatric interview, such as how many victims they had assaulted, their relationship with the victim, how old the victim(s) was, and other questions. In the majority of cases, legal documentation contained in medical files substantiated offender self-reports. Although no

comparative analyses were performed, descriptive figures are presented to provide the reader with a clearer picture of the recidivism sample. Victim characteristics were known for 578 cases.

The number of victims that offenders reported to have perpetrated offences against ranged from 1 to 300. Typically, Mixed offenders had more victims (Mdn = 3) than the other offender types (Mdn = 1), yet the largest number of victims per offender (N = 300) was in the CM group. Victims ranged in age from 1 year to 70 years. Almost one-half (48.5%)[3] of the sample victimized a female under the age of 13. The second largest victim category was male children under age 13 (21.9%), followed by adult females (19.4%), females aged 13 to 16 years (17.9%), males aged 13 to 16 (10.5%), males age 16 or over (2.0%).

Strangers were the victims in 17.0% of cases, while 40.8% of offenders victimized acquaintances. Biological children were the most often victimized family member, 19.0%, although step-children were victimized in 17.7% of cases. Other relatives, including nieces, nephews, cousins, and grand-children were the victims in 15.3% of cases. Siblings were victims in 1.4% of cases.

In summary, significant results emerged when groups were compared on all of the following index offence variables considered: degree of sexual assault; degree of violence; whether or not the offender was under the influence of drugs or alcohol; and whether the index offence involved a single, or multiple victims. Victims ranged in age from 1 year to 79 years old. Females under the age of 13 years were the most victimized

[3] Percentages do not sum to 100 because categories are not mutually exclusive.

group for the present sample. Few victims were strangers; relatives and acquaintances were victimized in a large proportion of cases.

Summary of Offender Group Characteristics

To summarize statistics presented in this chapter, information is organized into brief descriptions of offender groups. This is to provide the reader with a sharper picture of each of the offender groups, and of the characteristics that distinguish them from one another.

Incest offenders comprised the largest group in the sample. They were, on average, the oldest offenders. Somewhat more than one-half were employed at the time of assessment. Approximately one-third of the group had previous criminal convictions, most of which were for non-violent offences. However, a small proportion had convictions for violent, non-sexual and for sexual offences. Incest offenders were more likely to have admitted committing the index offence than to have denied, or claimed amnesia for it. They were also more likely than the other groups to have been admitters. Approximately 40% of the group had a history of alcohol abuse or dependency; a smaller proportion had abused drugs in the past. Almost one-half of the Incest offenders had previous psychiatric contact, and an equal proportion had at least one diagnosed paraphilic disorder. On average, the Incest offenders demonstrated less deviant arousal to children than the other groups who offended against children. Over one-half of the group committed sexual acts involving victim penetration. The majority of Incest offenders did not use violence in carrying out the offence. Approximately two-thirds of the group victimized a single child.

The CM group was the second largest group. Approximately one-half was, or had been married (legal or common-law) at some time. Almost 40% of CM offenders had multiple DSM diagnoses; over one-half of the group had at least one diagnosed paraphilia. Almost 40% of CM offenders had a criminal record prior to having committed the index offence. Most previous convictions were non-violent in nature, although approximately one-quarter of the offenders had previously been convicted of a sexual offence. Approximately equal proportions of CM offenders committed index acts of molestation or penetration . Three-fourths did not use violence in the commission of the index offence. However, over 18% of offenders injured their victims; at least two victims were killed. An equal proportion of CM offenders had multiple victims as had a single victim. Over one-third of the group denied culpability for the index offence.

The Rapists were, on average, the youngest offenders in the sample, and were more likely to have been unemployed, than employed at the time of assessment. Two-thirds of the group reported that they had never been married. The Rapists evidenced the highest rate of previous convictions for non-violent and for violent, non-sexual offences of all the groups. The group also had a higher rate of past and current alcohol abuse, and a higher rate of past drug abuse. Approximately two-thirds had consumed alcohol or drugs at the time of the index offence. Rapists were, on average, more psychopathic than the other offender types. Over two-thirds of the group committed the index offence with excessive violence. Three-fourths of the Rapists victimized a single person. The proportion of Rapists that claimed amnesia for the index offence was twice that of the other groups.

The final group included in the sample was the Mixed group. The marital status of these offenders was approximately evenly distributed among the categories of single, married / common law, and divorced / separated / widowed. Approximately one-third of the group had previous convictions, most commonly for non-violent offences. The Mixed group had the lowest reported rate of alcohol or drug abuse of all the groups, but had the highest rate of previous psychiatric contact. Approximately one-half of the group had a diagnosed paraphilia. On average, the Mixed offenders also demonstrated more deviant sexual arousal to child stimuli. All of the offenders in the Mixed group had multiple victims. The index offence consisted of penetration for approximately one-half of the cases, but was committed without violence in approximately 60% of the cases.

Several commonalties were observed in group characteristics. The average amount of education for all of the groups was less than a high school level. The groups were not distinguished by hostility, as measured by the BDHI, or by degree of psychiatric disturbance, as assessed by the BPRS. Similarly, there were no differences between the groups on the negative childhood experiences variables. Over one-third of the sample reported having experienced childhood sexual abuse and/or placement outside the home before reaching the age of 16 years. A somewhat greater proportion overall (approximately 40%) reported that they were the victim of physical abuse in childhood. Overall, offenders reported a high rate (approximately 50%) of violence and alcohol abuse in their family of origin. Family drug abuse and criminality were less frequently reported in the sample. Approximately one-half of the sample had a criminal record prior to the

index offence. Convictions for non-violent offences were more frequent in all of the groups than convictions for violent or sexual crimes.

CHAPTER 4

Results: Comparing Recidivists and Non-Recidivists

Incest, CM, Rapist and Mixed Sexual Offenders

Rates of Recidivism

A subject was classified as a recidivist or non-recidivist, depending upon whether or not he was charged or convicted of any offence following the index offence. Overall, 37.9% of the sample ($n = 223$), incurred new charges or convictions following the index offence. Table 9 shows the proportion recidivists within each category of offender for overall recidivism, sexual recidivism, and non-sexual recidivism. Rates for overall recidivism were: Incest, 26.7%; CM, 40.6%; Rapist, 52.3%; Mixed, 55.9%. The results of multiple chi-square tests (with significant alpha set at .008 for multiple comparisons), performed on the data to determine whether groups differed on overall recidivism rates, indicated that a significantly greater proportion of CM offenders recidivated than Incest offenders, X^2 (1, $N = 443$) = 9.59, $p = .002$. Results also indicated that the rate of overall recidivism for the Rapist group was significantly greater than the rate for the Incest group, X^2 (1, $N = 337$) = 18.97, $p = .00001$, and that the rate for the Mixed group was significantly higher that the rate for the Incest group, X^2 (1, $N = 310$) = 18.69, $p = .00002$. Overall, when considering any type of post-index offence, the Mixed group evidenced the highest rate of recidivism, followed by the Rapist group, the CM group, and the Incest group, which had the lowest rate of recidivism.

Sexual Versus Non-Sexual Recidivism

It was hypothesized that groups of offenders would have different rates of

recidivism depending upon the definition of recidivism. Specifically, hypothesis 1a stated that, when recidivism was defined as a new charge or conviction for a sexual offence, the CM group would have the highest rate, followed by the rate for the Rapist group, and the group of Incest offenders would have the lowest rate. Hypothesis 1b stated that for recidivism defined as charges or convictions for non-sexual offences (which included all types of non-sexual offences), the group of Rapists would have a higher rate than either the CM group or the Incest group. It was further hypothesized that there would be no difference in the rates of the CM and Incest groups for non-sexual recidivism. To test these hypotheses, the first charge or conviction that was incurred by an offender was classified as either a sexual offence or a non-sexual offence. Non-sexual offences were subgrouped as either violent or non-violent offences. It should be noted that in two cases (1 CM and 1 Mixed), CPIC records indicated that the offender was incarcerated at the time the records were collected. However, because the record did not specify the nature of the offence, these subjects were excluded from the present analyses. A breakdown of non-sexual recidivism into violent and non-violent categories is shown in Appendix J.

As presented in Table 9, when sexual recidivism was considered, the following proportion of each group recidivated: Incest, 6.8%; CM, 15.2%; Rapist, 16.3%; Mixed, 22.4%. Table 10 presents a summary of multiple comparisons performed to compare sexual and non-sexual recidivism rates between the groups. For these tests, critical alpha was adjusted to .006. Results of multiple chi-square tests indicated that the sexual recidivism rate for the CM group was significantly higher than the rate for the Incest group, X^2 (1, $\underline{N}$ = 443) = 8.11, $\underline{p}$ = .004, and that the rate for the Mixed group was also

Table 9: Proportion of Recidivists By Offender Category Incest, CM, Rapist and Mixed Sexual Offenders

Group	Overall Recid		Sexual Recid		Non-Sexual Recid	
	n	% Group	n	% Group	n	% Group
Incest	67	26.7	17	6.8	50	20.0
CM	78	40.6	29	15.2	48	25.1
Rapist	45	52.3	14	16.3	31	36.0
Mixed	33	55.9	13	22.4	19	32.8
Total Sample	223	37.9	73	12.4	148	25.2

Table 10: Between-Group Comparisons of Recidivism Rates for Incest, CM, Rapist and Mixed Offenders

Groups	N	X^2 (DF = 1)	p	Difference
Overall Recidivism				
Incest - CM	443	9.59	.002*	CM > I
Incest - Rapist	337	18.97	.00001*	R > I
Incest - Mixed	310	18.69	.00002*	M > I
CM - Rapist	278	3.30	.07	---
CM - Mixed	251	4.29	.04	---
Rapist - Mixed	145	.18	.67	---
Sexual Recidivism				
Incest - CM	442	8.11	.004*	CM > I
Incest - Rapist	337	6.93	.008	---
Incest - Mixed	309	12.73	.0004*	M > I
CM - Rapist	277	.06	.80	---
CM - Mixed	249	1.56	.21	---
Rapist - Mixed	144	.76	.38	---
Non-Sexual Recidivism				
Incest - CM	442	1.71	.19	---
Incest -Rapist	337	9.12	.003*	R > I
Incest - Mixed	309	4.48	.03	---
CM - Rapist	277	3.47	.06	---
CM - Mixed	249	1.32	.25	---
Rapist - Mixed	144	.17	.68	---

* indicates statistical significance

significantly higher than that for the Incest group, X^2 (1, N = 310) = 12.73, p = .004. The rate for the Rapist group was also higher than that for the Incest group, and just missed achieving statistical significance (p = .008).

When the definition of recidivism included only non-sexual offences, the following proportion of each group was classified as recidivists: Incest, 20.0% ; CM, 25.1%; Rapist, 36.0%; Mixed, 32.8%. Results of multiple comparisons indicated that the rate for the Rapist group was significantly higher than the rate for the Incest group, X^2 (1, N = 337) = 9.12, p = .003.

In summary, there was only partial support for both hypotheses 1a and 1b, even when the Mixed group was not considered (the initial design did not include a group of mixed offenders). Contrary to expected results, the CM group did not have the highest rate for sexual recidivism, although there was little difference between the CM rate, and that for the highest group, the Rapists. As predicted, the Incest group had the lowest rate of sexual recidivism. When the definition of recidivism was restricted to non-sexual offences, the Rapist group had the highest rate, followed by the Mixed and CM groups. In this case, the Rapist and CM groups did not resemble one another; there was a difference of 11% in the rates of these two groups. As expected, there was little difference between non-sexual recidivism rates of the CM and Incest groups. However, the difference between the rates for the Incest and Rapist groups were statistically significant.

Results of the Survival Analysis

The statistical technique of follow-up life table was selected to examine the rate of reoffending throughout the follow-up period for each of the groups. Follow-up time,

which was calculated from the date the offender was first at risk to reoffend, until the date that final CPIC information was received, varied from 6 weeks to 25 years, and was on average 7.3 years (SD = 3.5). With respect to the lengthy follow-up of 25 years, in a few cases, CPIC records indicated that offenders had committed a sexual offence many years prior to the offence for which they were being assessed at the SBC. The old offence was then classified as the index offence, to ensure proper classification as a recidivist. The life table method of analyzing survival functions is appropriate when the number of subjects entering and withdrawing from a time interval vary (Norusis, 1994). It should be noted that although the Kaplan-Meier method is appropriate when the exact outcome time is known (Greenhouse, Stangl & Bromberg, 1989), as was the case in the present study, the life table method was selected instead for two reasons. First, although the exact outcome time was known, the exact start time was estimated for many cases, resulting in the time at risk being an estimate as well. Second, trial tests were run with a small subset of cases using both methods; results were virtually identical.

Table 11 presents a summary of survival functions for each of the groups. Survival functions, which considered any form of recidivism (i.e., data were collapsed over type of offence), were computed for each of the offender groups. Life tables and survival functions were also calculated to determine whether rates of groups differed if each of the three definitions of recidivism was considered separately: sexual recidivism, violent non-sexual recidivism, and non-violent recidivism. There was no difference in survival rates for the groups for overall recidivism or for any definition of recidivism. Figures 1, 2 and 3 illustrate the groups' survival functions for each definition of recidivism.

Table 11: Between-Groups Comparison of Survival Functions for Types of Recidivism for Incest, CM, Rapist and Mixed Sexual Offenders

Type of Recidivism	n	X^2 (df)	p
Violent Non-Sexual	37	1.19 (3)	.76
Sexual	72	3.77 (3)	.29
Non-Violent	111	6.18 (3)	.10
Any Recidivism	223	5.54 (3)	.14

Figure 1

Survival Rates for Sexual Recidivism

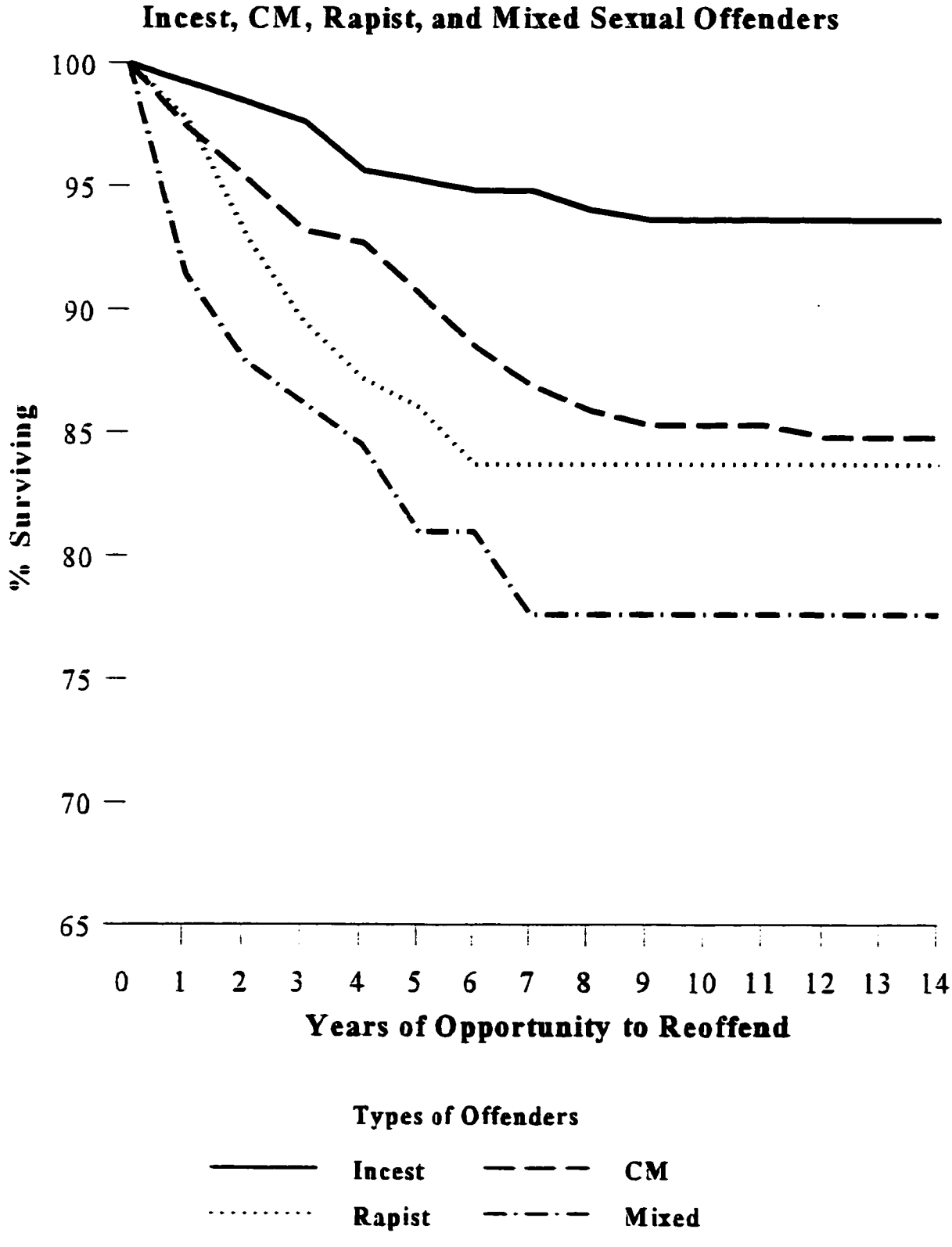


Figure 2

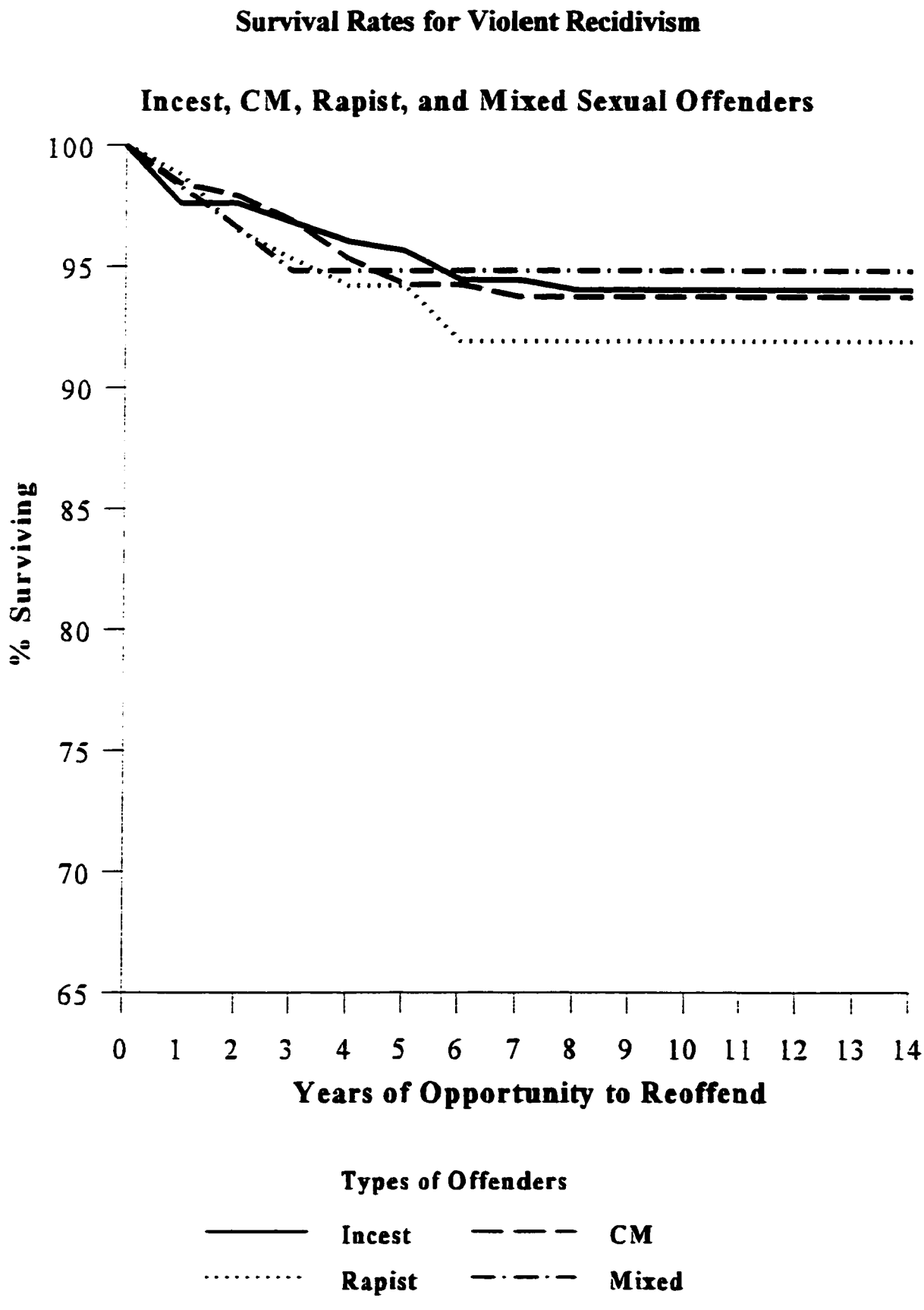
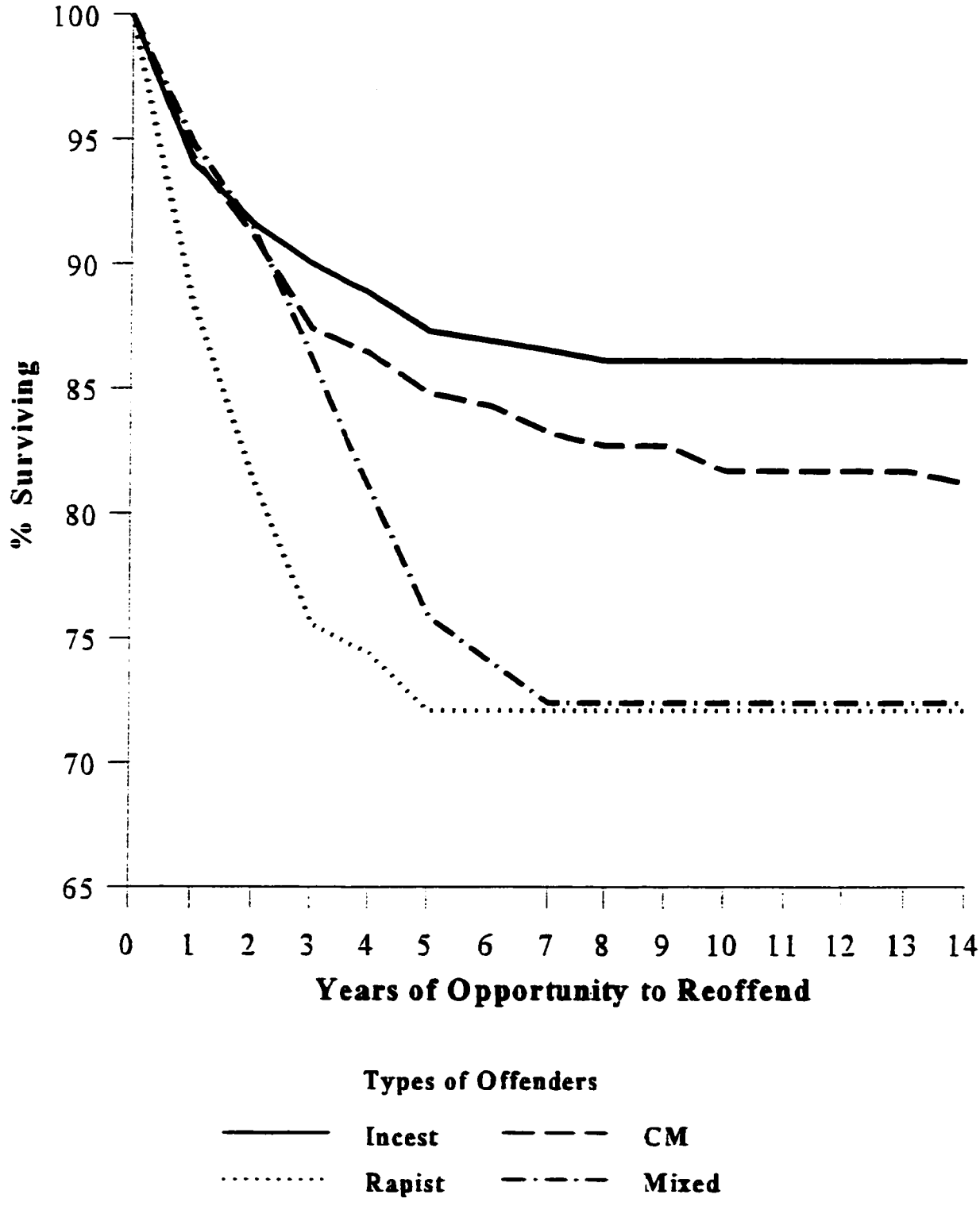

Survival Rates for Violent Recidivism
Incest, CM, Rapist, and Mixed Sexual Offenders
100
95
90
85
80
75
70
65
% Surviving
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
Years of Opportunity to Reoffend
Types of Offenders
Incest
CM
Rapist
Mixed

Figure 3

Survival Rates for Non-Violent Recidivism

Incest, CM, Rapist, and Mixed Sexual Offenders



The result of a one-way ANOVA, computed to determine whether groups differed on average time to recidivate, was statistically significant, $F(3, 219) = 2.97$, $p = .03$. Post-hoc results indicated that the CM offenders took longer ($M = 3.3$, $SD = 2.8$), on average, to recidivate than the Rapists did ($M = 2.1$, $SD = 1.6$). The means and standard deviations for the Incest and Mixed groups were $M = 2.6$, $SD = 2.3$ and $M = 2.8$, $SD = 2.0$ respectively.

When considering the time at which 75% of the recidivists in each group had been charged or convicted of a new offence, there was little difference between the groups. Seventy-five percent of the rapist group had recidivated after 2 years at risk; it took only 3 years for 75% of the incest offenders to recidivate, and 4 years for 75% of the mixed group and CM group to incur a new charge or conviction. However, it took longer for all of the recidivists in the CM group (100%) to reoffend than the other groups, a finding which replicates the results of earlier work (Qunisey, Rice & Harris, 1995). Specifically, it took 13 years for all of the CM subjects to recidivate, whereas all of the incest offenders had recidivated by the 9th year, all of the mixed offenders by the 7th year, and all of the rapists by the 6th year of the "at risk" period. Inspection of the life table data substantiate what figures presented here suggest: regardless of offender type, recidivists incurred new charges or convictions at a rapid rate for the initial 3 or 4 years at risk. The rate of recidivism dropped at this time, and continued to taper off for the remainder of the "at risk" period.

Survival functions also compared rates of recidivism for type of recidivism within each category of offender. As shown in Table 12, a significant difference emerged only

Table 12: Within Group Comparison of Survival Functions for Types of Recidivism for Incest, CM, Rapist and Mixed Sexual Offenders

Group	n	X^2 (df)	p	Difference
Incest	66	6.23 (2)	.04*	Sex > Non-violent
CM	77	3.05 (2)	.22	
Rapist	45	5.41 (2)	.07	
Mixed	32	1.05 (2)	.59	

*indicates statistical significance

for the Incest group, X^2 (2, N = 66) = 6.23. p = .04. Pairwise comparison tests carried out post-hoc found that incest offenders whose offence was non-violent recidivated significantly more rapidly than those whose recidivism offence was sexual in nature, X^2 (1, N = 51) = 6.44, p = .01.

Demographic and Historical Variables

Recidivists were compared to non-recidivists on a number of demographic and historical variables. Significant alpha was adjusted to .004 for multiple comparisons. As shown in Table 13, the recidivists in the Incest group were significantly younger than the non-recidivists (Ms = 35.34 and 42.44 for recidivists and non-recidivists respectively), t (249) = 4.71, p <.001, two- tailed. CM recidivists were also significantly younger than CM non-recidivists (Ms= 34.53 and 39.85 for recidivists and non-recidivists respectively), t (189) = 3.02, p = .003, two-tailed. Although a similar trend, for recidivists to be younger on average, than the non-recidivists, was evident in the Rapist and Mixed groups, the differences were not statistically significant.

A summary of statistical results for categorical historical and demographic variables is presented in Table 14. At the time of assessment, fewer recidivists in the Incest group (43.1%) were employed than non-recidivists (64.4%), X^2 (1, N = 242) = 8.92, p = .003.

Recidivists were also compared to non-recidivists in each group on several historical variables: alcohol abuse or dependency; drug abuse or dependency; previous psychiatric contact; previous forensic contact; previous inpatient forensic contact; history of violence; and previous convictions for sexual, violent or non-violent offences, as

Table 13: Within-Group Comparisons of Recidivists and Non-Recidivists Continuous Demographic Variables for Incest, CM, Rapist and Mixed Sexual Offenders

Variable	Group	Non-Recidivists		Recidivists		t	df	p
		n	M	n	M			
Age	Incest	184	42.44	67	35.34	4.71	249	.000*
	CM	114	39.85	77	34.53	3.02	189	.003*
	Rapist	39	31.69	45	27.71	2.76	82	.007
	Mixed	26	43.51	33	36.39	2.26	57	.03
Yrs Ed	Incest	165	10.07	60	9.48	1.43	223	.15
	CM	107	11.59	74	9.95	2.81	179	.006
	Rapist	35	10.11	43	9.74	0.54	76	.59
	Mixed	25	9.96	32	10.41	0.49	55	.63

Table 14: Summary of Chi-Square Results
Recidivists and Non-Recidivists by Demographic/Historical Variables
Incest, CM, Rapist and Mixed Sexual Offenders

Group	Non-Recidivists		Recidivists		X^2 (DF)	p
	n	%	n	%		
Marital Status						
Incest: Single	19	10.4	18	26.9	10.46 (2)	.005
Married/CL	105	57.7	31	46.3		
Sep/Div/Wid	58	31.9	18	26.9		
CM: Single	52	46.9	44	56.4	2.03 (2)	.36
Married/CL	38	34.2	24	30.8		
Sep/Div/Wid	21	18.9	10	12.8		
Rapist: Single	25	61.0	32	71.1	3.50 (2)	.17
Married/CL	12	29.3	6	13.3		
Sep/Div/Wid	4	9.7	7	15.6		
Mixed:Single	7	26.9	15	46.9	2.54 (2)	.28
Married/CL	10	38.5	8	25.0		
Sep/Div/Wid	9	34.6	9	28.1		
Admit to Index Offence						
Incest: Deny	29	16.9	19	28.8	4.40 (2)	.11
Admit	131	76.1	44	66.7		
Amnesia	12	7.0	3	4.5		
CM: Deny	33	30.0	30	40.0	5.65 (2)	.06
Admit	72	65.5	37	49.3		
Amnesia	5	4.5	8	10.7		
Rapist: Deny	11	28.9	10	25.0	0.35 (2)	.84
Admit	22	57.9	23	57.5		
Amnesia	5	13.2	7	17.5		
Mixed: Deny	7	28.0	11	37.9	0.60 (2)	.74
Admit	17	68.0	17	58.6		
Amnesia	1	4.0	1	3.5		

*indicates statistical significance

Table 14 cont'd

Variable	Group	Non-Recidivists		Recidivists		X^2 (DF)	p
		n	%	n	%		
Employed At Assmt	Incest	114	64.4	28	43.1	8.92 (1)	.003*
	CM	62	57.4	36	48.0	1.57 (1)	.21
	Rapist	18	47.4	17	38.6	0.64 (1)	.43
	Mixed	13	52.0	17	53.1	0.01 (1)	.93
Hx Alcohol Abuse	Incest	69	38.3	35	53.8	4.70 (1)	.03
	CM	39	35.5	35	46.7	2.34 (1)	.13
	Rapist	20	52.6	32	74.4	4.17 (1)	.04
	Mixed	9	36.0	15	48.4	0.87 (1)	.35
Hx Drug Abuse	Incest	32	18.0	24	37.5	10.09 (1)	.001*
	CM	22	19.8	32	43.2	11.79 (1)	.006*
	Rapist	21	56.8	32	72.7	2.27 (1)	.13
	Mixed	5	20.8	5	16.1	0.20 (1)	.65
Previous Psychiatric Contact	Incest	71	40.3	34	54.0	3.50 (1)	.06
	CM	54	48.6	55	75.3	13.00 (1)	.0003*
	Rapist	21	55.3	32	72.7	2.72 (1)	.10
	Mixed	16	64.0	23	71.9	0.40 (1)	.53
Previous Forensic Contact	Incest	14	8.0	17	27.0	14.88 (1)	.0001*
	CM	18	16.4	34	47.2	20.30 (1)	.0001*
	Rapist	7	18.9	19	45.2	6.17 (1)	.01
	Mixed	9	36.0	11	34.4	0.02 (1)	.90
Previous Inpatient Forensic Contact	Incest	2	1.1	6	9.7	10.15 (1)	.001*
	CM	8	7.3	18	24.7	10.71 (1)	.0001*
	Rapist	5	13.9	13	31.0	3.18 (1)	.07
	Mixed	5	20.0	5	15.6	0.19 (1)	.67
History of Violence	Incest	30	18.4	30	49.2	21.44 (1)	<.00001*
	CM	12	13.0	26	38.8	14.15 (1)	.0001*
	Rapist	18	52.9	28	65.1	1.17 (1)	.28
	Mixed	6	26.1	10	35.7	0.54 (1)	.46
Previous Non-Violent Convictions	Incest	45	25.7	35	53.8	16.88 (1)	.00004*
	CM	22	22.4	45	60.0	25.25 (1)	.00001*
	Rapist	22	55.0	29	64.4	0.79 (1)	.38
	Mixed	3	11.5	17	54.8	11.64 (1)	.0007*
Previous Violent Convictions	Incest	13	7.5	14	21.5	9.34 (1)	.002*
	CM	10	10.4	21	28.0	8.77 (1)	.003*
	Rapist	19	47.5	24	53.3	0.29 (1)	.59
	Mixed	4	15.4	6	19.4	0.15 (1)	.69

*indicates statistical significance

Table 14 cont'd

Variable	Group	Non-Recidivists		Recidivists		X^2 (DF)	p
		n	%	n	%		
Previous Sex Convictions	Incest	7	4.0	9	13.8	7.24 (1)	.007
	CM	19	19.4	18	24.0	0.54 (1)	.46
	Rapist	6	15.4	7	15.6	0.00 (1)	.98
	Mixed	4	15.4	9	29.0	1.50 (1)	.22

contained in CPIC reports. For the Incest group, recidivists were significantly more likely to have had histories which included drug abuse or dependency, X^2 (1, N = 242) = 10.09, p = .001 (37.5% of recidivists versus 18.0% of non-recidivists), previous forensic contact, X^2 (1, N = 239) = 14.88, p = .0001 (27.0% of recidivists and 8.0% of non-recidivists), previous inpatient forensic contact, X^2 (1, N = 236) = 10.15, p = .001 (9.7% of recidivists and 1.1% of non-recidivists), and a history of violent behaviour, X^2 (1, N = 224) = 21.44, p < .00001 (49.2% of recidivists and 18.4% of non-recidivists), than the non-recidivists. It should be noted however, that relatively few incest offenders had prior inpatient forensic contact (n = 8), and therefore results must be cautiously interpreted. Incest recidivists also had a significantly higher rate of previous convictions for non-violent offences, X^2 (1, N = 240) = 16.88, p = .00004 (53.8% and 25.7% for recidivists and non-recidivists respectively), and for violent non-sexual offences, X^2 (1, N = 240) = 9.34, p = .002 (21.5% and 7.5% for recidivists and non-recidivists respectively).

Results for the CM group were similar to those for the Incest group in that recidivists were significantly more likely than non-recidivists to have had histories that included drug abuse, X^2 (1, N = 185) = 11.79, p = .0006 (43.2% of recidivists and 19.8% of non-recidivists), previous forensic contact X^2 (1, N = 182) = 20.30, p = .00001 (47.2% of recidivists and 16.4% of non-recidivists), previous inpatient forensic contact X^2 (1, N = 182) = 10.71, p = .001 (24.7% of recidivists and 7.3% of non-recidivists), a history of violent behaviour X^2 (1, N = 159) = 14.15, p = .0002 (38.8% of recidivists and 13.0% of non-recidivists), and previous convictions for non-violent offences, X^2 (1, N = 173) = 25.25, p < .00001 (60.0% of recidivists and 22.4% of non-recidivists), and for

violent, non-sexual offences. X^2 (1, N = 173) = 8.77, p = .003 (28.0% of recidivists and 10.4% of non-recidivists). CM recidivists were also significantly more likely to have had previous psychiatric contact than CM non-recidivists X^2 (1, N = 184) = 13.00, p = .0003 (75.3% and 48.6% of recidivists and non-recidivists respectively). Significantly more recidivists in the Mixed group had previous convictions for non-violent offences (54.8%) than non-recidivists (11.5%). X^2 (1, N = 57) = 11.64, p = .0007.

In summary, recidivists in the Incest group were significantly younger than non-recidivists. They were also less likely to be employed at the time of assessment, more likely to have had a history of drug abuse, previous forensic contact, previous inpatient forensic contact, and a history of violence. They had a significantly higher rate of previous convictions for non-violent and violent, non-sexual offences. CM recidivists were significantly younger than CM non-recidivists. Recidivists in the CM group also had a significantly greater incidence of past drug abuse, previous psychiatric contact, previous forensic contact, previous inpatient forensic contact, and history of violence. They also had a significantly higher rate of previous convictions for non-violent and violent, non-sexual offences. Recidivists in the Mixed group had a significantly higher rate of previous convictions for non-violent offences. No significant differences emerged between recidivists and non-recidivists in the Rapist group.

Psychopathy

Prior to performing statistical tests, two extreme low PCL-R scores in the Rapist recidivist group and five extreme high scores in the CM non-recidivist group were

adjusted to improve distributions. Table 15 summarized figures for within group comparisons of PCL-R scores.

It was hypothesized that within each of the groups of offenders, recidivists would have significantly higher mean scores on the PCL-R than non-recidivists. Results of one-tailed t-tests indicated that this hypothesis was supported for the three groups initially proposed: Incest, t (228) = 6.38, $p < .001$ (Ms = 22.24 and 16.43 for recidivists and non-recidivists respectively); CM, t (169) = 5.77, $p < .001$ (Ms = 22.12 and 15.56 for recidivists and non-recidivists respectively); and Rapist, t (74) = 1.86, $p = .03$ (Ms = 26.51 and 23.04 for recidivists and non-recidivists respectively). The difference in mean PCL-R scores for recidivists (M = 21.89) and non-recidivists (M = 18.94) in the Mixed group approached significance, t (6) = 1.62, $p = .055$. Therefore, in the Incest, CM and Rapist groups, recidivists evidenced more psychopathic characteristics, as indicated by higher mean PCL-R scores, than their non-recidivist counterparts. This trend was maintained in the Mixed group.

Psychiatric Diagnoses

It was hypothesized that within each group of subjects, recidivists would evidence significantly more psychiatric disturbance than non-recidivists, as indicated by a greater incidence of DSM diagnoses (Diagnostic and Statistical Manual, American Psychiatric Association, 1987). To test this hypothesis, the number of diagnoses were summed for each subject and analyzed by means of Mann-Whitney U tests, the results of which are presented in Table 16. This test is appropriate when data are ordinal in nature (Norusis,

Table 15: Summary Statistics for Recidivists and Non-Recidivists for PCL-R for Incest, CM, Rapist and Mixed Sexual Offenders

Group	Non-Recidivists			Recidivists			t (DF) 1-tailed	p
	n	M	SD	n	M	SD		
Incest	165	16.43	6.32	65	22.34	6.29	6.38 (228)	<.0001*
CM	99	15.56	6.64	72	22.12	8.20	5.77 (169)	<.0001*
Rapist	34	23.04	9.14	42	26.51	7.15	1.86 (74)	.03*
Mixed	25	18.94	7.00	33	21.89	6.75	1.62 (56)	.055

*indicates statistical significance

Table 16: Summary Statistics for Recidivists and Non-Recidivists Number of Psychiatric Diagnoses for Incest, CM, Rapist and Mixed Sexual Offenders

Group	Non-Recidivists		Recidivists		U	p
	n	mean rank	n	mean rank	(2-tailed)	
Incest	184	132.68	67	107.66	4935	.01*
CM	114	97.17	78	95.52	4369	.83
Rapist	47	47.00	45	40.31	779	.16
Mixed	26	33.38	33	27.33	341	.15

*indicates statistical significance

1993; Siegel, 1956). This hypothesis was not supported for any of the groups. In fact, in all of the offender groups, the recidivists had received fewer diagnoses than their non-recidivist counterparts. For the Incest group, this difference reached statistical significance, $U (N = 251) = 4935.0$, $z = 2.56$, $p = .01$, two-tailed. The mean rank of the non-recidivists was 132.68, and that of the recidivists was 107.66. Inspection of the data indicated that, on average, recidivists had received fewer than one diagnosis ($M = .78$), whereas, on average, non-recidivists had received more than one ($M = 1.11$). The distribution of diagnoses across DSM categories for recidivists and non-recidivists is presented in Table 17.

Deviant Sexual Arousal

Mean pedophile or rape index scores for non-recidivists were compared to those for recidivists within the groups by means of two-tailed t-tests. As previously reported, extreme scores on the pedophile index were adjusted prior to performing statistical tests. There were also extreme scores for the rape index in the group of Rapists, which were also adjusted to improve distributions. Specifically, there was one high outlying score in the arouse condition and two in the suppress condition. A log transformation was performed to improve the distribution of PI scores. Untransformed data are reported in the text and in Table 18; transformed scores may be seen in Appendix K.

Mean rape index scores for recidivists and non-recidivists were compared in the Rapist group only. Because the literature has suggested that rapists may be aroused by cues of a violent nature, and not necessarily of a sexual nature (Quinsey et al., 1984), the assault index was also examined. However, inspection of frequency distributions

Table 17: Distribution of DSM Diagnoses for Recidivists and Non-Recidivists Incest, CM, Rapist, and Mixed Sexual Offenders

Group	Non-Recidivists		Recidivists		Total	
	n	%	n	%	n	%
Adjustment Disorders						
Incest	22	12.0	3	4.5	25	10.0
CM	11	9.6	7	9.0	18	9.4
Rapist	2	4.9	1	2.2	3	3.5
Mixed	2	7.7	0	0	2	3.4
Anxiety Disorders						
Incest	0	0	0	0	0	0
CM	3	2.6	0	0	3	1.6
Rapist	0	0	1	1.2	1	1.2
Mixed	0	0	0	0	0	0
Depressive Disorders						
Incest	16	8.7	3	4.5	19	7.6
CM	12	10.5	7	9.0	19	9.9
Rapist	0	0	0	0	0	0
Mixed	3	11.5	0	0	3	5.1
Organic Syndromes						
Incest	3	1.6	2	3.0	5	2.0
CM	3	2.6	5	6.4	8	4.2
Rapist	3	7.3	2	4.4	5	5.8
Mixed	0	0	1	3.0	1	1.7
Paraphilic Disorders						
Incest	105	57.1	23	34.3	128	51.0
CM	67	58.8	36	46.2	103	53.6
Rapist	15	36.6	9	20.0	24	27.9
Mixed	15	57.7	15	45.5	30	50.8
Personality Disorders						
Incest	7	3.8	4	6.0	11	4.4
CM	4	3.5	5	6.4	9	4.7
Rapist	2	4.9	6	13.3	8	9.3
Mixed	0	0	1	3.0	1	1.7
Substance Abuse Disorders						
Incest	22	12.0	8	12.0	30	12.0
CM	10	8.8	11	14.1	21	10.9
Rapist	7	17.1	6	13.3	13	15.1
Mixed	2	7.7	1	3.0	3	5.1

indicated that 69% (n = 55) of the group had indices with a zero value, and it was felt that adjusting remaining scores to fit a normal distribution would distort the data to an unacceptable extent. Therefore, the assault index was not analyzed for differences. As articulated previously, the small number of subjects with a rape index in the Mixed group (n = 10) precluded meaningful comparisons. Table 18 presents statistical results for comparisons of recidivists and non-recidivists within each group.

In the suppress condition, when low responders were removed from the Incest group, recidivists had a significantly higher mean PI score (M = 1.45) than non-recidivists (M = .81), t (165) = 2.96, p = .004. For the Mixed offenders under arouse instructions, recidivists had a significantly higher mean PI score (M = 2.43) than non-recidivists (M = 1.14), t (44) = 2.46, p = .02. Mixed recidivists also had a significantly higher mean PI score (M = 1.70) than non-recidivists (M = .79) under suppress instructions. t (42) = 2.74, p = .009. Excluding low responders (n = 12) did not alter statistical results. In the arouse condition, Mixed recidivists had a significantly higher mean PI score (M = 2.74) than non-recidivists (M = 1.33), t (31) = 2.17, p = .04. Recidivists also had a significantly higher score (M = 1.90) than non-recidivists (M = .71) in the suppress condition, t (29) = 2.35, p = .03.

In summary, when low responders were removed from the analysis, the recidivists in the Incest group exhibited more deviant sexual arousal to child stimuli under suppress instructions, as indicated by a higher mean PI score, than non-recidivists. No other significant differences emerged for the Incest group. For the Mixed group, recidivists had significantly higher mean scores than non-recidivists under both arouse and suppress

Table 18: Summary Statistics for Recidivists and Non-Recidivists Deviant Sexual Arousal for Incest, CM, Rapist and Mixed Sexual Offenders

Group	Non-Recidivists			Recidivists			t (DF)	p
	n	M	SD	n	M	SD	2-tailed	
Pedophile Index								
Arouse: All subjects								
Incest	177	.87	1.01	63	.89	1.14	0.15 (238)	.88
CM	105	1.33	1.86	74	1.37	1.68	0.37 (177)	.71
Mixed	21	1.14	1.01	25	2.43	1.95	2.46 (44)	.02*
Arouse: Low Responders Removed								
Incest	129	1.02	1.07	39	1.17	1.23	0.68 (167)	.50
CM	81	1.62	2.01	53	1.74	1.80	0.73 (132)	.47
Mixed	12	1.34	1.00	21	2.74	1.95	2.17 (31)	.04*
Suppress: All subjects								
Incest	176	.75	.88	61	1.03	1.36	1.22 (235)	.22
CM	105	1.28	1.65	73	1.26	1.37	0.37 (176)	.71
Mixed	21	.79	1.03	23	1.70	1.64	2.74 (42)	.009*
Suppress: Low Responders Removed								
Incest	128	.81	.90	39	1.45	1.50	2.96 (165)	.004*
CM	81	1.55	1.76	52	1.56	1.46	0.45 (131)	.65
Mixed	12	.71	.78	19	1.90	1.73	2.35 (29)	.03*
Rape Index								
Arouse								
Rapist (all Ss)	39	.74	.74	42	.60	.58	0.97 (79)	.33
Rapists (LRR)	29	.92	.74	30	.76	.55	0.97 (57)	.34
Suppress								
Rapists (all Ss)	38	.71	.83	42	.68	.71	0.14 (78)	.89
Rapist (LRR)	28	..80	.89	30	.75	.73	0.23 (56)	.82

*indicates statistical significance

conditions, regardless of whether low responders were included or excluded from the analyses. There were no significant differences between recidivists and non-recidivists in the CM group. There were no significant differences between the Rapist recidivists and non-recidivists on mean rape index scores (RI). Thus, this hypothesis was fully supported in the Mixed group, and was partially supported in the Incest group. It was not supported in the CM or Rapist groups.

Negative Childhood Experiences

A secondary hypothesis of the study stated that, within each category of offenders, recidivists would have a higher incidence of negative childhood experiences than non-recidivists. Negative childhood experiences were operationalized as a history of sexual abuse, a history of physical abuse, and a family history of alcohol abuse, drug abuse, mental illness and criminality. Because these variables were considered a priori, chi-square tests of significance were conducted at the .05 level of probability. Violence in the subject's family of origin and an outside placement prior to age 16 were also considered to be negative experiences, although consideration was post-hoc. Therefore, the significant alpha level was adjusted to .025 for these variables. Table 19 presents a summary of negative childhood experiences results.

A history of physical abuse was reported by 58.0% of recidivists and 34.5% of non-recidivists in the Incest group, a difference that was significantly different, X^2 (1, N = 198) = 8.60, p = .003. A significant difference also emerged for family violence, X^2 (1, N = 197) = 11.66, p = .0006, 73.1% of recidivists, compared to 45.5% of non-recidivists reported violence in their family of origin. A similar trend was observed for outside

Table 19: Summary of Chi-Square Results
Recidivists and Non-Recidivists by Negative Childhood Experiences
Incest, CM, Rapist and Mixed Sexual Offenders

Variable	Group	Non-Recidivists		Recidivists		X^2	p
		n	%	n	%	DF = 1	
Hx . Sexual Abuse	Incest	60	32.6	30	44.8	3.16	.07
	CM	36	31.6	28	35.9	0.39	.53
	Rapist	13	31.7	11	24.4	0.56	.45
	Mixed	7	26.9	15	45.5	2.14	.14
Hx. Physical Abuse	Incest	51	34.5	29	58.0	8.60	.003*
	CM	23	26.7	30	46.2	6.12	.01*
	Rapist	12	34.3	16	53.3	2.39	.12
	Mixed	11	55.0	9	36.0	1.62	.20
Family Violence	Incest	66	45.5	38	73.1	11.66	.0006*
	CM	26	29.9	33	53.2	8.25	.004*
	Rapist	16	48.5	20	66.7	2.12	.15
	Mixed	11	57.9	12	46.2	0.61	.44
Outside Placement	Incest	35	22.3	27	46.6	12.15	.0005*
<16 years	CM	22	23.2	25	36.2	3.34	.07
	Rapist	12	30.8	17	48.6	2.45	.12
	Mixed	8	36.4	7	21.9	1.36	.24
Family Mental	Incest	28	16.2	15	26.8	3.12	.08
Illness	CM	13	12.5	18	25.0	4.58	.03*
	Rapist	6	16.7	11	27.5	1.28	.26
	Mixed	4	16.7	6	18.8	0.04	.84
Family Criminality	Incest	20	11.6	16	28.1	8.74	.003*
	CM	8	8.0	10	14.1	1.63	.20
	Rapist	3	8.3	2	5.6	----	--
	Mixed	3	13.0	3	10.3	----	--
Family Alcohol	Incest	76	43.7	37	64.9	7.75	.005*
Abuse	CM	44	41.1	29	39.2	0.07	.79
	Rapist	17	45.9	21	52.5	0.33	.57
	Mixed	9	37.5	15	51.7	1.07	.30
Family Drug Abuse	Incest	17	9.8	9	16.4	1.77	.18
	CM	7	6.9	8	11.6	1.15	.28
	Rapist	4	11.4	0	0	----	--
	Mixed	0	0	1	3.6	----	--

* indicates statistical significance -- indicates invalid X^2 due to small cell sizes

placement. prior to age 16, X^2 (1, N = 215) = 12.15, p = .0005. Of the total number of Incest recidivists, 46.6%, were placed outside their family of origin prior to reaching age 16, compared to 22.3% of non-recidivists. With respect to family factors, including alcohol and drug abuse, mental illness and criminality, significant results emerged for family alcoholism, X^2 (1, N = 231) = 7.75, p = .005. For the recidivists, 64.9% had a family member with an alcohol problem, compared to 43.7% of non-recidivists. Recidivists in the Incest group also evidenced significantly higher rates of family criminality (28.1%), X^2 (1, N = 229) = 8.74, p = .003, than non-recidivists (11.6%).

CM offenders who recidivated had a significantly greater incidence of physical abuse in childhood (46.2%) than non-recidivists (26.7%), X^2 (1, N = 151) = 6.12, p = .01. A significantly greater proportion of CM recidivists (53.2%) also experienced some form of family violence than CM non-recidivists (29.9%), X^2 (1, N = 149) = 8.25, p = .004. Twenty-five percent of CM recidivists reported mental illness in their family, compared to 12.5% of CM non-recidivists, X^2 (1, N = 176) = 4.58, p = .03.

In summary, there was partial support for the negative childhood experiences hypothesis in the Incest and CM groups. Specifically, the rate of physical abuse in childhood was significantly higher for recidivists than non-recidivists in these groups. Recidivists in both groups were also significantly more likely to have experienced family violence while growing up. In the Incest group, significantly more recidivists experienced an outside placement prior to age 16 than non-recidivists, more family criminality and more family alcohol abuse than non-recidivists. Significantly more CM recidivists had a

family member with a mental illness than non-recidivists. This hypothesis was not supported in the Rapist or Mixed groups.

Affective Dyscontrol

It was hypothesized that the recidivists in each group would evidence significantly more affective dyscontrol than the non-recidivist counterparts, as evidenced by higher mean scores on the MAST, BDHI and BPRS. As previously indicated, extreme high MAST scores in the CM group (6 non-recidivists and 1 recidivist), Rapist (3 non-recidivists), and Mixed groups (2 non-recidivists and 1 recidivist) were adjusted prior to performing statistical tests. A log transformation was also performed to further improve distributions. To facilitate interpretation, untransformed MAST scores are reported in the text, and in Table 20. Transformed scores are reported in Appendix J.

Michigan Alcohol Screening Test (MAST)

Results of one-tailed t-tests, indicated that on average, Incest recidivists had significantly higher scores ($M = 17.15$) than non-recidivists ($M = 8.21$), $t(158) = 4.11$, $p < .001$. CM recidivists also had a significantly higher mean MAST score ($M = 12.24$) than non-recidivists ($M = 6.85$), $t(103) = 2.81$, $p = .003$, as did the recidivists in the Rapist group, $t(41) = 2.44$, $p = .001$ ($Ms = 21.93$ and 10.46 for recidivists and non-recidivists respectively). Thus, as hypothesized, the recidivists in each of the groups initially proposed (Incest, CM and Rapist) demonstrated more affective dyscontrol, as indicated by higher mean MAST scores than the non-recidivists. This hypothesis was not supported in the Mixed group, although the pattern of higher scores for recidivists was maintained.

Table 20: Summary Statistics for Recidivists and Non-Recidivists for Affective Dyscontrol Variables: MAST, BDHI and BPRS Incest, CM, Rapist and Mixed Sexual Offenders

Group	Non-Recidivists			Recidivists			t (DF)	p
	n	M	SD	n	M	SD	1-tailed	
MAST TOTAL								
Incest	126	8.21	12.95	34	17.15	16.85	4.11 (158)	<.0001*
CM	67	5.55	8.72	38	11.61	12.64	2.81 (103)	.003*
Rapist	28	9.11	10.85	15	21.93	16.72	2.44 (41)	.001*
Mixed	17	3.94	5.13	17	8.18	10.25	0.88 (32)	.19
BDHI TOTAL								
Incest	177	25.82	10.92	59	32.76	12.94	4.03 (234)	<.001*
CM	105	25.62	12.76	75	31.32	13.75	2.86 (178)	.005*
Rapist	38	29.95	13.65	42	28.83	10.57	0.41 (78)	.68
Mixed	25	28.48	13.76	32	28.81	13.49	0.09 (55)	.93
BPRS TOTAL								
Incest	105	11.88	8.15	22	9.27	8.09	1.36 (125)	.18
CM	58	11.14	7.40	37	9.81	7.33	0.86 (93)	.40
Rapist	17	12.24	7.72	12	11.42	8.66	0.27 (27)	.79
Mixed	13	13.00	7.65	14	9.29	6.59	1.35 (25)	.19

*indicates statistical significance

Buss Durkee Hostility Index (BDHI)

Mean scores for recidivists and non-recidivists within each group were compared by means of two-tailed t-tests because exploratory statistics indicated that the direction of differences was not in the predicted direction for all of the groups. Specifically, for the Incest and CM groups, recidivists had a significantly higher mean score than non-recidivists. For the Incest group, t (234) = 4.03, p <.001 (Ms = 32.76 and 25.82 for recidivists and non-recidivists respectively). For the CM group, t (178) = 2.86, p = .005 (Ms = 31.32 and 25.62 for recidivists and non-recidivists respectively).

Brief Psychiatric Rating Scale (BPRS)

There were no significant differences on mean BPRS scores between recidivists and non-recidivists in any of the groups.

In summary, there was only partial support for the affective dyscontrol hypothesis. The MAST emerged as the most robust discriminator of recidivists and non-recidivists; statistically significant differences in the predicted direction emerged for the Incest, CM and Rapist groups. The difference between recidivists and non-recidivists in the Mixed offender group was not significant. Significant differences were found for mean BDHI scores for recidivists and non-recidivists in the Incest and CM groups, but not for the Rapist and Mixed groups. No statistically significant differences between recidivists and non-recidivists in any group emerged for the BPRS.

Seriousness of the Index Offence

A final hypothesis of the study stated that recidivists would have committed more serious index offences than non-recidivists, evidenced by a significantly greater degree of

violence and by a more serious form of sexual assault. (It should be noted that the use of the term "more serious" is not intended to minimize the severity of any form of sexual assault, but is used in reference to degree of sexual assault.) To adjust for multiple comparisons, chi-square tests were performed with significant alpha set at .017 for these variables. A summary of statistical results for index offence variables is presented in Table 21.

For degree of sexual assault, in the Incest group the proportion of recidivists (20.6%) whose most serious sexual act was touching, was significantly lower than the proportion of non-recidivists whose most serious act was touching (39.3%), X^2 (1, N= 246) = 7..25, p = .007. There were no other significant differences between recidivists and non-recidivists in any of the groups on degree of sexual assault.

For degree of violence used in committing the index offence, a significant chi-square result for using threats or violence versus not using threats or violence emerged for the Incest group, X^2 (1, N = 250) = 8.72, p = .003. More non-recidivists (84.2%), and fewer recidivists (67.2%), than expected did not use any form of violence in carrying out their index offence. A significantly greater proportion of Incest recidivists also used threats of violence, either with or without a weapon, to carry out the sexual assault, X^2(1, N = 250), p = .0005. In the CM group, a significantly larger proportion of non-recidivists (83.3%) used no threats or violence than recidivists (64.1%), X^2 (1, N = 192) = 9.26, p = .002. A significantly larger proportion of CM recidivists (12.8%) used threats when committing the index offence, than non-recidivists (1.8%), X^2 (1, N = 192) = 9.68, p = .002.

Table 21: Summary of Chi-Square Results
Recidivists and Non-recidivists by Seriousness of Index Offence
Incest, CM, Rapist and Mixed Sexual Offenders

Variable	Non-Recidivists		Recidivists		X^2	p
	n	%	n	%	DF = 1	
Degree of Sexual Assault						
Incest						
Touching	72	39.3	13	20.6	7.25	.007*
Penetration	99	54.1	44	69.8	4.77	.03
Excess Violence	12	6.6	6	9.5	0.61	.44
CM						
Touching	55	49.1	34	47.2	0.62	.80
Penetration	51	45.5	30	41.7	0.27	.61
Excess Violence	6	5.4	8	11.1	2.06	.15
Rapist						
Touching	8	20.5	7	16.3	0.25	.62
Penetration	7	17.9	4	9.3	1.32	.25
Excess violence	24	61.5	3	74.4	1.57	.21
Mixed						
Touching	6	24.0	10	31.3	0.37	.55
Penetration	13	52.0	15	46.9	0.15	.70
Excess Violence	6	24.0	7	21.9	0.04	.85
Violence of Act						
Incest						
None	154	84.2	45	67.2	8.72	.003*
Threat	8	4.4	12	17.9	12.21	.0005*
Physical Violence	21	11.5	10	14.9	0.54	.46
CM						
None	95	83.3	50	64.1	9.26	.002*
Threat	2	1.8	10	12.8	9.68	.002*
Physical Violence	17	14.9	18	23.1	2.07	.15
Rapist						
None	7	17.5	11	25.0	0.70	.40
Threat	10	25.0	4	9.1	3.82	.05
Physical Violence	23	57.5	29	65.9	0.63	.43
Mixed						
None	17	65.4	18	54.5	0.71	.40
Threat	5	19.2	6	18.2	0.01	.92
Physical Violence	4	15.4	9	27.3	1.20	.27

* indicates statistical significance

Table 21 cont'd

Group		Non-Recidivists n	%	Recidivists n	%	X^2 DF = 1	p
Influenced by Drugs/Alcohol							
Incest		47	26.0	25	38.5	3.61	.06
CM		28	25.2	21	28.4	0.23	.63
Rapist		22	59.5	28	63.6	0.15	.70
Mixed		6	24.0	10	31.3	0.37	.55
Number of Victims							
Incest	Single	123	67.2	47	70.1	0.19	.66
	Multiple	60	32.8	20	29.9		
CM	Single	56	50.0	40	52.6	0.13	.72
	Multiple	56	50.0	36	47.4		
Rapist	Single	31	77.5	30	69.8	0.64	.43
	Multiple	9	22.5	13	30.2		
Mixed	Multiple	25	100.0	32	100.0	---	--

*indicates statistical significance
--indicates invalid chi-square

In summary, for the Incest group, significantly more non-recidivists than recidivists perpetrated a sexual assault consisting of touching as the most serious act.. There was no difference for this category of degree of sexual assault for the other groups. There were also no differences between recidivists and non-recidivists in any of the groups for the categories of penetration and sexual assault with excessive violence.

For degree of violence used in committing the index offence. significantly more non-recidivists in the Incest and CM groups did not use any form of violence (threats of violence or physical violence) in carrying out their sexual assaults. A significantly greater proportion of recidivists in the Incest and CM groups used threats of violence than non-recidivists. There were no differences between the recidivists and non-recidivists for the category of physical violence for any of the groups.

Post-hoc Analyses of other Index Offence Features

To adjust for two post-hoc comparisons, tests comparing recidivists and non-recidivists within the groups were performed with significant alpha set at .025. As Table 21 shows. there was no difference between recidivists and non-recidivists for any of the groups on presence of drugs/alcohol when committing the index offence.

Table 21 also indicates that there was no significant difference between recidivists and non-recidivists for any of the groups on whether the index offence included one or multiple victims.

Risk Predictors

Table 22 presents a summary of variables that were significantly correlated with recidivism for each group of offenders. The variables are those which univariate tests had

Table 22: Variables Correlated with Recidivism for Offender Groups Incest, CM, Rapist and Mixed Sexual Offenders

Variable	Incest	CM	Rapist	Mixed
Age	-.29***	-.21**	--	--
Employed at Assessment	-.19**	--	--	--
Hx of Drug Abuse	.22**	.25***	--	--
Previous Psychiatric Contact	--	.21**	--	--
Previous Forensic Contact	.26****	.34****	--	--
Previous Inpatient Forensic Contact	.21**	.29***	--	--
Hx of Violence	.34****	.27***	--	--
PCL-R	.39***	.41***	.21 @	--
Number of DSM Diagnoses	-.18**	--	--	--
Pedophile Index Arouse	--	--	--	.32*
Pedophile Index Suppress	--	--	--	.35*
Physical Abuse <16 years	.21**	.20**	--	--
Family Violence in Childhood	.24***	.24**	--	--
Outside Placement <16 years	.24***	--	--	--
Family Criminality	.20**	--	--	--
Family Alcohol Abuse	.18 **	--	--	--
MAST	.26***	.27**	--	--
BDHI	.25****	.21**	--	--
Degree of Violence-Index	.18**	.19**	--	--
Degree of Sexual Assault-Index	.16**	--	--	--
Previous Non-Violent Convictions	.27****	.38****	--	.45***
Previous Violent Convictions	.20**	.23 **		

*p<.05
**p<.01
*** p<.001
****p<.0001

-- non significant
@ p=.06

found to be significantly different between recidivists and non-recidivists. Phi and Spearman coefficients were computed for categorical and continuous data respectively. Overall, significant correlations [1]were modest, ranging in value from .16 to .43.

There was considerable between-group variability in the number of significant correlations. For the Incest group, 19 variables were significantly correlated with recidivism; the strongest of these were PCL-R score, r (N = 230) =.39, p <.001, previous history of violence, r (N = 200) = .34, p <.0001, and age, r (N = 251) = -.29, p <.001. These results indicate that a higher degree of psychopathy, as measured by the PCL-R, a past history of violence, and being younger in age, were significantly associated with recidivism for Incest offenders.

For the CM group, 14 variables were significantly correlated with recidivism. The strongest relationships were for total PCL-R score, r (N = 171) = .41, p < .001, number of previous convictions for non-violent offences, r (N = 173) = .38, p <.00001, and previous forensic contact, r (N = 158) = .34, p = .00002. These results indicate that for CM offenders, a higher PCL-R score, a greater number of previous convictions for non-violent offences, and having had prior contact with a forensic unit, were associated with recidivism.

For the Mixed group, the number of previous convictions for non-violent offences, r (N = 57) = .45, p = .0007, and the pedophile index arouse, r (N = 46) = .32, p = .03, and suppress, r (N = 44) = .35, p = .02 were significantly correlated with recidivism. For an offender in the Mixed group, having more, rather than none or few previous

[1] significant alpha was set at .01 for Incest and CM groups due to the number of correlations computed, and was set at .05 for Rapists and Mixed offenders.

convictions for non-violent offences, and a higher PI score, reflecting a greater degree of deviance in sexual arousal towards children, were associated with recidivism.

There were no significant correlations for recidivism and any of the variables for the Rapist group.

Predicting Recidivism: Discriminant Function Analysis Results

Variables that were significantly correlated with recidivism were entered into a step-wise discriminant function analysis for each of the Incest, CM and Mixed groups. For the Incest group, one discriminant function was computed that significantly discriminated between recidivists and non-recidivists, $X^2(3, N = 200) = 52.19$, $p < .0001$. The discriminant function accounted for 30.4% of between-group variability. As presented in Table 23, the loading matrix of correlations between predictors and the discriminant function suggests that PCL-R score, age and history of violence respectively were the variables that maximally discriminated between recidivists and non-recidivists. Results of a classification procedure, shown in Table 24, indicated that overall, 78.5% of Incest offenders were correctly classified, 91.6% of non-recidivists and 45.6% of recidivists. This represents an improvement over chance classification (RIOC) of 20.1% for non-recidivists and 17.1% for recidivists..

For the CM group, a significant discriminant function, composed of the PCL-R score and the variable "previous convictions for non-violent offences" emerged, X^2 (2, $N = 155$) = 36.75, $p < .0001$, and which accounted for 21.5% of between-group variability. A higher PCL-R score, and having had previous convictions for non-violent offences were associated with recidivism. The discriminant function correctly classified 67.74% of CM cases overall, 77.9% of non-recidivists and 55.1% of recidivists. This

Table 23: Results of Discriminant Function Analysis of Recidivism Variables for Incest, and CM Offenders

Predictor Variable	r discriminant function	F	Pooled within-group r among predictors		
Incest			PCL-R	Age	Hx Violence
PCL-R	.79	37.59	----	-.06	.33
Age	-.55	18.29	----	----	-.15
Hx. of Violence	.65	25.80	----	----	----
CM			PCL-R	NVCV	
PCL-R	.85	29.99	----	.34	
Non-Violent Convictions	.79	26.07			

Table 24: Classification Results for Recidivists and Non-Recidivists Incest, CM, and Mixed Sexual Offenders

Actual Group	N	Predicted Correctly		Predicted Incorrectly		RIOC
		n	%	n	%	%
Incest						
Non-Recidivist	143	128	89.5	15	10.5	20.1
Recidivist	57	26	45.6	31	54.4	17.1
CM Discriminant Function						
Non-Recidivist	86	67	77.9	19	22.1	22.4
Recidivist	69	38	55.1	31	44.9	10.6
PCL-R Only						
Non-Recidivist	99	78	78.8	21	21.2	22.0
Recidivist	72	42	58.3	30	41.7	15.1
Mixed Non-Violent Convictions Only						
Non-Recidivist	26	23	88.5	3	11.5	39.7
Recidivist	31	17	54.8	14	45.2	3.6
PI Suppress Only						
Non-Recidivist	21	12	57.1	9	42.9	9.4
Recidivist	23	16	69.6	7	30.4	17.3

represents a RIOC of 22.4% and 10.6% for non-recidivists and recidivists respectively. However, the PCL-R score alone was able to improve the classification of both recidivists and non-recidivists to 78.8% and 58.3% respectively, which represents a RIOC of 22.0% for non-recidivists and 15.1% for recidivists.

For the Mixed group, when PI arouse, PI suppress and having previous convictions for non-violent offences was entered into a step-wise discriminant function, a significant discriminant function emerged, that was composed only of previous non-violent convictions. $X^2(1, \underline{N} = 43) = 7.95$, $\underline{p} = .005$. The number of non-violent convictions accounted for 17.8% of between-group variability. Having previous convictions for non-violent offences was associated with recidivism for offenders in the Mixed group. Overall, 70.18% of cases were correctly classified, 88.5% of non-recidivists and 54.8% of recidivists. This represents a RIOC of 39.7% for non-recidivists and 3.6% for recidivists. Interestingly, when convictions for non-violent offences were left out of the discriminant function analysis, a signficant function, composed of the PI suppress score emerged, $X^2(1, \underline{N} = 44) = 6.57$, $\underline{p} = .01$. The PI suppress score alone was able to increase correct classification of recidivists in the Mixed group to 69.6%, which represents a RIOC of 17.3%. However, only 57.1% of non-recidivists were correctly classified, which represents a RIOC of 9.4%. Overall, the PI suppress score accounted for 14.6% of between - group variability.

Summary of Hypotheses

A review of the study's four primary, and three secondary hypotheses summarizes highlights of statistical results presented in this chapter.

Hypothesis 1

It was hypothesized that for sexual recidivism, the CM group would have a significantly higher recidivism rate than the Rapist group, or than the group of Incest offenders. There was partial support for this hypothesis in that the sexual recidivism rates for the CM group was significantly higher than that for the Incest group. It was also hypothesized that when recidivism was defined as a non-sexual offence, Rapists would have a higher recidivism rate than the CM offenders or than the Incest offenders. Again, there was only partial support for this hypothesis in that the Rapist group had a significantly higher non-sexual recidivism rate than the Incest group.

Hypothesis 2

The second hypothesis stated that, within each of the groups of offenders, recidivists would have a higher mean PCL-R score than non-recidivist counterparts. This hypothesis was fully supported for the three groups, Incest offenders, CM offenders, and Rapists that were proposed at the outset of the study. The difference between mean scores of recidivists and non-recidivists in the Mixed group approached significance (p = .055).

Hypothesis 3

It was hypothesized that the recidivists within each offender group would display more psychiatric disturbance, indicated by a higher incidence of DMS-III-R diagnoses, than the non-recidivists within each group. This hypothesis was not supported. In fact, for the Incest group, results were in the opposite direction. The non-recidivists had received significantly more DSM-III-R diagnoses on average, than the recidivists.

Hypothesis 4

The final primary hypothesis of the study predicted that the recidivists within each group would display more deviant sexual arousal, as indicated by higher mean PI or RI scores. There was weak support for this hypothesis. Specifically, the recidivists in the Incest group had a higher mean PI score under suppress instructions, than the non-recidivists, when low responders were removed from the analysis. Significant results were consistent in the Mixed group, regardless of whether low responders were included or excluded from the analyses. Recidivists demonstrated significantly more deviant arousal to child stimuli under both arouse and suppress instructions. There was no support for the deviant arousal hypothesis when RI scores were analyzed in the Rapist group.

Hypothesis 5

A secondary hypothesis of the study predicted that recidivists within each of the offender groups would have experienced significantly more negative childhood events than non-recidivists. Negative childhood experiences were operationalized as a history of sexual abuse, a history of physical abuse, placement outside of the family home before age 16, and the presence of other adverse family factors, including family violence, criminality, mental illness, and alcohol or drug abuse. There was partial support for this hypothesis in the Incest and CM groups. Incest recidivists experienced significantly more physical abuse, family violence, outside placement prior to age 16, family criminality, and family alcohol abuse than the Incest non-recidivists. The CM recidivists experienced significantly

more physical abuse, family violence, and mental illness in their families than CM non-recidivists. This hypothesis was not supported in the Rapist or Mixed groups.

Hypothesis 6

It was also hypothesized that recidivists within each of the groups would evidence a greater degree of affective dyscontrol, as indicated by higher mean scores on the MAST, the BDHI, and the BPRS, than the non-recidivists within each group. There was partial support for this hypothesis. Specifically, recidivists in the Incest, CM and Rapist groups had higher mean MAST scores, indicating a greater degree of alcohol abuse, than non-recidivist counterparts. Recidivists in the Incest and CM groups were also more angry and hostile, as indicated by a higher mean BDHI score, than the respective group of non-recidivists. The hypothesis was not supported in any group when affective dyscontrol was operationalized as BPRS scores.

Hypothesis 7

The final hypothesis of the study predicted that recidivists in each group would have had more serious index offences, indicated by a greater degree of sexual assault, and by a greater degree of violence of the offence, than the non-recidivists in each group. There was limited support for the degree of violence variable in the Incest and CM groups. A greater proportion of recidivists in both groups used threats of harm to carry out the index assault.

CHAPTER 5

Exploring Sex Offender Orientation: Heterosexual and Homosexual Dimensions

Overview of Exploratory Analyses

The large number of subjects in the present sample who offended against children provided an opportunity to explore the sexual orientation, either heterosexual or homosexual, according to the victim of the index offence, without compromising statistical power. The use of the terms "heterosexual" and "homosexual" is not intended to reflect offenders' sexual orientation in general, but terms are used in the interests of succinctness. Data analysis was guided by two central questions: 1) What are the characteristics that differentiate heterosexual and homosexual offenders? and 2) Is offender sexual orientation a key factor in assessing recidivism risk? To address these questions, subjects in the Incest and CM groups, as well as those in the Mixed group who had offended only against children under 16 years of age, were reclassified according to the gender of the victim (s) of the index offence. Classification resulted in the following distribution among groups: heterosexual offenders , $\underline{N} = 310$; homosexual offenders, $\underline{N} = 113$; and bisexual offenders, $\underline{N} = 45$. The bisexual group was dropped from analyses because of the small size of the group. The proportions of Incest, CM and Mixed offenders making up the heterosexual and homosexual groups may be seen in Appendix L.

The data were analyzed using statistical techniques that were consistent with other analyses performed, and that have been reported in Chapters 3 and 4. The first set of results reported in this chapter describes and compares heterosexual and homosexual

offenders, following which, recidivists and non-recidivists are compared within each group. A family-wise error rate of 5% has been maintained throughout, with a correction for multiple comparisons using the Bonferroni method. All data were screened to ensure assumptions underlying statistical tests were met. Log transformations were performed on PI and MAST scores to improve skewness. Although untransformed scores are reported in the chapter, transformed scores may be seen in Appendices M and N.

Describing Heterosexual And Homosexual Offenders

Tables 25 and 26 present demographic and historical variables for heterosexual and homosexual offenders. The tables indicate that, after adjusting critical alpha for 14 multiple comparisons, the heterosexual and homosexual offenders differed on four demographic characteristics. On average, homosexual offenders were more educated than heterosexual offenders, t (346) = 3.37, p = .001 (Ms = 11.4 and 10.07 respectively). Marital status of the groups was also significantly different, X^2 (2, N = 379) = 42.75, p < .00001. Table 26 shows that 53.2% of homosexual offenders were single, compared to 19.3% of the heterosexual group, and that the remaining 80.7% of heterosexual offenders had been married at some time, compared to 46.8% of the homosexual group. Table 26 also shows that a significantly greater proportion of homosexual offenders had previous forensic contact (30.8%), than heterosexual offenders (14.5%), X^2 (1, N = 360) = 11.88, p = .0006. A significantly greater proportion of homosexual offenders also had previous convictions for sexual offences (22.1%), than heterosexual offenders (9.8%), X^2 (1, N = 410) = 10.45, p = .001, although the overall rate of previous sexual convictions was relatively low (12.9%).

Table 25: Heterosexual and Homosexual Offenders Continuous Demographic Variables

Variable	Heterosexual			Homosexual			t (DF) 2-tailed	p
	n	M	SD	n	M	SD		
Age	310	39.98	11.42	112	39.10	11.85	.69 (420)	.49
Education	258	10.07	2.96	90	11.40	3.86	3.37 (346)	.001*

* indicates statistical significance

Table 26: Heterosexual and Homosexual Offenders
Categorical Demographic and Historical Variables

Variable	Heterosexual		Homosexual		X^2 (DF)	p
	n	% Group	n	% Group		
Marital Status						
Single	55	19.3	50	53.2	42.75 (2)	.00001*
Married / CL	152	53.3	23	24.5		
Sep/ Div/ Wid	78	27.4	21	22.3		
Employed	164	60.3	47	52.2	1.81 (1)	.18
Hx of Violence	71	28.3	17	21.0	1.67 (1)	.20
Prior Convictions						
Non-Violent	113	36.8	29	27.6	2.92 (1)	.09
Violent	47	15.4	12	11.7	.88 (1)	.35
Sex	30	9.8	23	22.1	10.45 (1)	.001*
Admit to Index						
Admit	220	71.4	84	74.3	3.59 (2)	.17
Deny	73	23.7	28	24.8		
Amnesia	15	4.9	1	.9		
Hx Alcohol Abuse	120	43.5	39	43.3	.001 (1)	.98
Hx Drug Abuse	77	28.3	17	18.7	3.29 (1)	.07
Prev Psychiatric	131	48.3	56	60.9	4.32 (1)	.03
Prev Forensic	39	14.5	28	30.8	11.88 (1)	.0006*
Prev Forensic Admit	16	5.9	13	14.3	6.38 (1)	.01

* indicates statistical significance

Heterosexual and homosexual offender groups were also compared on all of the study variables, including degree of psychopathy, affective dyscontrol variables, number of DSM-III-R diagnoses, negative childhood experiences variables, and index offence characteristics. Critical alpha was set at .006 for the negative childhood experiences and index offence variables. As may be seen in Tables 27 and 28, the only significant difference between the heterosexual and homosexual groups was for the number of victims in the index offence, X^2 (1, N = 422) = 13.40, p = .0003. Table 28 indicates that the majority of heterosexual offenders victimized a single individual (67.3%), while the majority of homosexual offenders victimized more than one child (52.2%).

In summary, there were few differences between heterosexual and homosexual offenders for variables considered in the present study. However, homosexual offenders were, on average, more educated compared to heterosexual offenders. A greater proportion of homosexual offenders were single (i.e., never married), had previous convictions for sexual offences, and previous admissions to a forensic unit than heterosexual offenders.

Rates of Recidivism

Table 29 presents recidivism figures for heterosexual and homosexual offenders. Overall, 33.2% of heterosexual and 31.0% of homosexual offenders recidivated. Although the difference between group proportions that reoffended was not statistically significant, it took significantly longer, on average, for homosexual offenders to recidivate than for heterosexual offenders, t (N = 172) = 2.91, p = .004 (Ms = 3.82 years and 2.49 years respectively). Survival functions, shown in Figure 4, and summarized in Table 30, indicate that the pattern of recidivism, for overall recidivism, was significantly different

Table 27: Heterosexual and Homosexual Offenders
Summary Statistics for Continuous Study Variables

Variable	Heterosexual			Homosexual			t (DF)	p
	n	M	SD	n	M	SD	2-tailed	
PCL-R	287	18.02	7.00	97	17.24	7.59	.92 (382)	.36
MAST	194	8.98	12.92	66	8.73	11.61	.26 (258)	.79
BDHI	294	27.29	12.13	102	27.67	13.57	.26 (394)	.79
BPRS	164	10.91	7.83	53	11.55	7.40	.52 (215)	.61
PI-Arouse All Cases	300	1.04	1.25	108	.89	1.09	.99 (406)	.33
PI-Suppress All Cases	296	.89	1.09	106	1.11	1.28	1.50 (400)	.13
PI-Arouse Low Resp. Removed	210	1.29	1.34	82	1.10	1.15	1.02 (290)	.31
PI-Suppress Low Resp. Removed	207	1.08	1.18	80	1.31	1.36	1.26 (285)	.21

Table 28: Heterosexual and Homosexual Offenders
Summary Statistics for Categorical Study Variables

Variable	Heterosexual		Homosexual		X^2 (DF)	p
	n	% Group	n	% Group		
Number DSM DX						
None	130	41.9	46	40.7	.07 (2)	.97
Single	71	22.9	27	23.9		
Multiple	109	35.2	40	35.4		
Negative Childhood Experiences						
Hx Sexual Abuse	101	32.6	46	40.7	2.41 (1)	.12
Hx Physical Abuse	89	36.9	31	34.4	.18 (1)	.68
Hx Family Violence	119	49.6	32	36.4	4.53 (1)	.03
Outside Placement	77	29.1	26	26.3	.28 (1)	.60
Family Alcohol	127	43.3	51	46.8	.38 (1)	.54
Family Drug	33	11.6	7	6.7	2.03 (1)	.15
Family Mental Ill	53	18.4	22	20.4	.20 (1)	.66
Family Criminality	42	14.7	8	7.6	3.48 (1)	.06
Index Offence Degree of Sexual Assault						
Touching	132	43.7	45	40.5	.33 (1)	.56
Penetration	144	47.7	61	55.0	1.72 (1)	.19
With Violence	26	8.6	5	4.5	1.97 (1)	.16
Degree of Violence						
None	246	79.6	88	77.9	.15 (1)	.70
Threaten	28	9.1	6	5.3	1.57 (1)	.21
Physical Violence	35	11.3	19	16.8	2.23 (1)	.14
Influenced by Drugs or Alcohol	89	29.0	30	26.5	.24 (1)	.62
Number of Victims						
Single	208	67.3	54	47.8	13.40 (1)	.0003*
Multiple	101	32.7	59	52.2		

* indicates statistical significance

Table 29: Rates of Recidivism for Heterosexual and Homosexual Offenders

Type of Recidivism	Heterosexual		Homosexual		X^2	p
	n	% Group	n	% Group	(DF = 1)	
Overall Recidivism	103	33.2	35	31.0	.19	.66
Sexual	27	8.7	17	15.0	3.57	.06
Non-Sexual	75	24.3	18	15.9	3.35	.07

Table 30: Survival Functions for Heterosexual and Homosexual Offenders

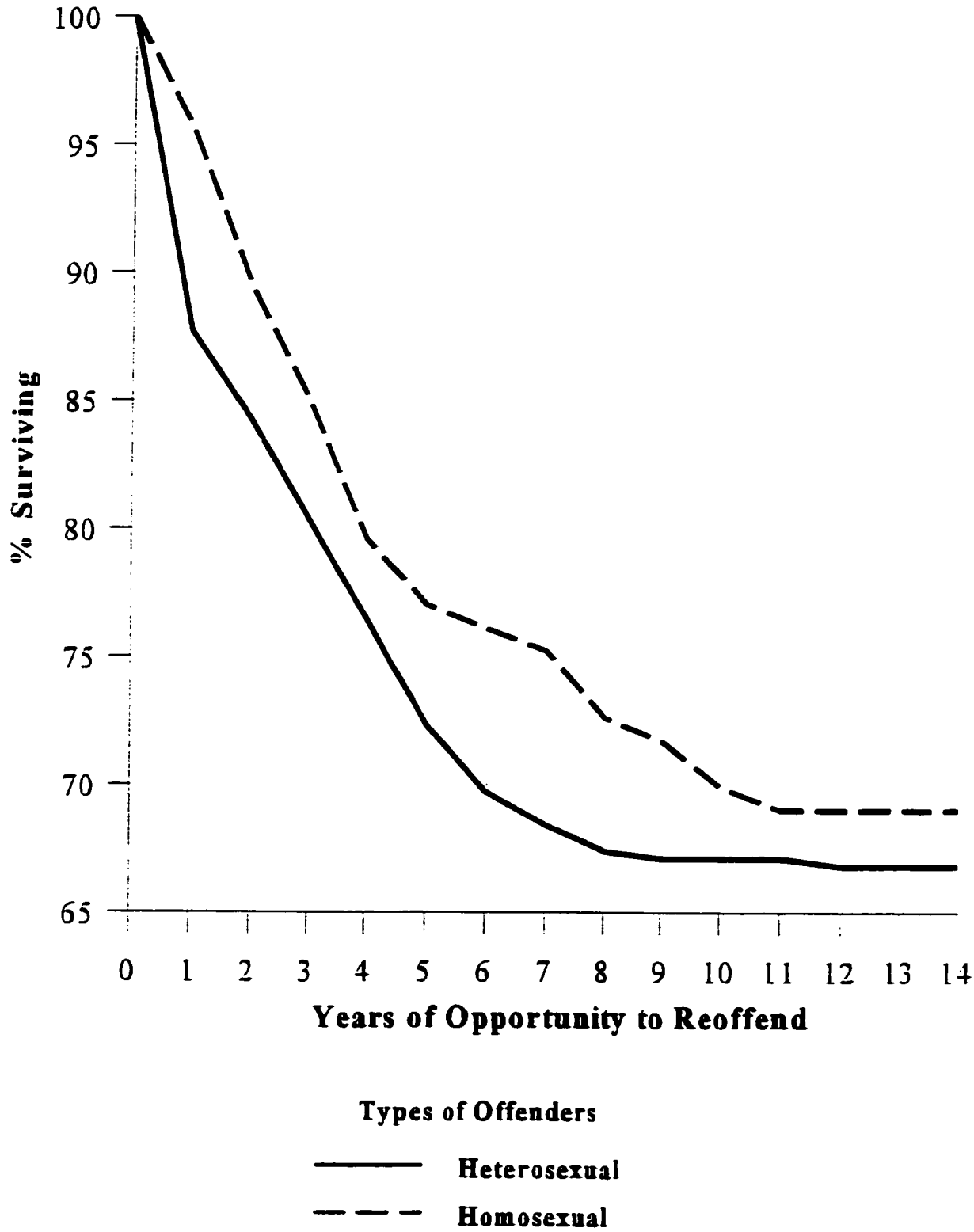
Function	N	X^2	p
Between Groups Overall Recidivism	138	5.31	.02*
Between Groups Sexual Recidivism	43	1.17	.28
Between Groups Non-Sexual Recidivism	93	2.10	.15
Heterosexual : Sexual Vs Non-Sexual	101	5.04	.02*
Homosexual: Sexual Vs Non-Sexual	35	1.51	.28

* indicates statistical significance

Figure 4

Survival Rates for Overall Recidivism

Heterosexual and Homosexual Offenders



for the groups, X^2 (1, N = 138) = 5.31, p = .02. Life table data indicated that 36.8% of heterosexual offenders had recidivated by the end of the first year at risk, compared to 14.3% of homosexual offenders. By the 5th year at risk, 75% of both the heterosexual and homosexual recidivists had incurred new charges or convictions. It took 11 years for all of the homosexual recidivists to reoffend, and 12 years for all of the heterosexual recidivists to incur new charges or convictions for any type of offence. There were no differences between either the rates or the patterns of heterosexual and homosexual offenders when recidivism was broken down into sexual and non-sexual categories.

Survival functions for sexual, and non-sexual recidivism were also compared within the groups. The pattern of recidivism for heterosexual offenders was significantly different for sexual and non-sexual offences, X^2 (1, N = 101) = 5.04, p = .02. Inspection of life table data indicated that 42.7% of non-sexual recidivists had reoffended by one year at risk, compared to 19.2% of sexual recidivists. All of the heterosexual sexual recidivists had reoffended by 9 years at risk, while it took 12 years for 100% of heterosexual non-sexual recidivists to reoffend. There were no differences in patterns of reoffending for homosexual sexual and non-sexual recidivists.

In summary, heterosexual and homosexual offenders did not differ on the rate of recidivism, when recidivism was defined as a charge or conviction for any type of offence. However, the pattern of reoffending was significantly different between the groups. More than twice the proportion of heterosexuals recidivated in the first year at risk as homosexual offenders. Homosexual recidivists took significantly longer, on average, to reoffend than heterosexual recidivists. When considering types of recidivism, sexual or

non-sexual, significantly more homosexual offenders were sexual recidivists than heterosexual offenders. However, there were no differences in survival functions, when considering sexual and non-sexual recidivism between the groups.

Within-group survival functions, computed for sexual and non-sexual recidivism, yielded a significant difference for the heterosexual group. Heterosexual recidivists who were charged or convicted of a non-sexual offence were recharged / reconvicted at a faster rate during the first year at risk, than offenders whose new offence was a sexual one. There were no differences in recidivism patterns for sexual and non-sexual offences in the homosexual group.

Comparing Recidivists and Non-Recidivists within Heterosexual and Homosexual Groups

Recidivists were compared to non-recidivists in the heterosexual and homosexual groups on demographic and historical characteristics and the study variables, including degree of psychopathy, number of DSM diagnoses, affective dyscontrol measures, negative childhood experiences variables, and characteristics of the index offence.

Demographic and Historical Characteristics

Tables 31 and 32 summarize results of within-group comparisons of demographic and historical variables. After adjusting critical alpha to .005 for 11 comparisons, several characteristics of heterosexual recidivists were found to distinguish them from heterosexual non-recidivists. Heterosexual recidivists were found to be younger, on average, than the non-recidivists in this group, t (308) = 5.97, $p < .001$ (Ms = 34.77 and 42.57 for recidivists and non-recidivists respectively). It was also found that recidivists in the heterosexual group were significantly different from their non-recidivist counterparts on marital status. X^2 (2, N = 297) = 16.71, $p = .0002$. Inspection of cell frequencies

Table 31: Heterosexual and Homosexual Recidivists and Non-Recidivists Continuous Demographic and Historical Variables

Variable	Group	Non-Recidivists			Recidivists			t (DF)	p
		n	M	SD	n	M	SD	2-tailed	
Age	Hetero	207	42.57	11.21	103	34.77	10.02	5.97 (308)	<.001*
	Homo	78	39.26	11.60	34	38.74	12.57	.21 (110)	.83
Yrs Ed	Hetero	171	10.28	3.04	87	9.67	2.78	1.58 (256)	.12
	Homo	61	11.97	3.67	29	10.21	4.05	2.06 (88)	.04

* indicates statistical significance

Table 32: Heterosexual and Homosexual Recidivists and Non-Recidivists Categorical Demographic and Historical Variables

Variable	Non-Recidivists		Recidivists		X^2 (DF)	p
	n	%	n	%		
Marital Status						
Hetero: Single	25	13.4	37	33.3	16.71 (2)	.0002*
Married/CL	104	55.9	49	44.1		
Sep/Div/Wid	57	30.6	25	22.5		
Homo: Single	32	49.2	21	63.6	3.64 (2)	.16
Married/CL	19	29.2	4	12.1		
Sep/Div/Wid	14	21.5	8	24.2		
Admit to Index						
Hetero: Admit	157	76.2	63	61.8	7.64 (2)	.02
Deny	42	20.4	31	30.4		
Amnesia	7	3.4	8	7.8		
Homo: Admit	55	70.5	29	82.9	2.14 (2)	.34
Deny	22	27.5	6	16.2		
Amnesia	1	1.3	0	0		
Employed at Assessment						
Hetero	117	65.7	47	50.0	6.36 (1)	.01
Homo	33	55.0	14	46.7	.55 (1)	.46
Hx Alcohol Abuse						
Hetero	69	38.1	51	53.7	6.14 (1)	.01
Homo	25	41.0	14	48.3	.43 (1)	.51
Hx Drug Abuse						
Hetero	37	20.8	40	42.6	14.36 (1)	.0002*
Homo	8	12.9	9	31.0	4.28 (1)	.04
Hx Violence						
Hetero	29	17.8	42	47.7	24.25 (1)	<.00001*
Homo	7	13.0	10	37.0	6.29 (1)	.01

* indicates statistical significance

Table 32 Cont'd

Variable	Non-Recidivists n	%	Recidivists n	%	X^2 (DF)	p
Previous Psychiatric Contact						
Hetero	76	42.7	55	59.1	6.61 (1)	.01
Homo	34	54.0	22	75.9	4.00 (1)	.05
Previous Forensic Contact						
Hetero	11	6.3	28	30.1	27.94 (1)	<.00001*
Homo	13	20.6	15	53.6	9.87 (1)	.002*
Previous Forensic Admission						
Hetero	3	1.7	13	14.0	16.39 (1)	.00005*
Homo	4	6.5	9	31.0	9.75 (1)	.002*
Previous Convictions Non-Violent						
Hetero	48	24.4	65	59.1	36.59 (1)	<.00001*
Homo	14	20.3	15	41.7	5.41 (1)	.02
Previous Convictions Violent, Non-Sexual						
Hetero	19	9.7	28	25.5	13.32 (1)	.0003*
Homo	6	9.0	6	16.7	1.35 (1)	.24
Previous Convictions Sexual						
Hetero	11	5.6	19	17.3	10.83 (1)	.001*
Homo	14	20.6	9	25.0	.27 (1)	.61

* indicates statistical significance

indicated that 33.3% of the recidivists were single, compared to 13.4% of the non-recidivists. A greater proportion of heterosexual recidivists had a history of drug abuse (42.6%), compared to non-recidivists (20.8%), X^2 (1, N = 272) = 14.36, p = .0002, and also had a history of violent behaviour, X^2 (1, N = 251) = 24.25, p < .00001 (47.7% of recidivists versus 17.8% of non-recidivists). Heterosexual recidivists were also significantly more likely than heterosexual non-recidivists to have had previous forensic contact, X^2 (1, N = 269) = 27.94, p < .00001, and a prior admission to a forensic unit, X^2 (1, N = 269) = 16.39, p = .00005. Over 30% of recidivists had previous forensic contact, compared to 6.3% of non-recidivists, while 14.0% of recidivists had been admitted to a forensic unit in the past, compared to 1.7% of non-recidivists. A significantly greater proportion of heterosexual recidivists had previous convictions for sexual offences, X^2 (1, N = 306) = 10.83, p = .001; for violent offences, X^2 (1, N = 305) = 13.32, p = .0003; and for non-violent offences, X^2 (1, N = 307) = 36.59, p < .00001, than heterosexual non-recidivists.

For the homosexual offenders, significantly more recidivists had previous forensic contact (53.6%) than non-recidivists (20.6%), X^2 (1, N = 91) = 9.87, p = .002. Homosexual recidivists were also significantly more likely to have been admitted to a forensic unit in the past (31.0%), than homosexual non-recidivists (6.5%), X^2 (1, N = 91) = 9.75, p = .002.

Within-Group Comparisons of Study Variables

Table 33 summarizes statistical results for recidivists and non-recidivists within the heterosexual and homosexual groups for continuous study variables. Table 34 presents

Table 33: Heterosexual and Homosexual Recidivists and Non-Recidivists Summary Statistics for Continuous Study Variables

Variable	Non-Recidivists			Recidivists			t (DF)	p
	n	M	SD	n	M	SD		
PCL-R								
Hetero	186	16.03	6.36	101	21.68	6.68	7.06 (285)	<.001*
Homo	66	15.26	6.16	31	21.47	8.67	4.05 (95)	<.001*
MAST								
Hetero	140	6.76	11.11	54	14.74	15.39	4.65 (192)	<.001*
Homo	49	7.08	10.43	17	13.47	13.75	1.84 (64)	.07
BDHI								
Hetero	199	25.50	11.20	95	31.04	13.17	3.75 (292)	<.001*
Homo	70	24.66	12.34	32	34.25	13.98	3.49 (100)	.001*
BPRS								
Hetero	120	11.63	7.98	44	8.95	7.14	1.96 (162)	.05
Homo	41	11.76	7.52	12	10.83	7.22	.38 (51)	.71
PI Arouse All Cases								
Hetero	203	.97	1.12	97	1.18	1.46	.77 (298)	.44
Homo	73	.91	1.11	35	.85	1.05	.30 (106)	.76
PI Suppress All Cases								
Hetero	202	.75	.88	95	1.20	1.40	2.75 (295)	.006*
Homo	73	1.22	1.37	33	.85	1.00	1.19 (104)	.24
PI Arouse Low Responders Removed								
Hetero	144	1.17	1.20	65	1.53	1.58	1.44 (207)	.15
Homo	59	1.06	1.17	23	1.21	1.11	.73 (80)	.47
PI Suppress Low Responders Removed								
Hetero	143	.83	.92	64	1.62	1.50	4.60 (205)	<.001*
Homo	59	1.40	1.44	21	1.04	1.10	.88 (78)	.38

* indicates statistical significance

Table 34: Heterosexual and Homosexual Recidivists and Non-Recidivists Summary Statistics for Categorical Study Variables

Variable	Non-Recidivists n	Non-Recidivists % Group	Recidivists n	Recidivists % Group	X^2 (DF)	p
Number DSM DX						
Hetero: None	75	36.2	55	53.4	9.95 (2)	.007*
One	56	27.1	15	14.6		
Multiple	76	36.7	33	32.0		
Homo: None	28	35.9	18	51.4	3.41 (2)	.18
One	22	28.2	5	14.3		
Multiple	28	35.9	12	34.3		
Negative Childhood Experiences						
Hx Sexual Abuse						
Hetero	62	30.0	39	37.9	1.96 (1)	.16
Homo	29	37.2	17	48.6	1.30 (1)	.25
Hx Physical Abuse						
Hetero	52	32.3	37	46.3	4.47 (1)	.03
Homo	15	24.6	16	55.2	8.14 (1)	.004*
Hx Family Violence						
Hetero	71	44.7	48	59.3	4.58 (1)	.03
Homo	15	24.6	17	63.0	11.91 (1)	.0006*
Outside Placement < 16 Yrs						
Hetero	39	22.4	38	41.8	10.85 (1)	.001*
Homo	16	23.9	10	31.3	.61 (1)	.44
Family Alcohol Abuse						
Hetero	78	38.8	49	53.3	5.37 (1)	.02
Homo	34	45.3	17	50.0	.20 (1)	.65
Family Drug Abuse						
Hetero	19	9.6	14	16.1	2.44 (1)	.12
Homo	3	4.1	4	12.5	2.52 (1)	.11
Family Mental Illness						
Hetero	30	15.2	23	25.6	4.46 (1)	.03
Homo	12	16.2	10	29.4	2.50 (1)	.11
Family Criminality						
Hetero	21	10.8	21	23.1	7.40 (1)	.007
Homo	5	6.9	3	9.1	.15 (1)	.70

* indicates statistical significance

Table 34 cont'd

Variable		Non-Recidivists n	Non-Recidivists % Group	Recidivists n	Recidivists % Group	X^2 (DF)	p
Index Offence							
Degree of Sexual Assault							
Touching	Hetero	93	45.4	39	40.2	.71 (1)	.40
	Homo	35	44.9	10	30.3	2.04 (1)	.15
Penetration	Hetero	98	47.8	46	47.4	.004 (1)	.95
	Homo	40	51.3	21	63.6	1.43 (1)	.23
With Violence	Hetero	14	6.8	12	12.4	2.57 (1)	.11
	Homo	3	3.8	2	6.1	.26 (1)	.61
Degree of Violence							
None	Hetero	176	85.4	70	68.0	12.92 (1)	.0003*
	Homo	67	85.9	21	60.0	9.40 (1)	.002*
Threaten	Hetero	10	4.9	18	17.5	13.27 (1)	.0003*
	Homo	2	2.6	4	11.4	3.78 (1)	.05
Physical	Hetero	20	9.7	15	14.6	1.61 (1)	.20
	Homo	9	11.5	10	28.6	5.01 (1)	.03
Influenced by Drugs / Alcohol							
	Hetero	54	26.1	35	35.0	2.60 (1)	.10
	Homo	21	26.9	9	25.7	.02 (1)	.89
Number of Victims							
Hetero -	Single	139	67.5	69	67.0	.007 (1)	.93
	Multiple	67	32.5	34	33.0		
Homo -	Single	38	48.7	16	45.7	.09 (1)	.77
	Multiple	40	51.3	19	54.3		

* indicates statistical significance

statistical results for study variables that are categorical in nature.

For the heterosexual group, recidivists displayed significantly more psychopathic qualities than non-recidivists, as indicated by a higher mean PCL-R score, t (285) = 7.06, $p < .001$ (Ms = 21.68 and 16.03 for recidivists and non-recidivists respectively). Recidivists in this group also had a greater problem with alcohol abuse, as indicated by higher MAST scores, on average, than non-recidivists, t (192) = 4.65, $p < .001$ (Ms = 14.74 and 6.76 for recidivists and non-recidivists respectively). They were also more hostile, on average, than the non-recidivists, t (292) = 3.75, $p < .001$. The mean BDHI scores were 13.17 for the recidivists and 11.20 for the non-recidivists. The recidivists demonstrated significantly higher levels of deviant arousal to pedophilic stimuli under suppress instructions than the non-recidivists, both when low responders were included in the analysis, t (295) = 2.75, p =.006, and when they were excluded , t (205) = 4.28, $p <$ .001 (Ms, all cases included = 1.20 and .75 for recidivists and non-recidivists respectively; Ms excluding low responders = 1.62 and .83 for recidivists and non-recidivists respectively). There was a significant difference between observed and expected frequencies of recidivists and non-recidivists in the heterosexual group for number of DSM diagnoses that offenders had received, none, one only, or multiple, X^2 (2, N = 310) = 9.94, p = .007. Inspection of cell frequencies indicated that 36.2% of non-recidivists were diagnosis-free, compared to 53.4% of recidivists.

For the negative childhood experiences variables, only outside placement prior to age 16 years was significantly different for recidivists and non-recidivists in the heterosexual group, X^2 (1, N = 265) = 10.85, p = .001. Almost twice the proportion of

recidivists (41.8%) had been placed outside the home when less than 16 years of age as non-recidivists (22.4%). Heterosexual recidivists also had twice the rate of family criminality (23.1%) as non-recidivists (10.8%), a difference that was very close to achieving statistical significance after alpha had been adjusted to .006, X^2 (1, $\underline{N}$ = 285) = 7.40, $\underline{p}$ = .007.

When heterosexual recidivists were compared to heterosexual non-recidivists on index offence variables, only the degree of violence variable was significant. Specifically, more non-recidivists (85.4%) did not use threats or physical violence when the index offence was committed than recidivists (68.0%), X^2 (1, $\underline{N}$ = 309) = 12.92, $\underline{p}$ = .0003. A significantly greater proportion of recidivists used threats of violence in committing the index offence (17.5%) than non-recidivists (4.9%), X^2 (1, $\underline{N}$ = 309) = 13.27, $\underline{p}$ = .0003.

The PCL-R score emerged as a significant discriminator between recidivists and non-recidivists in the homosexual group, $\underline{t}$ (95) = 4.05, $\underline{p}$ < .001. On average, recidivists were more psychopathic than non-recidivists ($\underline{M}$s = 21.47 and 15.26 respectively). Recidivists in the homosexual group were also more hostile ($\underline{M}$ = 34.25), as indicated by total BDHI scores, than non-recidivists ($\underline{M}$ = 24.66), $\underline{t}$ (100) = 3.49, $\underline{p}$ = .001.

With respect to negative childhood experiences, significantly more homosexual recidivists experienced physical abuse in childhood than non-recidivists (55.2% of recidivists compared to 24.6% of non-recidivists), X^2 (1, $\underline{N}$ = 90) = 8.14, $\underline{p}$ = .004. A significantly greater proportion of homosexual recidivists also experienced family violence (63.0%) than non-recidivists (24.6%), X^2 (1, $\underline{N}$ = 88), $\underline{p}$ = .0006. For index offence characteristics for the homosexual group, significantly more non-recidivists did not use

threats or physical violence when carrying out the offence (85.9%), than recidivists (60.0%), X^2 (1, N = 113) = 9.40, p = .002.

In summary, results of within-group statistical analyses found more significant differences between recidivists and non-recidivists in the heterosexual group, than in the homosexual group. Heterosexual recidivists were, on average, younger, more likely never to have been married, more likely to have had a history of drug abuse, and previous violent behaviour than heterosexual non-recidivists. A greater proportion of heterosexual recidivists had previous convictions for sexual, for violent, non-sexual, and for non-violent offences than non-recidivists. Heterosexual recidivists also had a greater problem with alcohol consumption, as indicated by mean MAST scores, and displayed more deviant arousal to child stimuli, in the suppress condition, than their non-recidivist counterparts. Significantly more heterosexual recidivists experienced an outside placement prior to age 16 than heterosexual non-recidivists. When carrying out the index offence, heterosexual recidivists were more likely to have threatened their victim(s), whereas non-recidivists in this group were more likely not to have used any form of violence. Heterosexual recidivists were more likely than heterosexual non-recidivists to have been free of any DSM diagnoses at the time of assessment.

A significantly greater proportion of homosexual recidivists had a history of childhood physical abuse, and a history of family violence than homosexual non-recidivists. A greater proportion of non-recidivists in the group carried out the index offence without using threats or physical violence than recidivists.

In both the heterosexual and homosexual groups, recidivists had higher mean PCL-R scores, indicating a greater degree of psychopathy, and more alcohol problems, as indicated by a higher mean MAST score than non-recidivists. Recidivists in both groups were more likely to have had previous forensic contact, and previous admission to a forensic unit.

Predicting Recidivism Among Heterosexual and Homosexual Offenders

Correlational Analysis

Table 35 presents a summary of variables that were significantly correlated with recidivism for each of the groups. As the table indicates, there were 15 significant correlations for the heterosexual group, which had coefficients ranging from .18 to .35. The following variables showed the strongest relationship to recidivism: having had previous convictions for non-violent offences (r = .35); degree of psychopathy as measured by the PCL-R (r = .34); a greater problem with alcohol consumption, as indicated by a higher MAST score (r = .32); a history of violent behaviour (r = .32); and previous forensic contact (r = .32).

There were fewer significant correlations in the homosexual group, although the strength of the relationship between significantly correlated variables and recidivism was somewhat stronger for the homosexual group than for the heterosexual group. Correlation coefficients ranged in value from .29 to .37. For the homosexual offenders, having experienced family violence in childhood (r = .37), a greater degree of psychopathy, as measured by the PCL-R (r = .36), previous forensic contact (r = .33), a greater degree of hostility, as measured by the BDHI (r = .30), having experienced physical abuse in childhood (r = .30), and having used threats or violence in committing

Table 35: Variables Correlated with Recidivism Heterosexual and Homosexual Offenders

Variable	Heterosexual	Homosexual
Marital Status - Single	.24 ***	---
History of Violence	.32 ****	---
History of Drug Abuse	.23 **	---
Previous Forensic Contact	.32 ****	.33 *
Previous Forensic Admission	.25 ***	.33 *
Previous Convictions, Non-Violent	.35 ****	---
Previous Convictions, Violent Non-Sex	.21 **	---
Previous Convictions, Sexual	.19 **	---
PCL-R	.34 ***	.36 ***
BDHI	.21 ***	..30 **
MAST	.47 ***	---
PI Suppress	.14 *	---
Number DSM Diagnoses	.18 **	---
Physical Abuse < 16 years	---	.30 *
Family Violence in Childhood	---	.37 **
Outside Placement < 16 years	.20 **	---
Threats or Physical Violence in Index	.20 **	.29 *

* p <.01
** p <.001
*** p < .0001
****p < .00001

the index offence ($r = .29$) were significantly related to recidivism.

Discriminant Function Analyses

Tables 36 and 37 present results of a step-wise discriminant function analysis that was performed for the heterosexual and homosexual groups. For the heterosexual group, previous convictions for non-violent offences, the PCL-R score, the PI score under suppress instructions and a history of violent behaviour formed the discriminant function that maximally separated non-recidivists and recidivists, X^2 (4, $N = 227$) = 77.33, $p < .0001$. The discriminant function explained 29.3% of between-group variability, and overall, correctly classified 77.5% of the cases. As may be seen in Table 36, 87.8% of non-recidivists and 58.2% of recidivists were correctly classified, resulting in an improvement over chance prediction of 22.6% for non-recidivists and 23.4% for recidivists.

For the homosexual group one significant discriminant function emerged, composed of the PCL-R score, history of family violence, and BDHI score, X^2 (3, $N = 73$) = 27.03, $p < .0001$. The discriminant function accounted for 32.03% of between-group variability, and resulted in 73.1% correct classification overall. Of the non-recidivists, 84.9% were correctly classified, while 48.0% of recidivists were correctly classified. These figures represent a 16.4% and 16.5% improvement over chance classification for non-recidivists and recidivists respectively.

Summary

Statistical tests that compared heterosexual and homosexual offenders yielded few significant differences between the groups. Results indicated that fewer of the

Table 36: Results of Discriminant Function Analyses of Recidivism Variables Heterosexual and Homosexual Offenders

Predictor Variable	r Discriminant Function	F	Pooled Within-Group r Among Predictors			
Heterosexual			NVC	PCL-R	HXV	PIS
Previous N-V Convictions	.73	49.50	--	.30	.18	-.09
PCL-R	.69	44.71	--	--	.32	-.03
History of Violence	.58	31.39	--	--	--	-.08
PI-Suppress	.24	5.36	--	--	--	--
Homosexual			PCL-R	Fam. Viol		BDHI
PCL-R	.86	24.69	--	.24		.09
Family Violence	.70	16.60	--	--		.25
BDHI	.20	9.59	--	--		--

Table 37: Classification Results for Recidivists and Non-Recidivists Heterosexual and Homosexual Offenders

Actual Group	N	Predicted Correctly		Predicted Incorrectly		RIOC
		n	%	n	%	%
Heterosexual						
Non-Recidivists	148	130	87.8	18	12.2	22.6
Recidivists	79	46	58.2	33	41.8	23.4
Homosexual						
Non-Recidivists	53	45	84.9	8	15.1	16.4
Recidivists	25	12	48.0	13	52.0	16.5

heterosexual group were single, compared to the homosexual group. Homosexual offenders were, on average, more highly educated than heterosexual offenders. The homosexual group had a higher incidence of previous convictions for sexual offences, and also had a higher incidence of previous forensic contact than the heterosexual group. The majority of heterosexual offenders victimized a single child, while a majority of homosexual offenders perpetrated sexual assaults against two or more children.

The rates for any type of recidivism for the groups were approximately equal. 33.2% for the heterosexual group and 31.0% for the homosexual group. However, the groups were significantly different on average time to reoffend, with homosexual offenders surviving longer, on average, than heterosexual offenders. When recidivism was broken down into sexual and non-sexual categories, the homosexual group committed new sexual offences at approximately twice the rate of the heterosexual group, a difference that was significant. Results of survival analyses indicated that the pattern of reoffending for the groups was significantly different for overall recidivism. The heterosexual group recidivated at twice the rate of the homosexual group during the first year at risk. Analyses that compared the survival functions for sexual and non-sexual recidivism within each of the groups yielded a significant difference in reoffending patterns for the heterosexual group, but not for the homosexual group. Heterosexual non-sexual recidivists reoffended at a faster rate than heterosexual recidivists whose new offence was sexual in nature, during the first year at risk.

Statistical tests also compared recidivists and non-recidivists within each of the groups. Heterosexual recidivists were differentiated from their non-recidivist counterparts

on 15 variables, including demographic and historical variables, degree of psychopathy (PCL-R), affective dyscontrol measures, number of psychiatric diagnoses, and degree of violence of the index offence. Although demographic characteristics did not distinguish recidivists and non-recidivists in the homosexual group, two negative childhood experiences variables discriminated them. They were also differentiated by mean scores on the PCL-R and BDHI, by previous contact with forensic services, and by the degree of violence of the index offence.

Results of discriminant function analyses performed for each of the groups yielded a significant discriminant function for each, that was able to improve classification of both recidivists and non-recidivists. Improvement over chance prediction was approximately 23% overall for the heterosexual group, and 16.5% overall for the homosexual group.

CHAPTER 6

Discussion

Population Characteristics

The descriptive overview presented in this study represents the first time a large number of consecutive referrals at a sexual behaviour clinic have been examined. Not only is this important in its own right, but the nature of the population also has important implications for the recidivism sample drawn from this population. First, the recidivism sample is unique in that sentences imposed on offenders varied from less severe consequences such as a fine, or suspended sentence, to more severe consequences such as periods of incarceration lasting several years. Second, institutions at which incarcerated offenders served their time varied: some served time in federal institutions, others were incarcerated in provincial jails. Further, the sample includes offenders from maximum, medium and minimum security institutions. Thus, the present sample subsumes the wide array of sex offenders processed through the courts. This represents an improvement over previously conducted Canadian studies, which have sampled from exclusive populations. For example, recent studies have utilized offenders in a maximum security psychiatric facility (Quinsey, Rice & Harris, 1995), some have sampled federal offenders (Motiuk & Brown, 1996), and others have studied provincial offenders (Hanson, Scott & Steffy, 1995). Although all of these studies have provided valuable information, generalizeability of the results is limited to the population from which samples were drawn. It is unknown to what extent findings from these studies generalize to the larger population of sex offenders. Further, an enhanced ability to identify, at the time of assessment, offenders in

the general population who pose an increased recidivism risk would be a significant gain, given that assessment is often carried out before an offender is sentenced, when it is unknown what incarcerated population, if any, he will belong to.

The Recidivism Sample

Distribution of Offender Types

The largest proportion of offenders in the present sample, approximately 75%, had offended against a child. Over one-half of these offenders perpetrated a sexual assault against a related child (Incest), while the remaining offenders victimized an unrelated child (CM offenders). An additional 15% of the sample sexually assaulted an adult female (Rapists). Approximately 10% of the sample was classified as Mixed offenders, having sexually assaulted across age groups, or because they perpetrated offences against both related and unrelated children. As articulated previously, the sample in the present study is unique in that it is the only study that considers the broad range of sex offenders. It is therefore difficult to make meaningful comparisons about the distribution of sex offenders according to victim characteristics. Nevertheless, some general conclusions are offered.

The proportion of sex offenders who assaulted children in the present study (75%) is similar to the proportion included in a sample of sex offenders assessed at a maximum psychiatric facility in Quebec (70%), between 1978 and 1991 (Proulx, Pellerin, Paradis, McKibben, Aubut and Ouimet, 1997). However, the remaining 30% of the sample in the Quebec study consisted of sexual assaulters against adult females, which was twice the proportion of Rapists in the present sample. The distribution in the present study is also similar to the sample in another Canadian study (Quinsey, Rice & Harris, 1995), which

considered recidivism in a sample composed of child molesters (70%), Rapists (16%) and Mixed offenders (14%). In that study, subjects had been assessed at a maximum security psychiatric facility in Ontario. Two observations are readily apparent about the composition of the present sample. First, the number of sex offenders assessed at the SBC, for whom CPIC data were available, during the 10 year study period (N = 588) was substantially greater than the number seen at the Quebec clinic during that study's 13 year assessment period (N = 382). Second, the distribution of child and adult offenders in the present sample is similar to both of the other Canadian studies. The inclusion of incest offenders with extrafamilial child molesters in the other studies precludes comparing the proportions of these two groups seen at the SBC.

As might be expected, the distribution of sex offenders released from federal jails, who formed the sample in another Canadian study (Motiuk and Brown, 1996), was considerably different than the present sample. In that study, approximately equal proportions of pedophiles as rapists (41%) were included, with a substantially smaller proportion of incest offenders (17%) making up the sample. To explain this difference, the length of time that Incest offenders in the present study served was examined. Seventy percent of Incest offenders in this study served less than seven months in prison (42% did not serve any time at all), and therefore could not have been incarcerated in federal institutions. Specifically, for an offender to be incarcerated in a federal institution he must be sentenced to at least two years of incarceration. Therefore, even if an offender had been released on good behaviour, he would have had to serve at least seven months in prison (i.e., this represents one-third of a two year sentence). Therefore, a maximum of

30% of the Incest offenders in the present study may have been incarcerated in federal institutions, with only 10.7% actually serving a sentence of two years or more. Seventy percent or more of Incest offenders in the present study served shorter sentences in provincial institutions, or were not incarcerated at all.

Demographic and Historical Characteristics of Incest, CM, Rapist and Mixed Offenders

Overall, the average age of offenders at the time of assessment in the present study was 37.9 years. Rapists in the present study were the youngest group ($\underline{M}$ = 29.6 years), while Incest offenders were the oldest ($\underline{M}$ = 40.5 years). There was considerable range in the number of years of formal education offenders had received, with the overall average being 10.3 years. The CM group was the most educated group ($\underline{M}$ = 10.9 years), while Rapists and Incest offenders were the most poorly educated ($\underline{M}$ = 9.9 years). However, this difference was not significant. More than one-half of the present sample was employed at the time of assessment, with Rapists evidencing the lowest rate of employment (39.7%), and Incest offenders having the highest rate (59.4%). Approximately one-half of the CM and Mixed offenders were employed at the time of assessment. In general, the present sample appears similar to other samples that have been reported in the literature with respect to demographic characteristics (Baxter et al., 1984; Motiuk & Porporino, 1993; Quinsey et al., 1995).

The majority of offenders in the present sample (63.4%) had been married at one time. Not surprisingly, the Incest group had the highest rate of marriage (85.5%), while the Rapists had the lowest (35.4%). It is noteworthy that the rate for Rapists in the present sample is lower than the rate of 50% reported by both Baxter and his colleagues

(1984), and by Quinsey, Rice and Harris (1995). To explain this difference, it may be that offenders in the present sample did not include past common law relationships when they were asked about marital status, but instead reported themselves as single.

In the present sample, over one-half of the offenders had prior psychiatric contact; Incest offenders were less likely than the other offenders to have had this contact. At the time of assessment, Rapists were more likely than the other offenders to be free of DSM diagnoses (61% had no diagnosis assigned). However, when Rapists were diagnosed, the diagnoses that they received tended to be personality disorders (predominantly Antisocial Personality Disorder) and substance abuse disorders. In contrast, more than one-half of the offenders in the Incest, CM and Mixed groups had at least one DSM diagnosis at the time of assessment. The most frequently diagnosed disorders were for the paraphilias, substance abuse disorders, and adjustment disorders. Affective disorders were also diagnosed in approximately 10% of offenders in the CM group. The higher incidence of DSM disorders (which were predominantly for paraphilic disorders) in the Incest, CM and Mixed groups may suggest that determining the presence of criteria to assign a diagnosis of Pedophilia in an initial interview is easier than determining the criteria for disorders, such as Sexual Sadism, that might apply to rapists.

CPIC records of offenders in the present study established that overall, 55% had previous convictions, which ranged in number from 1 to 51. As might be expected, group rates in the present study were lower than those found in a federal sample (Motiuk & Belcourt, 1996). In the present study, approximately 38% of Incest offenders, 49% of CM offenders, 53% of Mixed offenders, and 69% of Rapists had prior convictions,

compared to rates ranging from 59% of Incest offenders to 84% of a sexual assault group in the federal sample (Motiuk & Belcourt, 1996). With respect to previous sexual convictions of the present sample, approximately 21% of CM, 23% of Mixed offenders, 16% of Rapists, and 7% of Incest offenders had prior convictions, compared to 45%, 43%, 38% and 25% for pedophiles, mixed, sexual assault and incest groups in Motiuk and Belcourt's federal sample. Clearly, rates for previous sexual convictions are considerably lower in the present study than the rates evident in the sample of federal offenders, who were either incarcerated, or released into the community under supervision. The difference likely reflects the less serious criminality of the present sample, which is suggested by relatively large proportion (40%) of the sample that was not incarcerated for the index offence. Results of the present study are consistent with previous work in finding that as a group, rapists had committed more criminal acts than the other types of offenders, and that the majority of their offences were non-sexual in nature. In contrast, child molesters had committed fewer offences than rapists, but had committed a larger proportion of sex offences than rapists.

The literature suggests that between 30% and 60% of sex offenders abuse alcohol, and that a smaller proportion abuse drugs (Langevin, 1990; Williams and Finkelhor, 1992). In the present study, a history of alcohol abuse, determined at the time of assessment, was present in almost one-half of the sample, and approximately one-third of the offenders had a history of drug abuse. Rapists were more likely than the other offender groups to have had such histories. Again, these rates are lower than a federal sample (Motiuk & Porporino, 1993), in which three-quarters of the offenders had abused

alcohol in the past, and two-thirds had abused drugs. The lower rates in the present study are not surprising, given the established link between violent offending and substance abuse (Allnutt, Bradford, Greenberg & Curry, 1996; Langevin & Lang, 1990). It is probable that the offences of the federal sample were characterized by more violence than those of the present sample, 40% of whom did not serve a jail sentence for their crime.

Negative Childhood Experiences

An examination of childhood factors in the present sample confirmed what the literature asserts, that sex offenders as a group experience troubled childhoods (Langevin et al., 1989; Motiuk & Porporino, 1993; Prentky et al., 1989; Seghorn et al., 1987). Almost one-half (48.9%) of the present sample experienced some form of family violence while growing up. Thirty-four percent reported that they had experienced sexual abuse prior to age 16, while 39.4% reported they had been physically abused. Overall, 30.2% had been placed outside the family home before their 16th birthday.

Significant problems were also present in the family members of many offenders in the sample. Family alcoholism was present in almost one-half (45.8%) of the sample, while reports of drug abuse by a family member were infrequent (8.8%). At least one family member had a criminal record in 12.4% of the cases, and family mental illness was reported by 18.8% of the sample.

In general, the prevalence of negative childhood factors found in the present sample is consistent with previously reported rates (Bard et al., 1987; Hanson & Slater, 1988; Motiuk & Porporino, 1993), although a few studies were located that reported somewhat higher rates on one or more of the variables considered in this study (Baxter et

al., 1984; Briggs & Hawkins, 1996; Dhwan & Marshall, 1996; Petrovich & Templer, 1984). It is likely that the differences in rates reflect the differences in sampling, definitions and methodologies employed across studies.

Psychopathy, Affective Dyscontrol and Deviant Sexual Arousal

The present sample may be considered to have been relatively psychopathic according to the obtained mean PCL-R score of 19.4. In the sample, there were significant between-groups differences, with Rapists having higher scores on average than the other groups, which were not significantly different from one another. The mean score of 19.4 found in the present sample is higher than what has been reported in other samples of sex offenders. For example, Serin and his colleagues (1994) reported a mean rate of 15.3 for child molesters and rapists, and Quinsey and his colleagues (1995) reported mean scores varying from 12.9 for child molesters, to 18.4 for rapists. The present study was consistent in finding that rapists are more psychopathic than child molesters. Findings from the present study were also consistent in finding lower PCL-R ratings for samples of sex offenders than for samples of general criminals (Harpur et al., 1988). Nevertheless, the higher rates in the present study may be due, in part, to the large amount of information contained in medical charts which were used to score the PCL-R. It would seem that scoring the affective and interpersonal items (i.e., Factor 1) would be enhanced with extensive information upon which to base the score, rather than on a single interview, or less comprehensive files. For example, a rating of "1 - maybe" might easily be assigned to an offender for the item "Conning/Manipulative" based on information surrounding the index offence. However, with substantial background information and physicians'

progress notes, this score may move to a more definitive response of "2 - yes". A second possible explanation for the higher PCL-R scores might pertain to the sensitivity of the raters, who had not become desensitized to a criminal population.

Affective dyscontrol was operationalized for the present purposes as alcohol abuse (MAST), anger and hostility (BDHI), and psychiatric disturbance (BPRS). Total MAST scores indicated that overall, the group experienced considerable problems with alcohol abuse ($\underline{M}$ = 10.0), and that the Rapist group evidenced a more severe problem ($\underline{M}$ = 13.6) than the CM group ($\underline{M}$ =7.7). Alcohol appeared to be somewhat less of a problem for the Mixed group ($\underline{M}$ = 6.0), although the difference between the Mixed group and the other groups was not statistically significant. The overall mean MAST score found in the present study closely resembled that reported by Langevin and Lang (1990), for their sample of 461 sex offenders ($\underline{M}$ = 10.4). However, in that study no significant between-group differences emerged, although it is noteworthy that the group of pedophiles had a higher score than the group of sexual aggressives. It is possible that the low rate for sexual aggressives found by these investigators is a sample characteristic: there were only 35 offenders in this group.

Only one study was located that examined anger and hostility in sex offenders using the BDHI (Rada et al., 1983). In the present sample, there were no differences in mean BDHI scores between the groups, and overall, the sample in the present study was less hostile than the sample employed by Rada and his colleagues (1983). The overall mean BDHI score in the present study was 28.1, compared to 40.4 for rapists and 32.9 for child molesters in the Rada et al. (1983) study. In fact, the mean score in the present

study more closely resembled that for the controls ($\underline{M} = 24.5$) used by Rada and his colleagues, although the investigators did not specify the nature of the controls.

With respect to degree of psychiatric disturbance in the present sample, there were no differences between the groups for mean total BPRS scores. An inspection of item frequencies indicated that the most frequently observed symptomatologies were tension (73.4%), guilt (58.3%), and depressive symptoms (56.5%). Suspiciousness and somatic complaints were observed in approximately one-third of the sample. In general, these results appear congruent with other reports in the literature (Grossman & Cavanaugh, 1990; Williams & Finkelhor, 1990). Overall, the sample appeared to be relatively well-functioning, as indicated by a mean score of 11. It is important to note that for those offenders who displayed psychiatric disturbance, no causal relationship could be established. Therefore, it is unknown whether symptoms preceded or followed their sexual offending.

Deviant Sexual Arousal

A substantial body of literature has focused on the reliability and utility of phallometric measures of deviant sexual arousal to discriminate among groups of sex offenders. Whereas some studies have found differences among sub-groups of offenders (Barbaree & Marshall, 1989; Murphy et al., 1986), other studies have failed to find significant differences in deviant arousal scores (Malcolm et al., 1993). In the present study, when offenders received arouse instructions, the group of Mixed offenders demonstrated higher levels of deviant responding, on average, to child stimuli, than offenders in the CM group, or than Incest offenders. The CM group was also more

deviant in this respect than the Incest group. However, in the suppress condition, only the CM and Incest groups were significantly different, with CM offenders demonstrating more deviant arousal on average than Incest offenders. Mixed offenders appeared to be better suppressers than the other two groups; mean scores of the Mixed group did not show much change from scores obtained in the arouse condition.

Although removing low responders from the analysis did not alter statistical results for the CM and Incest groups, the significant differences that were found for the Mixed group and the Incest and CM offenders in the arouse condition disappeared. This was likely a function of the loss of statistical power, due to the diminished number of offenders in the Mixed group. Overall, results from the present study would suggest that low responders should be retained in future analyses of deviant sexual arousal.

As articulated in Chapter 3, comparisons between the Rapist and Mixed groups on the rape index score were not carried out because of the small number of Mixed offenders for whom the rape index was used. However, the obtained mean scores for the Rapists, in both the arouse and suppress conditions, do not appear to deviate from those reported in the literature (Lalumiere & Quinsey, 1994).

Characteristics of the Index Offence

In the present study, the offender groups differed on all of the index offence characteristics that were investigated. As might be expected, the sexual assaults committed by offenders in the Rapist group were more often carried out with the use of physical violence. This is in contrast to the relatively "violence-free" crimes perpetrated by Incest, CM and Mixed offenders. Rapists were also more likely than the offenders in

the other groups to have been under the influence of drugs or alcohol when they carried out their offence, and more likely to have claimed amnesia for the assault. In contrast to the offences committed by the Rapists, Incest and CM offenders, who appeared more alike than dissimilar, were unlikely to have used violence. However, in the one-fourth of cases in which violence was used, physical violence was more often employed than threats. The Mixed group appeared to resemble the Incest and CM groups more than the Rapist group on index offence characteristics. Although more Mixed offenders did not use violence than Mixed offenders who did use violence, they were the most likely offenders to have used threats in the commission of the offence. The picture that emerges from the data in the present study is consistent with the literature in suggesting that in general, sexual assaults perpetrated against adult women are more intrusive and more violent than those committed against children. However, it is important to note that some offenders in each group were extremely violent, and that at least one victim from each group of offenders was fatally assaulted.

Rates of Recidivism

The rates of recidivism found in the present study were compared to those computed by Hanson and Bussiere (1996) in their meta-analysis of 61 recidivism studies, and to those found in a recent Canadian study of 570 sex offenders released from federal institutions, conducted by Motiuk and Brown (1996). The general recidivism rate of 37.9% found in the present study is consistent with the rate of 36.0% reported by Hanson and Bussiere (1996), and slightly higher than the rate of 33.5% reported by Motiuk and Brown. When comparing the overall rates of sexual recidivism, the present study found a

rate of 12.2 %, which was considerably higher than 7.0% reported in the Motiuk and Brown (1996) study , but that was consistent with the rate of 13.4% reported by Hanson and Bussiere (1996). Hanson and Bussiere (1996) also reported a rate of 12% overall for non-sexual violent recidivism, which was considerably higher than the rate of 6.3% found in the present study. The rate of 19.5% reported by Motiuk and Brown (1996) was higher than either of these figures.

When comparing recidivism rates in the present study to those of the Hanson and Bussiere review (1996), and to those of Motiuk and Brown (1995), it is important to note that both the Hanson and Bussiere (1996) study and the Motiuk and Brown (1996) study considered recidivism to be convictions for new offences, whereas the present study also included charges in the definition of recidivism. With respect to violent non-sexual recidivism, the higher rate reported by Motiuk and Brown (1996) might be expected, considering that longer sentences imposed on offenders incarcerated in federal institutions suggest that they are a more "serious" group of criminals. In contrast, almost 40% of offenders in the present study did not receive jail sentences for the index offence, and a further 3.5% served sentences intermittently. This suggests that the present sample included a substantial proportion of "less serious" criminals, according to judicial criteria. An alternative explanation for the difference in violent, non-sexual recidivism rates is also possible. It may be that convictions for violent non-sexual offences in the other studies resulted from what were initially, charges for sexual offences. This could also explain the higher rate of sexual recidivism found in the present study.

When considering recidivism rates for different categories of offenders, the meta-analysis conducted by Hanson and Bussiere only considered child molesters and rapists. These authors found a greater difference in the rates for sexual recidivism between these two groups than the present study (18.9% for rapists and 12.7% for child molesters reported by Hanson & Bussiere, compared to 16.3% and 15.1% for the Rapist and CM groups respectively in the present study). Motiuk and Brown (1996) found that a "caseload" group of pedophiles who were followed for 52 months had higher rates of sexual recidivism (9.7%), than a caseload group of rapists (5.9%). However, when these investigators considered another group of new release cases, rapists had a higher rate of sexual recidivism (7.5%), than pedophiles (3.6%). Of particular relevance to the present discussion are the rates for the incest offenders. For the incest offenders in Motiuk and Brown's caseload group had a sexual reconviction rate of 4.4%, while the rate for the new release group was 2.8%. Both of these rates are lower than the rate of 6.4% found for the Incest group in the present study. However, when an allowance is made for charges that may not have resulted in convictions, and given that the follow-up in the present study was considerably longer , rates for both studies appear comparable.

The group of Mixed offenders in the present study had the highest rate of sexual recidivism (22.4%) and the highest rate of overall recidivism (55.9%). These figures are somewhat higher than those reported in a recent study conducted by Belanger and Earls (1996), who reported rates of 19.3% and 43.9% for sexual and total recidivism respectively, for their group of 57 mixed sexual offenders. These authors defined recidivism to include charges as well as convictions, as did the present study. However,

the difference in rates may reflect the shorter follow-up period in the Belanger and Earls study (1996). The average follow-up in that study was 59 months, compared to 88 months (7.3 years) in the present study.

Overall, the rates of recidivism found in the present sample are consistent with previous reports in finding that for overall recidivism, rapists have higher rates than child molesters, while incest offenders reoffend less often than either of these groups. In the present study, the Mixed group had the highest rate of overall recidivism, and as might be expected, also had the highest rate of sexual recidivism. For non-sexual recidivism, the Mixed group's rate fell between that of the CM and Rapist groups, although the difference between group rates was not significant. The rates for sexual recidivism found for the other groups in the present study appear relatively consistent with previous reports.

In the present study, no between-group differences in patterns of recidivism throughout the follow-up period were found for any definition of recidivism. This is in contrast to the results of a study conducted by Quinsey, Rice and Harris (1995) that found significant differences in the reconviction patterns of rapists and child molesters, for both sexual and violent offences. For both categories of reoffences, the investigators found that throughout the follow-up period, which averaged 59 months, rapists were at greater risk to recidivate than child molesters. There are several possible explanations for the failure of the present study to replicate these findings. First, the lack of significant differences between group survival functions in the present study may have been due to the relatively small number of subjects in some categories. For example, there were only 14 Rapists and 13 Mixed offenders who were sexual recidivists. When non-sexual recidivism was further

subdivided into violent and non-violent categories, there were only 7 Rapists and 3 Mixed offenders whose first post-index offence was violent, non-sexual in nature. Second, the definition of violent recidivism used by Quinsey and his colleagues (1995) did not correspond to any definition used in the present study. In the Quinsy, Rice and Harris study (1995), the category of violent recidivism included sexual recidivism, whereas in the present study, recidivism categories were mutually exclusive. Third, the varying results in the two studies may reflect true population differences. The sample used by Quinsey and his colleagues (1995) was drawn from a maximum security psychiatric facility, in contrast to the present study's sample, which was drawn from a population, 40% of whom were never incarcerated at all for the index offence. Nevertheless, life table data generated from the present sample appeared to support the contention of Quinsey and his colleagues, that there was no evidence of burn-out in the sample during the first few years at risk. In the present sample, offenders continued to recidivate until the end of the follow-up period.

Delineating Recidivists and Non-Recidivists in Incest, CM, Rapist and Mixed Offender Groups

This section presents a discussion of the differences that emerged between the recidivists and non-recidivists in each of the offender groups, and are organized around the study's hypotheses.

As hypothesized, recidivists in all of the groups demonstrated a greater degree of psychopathy, as indicated by mean PCL-R scores, than non-recidivist counterparts. For the Incest and CM groups, this was a robust finding. The difference between mean scores for recidivists and non-recidivists in the Rapist group was somewhat less robust than the

differences found in the Incest and CM groups, while the difference for Mixed recidivists and non-recidivists just missed achieving statistical significance ($p = .06$). It is likely that low statistical power was a factor, given that there were only 59 subjects in the Mixed group, compared to 251 Incest offenders, 192 CMs, and 86 Rapists. However, the finding that recidivists evidence more psychopathic qualities than non-recidivists is consistent with previous findings (Quinsey et al., 1995).

In the present study, psychiatric disturbance was assessed by the number of DSM diagnoses assigned at the time of the initial psychiatric interview. Contrary to expected results, non-recidivists in all of the groups had a greater number of assigned diagnoses than recidivists. The difference achieved statistical significance in the Incest group. In a previously reported study of recidivism in a group of mixed sexual offenders, a greater proportion of recidivists had received a hospital diagnosis for a personality disorder than non-recidivists, although the difference was not significant (Qunisey et al., 1995). In another study, schizophrenia was found to reduce the risk of recidivism (Rice & Harris, 1993). The findings of the present study also suggest that having a psychiatric diagnosis reduces the risk of recidivism. To explain the apparent protective influence of having received a DSM diagnosis, it may be that offenders who received a DSM diagnosis at the time of assessment were monitored more closely when they were at risk. These offenders may have been referred for psychiatric treatment more frequently by parole officers, because their initial diagnosis was perceived to increase the risk of recidivism. Thus, it may be that it is the closer supervision associated with receiving psychiatric treatment that serves as a protective factor, and not the DSM disorder itself.

In the present study, the failure of the PI to discriminate between Incest and CM recidivists and non-recidivists was unexpected, and stood in contrast to results of previous work, which has found that sexual recidivists exhibit more deviant sexual arousal to child stimuli than non-recidivists (Barbaree & Marshall, 1988; Hanson & Bussiere, 1996; Proulx et al., 1996; Quinsey et al., 1995). However, another study found that this difference was not apparent when non-sexual recidivism was considered (Malcolm et al., 1993). Thus, to account for the present findings, two possible explanations are offered. First, the present study did not examine variables that delineated recidivists and non-recidivists for different categories of recidivism, and it is possible that this study's high rate of non-sexual recidivism, relative to sexual recidivism, obscured differences that may have been present if sexual recidivism had been considered separate to non-sexual recidivism. However, the small number of cases of sexual recidivism in the present study precluded performing a meaningful analysis to determine whether deviant arousal was a risk predictor specific to sexual recidivism. It is also possible that the sample in the present study reflects an absence of true population differences. The present sample may be considered less extreme, based on characteristics of the index offence, than other samples, which were recruited from incarcerated populations. Results of the Mixed group in the present study appear to lend support to this hypothesis. The reader may recall that Mixed recidivists obtained higher PI scores than non-recidivists in all analyses performed. Mixed offenders may be the most aberrant group in the present study, in that all of the offenders in this group perpetrated sexual assaults against more than one victim.

Therefore, a more extreme group of offenders may be needed to show differences in deviant sexual arousal scores.

The failure of the present study to find significant differences between recidivists and non-recidivists on the RI was also unexpected, but less troublesome than for the PI index. Although sexual and violent recidivists have been distinguished from non-recidivists in a group of rapists assessed at a maximum security psychiatric facility (Rice et al., 1990), results of the present study replicate the recent findings of Proulx and his colleagues (1997), who also failed to find significant differences between recidivists and non-recidivists in a group of sexual assaulters. Moreover, results from the present study and the Proulx et al. study (1997) appear to support the contention that assessment of arousal to rape stimuli has limited utility in determining dangerousness (Blader & Marshall, 1989).

A unique contribution of the present study was the inclusion of several variables that operationalized negative childhood experiences of the offenders. Although the literature has reported that sex offenders evidence higher rates of adverse family and personal circumstances in their backgrounds, than the general population (Hanson, Lipovsky & Saunders, 1994; Prentky et al., 1989) , these factors have not been the focus of recidivism studies. The present study hypothesized that recidivists in each group would have experienced more negative childhood experiences than their non-recidivist counterparts. Although Incest and CM recidivists were distinguished from non-recidivists on several negative childhood experiences variables, none of the variables delineated recidivists and non-recidivists in the Rapist or Mixed groups.

Of the significant differences that were found in the present study between recidivists and non-recidivists in the Incest and CM groups, only a history of family violence and childhood physical abuse were significantly correlated with recidivism for both groups. Unfortunately, these variables were not included in the other recidivism studies that considered negative childhood experiences, so it is unknown whether the present findings are sample characteristics, or whether they might apply to incest offenders and child molesters more generally. However, the fact that none of the negative childhood experiences variables were found to be significant predictors of recidivism in the discriminant function analysis suggests that these factors may not be important in determining future offending.

For variables that assessed the degree of affective dyscontrol experienced by the offenders, alcohol abuse, as measured by total MAST scores appeared to be the most effective delineator, and distinguished between recidivists and non-recidivists in the Incest, CM and Rapist groups. This result confirms results of previous work, which has also found alcohol abuse to be significantly correlated with recidivism (Hanson & Bussiere, 1996; Motiuk & Brown, 1996).

Anger and hostility were also conceptualized as affective dyscontrol indicators, and were measured by means of the BDHI. Recidivists in the Incest and CM groups evidenced more anger and hostility than the non-recidivists in these groups, but recidivists in the Rapist and Mixed groups were not distinguished from their non-recidivist counterparts by their level of anger and hostility. In another study, child molesters who recidivated were also found to have higher levels of anger than non-recidivists, while the

opposite effect was found for the rapists who recidivated (i.e., recidivists had lower mean anger scores than non-recidivists) (Proulx et al., 1997). Anger was found to be unrelated to recidivism in a recent meta-analysis of predictors of recidivism, which sampled across offender type (Hanson & Bussiere, 1996). Taken together, these results suggest that anger may increase the risk of recidivism only for offenders who sexually assault children, but not for those who perpetrate their assaults against adult women.

Finally, the failure of the BPRS to find significant differences between recidivists and non-recidivists in any of the groups may speak to the limited usefulness of this instrument in assessing affective dyscontrol, or in assessing dangerousness. No other studies were found that used this instrument in a sample of sex offenders.

A final study hypothesis predicted that recidivists would have committed more serious index offences than non-recidivists, as indicated by a greater degree of violence, and by more intrusive sexual acts. Again, there was only limited support for this variable in the Incest and CM groups; there was no support for the hypothesis in the Rapist or Mixed groups. For the Incest and CM offenders, it appeared that not using threats or violence in the index offence was the critical dimension that distinguished non-recidivists and recidivists, rather than the use of threats or physical violence. Similarly, the aspect of sexual assault that delineated recidivists and non-recidivists in the Incest group was touching, and not the more serious act of penetration or the use of excessive violence. These results appear consistent with previous results. Hanson and Bussiere (1996) found that the use of force, or victim injury was weakly, but significantly correlated ($\underline{r}$ = .13)

with general recidivism, while intrusiveness was negatively (but significantly) correlated with general recidivism (r = -.03) in their meta-analysis of recidivism studies.

Heterosexual and Homosexual Offenders Against Children

The proportion of heterosexual (66%) and homosexual (24%) child offenders in the present study differs somewhat from distributions reported by other researchers. Two studies reported figures of approximately 58% for heterosexual child molesters, and 34% and 41% for homosexual offenders (Freund & Watson, 1992; Marshall et. al., 1991). In both of these studies, child molesters had offended outside of the family, whereas the present study included incest offenders in the groups. If incest offenders are removed, the proportions of heterosexual and homosexual offenders in the present study are 44.9% and 47.1% respectively. (The remaining 8.0% were bisexual offenders.) Thus, it appears that a greater proportion of homosexual extrafamilial child offenders are seen at the SBC than in other Canadian assessment facilities, as based on the gender of the victims. Group composition figures also indicate that the group of Incest offenders in the present study was almost exclusively heterosexual (91%).

Heterosexual and homosexual offenders in the present study also appeared to be somewhat older (Ms 40.0 years and 39.1 years respectively) than samples recruited by other researchers, whose samples have been approximately 30 years old (Baxter et al., 1984; Freund & Watson, 1992; Marshall et al., 1991). However, it is likely that the inclusion of incest offenders, who were older on average than the CM offenders, inflated mean scores for the heterosexual and homosexual groups in this study. With respect to other characteristics of the sample, the finding that homosexual offenders were more likely

to have never been married, had more convictions for sexual offences prior to the index crime, and were more likely to have had multiple victims than heterosexual offenders, is also consistent with results reported by other investigators (Baxter et al., 1984).

In the present study, there were no significant differences between the heterosexual and homosexual groups on any of the study variables. It is interesting to note that the backgrounds of homosexual offenders appeared to be slightly more favourable (as indicated by a lower proportion of homosexual offenders who reported having experienced each of the negative childhood experiences) than those of the heterosexual offenders, with one exception. It has been found that homosexual offenders report a higher incidence of sexual victimization in childhood than heterosexual offenders (Hanson & Slater, 1988). This trend was maintained in the present study, although the difference was not statistically significant (a history of sexual abuse was reported by 40.7% and 32.6% of homosexual and heterosexual offenders respectively, $p = .12$).

In the present study, there was no difference in overall recidivism rates of heterosexual (33%) and homosexual (31%) offenders, a finding that replicates that of Barbaree and Marshall (1988). When recidivism was defined as sexual reoffending, homosexual offenders had a higher rate (15%) than heterosexual offenders (9%), although the difference just missed achieving statistical significance ($p < .06$). In contrast, another trend ($p < .07$) indicated that heterosexual offenders had a higher rate of non-sexual recidivism (24%) than homosexual offender. In general, these results appear to support the contention that heterosexual offenders are at higher risk than homosexual

offenders for non-sexual recidivism, but that homosexual offenders pose an increased risk to reoffend sexually (Quinsey, Lalumiere, Rice & Harris, 1995).

A comparison of survival functions for heterosexual and homosexual offenders indicated that, despite the lack of difference in overall recidivism rates, the groups had different patterns of reoffending during the follow-up period. Heterosexual offenders reoffended at a faster rate than homosexual offenders during the first year at risk, which appeared to reflect the rapid rate at which heterosexual offenders committed new non-sexual offences. There were no between-group differences in recidivism patterns for sexual or non-sexual recidivism.

Predicting Recidivism

The final facet of the present study consisted of a series of discriminant function analyses that were performed to determine whether prediction of recidivism could be improved beyond base-line rates for each of the groups. To the writer's knowledge, there is only one other study that considered differential predictors of recidivism according to offender typology (Proulx et al., 1997), and the other study was limited to two groups, one child molester group, and a group of sexual aggressors. Thus, the present study extends our knowledge by including the Incest group and the Mixed group, and by considering the dimension of homosexual and heterosexual offending.

Despite the relatively large number of variables that distinguished recidivists and non-recidivists in the Incest and CM groups, few were able to improve prediction above chance rates. For the Incest group, these variables were age, PCL-R score, and self-reported history of violence. For the CM group, the PCL-R score alone emerged as the

best predictor of recidivism; adding the number of previous convictions for non-violent offences reduced correct classification of recidivists. In contrast, there were no variables that distinguished recidivists and non-recidivists in the Rapist group, although the PCL-R approached significance. For the Mixed offenders, the number of previous non-violent convictions was able to improve prediction, and accounted for the largest amount of variability between recidivists and non-recidivists. Although the PI score, in the suppress condition did not account for as much between-group variability as the number of previous non-violent convictions, prediction of recidivists was improved beyond the rate found for non-violent convictions. However, there was a considerable reduction in the proportion of non-recidivists that were correctly classified. Specifically, correct classification of non-recidivists fell from 89% for number of previous non-violent convictions to 57% for PI suppress scores.

Prediction for heterosexual recidivists was improved with additional information provided by the number of previous convictions for non-violent offences, the PCL-R score, the PI score under suppress conditions, and self-reported history of violence. For the homosexual offenders, the PCL-R score, a self-reported history of family violence, and the total BDHI score formed the discriminant function that maximally separated recidivists and non-recidivists.

Overall rates of correct classification in the groups ranged from 67.7% for the CM group to 78.5% for the Incest offenders. However, there was considerable variability in classification rates of recidivists and non-recidivists, with correct classification of non-recidivists being somewhat better than correct classification for recidivists in all of the

groups. There were also differences in classification rates observed between the groups. For example, improvement over chance prediction for recidivists and non-recidivists in the Incest group was 20% and 17% respectively. While this rate was similar for the CM group (22% and 15%), it was substantially different than the RIOC for the Mixed group, which was only 4% for Mixed recidivists, and was 40% for Mixed non-recidivists.

The overall correct classification rates found in the present study are similar to those reported by Barbaree and Marshall (1988) for a sample of child molesters (70%), and similar to those reported by Quinsey and his colleagues for their sample of Mixed offenders (72%). A higher overall rate of 82% was reported by Proulx and his colleagues (1997), although on closer examination, this was mainly due to the large percentage of non-recidivists that were correctly classified (94%). It is important to note that prediction was based upon different variables across studies, which supports the contention of Quinsey and his colleagues (1995), that different factors may be operating in any particular recidivism study that may not be applicable to other samples. Specifically, in the Barbaree and Marshall study (1988), prediction was based upon a factor the authors termed "sexual deviance", which was composed of the deviant sexual arousal quotient, and several offence history variables, while Quinsey and his colleagues (1995) found that psychopathy, as assessed by the PCL-R, a deviant arousal score, and previous criminal history were the most useful predictors. In the Proulx et al. (1997) study, the highest rate of prediction overall was found when criminal history, age and relationship status were entered into the analysis. However, sensitivity (i.e., percentage of recidivists correctly classified) was most improved when the authors used the initial phallometric assessment with slides data.

The most notable difference between the prediction results of the present study and those of earlier work is the failure of deviant sexual arousal scores to predict recidivism in the present sample (with the exception of the Mixed group). Although differences in assessment techniques or methods of data analysis may have accounted for the difference, it is more likely that population differences are the key factor. The distributions of PI and RI scores in all of the groups in the present study were extremely skewed, with a concentration of low scores evident in all sub-groups (i.e., recidivists and non-recidivists in all of the offender groups). This suggests that in general, the sample did not display as much arousal to child or rape stimuli as other samples.

In the present study, the PCL-R emerged as the most robust discriminator of non-recidivists and recidivists in all of the groups, except for the Mixed group. This finding, coupled with similar findings from earlier work (Quinsey et al., 1995; Rice et al., 1990), suggests that the PCL-R may be a valuable tool in the prediction of future offending in samples of sex offenders.

CHAPTER 7

Conclusion

The present research project serves to illustrate the complexity of the many facets of sexual offending, and the challenge facing researchers and clinicians in attempting to predict future criminal behaviour in this population. In the process of bringing this project to fruition, several key factors pertaining to the study of sex offenders came into sharp focus for the researcher; limitations of the present study were also illuminated. This chapter highlights these observations and limitations and offers strategies for future research that may further refine our ability to understand the nature of sex offenders, and that might enhance our ability to predict recidivism.

The most fundamental issue arising from the present work was the extensive differences between the groups of offenders that were studied. It may be recalled that the groups differed on almost all of the variables considered in the study. These results provide compelling testimony that sex offenders are not a homogeneous group, and that efforts to study them should continue to make clear distinctions between groups, according to victim characteristics. To the extent that sample sizes afford it, groups should be as "pure" as possible. The predictive analyses that were an integral part of this study also indicated that the type of offender has important implications for identifying risk predictors. Thus, grouping all sex offenders together may obscure important differences and may hinder efforts to develop accurate and effective prediction tools.

The inclusion of the Mixed group in the present study was a post-hoc decision, and to some extent, was exploratory. Notwithstanding the relatively small size of this group,

important characteristics emerged. Overall, they did not appear to resemble either offenders against children or offenders against adult women. In some respects, such as deviant sexual arousal and recidivism risk, they appeared to be the most vexatious and sexually aberrant group. In other respects, such as their use of alcohol and drugs, they appeared to pose fewer treatment challenges. Future research should continue to consider mixed offenders as a separate and distinct group of sexual offenders.

Results of the present study also suggest that it may be fruitful to continue to discriminate among child offenders based upon victim gender. Although there were few differences between the heterosexual and homosexual groups in the present study, different risk predictors emerged from the discriminant function analysis. A limitation of the present study was the high proportion of incest offenders who assaulted female children, which precluded a finer discrimination, based on victim gender, between the CM and Incest groups. Future research might explore this dimension of sexual offending more fully.

It was clear from the distributions of most of the study variables that not only were between-group differences evident, but intra-group variability was also present. However, the extent to which extreme cases (at either end of the distribution) were extreme on multiple variables was not fully investigated in the present study. Thus, whether cases show extreme scores on variables that cluster together, such as negative childhood experiences or affective dyscontrol, and the impact that this might have on recidivism risk is unknown. Future studies might endeavor to explore extreme cases more thoroughly, in

an effort to determine those individuals who pose either an increased or reduced risk of recidivating.

The present study not only highlighted the importance of considering offender typology in the development of recidivism prediction instruments, but also underscores the importance of choosing predictor variables carefully. This was evident when sensitivity (i.e., the correct detection of recidivists) was reduced by the inclusion of additional variables in a discriminant function, even though these variables were significantly correlated with recidivism. This finding also suggests that there may be moderator variables that serve to increase or decrease the impact of other variables. Clearly, as our database continues to develop and expand, researchers may begin to develop and test causal models.

A limitation of the present study was the determination of recidivism based upon the first post-index offence. However, the focus of the present investigation was the prediction of overall recidivism within groups of sex offenders, and it was not initially conceived that some offenders would continue to remain at risk to reoffend following a second, or third post-index offence. In fact, some offenders not only remained at risk to reoffend following a second post-index offence, but continued to recidivate. The most obvious impact of failing to consider all post-index offences is a reduction in recidivism rates for different types of recidivism, such as sexual recidivism and violent recidivism. Future studies might improve on the current study's methodology by considering all reoffences, although this may also serve to hinder the ability to determine predictors of specific types of recidivism. That is, there is evidence to suggest that important predictors

of sexual recidivism may be different than those that successfully predict non-sexual recidivism (Hanson & Bussiere, 1996). Thus, including an offender in multiple categories of recidivism might obscure important and unique predictors of each form of recidivism.

When the present study was conceptualized, it was anticipated that cognitive measures would be included in the analyses. Unfortunately, the SBC did not begin using these instruments at the inception of the clinic; instead, these measures were added to the assessment package at different time points, as the clinic and assessment process evolved. Because of the paucity of data that were available for the present sample, the cognitive dimension was not explored. However, this remains as an important task for future researchers, given that cognitive variables have not been the focus of recidivism studies. Nevertheless, the one study that did consider rape myths (Proulx et al., 1997) found sexual aggressors who recidivated endorsed more items than those who did not recidivate. Similarly, future recidivism studies should examine the impact of social skills, social isolation and victim empathy variables. This may be important because the dynamic nature of these variables suggest they may be moderated through treatment, whereas other factors, such as criminal history, are not amenable to treatment.

The present study was retrospective in nature. The benefits of conducting this type of study included the large number of subjects that were studied, the opportunity to observe offenders throughout a lengthy follow-up period, and the reduced demand on scarce resources associated with conducting a prospective study. However, the present study, as is the case for most retrospective research, included many historical variables. In some cases documentation contained in medical files substantiated offender self-reports

of past substance abuse, criminal behaviour, juvenile psychiatric history, and other factors. However, reliance on subjects' memory introduces a certain amount of error, which may be greater in populations of sex offenders. Many offenders in the present study were assessed prior to being tried their offence. They may have been highly motivated to avoid jail sentences by "forgetting" past substance abuse, criminal acts, or other events that they perceived would be viewed unfavourably by the courts. An indication of this was provided by the finding that offender self-reports of previous convictions were only moderately correlated ($r = .60$) with information contained in CPIC records. A retrospective study also precludes establishing even the most tentative of causal relationships. It is plausible that certain factors, such as an adverse childhood environment or early exposure to sexually deviant role models, predisposes an individual to commit a sexual offence. However, it is also plausible that situational factors, such as prolonged alcohol abuse, repetitive failures in interpersonal relationships or other adverse circumstances serve to perpetuate sexual offending. However, discovering those variables that might be key intervening variables, and that are virtually impossible to identify through retrospective study, might be facilitated through the use of a prospective design. As the number of identified adolescent sexual offenders continues to grow, so does the viability of a prospective study.

Finally, this study made no attempt to consider the impact of treatment on recidivism risk. It is the contention of this investigator that the issue of treatment effects merits a focused and in-depth research effort. Such an effort was beyond the scope of the

present study. Nevertheless, this remains an important area to investigate in a population, almost one-half of whom escaped incarceration for their sexual offending.

In conclusion, the present study realized one of its primary goals, which was to determine that predictors of recidivism vary according to offender typology. In this respect, the present study has extended our current knowledgebase. However, it is also clear that the science of recidivism prediction has more to achieve before we are justified in relaxing our research efforts. In a recent review of federal inmates, Motiuk and Belcourt (1997) estimated that there are now in excess of 4,700 sexual offenders in institutions and in the community. When the number of sex offenders who are under provincial jurisdiction are also factored in, it becomes clear that Canada has a grave problem with sexual offending. Further, this problem appears to be on the rise, as indicated by increasing numbers of offenders who have come to the attention of correctional service personnel in recent years (Motiuk & Belcourt, 1997). The importance of identifying offenders at high risk of perpetuating their criminal behaviour cannot be overstated. However, it is equally important to accurately identify offenders who are perceived, at the time of sentencing, to pose a relatively low risk, if any, of recidivating, but who go on to commit further crimes. In the present sample, more than one-quarter of offenders who did not receive a jail sentence for the index offence became recidivists. It is hoped that the present research provides the impetus for other researchers to continue to refine recidivism prediction by narrowing the focus to sub-groups of sexual offenders. It is clear that the benefits of accurate identification of offenders at risk to

recidivate extend beyond the obvious financial gains for the correctional system, to the less obvious, but perhaps more important gains for potential victims of sexual assault.

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APPENDIX A

Many of the questions in this package concern issues which are highly personal. Therefore, whether you answer them or not is your choice. However, if you choose to respond to them, it is important that your answers be as honest and as accurate as possible.

CONSENT

I _____, hereby consent to answer the attached questionnaires. Furthermore, provided that my name is kept confidential, I consent to the use of this information for research purposes.

Date _____ Signature _____

Date _____ Witness _____

CONSENT FORM FOR THE PENILE TUMESCENCE PROGRAMME

I, _____of _____hereby consent to the assessment of penile tumescence as part of the assessment of sexual disorders/dysfunction under the care of Dr(s) _____.

I understand that I will be undergoing this special test(s) to assess and monitor my present condition. The procedure has been fully explained to me and I understand that explanation.
I also understand that I am free to withdraw from this programme at any time.

Signature: _____

Witness: _____

I hereby confirm that I have explained this assessment programme to :_____.

Signature: _____

Date: _____

BRADFORD FORENSIC ASSESSMENT FORM (1992)

1. Chart# _____ 2. Name _____

3. Date _____ 4. Age _____ 5. Sex _____

6. Marital Status
____ Single - no steady girl/boy friend
____ Single - steady girl/boy friend
____ Married
____ Common-law
____ Divorced*
____ Separated*
____ Widowed*

*Due to alleged offence
__Yes __ No

7. Education _____ (total # of yrs)

7b. Occupation (highest attained) _____

7c. Country of birth _____ Religion _____

8. Referring Agent _____

9. Past Convictions _____ (approx. #)

10. Alleged Offence(s)	When	(Admit/Deny/Amnesia)	(charged/convicted
a. _____	____	(____/____/____)	(____/____)
b. _____	____	(____/____/____)	(____/____)
c. _____	____	(____/____/____)	(____/____)

11. DSM III Diagnosis (#)	12. Paraphilia(s)	(Admit/Deny)
a. _____	a. _____	(____/____)
b. _____	b. _____	(____/____)
c. _____	c. _____	(____/____)

Patient History:	Yes	No	Still present
13. History of alcohol dependency	___	___	Y N
14. History of drug abuse	___	___	Y N
15. History of suicidal behaviour	___	___	Y N
16. Previous psych. contact	___	___	
17. Previous forensic contact	___	___	
18. Previous inpt. forensic contact	___	___	
19. Previous history of violence	___	___	
20. Currently employed	___	___	

21. Linear family history of

____ a. alcoholism
____ b. drug abuse
____ c. mental illness
____ d. criminal record

22. Present suicidal behaviour

____ a. ideation
____ b. acts
____ c. nil

23. Mental state at time of alleged offence

____ a. influenced by drugs/alcohol
____ b. influenced by mental disorder
____ c. nil

24. Violence of act (Degree of physical damage to victim)

____ 0. Nil
____ 1. Threat of assault / no weapon
____ 2. Threat of assault / with weapon
____ 3. Minor injury / no weapon
____ 4. Minor injury / with weapon
____ 5. Severe beating / no weapon
____ 6. Severe beating / with weapon
____ 7. Potential homicide
____ 8. Homicide
____ 9. Homicide with post-death mutilation

24b. Degree of sexual assault

____ 0. Nil
____ 1. Verbal threat
____ 2. Attempt
____ 3. Touching
____ 4. Penetration
____ 5. Sexual assault with excessive violence

25. Victim(s) Age

	Number of victims (by sex) males	females
a. 0 - 4	____	____
b. 5 - 12	____	____
c. 13 - 15	____	____
d. 16 and over	____	____

26. Victim's relationship to patient: (you may check more than one)

____ a. stranger
____ b. acquaintance
____ c. relative (grandson/daughter, niece/nephew)
____ d. step-son/daughter
____ e. daughter/son
____ f. sibling

27. Admission status:
____ a: Voluntary
____ b. Form 1
____ c. Warrant of remand/Assessment Order
____ d. L.G.W. / N.C.R.
____ e. Other involuntary status

27b. Position in Criminal Process

____ a. Pre-trial
____ b. Pre-sentence
____ c. Pre-release from incarceration
____ d. Probation
____ e. Other _____
____ f. Nil

28. **Only for sexual offenses against children**

Degree of pedophilia

____ 1. Patient has had sexual contact with a physically mature person and committed the offense against a child as an incidental part of a pattern of anti-social conduct.

____ 2. Patient is a situational offender who is primarily attracted adults.

____ 3. Patient has a preference for sexual contact with physica immature individuals and has (had) established patterns of sex conduct with children.

29. **For incest cases**

Is this an FCC custody dispute case? Yes ____ No ____

Bradford Sexual History Inventory

(Bradford, Pawlak, Boulet, Curry)

SECTION A

1. When you were 12 and younger did you ever have sexual contact with anyone 16 or older?

yes ____ no ____

if you answered no then skip to section B

2. When you were 12 and younger how many times did you have sexual contact with someone 16 or older?

once ___ 2 - 5 ___ 6 - 10 ___

11 - 50 ___ 51 - 100 ___ over 100 ___

3. What was the nature of the contact?
(you may check off more than one)

touching ____

oral sex ____

intercourse ____

anal intercourse ____

other (specify) _____

3b. How did the adult(s) get you to have the sexual contact with him or her?

bribery or verbal persuasion
(eg. candy, money, friendship) ____

threats (to tell others) ____

threats (to physically hurt you or others) ____

physically forced the sexual contact ____

severely physically hurt you ____

nothing - you were willing ____

4. What was the relationship between you and the adult(s) who had sexual contact with you, when you were 12 and younger? Please write how many adults for each type of relationship.

	male	female
stranger	____	____
acquaintance	____	____
brother/sister/cousin	____	____
relative (aunt, uncle, etc)	____	____
parent (mother, father)	____	____
step-parent	____	____

5a. How old were you when the first sexual contact (referred to in question 2) occurred?

_____ years

5b. How old were you when the sexual contact stopped?

_____ years

SECTION B

1. When you were 13 to 16 years of age did you ever have sexual contact with anyone 20 or older?

yes ____ no ____

if you answered no then skip to section C

2. When you were 13 to 16 years of age how many times did you have sexual contact with someone 20 or older?

once ___ 2 - 5 ___ 6 - 10 ___

11 - 50 ___ 51 - 100 ___ over 100 ___

3. What was the nature of the contact?
(you may check off more than one)

touching ____

oral sex ____

intercourse ____

anal intercourse ____

other (specify) _____

3b. How did the adult(s) get you to have the sexual contact with him or her?

bribery or verbal persuasion (eg. candy, money, friendship) ____

threats (to tell others) ____

threats (to physically hurt you or others) ____

physically forced the sexual contact ____

severely physically hurt you ____

nothing - you were willing ____

4. What was the relationship between you and the adult(s) who had sexual contact with you, when you were between 13 and 16? Please write how many adults for each type of relationship.

	male	female
stranger	____	____
acquaintance	____	____
brother/sister/cousin	____	____
relative (aunt, uncle, etc)	____	____
parent (mother, father)	____	____
step-parent	____	____

5a. How old were you when the first sexual contact (referred to in Section B, question 2) occurred?

_____ years

5b. How old were you when the sexual contact stopped?

_____ years

QUESTIONNAIRE ON DRINKING PRACTICES -(MAST)

DIRECTIONS: Check (✓) YES or NO; answer all questions.

		Scoring Key
1.	Do you feel you are a normal drinker?	Yes ___ No ___
2.	Have you ever awakened the morning after some drinking the night before and found that you could not remember a part of the evening before?	Yes ___ No ___
3.	Does your spouse (or parents) ever worry or complain about your drinking?	Yes ___ No ___
4.	Can you stop drinking without a struggle after one or two drinks?	Yes ___ No ___
5.	Do you ever feel bad about your drinking?	Yes ___ No ___
6.	Do friends or relatives think you are a normal drinker?	Yes ___ No ___
7.	Are you always able to stop drinking when you want to?	Yes ___ No ___
8.	Have you ever attended a meeting of Alcoholics Anonymous (AA) because of your drinking?	Yes ___ No ___
9.	Have you gotten into fights when drinking?	Yes ___ No ___
10.	Has drinking ever created problems with you and your spouse?	Yes ___ No ___
11.	Has your spouse (or other family member) ever gone to anyone for help about your drinking?	Yes ___ No ___
12.	Have you ever lost friends or girl friends/boy friends because of drinking?	Yes ___ No ___
13.	Have you ever gotten into trouble at work because of drinking?	Yes ___ No ___
14.	Have you ever lost a job because of drinking?	Yes ___ No ___
15.	Have you ever neglected your obligations, your family or your work for two or more days in a row because you were drinking?	Yes ___ No ___
16.	Do you ever drink before noon?	Yes ___ No ___
17.	Have you ever been told you have liver trouble? Cirrhosis?	Yes ___ No ___
18.	Have you ever had delirium tremens (DTs), severe shaking, heard voices, or seen things that weren't there after heavy drinking? ...	Yes ___ No ___
19.	Have you ever gone to anyone for help about your drinking?	Yes ___ No ___
20.	Have you ever been in a hospital because of drinking?	Yes ___ No ___
21.	Have you ever been a patient in a psychiatric hospital or on a psychiatric ward of a general hospital where drinking was part of the problem?	Yes ___ No ___
22.	Have you ever been seen at a psychiatric or mental health clinic, or gone to a doctor, social worker, or clergyman for help with an emotional problem in which drinking had played a part?	Yes ___ No ___
23.	Have you ever been arrested, even for a few hours, because of drunk behaviour?	Yes ___ No ___
24.	Have you ever been arrested for drunk driving or driving after drinking?	Yes ___ No ___

Use the "Answer Sheet" for recording your answers to the seventy-five statements listed below and on the next page. Decide if each of the statements is true (T) or false (F) as it pertains to you and record you response on the appropriate line on the answer sheet.

1. Unless somebody asks me in a nice way, I won't do what they want.
2. I don't seem to get what's coming to me.
3. I sometimes spread gossip about people I don't like.
4. Once in a while I cannot control my urge to harm others.
5. I know that people tend to talk about me behind my back.
6. I lose my temper easily but get over it quickly.
7. When I disapprove of my friends' behaviour, I let them know it.
8. When someone makes a rule I don't like, I am tempted to break it.
9. Other people always seem to get the breaks.
10. I never get mad enough to throw things.
11. I can think of no good reason for ever hitting anyone.
12. I tend to be on my guard with people who are somewhat more friendly than I expected.
13. I am always patient with others.
14. I often find myself disagreeing with people.
15. When someone is bossy, I do the opposite of what he asks.
16. When I look back on what's happened to me, I can't help feeling mildly resentful.
17. When I am mad, I sometimes slam doors.
18. If somebody hits me first, I let him have it.
19. There are a number of people who seem to dislike me very much.
20. I am irritated a great deal more than people are aware of.
21. I can't help getting into arguments with people when they disagree with me.
22. When people are bossy, I take my time just to show them.
23. Almost every week I see someone I dislike.
24. I never play practical jokes.
25. Whoever insults me or my family is asking for a fight.
26. There are a number of people who seem to be jealous of me.
27. It makes my blood boil to have somebody make fun of me.
28. I demand that people respect my rights.
29. Occasionally when I am mad at someone I will give him the "silent treatment".
30. Although I don't show it, I am sometimes eaten up with jealousy.
31. When I am angry, I sometimes sulk.
32. People who continually pester you are asking for a punch in the nose.
33. I sometimes have the feeling that others are laughing at me.
34. If someone doesn't treat me right, I don't let it annoy me.
35. Even when my anger is aroused, I don't use "strong language".
36. I don't know any people that I downright hate.

37. I sometimes pout when I don't get my own way.
38. I seldom strike back, even if someone hits me first.
39. My motto is "Never trust strangers".
40. Sometimes people bother me by just being around.
41. If somebody annoys me, I am apt to tell him what I think of him.
42. If I let people see the way I feel, I'd be considered a hard person to get along with.
43. Since the age of ten, I have never had a temper tantrum.
44. When I really lose my temper, I am capable of slapping someone.
45. I commonly wonder what hidden reason another person may have for doing something nice for me
46. I often feel like a powder keg ready to explode.
47. When people yell at me, I yell back.
48. At times I feel I get a raw deal out of life.
49. I can remember being so angry that I picked up the nearest thing and broke it.
50. I get into fights about as often as the next person.
51. I used to think that most people told the truth but now I know otherwise.
52. I sometimes carry a chip on my shoulder.
53. When I get mad, I say nasty things.
54. I sometimes show my anger by banging on the table.
55. If I have to resort to physical violence to defend my rights, I will.
56. I have no enemies who really wish to harm me.
57. I can't help being a little rude to people I don't like.
58. I could not put someone in his place, even if he needed it.
59. I have known people who pushed me so far that we came to blows.
60. I seldom feel that people are trying to anger or insult me.
61. I don't let a lot of unimportant things irritate me.
62. I often make threats I don't really mean to carry out.
63. Lately, I have been kind of grouchy.
64. When arguing, I tend to raise my voice.
65. I generally cover up my poor opinion of others.
66. I would rather concede a point than get into an argument about it.
67. The few times I have cheated, I have suffered unbearable feelings of remorse.
68. I sometimes have bad thoughts, which make me feel ashamed of myself.
69. People who shirk on the job must feel very guilty.
70. It depresses me that I did not do more for my parents.
71. I am concerned about being forgiven for my sins.
72. I do many things that make me feel remorseful afterward.
73. Failure gives me a feeling of remorse.
74. When I do wrong, my conscience punishes me severely.
75. I often feel that I have not lived the right kind of life.

ANSWER SHEET
(tear out)

TOTAL SCORE_____

NE_____	RE_____	IN_____	AS_____	SU_____	IR_____	VE_____
1. T F	2. T F	3. T F	4. T F	5. T F	6. T F	7. T F
8. T F	9. T F	10. T F	11. T F	12. T F	13. T F	14. T F
15. T F	16. T F	17. T F	18. T F	19. T F	20. T F	21. T F
22. T F	23. T F	24. T F	25. T F	26. T F	27. T F	28. T F
29. T F	30. T F	31. T F	32. T F	33. T F	34. T F	35. T F
	36. T F	37. T F	38. T F	39. T F	40. T F	41. T F
	42. T F	43. T F	44. T F	45. T F	46. T F	47. T F
	48. T F	49. T F	50. T F	51. T F	52. T F	53. T F
		54. T F	55. T F	56. T F	57. T F	58. T F
			59. T F	60. T F	61. T F	62. T F
					63. T F	64. T F
						65. T F
						66. T F
67. T F	68. T F	69. T F	70. T F	71. T F		

BRIEF PSYCHIATRIC RATING SCALE

1. Patient Number:

2. SOMATIC CONCERN: Degree of concern over Present Bodily Health: Rate the degree to which physical health is perceived as a problem by the patient, whether complaints have realistic basis or not. (SC)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

3. ANXIETY: Worry, Fear, or over-concern for present or Future: Rate solely on the basis of verbal report of patient's own Subjective experiences. Do not infer anxiety from physical signs or from neurotic def mechanisms. (ANX)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

4. EMOTIONAL WITHDRAWAL: Deficiency in relating to the interviewer and the int situation: Rate only degree to which the patient gives the impression of f to be in emotional contact with other people in the interview situation. (E

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

5. CONCEPTUAL DISORGANIZATION: Degree to which the thought processes are confus disconnected or disorganized: Rate on the basis of integration of the verba products of the patient; do not rate on the basis of the patient's subjecti impression of his own level of functioning. (C-D)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

6. GUILT FEELINGS: Over-concern or remorse for past behavior: Rate on the basis the patient's subjective experiences of guilt as evident by verbal report wi appropriate affect; do not infer guilt feelings from depression, anxiety or neurotic defences. (G-F)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

7. TENSION: Physical and motor manifestations of tension, "nervousness", and heightened activation level: Tension should be related solely on the basi physical signs and motor behavior and not on the basis of subjective expe of tension reported by the patient. (TEN)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

8. MANNERISMS AND POSTURING: Unusual and unnatural motor behavior which caus certain mental patients to stand out in a crowd of normal people: Rate on abnormality of movements; do not rate simple heightened motor activity he

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

9. GRANDIOSITY: Exaggerated self-opinion, conviction of unusual ability or p Rate only on the basis of patient's statements about himself or self-in-r to-others; not on the basis of his demeanor in the interview situation. (

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

10. DEPRESSIVE MOOD: Despondency in mood, sadness: Rate only degree of despon do not rate on the basis of inferences concerning depression based upon g retardation and somatic complaints. (DM)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

11. HOSTILITY: Animosity, contempt, belligerence, disdain for other people ou the interview situation: Rate solely on the basis of the verbal report of feelings and actions of the patient towards others; do no infer hostility neurotic defences, anxiety nor somatic complaints. (Rate attitude toward interviewer under "Uncooperativeness"). (HOS)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

12. SUSPICIOUSNESS: Belief (delusional or otherwise) that others have now, or had in the past, malicious or discriminatory intent toward the patient: On basis of verbal report, rate only those suspicions which are currently hel whether they concern past or present circumstances. (SUS)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

13. HALLUCINATORY BEHAVIOR: Perceptions without normal external stimulus correspondence: Rate only those experiences which are reported to have occu within the last week and which are described as distinctly different from t thought and imagery processes of normal people. (HB)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

14. MOTOR RETARDATION: Reduction in energy level evident in slower movements and speech, reduced body tone, decreased number of movements: Rate on the basis observed behavior of the patient only; do not rate on the basis of the patie subjective impression of his own energy level. (MR)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

15. UNCOOPERATIVENESS: Evidences of resistance, unfriendliness, resentment, and of readiness to cooperate with the interviewer: Rate only on the basis of th patient's attitude and responses to the interviewer and the interview situat do not rate on basis of reported resentment or uncooperativeness outside the interview situation. (UNC)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

16. UNUSUAL THOUGHT CONCERN: Unusual, odd, strange, or bizarre thought content: Rate here the degree of unusualness, not the degree of disorganization of th processes. (UTC)

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

17. BLUNTED AFFECT: Reduced emotional tone, apparent lack of normal feeling or involvement:

0	Not present	4	Moderately severe
1	Very mild	5	Severe
2	Mild	6	Extremely severe
3	Moderate		

THE HARE PCL-R

Robert D. Hare, Ph.D.

Rater:_____ Date:__/__/__ Name:_____

Possible Ratings		Rating Item
0 = no; 1 = maybe; 2 = yes; X = omit		1. Glibness/Superficial Charm
0 = no; 1 = maybe; 2 = yes; X = omit		2. Grandiose Sense of Self Worth
0 = no; 1 = maybe; 2 = yes; X = omit		3. Need for Stimulation/Proneness to Boredom
0 = no; 1 = maybe; 2 = yes; X = omit		4. Pathological Lying
0 = no; 1 = maybe; 2 = yes; X = omit		5. Conning/Manipulative
0 = no; 1 = maybe; 2 = yes; X = omit		6. Lack of Remorse or Guilt
0 = no; 1 = maybe; 2 = yes; X = omit		7. Shallow Affect
0 = no; 1 = maybe; 2 = yes; X = omit		8. Callous/Lack of Empathy
0 = no; 1 = maybe; 2 = yes; X = omit		9. Parasitic Lifestyle
0 = no; 1 = maybe; 2 = yes; X = omit		10. Poor Behavioral Controls
0 = no; 1 = maybe; 2 = yes; X = omit		11. Promiscuous Sexual Behavior
0 = no; 1 = maybe; 2 = yes; X = omit		12. Early Behavioral Problems
0 = no; 1 = maybe; 2 = yes; X = omit		13. Lack of Realistic, Long-term Goals
0 = no; 1 = maybe; 2 = yes; X = omit		14. Impulsivity
0 = no; 1 = maybe; 2 = yes; X = omit		15. Irresponsibility
0 = no; 1 = maybe; 2 = yes; X = omit		16. Failure to Accept Responsibility for Own Actions
under age 30 (0 = 0-1; 1 = 2; 2 = 3+); age 30+ (0 = 0-2; 1 = 3; 2 = 4+); X = omit		17. Many Short-term Marital Relationships
0 = no offenses; 1 = minor; 2 = major; X = omit		18. Juvenile Delinquency
0 = no violations; 1 = minor; 2 = major; X = omit		19. Revocation of Conditional Release
0 = 0-3; 1 = 4-5; 2 = 6 or more; X = omit		20. Criminal Versatility

Ratings should be made while reviewing the criteria in the PCL-R Rating Booklet.

*AND RELATED INFORMATION

1975-01-31 HULL QUE	B E & THEFT SEC 306(1)(B) CC	1 YR PROBATION
1977-04-29 OTTAWA ONT	THEFT UNDER $200 SEC 294(B) CC	$50 I-D 5 DAYS
1977-11-22 HULL QUE	POSS OF A NARCOTIC SEC 3(1) NC ACT	$100 I-D 8 DAYS
1978-12-14 HULL QUE	POSS OF STOLEN PROPERTY UNDER $200 SEC 312-313(B) CC	PROBATION FOR 2 YRS
1981-03-13 HULL QUE	POSS OF NARCOTIC SEC 3(1) NC ACT	$50 & COSTS I-D 8 DA
1982-05-14 OTTAWA ONT	COMMON ASSAULT SEC 245(1) CC (2 CHGS)	SUSP SENT & PROBATIO ON EACH CHG
1983-05-13 HULL QUE	SEXUAL ASSAULT SEC 246(1) CC	1 MO
1983-05-19 HULL QUE	INDECENT ASSAULT ON FEMALE SEC 149 CC	45 DAYS & PROBATION FOR 2 YRS
1991-02-22 HULL QUE	(1) THEFT UNDER $1000 SEC 334(B)(II) CC (2) FAIL TO COMPLY WITH PROBATION ORDER SEC 740(1) CC (3) FAIL TO ATTEND COURT SEC 145(2)(B) CC (PS HULL 41902)	(1) $150 & COSTS I-D (2) $75 & COSTS I-D (3) $100 & COSTS I-D
1991-05-22 HULL QUE	(1) THEFT UNDER $1000 SEC 334(B)(II) CC (2) POSS OF NARCOTIC SEC 3(2)(A) NC ACT (3) FAIL TO COMPLY WITH PROBATION ORDER SEC 740(1) CC (PS HULL 41902)	(1) $150 & COSTS I-D PROBATION FOR 1 Y (2) $200 & COSTS I-D PROBATION FOR 1 Y (3) $150 & COSTS I-D

*END OF CONVICTIONS AND DISCHARGES

*SUMMARY OF POLICE INFORMATION - NOT INTENDED FOR SENTENCING PURPOSES

1981-03-13 HULL QUE
POSS OF NARCOTIC FOR THE
PURPOSE OF TRAFFICKING -
WITHDRAWN

1982-05-14 OTTAWA ONT
POSS OF WEAPON - WITHDRAWN

*END OF POLICE INFORMATION

APPENDIX I

Summary of Between-Groups ANOVA Results for Log Transformed Scores Incest, CM, Rapist and Mixed Sexual Offenders

Variable	Group	n	M	SD	F (DF)	p
MAST	Incest	160	.67	.59	3.18 (3,338)	.02*
	CM	105	.59	.57		
	Rapist	43	.88	.56		
	Mixed	34	.53	.54		
PI-Arouse	Incest	240	.22	.21	9.82 (2,462)	.0001*
All Ss	CM	179	.28	.27		
	Mixed	46	.38	.26		
PI-Suppress	Incest	237	.21	.21	5.60 (2,456)	.004*
All Ss	CM	178	.28	.25		
	Mixed	44	.28	.23		
PI-Arouse	Incest	169	.26	.20	9.25 (2,333)	.0001*
Low Resp	CM	134	.34	.28		
Removed	Mixed	33	.44	.24		
PI-Suppress	Incest	167	.24	.21	6.45 (2,328)	.002*
Low Resp	CM	133	.33	.25		
Removed	Mixed	31	.31	.25		

* indicates statistical significance

APPENDIX J

Breakdown of Non-Sexual Recidivism for Incest, CM, Rapist, and Mixed Sexual Offenders Heterosexual and Homosexual Offenders

Group	Violent		Non-Violent		Total Non-Sexual	
	n	%	n	%	n	%
Incest	15	6.0	35	14.0	50	20.0
CM	12	6.3	36	18.8	48	25.1
Rapist	7	8.1	24	27.9	31	36.0
Mixed	3	5.1	16	27.1	19	32.2
Total Sample	37	6.3	111	18.9	148	25.2
Heterosexual	21	6.8	54	17.4	75	24.2
Homosexual	4	3.5	14	12.4	18	15.9

APPENDIX K

Summary Statistics for Recidivists and Non-Recidivists
Log Transformed Scores
Incest, CM, Rapist and Mixed Sexual Offenders

Group	Non-Recidivists			Recidivists			t (DF)	p
	n	M	SD	n	M	SD	2-tailed	
Pedophile Index								
Arouse: All Subjects								
Incest	177	.22	.20	63	.22	.22	0.15 (238)	.38
CM	105	.27	.27	74	.29	.28	0.37 (177)	.71
Mixed	21	.28	.21	25	.46	.27	2.46 (44)	.02*
Arouse: Low Responders Removed								
Incest	129	.26	.20	40	.28	.21	0.68 (167)	.50
CM	81	.32	.27	53	.36	.28	0.73 (132)	.47
Mixed	12	.33	.20	21	.51	.25	2.17 (31)	.04*
Suppress: All Subjects								
Incest	176	.20	.20	61	.23	.24	1.22 (235)	.22
CM	105	.27	.26	73	.29	.24	0.37 (176)	.71
Mixed	21	.18	.18	23	.36	.25	2.74 (42)	.009*
Suppress: Low Responders Removed								
Incest	128	.21	.20	39	.32	.24	2.96 (165)	.004*
CM	81	.32	.26	52	.34	.24	0.45 (131)	.65
Mixed	12	.19	.19	19	.39	.25	2.35 (29)	.03*
MAST								
Incest	126	.58	.58	34	1.02	.50	4.11 (158)	<.001*
CM	67	.48	.53	38	.79	.59	2.81 (103)	.006*
Rapist	28	.74	.51	15	1.15	.54	2.44 (41)	.02*
Mixed	17	.45	.49	17	.61	.61	0.88 (32)	.39

* indicates statistical significance

APPENDIX L

Composition of Heterosexual and Homosexual Offender Groups

Group	Incest		CM		Mixed		Total
	n	%	n	%	n	%	N
Heterosexual	210	67.7	84	27.1	16	5.2	310
Homosexual	20	17.7	88	77.9	5	4.4	113

APPENDIX M

Summary of Log Transformed Scores: Heterosexual and Homosexual Offenders

Variable	Heterosexual			Homosexual			t (DF) 2-tailed	p
	n	M	SD	n	M	SD		
MAST	194	.64	.57	66	.62	.59	0.26 (258)	.79
PI Arouse	300	.24	.23	108	.22	.22	0.99 (406)	.33
PI Suppress	296	.22	.22	106	.26	.24	1.50 (400)	.13
PI Arouse	210	.30	.23	82	.27	.22	1.02 (290)	.31
PI Suppress	207	.26	.22	80	.29	.24	1.26 (285)	.21

APPENDIX N

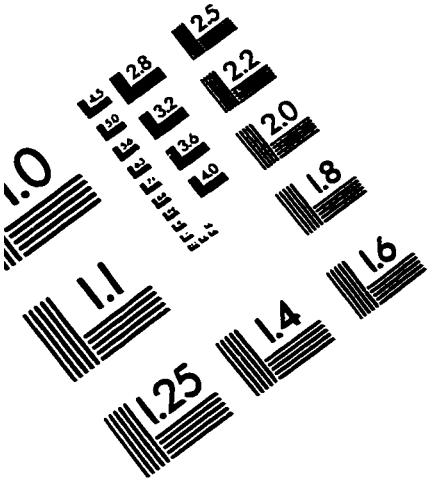
Summary of Log Transformed Scores:

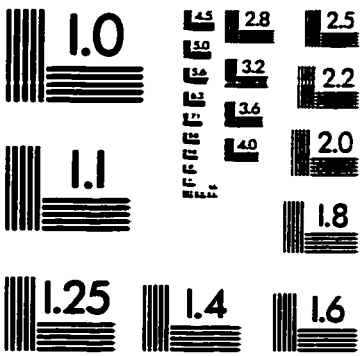
Heterosexual and Homosexual Recidivists and Non-Recidivists

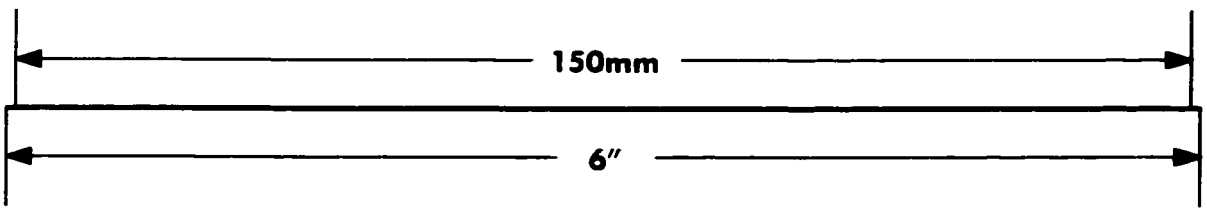
Variable	Non-Recidivists			Recidivists			t (DF)	p
	n	M	SD	n	M	SD	2-tailed	
MAST								
Hetero	140	.53	.55	54	.94	.53	4.65 (192)	<.001*
Homo	49	.55	.57	17	.85	.62	1.84 (64)	.07
PI Arouse All Cases								
Hetero	203	.24	.22	97	.26	.25	.77 (298)	.44
Homo	73	.22	.22	35	.21	.22	.30 (106)	.76
PI Suppress All Cases								
Hetero	202	.20	.20	95	.27	.25	2.75 (295)	.006*
Homo	73	.27	.25	33	.22	.21	1.19 (104)	.24
PI Arouse Low Responders Removed								
Hetero	144	.28	.22	65	.33	.25	1.44 (207)	.15
Homo	59	.26	.22	23	.30	.21	.73 (80)	.47
PI Suppress Low Responders Removed								
Hetero	143	.21	.20	64	.35	.24	4.28 (205)	<.001*
Homo	59	.31	.25	21	.26	.22	.88 (78)	.38

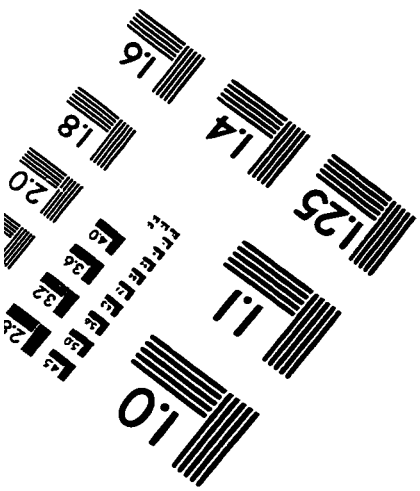
* indicates statistical significance

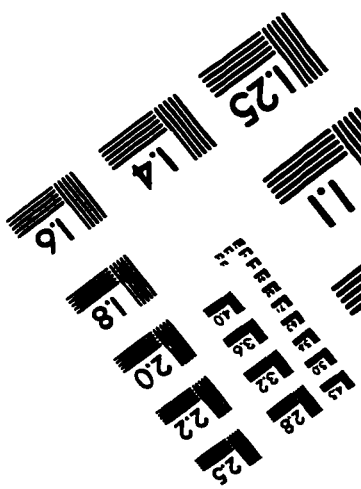
IMAGE EVALUATION
TEST TARGET (QA-3)











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