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An Examination of Release Decisions for Sexual Offenders: Do Biases Exist?

by

Sara L. Johnson B. A. (Hons.)

**A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of
the requirements for the degree of
Master of Arts**

Department of Psychology

Carleton University

Ottawa, Ontario

January 9, 2001

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in Partial fulfillment of the requirements for
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Abstract

Research has demonstrated that sex offences are rated as very serious crimes and that sex offenders are judged to be very dangerous. Furthermore, certain victim, perpetrator and offence variables have been found to be related to attitudes towards sexual offenders, and to the severity of decisions made in the criminal justice system. The current study examines the differences between sexual and (non-sexual) violent offenders on release decisions and recidivism following release. In addition, the relationship between victim, offender and offence characteristics and two outcome measures: release decisions and violent recidivism, is examined. The study group of sexual offenders is compared to a group of violent offenders on first release type, and three types of recidivism. Sexual offenders were found to have served more time in custody prior to release and have more restrictive release types than violent offenders but had higher rates of sexual recidivism, lower rates of violent non-sexual recidivism, and lower rates of overall violent recidivism. Child molesters and incest offenders were most likely to have more restrictive releases than would be expected given their risk to reoffend. In addition, level of force was found to be related to release decision but not recidivism. This indicates that information unrelated to statistical risk of recidivism is being considered when making decisions about release. It is suggested that these results provide evidence of biased release decision-making against sexual offenders, with the degree of force being related to release decision-making but not to the actual risk of recidivism. Suggestions for improving the accuracy of release decision-making and decreasing bias are discussed.

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Introduction

Decisions frequently depend on decision-makers' judgment of the likelihood of uncertain events. (Tversky & Kahneman, 1974). In order to understand the process of decision-making, it is important to examine the research that evaluates the process. In general, researchers have found that people rely on a limited number of simple rules to assist in assessing the likelihood of an uncertain event (Tversky & Kahneman, 1974), such as the probability of recidivism upon release from prison. However, these rules can lead to subjective bias, thereby making it unlikely that people will make objective decisions.

Because so much is at stake when making decisions in the criminal justice system, it is important that decision-makers make as unbiased decisions as possible. Biases can affect decision-making in the criminal justice process at several stages. For example, police officers make decisions whether or not to arrest an alleged perpetrator, prosecutors make decisions whether or not to prosecute, judges and juries make decisions about the guilt or innocence of alleged offenders, etc. Once an individual has been sentenced to a period of time in custody, other decisions such as treatment, security level and parole (discretionary release) decisions are made. Current research has focused on the effects of extra-legal variables on the earlier stages of the criminal justice process while the effect of biases on decision-making by correctional staff has not been studied extensively.

The current study examines the relationship between several factors and correctional release decisions in a Canadian correctional setting. More specifically, the research focuses on parole decisions and decisions to require offenders to remain

in custody beyond the date when most offenders would normally be released. Since the ultimate goal of release is to reintegrate offenders into society at a functional level, one measure of successful reintegration is the absence of reoffending. Therefore, arguably, factors related to recidivism should be paid more attention to than other factors that have not been found to be related to outcome.

Theories of decision-making, a conceptual framework relevant to correctional decision-making, and an investigation of the literature supportive of the framework presented for sex offenders are presented in this section. Variables are identified from the literature, which have been found to be associated with criminal justice decision-making. The literature examining specialized legislation and the application of legislation to sex offenders in the correctional setting is further examined, and a specific example of biased decision-making within the Canadian correctional setting is presented. In addition, research evaluating the relationship between the variables associated with decisions in the criminal justice context, other variables not found to be related to decisions, and recidivism are examined.

Decision-making Theory

Social psychologists have examined the process of decision-making using judgments of probabilities. In their review of decision-making, March and Shapira (1992) conclude that when making a decision, several issues are assessed including the perceived probability of an event, the potential alternative decisions and the prospective outcomes of each decision. They summarize the conclusions from behavioural decision theory, economic theory and organizational theory with the following assertions:

1. Organizations and individuals have two-valued preference functions; they distinguish alternatives having good enough outcomes from those that do not; they respond to situations in which no alternative has good enough outcomes by searching for additional alternatives.
2. Under conditions of uncertainty, organizations and individuals make choices that maximize the probability of attaining outcomes that are good enough.
3. Organizations and individuals are averse to risks when the expected value is above a target, and seek risks when the expected value is below the target. (p. 292)

Put more simply, in making a decision from alternative possible decisions resulting in the most acceptable (i.e., “good enough”) outcomes, individuals attempt to distinguish which course of action would result in the best “good enough” outcome, and attempt to make decisions which reduce the likelihood of risks above a certain target level.

In general, risk is defined in the decision-making literature as situations where negative or adverse outcomes cannot be ruled out (Tversky & Kahneman, 1981).

Researchers have found that people cannot focus on both positive and negative possible outcomes at the same time and when they focus on the negative, it becomes more urgent to engage in preventative behaviour than to exploit opportunities. The focus of decisions can be determined or influenced by something as simple as the wording of the question, which is also known as framing (Tversky & Kahneman, 1981). In terms of making decisions when there is an element of risk, Kahneman and Tversky (1979) have found that decisions “framed” in terms of gains tend to lead to “risk averse” behaviour, while decisions framed in terms of losses lead to “risk-seeking” behaviour. For example, if a decision needs to be made whether or not to

release an offender on parole, the question that will be asked or framed in terms of the likelihood of recidivism, not the likelihood of success. Furthermore, in situations where it is obvious that important conditions for an adverse outcome are present, such as the commission of a serious offence, the causal analysis may paint a more threatening picture than the statistics do (Kahneman & Tversky, 1981).

Assessing the probability of an outcome is done through the use of cognitive techniques, known as heuristics, which affect decision-making for uncertain events. Heuristics are a set of cognitive techniques that simplify information to make decision-making manageable. The heuristics most relevant to this research include the representativeness heuristic, the availability heuristic and the simulation heuristic.

The representativeness heuristic distorts estimates of probabilities and decisions related to perceived probabilities. When using the representativeness heuristic, an individual judges the probability of an uncertain event by the degree to which it (1) is similar in essential properties to its parent population, or (2) reflects the salient features of the process by which it is generated (i.e., that it should appear random) (Kahneman & Tversky, 1982; Heath & Tindale, 1994). Due to the fact that individuals judging probabilities often do not take into account such important statistical concepts as base rates, sample size and validity of data, the use of the representativeness heuristic can lead to biased probability estimates. In support of the importance of these factors, research has shown that people underutilize base rate information and that people do not differentiate between information drawn from small versus large samples (Heath & Tindale, 1994; Saks, 1986). Therefore, people do not adhere to scientific principles of sampling theory, have too much confidence in

the representativeness of small samples, and are quite willing to generalize from small samples to populations (Roberts & Stalans, 1997). Furthermore, individuals are overconfident of their ability to estimate the probability of an uncertain event (March & Shapira, 1992). In general, studies of calibration have shown that people's confidence in their judgements of probability often exceeds their accuracy (Brenner, Koehler, Liberman & Tversky, 1996). Calibration refers to the ability of an individual to make probability judgements that match the corresponding relative frequency of occurrence. In relation to parole decisions, decision-makers will be influenced by these cognitive distortions and therefore may be more likely to recall instances of reoffending out of their limited experiences (i.e., small sample sizes) which then leads to an overestimate of the likelihood of reoffending, and may be overconfident in their ability to detect those likely to reoffend. This could result in decision-makers ignoring or minimizing the importance of information that is more objectively related to risk of reoffending. In fact, Fong, Lurigio and Stalans (1990) found that probation officers made inaccurate estimates of risk of reoffending, even when base rate information was provided.

A second heuristic is the availability heuristic, also referred to as biased recall, which concerns individuals' tendency to judge the probability of some event by their ability to recall similar events (Heath & Tindale, 1994). In general, availability tends to lead people to overestimate the occurrence of rare but vivid events, and underestimate more frequent, common events. Furthermore, the degree of riskiness is related to the "dread" potential of the possible negative event (Tiegen & Brun, 1997). Support for the use of the availability heuristic in criminal justice decision-making

comes from public opinion polling, where individuals have a tendency to think of worst case scenarios in making judgments about the appropriateness of a sentence for an offence or in stating opinions about the use of parole (Robert & Stalans, 1997).

Another heuristic which can potentially affect judgment and decision-making is the simulation heuristic. The simulation heuristic refers to the ease by which people mentally construct scenarios that fit a particular event (Heath & Tindale, 1994). In general, the easier it is to generate scenarios that lead to an event, the more probable the event is perceived to be (Heath & Tindale, 1994). For example, in predicting the parole outcome of an offender, the easier it is to mentally construct a scenario where an offender reoffends with a serious offence, the more probable a serious reoffence is perceived to be. In addition, the perceived normality or typicality is determined by the extent to which a story evokes alternative accounts. These perceptions of normality are determined not only by existing knowledge, but also by images and scenarios that a story stimulates through imagination of what might have occurred (Roberts & Stalans, 1997). Although these heuristics are likely to affect decision-making in the correctional context, their effects have only been examined in a limited manner.

Psychologists have studied the process of decision-making within the criminal justice system at a number of different stages. For example, they have examined prosecutorial decisions, sentencing decisions, juror decision-making, and parole decisions. For parole decision-making, Carroll and Burke (1990) propose that decisions are based upon three generalizations supported by the research : (1) evaluation and prediction, (2) decision goals, and (3) causal attributions.

In attending to the first generalization, evaluation and prediction, “parole decisions are based on a combination of evaluations of prior conduct and predictions of future conduct” (Carroll & Burke, 1990, p. 315). The evaluative dimension of the offender’s behaviour includes quality, harm and seriousness of crimes, and is important in the concept of “justice”. For the prediction of future conduct, issues such as recidivism, behaviour dangerous to self or others, and response to treatment are considered.

The second generalization, decision goals, deals with the balance between evaluative and predictive aspects as well as the perceived role of the parole decision in the criminal justice system and on the personal ideologies of the individual decision-maker (Carroll & Burke, 1990). For this generalization, the relative importance of evaluation and prediction are assessed. Evaluation and prediction are often based upon the structure and policies of the institution, as well as the political environment. Furthermore, individual beliefs and ideologies have been found to influence parole decision-making, but the source of these differences has not yet been determined. Individual beliefs and ideologies are best assessed by directly examining them among staff making decisions, which is not the focus of this study.

Thirdly, causal attributions also affect decision making (Carroll & Burke, 1990). Carroll and his colleagues (1982) hypothesize that in making predictions about an offender’s future behaviour, case information is examined and causal processes are inferred that account for the pattern of known events and offender characteristics. These diagnosed causes are used to construct scenarios of expected future events. Causal attributions are based upon three components: (1) locus of

causality (internal/ external), (2) stability (stable/ unstable), and (3) controllability or intention (intentional/ unintentional).

In general, to the extent that the behaviour is attributed to internal causes (i.e., to the person), the person will be perceived as more responsible. Internal causes would include such things as personality, mood, cognition, mental disorder, and the like, while external causes would include such things as intoxication, outside stress or pressure, poverty and similar circumstances. In general, stability entails the stability of the behaviour over time. For example, if the behaviour is perceived as being a one time event, or out of character for the individual, the behaviour is considered unstable whereas if there is a clear pattern of behaviour, then the behaviour is considered stable. Finally, intentionality refers to the perceived degree to which the individual intended for the event to occur.

In general, the perceived severity of the required punishment for an offence is hypothesized to increase when the behaviour is attributed to internal causes, and when the behaviour is perceived as being intentional (Carroll & Payne, 1977). However, stability is more important in discerning parole prognosis: the more stable the criminal behaviour, the more the person is seen as criminally disposed and therefore more likely to commit future crimes. Researchers have found support for the importance of the stability construct in making parole decisions (Carroll & Burke, 1990). In general, when crimes are attributed to more stable enduring causes, future crime is predicted to be more likely and rehabilitation less likely, and therefore the decision-makers have been found to be less likely to grant parole (Carroll & Burke, 1990).

However, Carroll and Burke (1990) did not find support for the hypothesized relationship of the locus of causality and the intention constructs with the parole decisions construct, although these results are believed to be due to confounds such as flawed experimental methods. The locus of causality and intention constructs were found to be highly correlated, and therefore may not be influencing criminal justice decision-making separately (Carroll & Burke, 1990; Quinsey & Cyr, 1986).

However, in support of the usefulness of the locus of causality component of attribution of causality in explaining correctional decision-making, Quinsey and Cyr (1986) studied decisions made by 24 clinicians and 24 laypersons of the dangerousness and treatability of offenders. Overall, they found that the internal condition was related to lower ratings of treatability and higher ratings of dangerousness. Furthermore, the perceived treatability of offenders was negatively related to perceived dangerousness.

Causal attributions can also affect decisions when attributional categories, “schemas” or stereotypes are created (Carroll & Burke, 1990; Saks, 1986). Researchers have found that these stereotypes are important in parole decisions (Carroll & Burke, 1990). In general, stereotypes are used to categorize individuals and behaviours into groups and therefore allow this information to affect information processing when the characteristics match the category closely (Farrell & Holmes, 1991). However, when elements of a stereotype are missing or require reinterpretation due to other contradictory information, cognitive dilemmas and deviations from routine decision-making may occur. In general, stereotypes are strong enough to elicit attempts at corroboration toward the stereotyped belief rather

than objective assessment and therefore people tend to avoid and discount conflicting information (Farrell & Holmes, 1991). Researchers have found that “parole decision makers identify criminals as “types” who have a pattern of criminal and social behaviour, causes for this behaviour, and treatment for the causes” (Carroll, Wiener, Coates, Galegher & Alibrio, 1982, p. 216).

Carroll and his colleagues (1982) found further support for causal attributions and their effect on estimates of risk. Causal attributions were made by parole interviewers and grouped into five categories: (1) person, (2) money, (3) drugs, (4) alcohol, (5) environment (victim precipitated, influence of associates, domestic problems, environment). These causal categories were found to influence recommendations through their impact on prognosis and risk. Furthermore, the relationships between causal categories, recommendations and prognosis and risk remained virtually unchanged after controlling for crime type, seriousness, prior record, age, education, job stability, marital status, prison discipline, and a recommendation made by staff.

The model presented in Figure 1 is a pictorial representation of Carroll and Burke’s (1990) three generalizations. In addition, Figure 2, includes a revised version of Carroll and Burke’s (1990) model with cognitive distortions (i.e., representativeness, availability and simulation heuristics) acting as a filter, leading from the objective information to the evaluation and prediction generalization cited by Carroll and Burke (1990). Evaluation and prediction, causal attributions and decision goals lead to the final release decision and finally the release outcome (success or failure following release). A feedback loop also occurs from the release

outcome to the cognitive distortions. This occurs since only offenders who are not successful would come to the attention of decision-makers since only those who fail following release would be readmitted. This information is not an accurate depiction of the reality following release and therefore would be subject to cognitive distortions. This process of decision-making is considered a subjective one, but an objective release decision-making process is also presented in the figure. For the objective representation, the objective information leads directly to a release decision, although this is not under the control of the researcher and therefore is represented by a dotted line. The shaded boxes represent the sections of the conceptual framework that are being evaluated in this study. This conceptual framework will provide the basis for understanding the parole decision-making process in this study.

Figure 1. Pictorial representation of Carroll and Burke's (1990) three generalizations

Figure 2. Release Decision-making Conceptual Framework

Examples of Factors Fitting the Release Decision-making Model

The purpose of this section is to identify factors that have been found to influence judgments of offences, offenders and victims, and their effect upon decisions in the criminal justice system. Perceptions of crime seriousness will be reviewed first, followed by an examination of the variables related to judgments of offenders and victims of sexual offences, and a review of the literature that directly assesses the relationship between various offence, offender and victim variables and decision-making in the criminal justice context. This research is important to examine in order to discern if certain characteristics are related to parole decisions, and if these characteristics are, in fact, related to risk of reoffending. Therefore, this section will examine the research supportive of the conceptual framework presented.

Crime Seriousness

Decision-making may be affected by decision-maker's view of the seriousness of offences and the dangerousness of offenders. In fact, a study which examined the effect of several variables on sentencing decisions among juvenile justice personnel found that perceived seriousness of the offence and offender treatability were the most influential variables in determining the severity of the sentence meted out (Davis, Severy, Kraus & Whitaker, 1993). The study of judgements of crime seriousness dates back to Thurstone's work in 1927 (Thurstone, 1927). In this and subsequent studies (Coombs, 1967; Krus, Sherman & Krus, 1977), respondents were asked to rate offence seriousness by comparing pairs of offences to one another. In these studies, rape was consistently rated highly in comparison to other offences, although some variation in the ranking relative to other offences showed changes

across the years (Krus, Sherman & Krus, 1977). In recent studies, sexual offences (rape or sexual abuse of a child) have consistently been found to be rated quite high in terms of "seriousness" (Bannister & Pordham, 1994; Dietz & Sissman, 1984) and sexual offenders have been found to rate highly on measures of perceived "dangerousness" (Howe, 1994). In fact, Dietz and Sissman (1984) found that child molestation and rape had high ratings of seriousness (9.31 and 9.56 respectively) consistent with other offences such as premeditated murder (9.83) and kidnapping (9.42). Furthermore, "when jurors were asked to select the three crimes that they personally felt were the most offensive, premeditated murder and rape were mentioned by 85% of the jurors and child molestation by 84%" (Dietz & Sissman, 1984, p. 429).

There appears to be a great deal of consensus in regards to rating the seriousness of offences for a subset of crimes that involve death or serious physical injury (Carlson & Williams, 1993). However, for crimes where consensus is not as clear, perceptions of crime seriousness appears to be influenced by several variables including the differential tolerance of crime by business or government, morality and corruption, and deception involving the government (Carlson & Williams, 1993). Therefore, sexual offences have the additional weighting of the "immorality" of the crime. It is not surprising, therefore, that sexual offences are often perceived as very serious offences.

Judging an individual's level of dangerousness on the basis of a single crime has been found to be highly correlated with independent judgments of crime seriousness, likelihood that the offender would inflict further harm/ injury on

someone, deserved punishment, judged punishment given, and moral wrongfulness (Howe, 1988). Offenders who committed rape were evaluated very highly on the dangerousness scale at 87.4, only 1.6 points lower than that found for offenders who had committed first degree murder (89.0) (Howe, 1994). Offenders committing rape and child molestation scored high on the offender's judged dangerousness scale with values of 87 and 81 respectively compared to the scores of offenders convicted of second degree murder (82), manslaughter (67), and aggravated physical assault (53) (Howe, 1994). From this, it is evident that sexual offenders are often judged to be dangerous on the basis of the offence alone, while offenders committing comparably serious violent offences are often judged as less dangerous.

In sum, sexual offences were found to rate highly on perceived levels of seriousness and sexual offenders were rated highly in terms of dangerousness. It is expected that the perceived high level of seriousness of sexual offences and dangerousness of sexual offenders would be reflected in decisions made within the criminal justice system.

Factors Influencing Judgment

A number of studies have investigated the importance of victim, perpetrator, and offence characteristics on the judged level of punishment meted out and judged offender responsibility for the crime. The most frequent methodology used for this is vignettes in which the victim, perpetrator and offence characteristics are manipulated and the effect of these manipulations on judgments is examined. This research is helpful in identifying the factors most likely to influence decision-makers. Although most of the research has been conducted using university students, the relative

importance of the factors identified should be applicable to decisions being made by parole officers.

Numerous vignette studies have assessed the effect of offence, offender, and victim variables on judgments in sexual offences against adults, but few studies have evaluated the effects of these variables on judgements of child sex offences. Pollard (1992) reviewed the literature on the variables affecting judgments about victims and attackers in depicted rapes, while Whatley (1996) examined victim characteristics affecting judgments using meta-analysis. These studies found that in terms of the victim-offender relationship, greater responsibility has been attributed to the victim and less to the attacker when the rape was between dates rather than between strangers (Pollard, 1992; Whatley, 1996). In support of this finding, McCormick et al. (1998) found that stranger rapists received longer sentences than other groups, even when controlling for use of force and degree of physical injury. In general, vignette studies have found that victim responsibility tends to increase when the victim has some romantic involvement with the perpetrator and increases further with the degree of consenting activity prior to the rape (Pollard, 1992; Whatley, 1996). Generally, unresisting victims are viewed less favourably, however these findings have not been consistent (Pollard, 1992). Intoxication on the part of the victim has generally been found to increase her judged level of responsibility, while an intoxicated perpetrator was viewed as less responsible, but perpetrator intoxication did not affect recommended sentences (Pollard, 1992). In the only known study that specifically examined sexual offences against children, Drugge (1992) found that

upon manipulation of the victim's age, no strong effects were observed for the age of the child involved in the scenario on the respondents' perception.

Manipulation of victim variables in sexual assault vignettes, such as lack of precaution-taking, perceived respectability or moral character, marital status and attractiveness have been found to be related to judgments of responsibility for the offence. However, these factors have not been found to be related to sentencing judgments (Langley, Yost, O'Neal, Taylor, Frankel & Craig, 1991; Pollard, 1992).

In a vignette study, Schneider, Ee & Aronson (1994) found that subjects regarded physical injuries suffered during a rape to be more serious than psychological harm. They also found that despite the finding that the subjects felt that recovery from psychological posttraumatic stress would take more time than recovery from physical injury, psychological recovery time does not appear to be reflected in the length of the sentence recommended by subjects.

Kleinke, Wallis and Stalder (1992) evaluated the effect of expressed intent and remorse on perceptions of rapists using vignettes evaluated by university students. They found that when the offender expressed intent of committing the offence, the offence was judged as more serious, the offender was judged as being more responsible for the crime and as having less potential for rehabilitation, and the offender was assigned a longer prison sentence (Kleinke, Wallis & Stalder, 1992). The expression of remorse was associated with less negative evaluations of the offender as well as lowered perception of the potential for rehabilitation (Kleinke, Wallis & Stalder, 1992).

Hogue and Peebles (1997) further evaluated the effect of offenders' level of intent and remorse in a vignette study. In contrast to other vignette studies reviewed, the subjects evaluating the vignettes included 50 professionals who worked with sexual offenders including 14 police officers, 13 social workers, 4 correctional managers, 3 probation or parole officers, and 14 people who identified themselves as other mental health professionals (Hogue & Peebles, 1997). In terms of sentencing decisions, a trend emerged such that there were more convictions in the spontaneous/remorseful and planned/unremorseful conditions (Hogue & Peebles, 1997). In this study, offences described as more intentional were more likely to have a jail sentence than a probation sentence recommended whereas when described as not intentional, jail was less likely to be recommended than probation (Hogue & Peebles, 1997). Upon evaluating the subjects' attitudes towards sex offenders they found a strong relationship between recommendations of jail and negative attitudes towards sex offenders. However, contrary to the Kleinke, Wallis and Stalder (1992) study, no relationship was found between remorse and sentence type (Hogue & Peebles, 1997). In this study, it appears that intent affects sentence type while remorse does not. However, sentence type is strongly associated with attitudes towards sex offenders, where negative attitudes are reflected in a tendency to recommend jail rather than probation. It is therefore likely that negative attitudes towards sex offenders may play a role in decision-making.

Although a majority of the findings from vignette studies have not been directly linked to decisions within the criminal justice process, the variables found to effect subjects judgments and decisions are nonetheless likely to affect decisions

among criminal justice personnel. These variables include victim-offender relationship, victim and perpetrator intoxication, offender's intention of committing the offence and offender's level of remorse following the offence.

Perceptions of Sex Offenders

The previous sections examined the effect of several factors of sexual offences on subject's judgments. This section will assess attitudes towards, and perceptions of sexual offenders. Perceptions of sex offenders are important in two parts of the decision-making conceptual framework presented: stereotypes (causal attributions) and cognitive distortions.

Several studies have addressed perception of sex offenders by sex offenders (Hogue, 1993), correctional staff (Hogue, 1993; Hogue & Peebles, 1997; Weekes, Pelletier, & Beaudette, 1995), psychologists (Hogue, 1993; Hogue & Peebles, 1997; Wagner, Aucoin, & Johnson, 1993), and female students (Valliant, Furac & Antonowicz, 1994). In general, all groups judged sex offenders very negatively. For example, Weekes, Pelletier and Beaudette (1995) found that correctional officers judged sex offenders as "more dangerous, harmful, violent, tense, bad, unpredictable, mysterious, unchangeable, aggressive, weak, irrational, and afraid" as compared to non-sex offenders (p. 5). Furthermore, sex offenders who committed offences against children were rated as significantly more immoral and mentally ill than sex offenders who committed offences against women, who, in turn, were judged to be more immoral and mentally ill than non-sex offenders.

Studies examining the perceptions of sex offenders by individuals who are in contact with sex offenders are particularly important. Hogue's (1993) study included

correctional officers, treatment deliverers, other criminal justice personnel, and offenders as subjects. The results of this study indicated that attitudes towards sex offenders were more negative than attitudes towards prisoners in general by all groups in the study except sex offenders themselves. Interestingly, the various groups in the study differed in their ratings of both prisoners and sex offenders. For example, the prison officers not involved in sex offender treatment scored significantly lower (more negative judgements) on the Attitudes Towards Sex offenders (ATS) scale than prison officers involved in sex-offender treatment (Hogue, 1993; Hogue & Peebles, 1997). When the Attitudes Towards Prisoners (ATP) scale was used as a covariate, significant differences between the group ratings of sex offenders using the ATS still existed, with the police and prison officers (not involved in providing treatment) groups being the most negative, probation/ psychology and prison officers (involved in providing treatment) scoring in between, and the sexual offenders indicating the most positive attitudes towards sexual offenders (Hogue, 1993).

In another study, Lea, Auburn and Kibblewhite (1999) examined the perceptions and experiences of 23 professionals and paraprofessionals working with sex offenders. One central theme from the interviews, termed the “professional-personal dialect” by the authors, involved “a fundamental tension between the need for the professional to develop a relationship with the sex offenders in the course of their professional duty ... while simultaneously negotiating the desire not to develop a relationship with the sex offender because of a personal abhorrence of his criminal activity” (Lea, Auburn & Kibblewhite, 1999, p. 113). This professional-personal dialect becomes more extreme when features of certain cases elicit personal reactions.

In addition, the tension associated with the professional-personal dialect was heightened in relation to the perceived severity of the crime committed by the offender. For example, subjects reported finding it more difficult to empathize with the offender when the crime was particularly violent and damaging to the victim (57%), when the victim dies or thought he/she was going to die (35%), when the victim was severely traumatized (30%), when the victim was very young (9%), or when the victim was older (9%). It is likely that this professional-personal dialect could affect decision-making.

Overall, treatment deliverers tend to have more positive attitudes towards sexual offenders than correctional officers and police officers. Sex offenders are judged as dangerous, deviant, immoral and mentally ill, with offenders who commit sex offences against children being judged the most harshly.

Decision-making for Sexual Offenders

The previous sections examined the relationship between offence and offender variables and perceptions of offences and offenders. While it is expected that these perceptions would influence decision-making within the context of the criminal justice system, this was not examined directly in the previous sections. This section will examine the direct relationship between offence and offender characteristics and various decisions within the criminal justice process.

Research in the United States has found that sex offenders receive longer sentences than non-sex offenders after controlling for legally relevant variables such as crime seriousness and prior record (Walsh, 1984). Similarly, in a Canadian study, Roberts and Birkenmayer (1997) found that in general, sexual offences were more

likely to receive terms of incarceration and that these terms of incarceration were longer than those meted out for non-sexual violent offences. For example, among cases with one charge, the incarceration rate for aggravated sexual assault and sexual assault with a weapon was 89%, while the incarceration rate was 55% for sexual touching of a child under the age of 14 and 52% for simple sexual assault. In comparison, the percentage of offenders incarcerated for aggravated assault was 79%, while the incarceration rate was 77% for manslaughter and 48% for assault with a weapon or causing bodily harm. Overall, in contrast to comparable non-sexual violent offences (i.e., aggravated assault, assault, and simple assault), offenders convicted of aggravated sexual assault, sexual assault with a weapon, simple sexual assault, and sexual touching of a child under the age of 14 had consistently longer sentences.

In another study, Champion (1988), in his comparison of child sexual abuse felonies versus other felonies in three states, found that the ratio of the offender's actual sentence versus the legislated maximum possible sentence for the offence differed significantly between convictions of child sexual abuse and convictions of non-child sexual abuse offences. Approximately one-third of the maximum possible sentence for child sexual abuse convictions were imposed versus approximately one-fifth of the maximum possible sentence for non-child sexual abuse felonies (Champion, 1988). This ratio was further compared with violent convictions (e.g., homicide, aggravated assault, robbery, and rape) and the offenders convicted of child sexual abuse received significantly more severe sentences (one-third of their maximum possible sentence), than violent offenders (one-quarter of their maximum

possible sentence) (Champion, 1988). Champion (1988) further examined the rates of incarceration for property offenders, violent offenders, and child sexual abusers convicted of felonies, and found that child sexual abusers were significantly more likely to actually be incarcerated (39% vs. 23% for property offenders, 35% for violent offenders) and were also found to have the longest average incarceration length (16.4 months vs. 8.4 months for property offenders, 13.3 months for violent offenders). Overall then, sexual offenders appear to be sentenced more harshly than non-sex offenders, and child sexual offenders appear to receive the harshest sentences.

To test this finding further, Spohn (1994) compared the dispositions received by offenders convicted of sexual assaults with child versus adult victims. Spohn's (1994) results suggest that an offender convicted of a simple or aggravated sexual assault on a child may be sentenced more harshly than an offender convicted of a simple or aggravated sexual assault on an adult, after factoring out "aggravating" factors. Factors considered to "aggravate" a sexual assault included the relationship between the victim and the perpetrator (stranger judged more seriously), use of a weapon, physical injury, and penetration (versus no penetration).

Several other researchers have sought to determine factors that mitigate the sentencing of offenders convicted of sexual offences. For example, Walsh (1990) found that sex offenders referred for psychiatric evaluation or having psychiatric diagnoses were twice as likely to be incarcerated as sex offenders who were not referred or did not have a diagnosis. In addition, Walsh (1994) compared sentencing differentials of homosexual and heterosexual child molesters and found that

homosexual child molesters were 6.8 times more likely to be imprisoned than were heterosexual molesters after adjusting for legally relevant variables, such as crime seriousness and prior record. In support of this finding, Drugge (1992), furthermore, found that a sample of subjects judged child sexual offenders to be more psychologically disturbed when they were involved in homosexual acts against children than those involved in heterosexual acts against children.

In a Canadian study, McCormick, Maric, Seto and Barbaree (1998) evaluated the effect of various factors on sentence length in sexual assault cases. They found that stranger rapists received longer sentences than acquaintance or partner rapists and that this finding held even when legally relevant variables such as offender age, socioeconomic status, prior violent or sexual offences, and offence characteristics including degree of force used, instrumentality of force and amount of physical injury were controlled for. In addition, stranger rapists were found to use more force and cause greater physical injury to the victim than the other groups but these factors were not found to be predictive of sentence length. However, other than offender-victim relationship, the only variable found to significantly predict sentence length was instrumentality of force (i.e., excessiveness of force used).

Taken together these studies suggest that sex offenders receive harsher treatment in sentencing, and that certain variables, including gender and age of the victim, relationship between the victim and the perpetrator, degree of physical harm, instrumentality of force, presence or absence of penetration, psychiatric diagnosis of offender and use of a weapon may affect the sentence length.

Research into the use of alternative sentencing options among sex offenders has also demonstrated differential decision-making for sex offenders. Berliner and her colleagues (1995) evaluated the use of the Special Sex Offender Sentencing Alternative (SSOSA) enacted in Washington State in 1984, in terms of perpetrator, victim and offence variables. They also examined the relationship between victim, offender and offence variables and recidivism. This is the only known study that examined both relationships.

The Special Sex Offender Sentencing Alternative (SSOSA) allowed offenders convicted of sex crimes, where the sentence was less than a certain number of years and who had not previously been convicted of a sex offence, to be given a suspended sentence and usually had sexual deviancy treatment ordered by the judge (Berliner et al., 1995). Accordingly, a large majority of offenders convicted of offences against children are eligible for SSOSA. Results from chi-square analyses revealed that older offenders (between 31 and 50), offenders with a high school education, married offenders, employed offenders, Caucasian offenders, and offenders with a known history of sexual abuse victimization were more likely to receive SSOSA than other offenders. In terms of offence history, offenders with prior convictions were less likely to receive SSOSA, while chronic offenders were more likely to be granted SSOSA. Offenders who used or threatened force and offenders whose offences included vaginal or anal penetration were less likely to be granted SSOSA. In terms of victim variables, offenders who committed offences against younger children (6 to 11 years) were more likely to receive SSOSA than offenders with older children (14

to 15 years) as victims, while offenders who were step-parents were more likely and offenders who were strangers to the victim were less likely to receive SSOSA.

Berliner et al. (1995) then examined the recidivism rates using available data on new arrests and convictions. Significantly lower rates of reoffence were found for offenders who received SSOSA versus those who did not, for all measures of rearrest and reconviction except for sex offences, where the recidivism rate was virtually identical for both groups. Using survival analyses, the cumulative probability of a sexual rearrest for non-SSOSA offenders during the first two years (the time period corresponding to the SSOSA supervision and treatment time frame) was significantly higher than SSOSA offenders. Overall, younger offenders who committed a single act, had been sexually abused, had a history of violent behaviour, had prior convictions as an adult, and had been previously accused of sex offences were more likely to be rearrested for a sex offence.

Upon comparing the prediction of the use of the sentencing alternative with the prediction of sexual recidivism, several victim variables, such as victim age and relationship between victim and perpetrator, were found to be associated with sentencing decision but not with sexual recidivism. In addition, use of force, and penetration were found to be associated with sentencing decision but not with sexual recidivism. These findings suggest that variables found to be unassociated with sexual reoffending were affecting decision-makers use of the sentencing alternative.

In order to examine the variables that directly influence decision-making, Berliner et al. (1995) interviewed 52 sex offender treatment providers and 137 community corrections officers. In addition, 80 judges completed mailed surveys

(54% response rate). Among these three types of professionals, there was considerable agreement about the most significant variables in the sentencing decision. According to these subjects, length of known sexual offending history, and offenders' willingness to cooperate were the most important offender variables, while level of force was considered the most important offence variable, and the degree of harm to the victim was the most important victim variable. Interestingly, correctional officers had a tendency to rate all victim factors as significantly more important than the treatment providers, perhaps suggesting a bias towards retributive sentencing among correctional officers.

There are also opportunities for biased decision-making prior to sentencing. If biases are found to exist at early stages of the criminal justice system, it is also possible that these relationships could be found for parole decisions as well. For example, Spears and Spohn (1996) found that prosecutors were more likely to proceed with a case when the victim was an adult or adolescent than a child. Furthermore, studies have found that decisions to prosecute are related to different factors for sexual assaults with child versus adult victims. In their examination of prosecution decisions for sexual assaults against children, Brewer, Rowe and Brewer (1997) found that recently reported cases involving older stranger victims with medical evidence of abuse, where offenders were charged with abusing multiple child victims were significantly more likely to be prosecuted than less recent cases where the victims were younger acquaintances or family members in which medical evidence was not available and the offender had one victim. In another study, the only variable found to be important in the decision to prosecute child sexual assault

cases was the age of the victim, where prosecutors were more likely to file charges against men accused of assaulting older children (Spears & Spohn, 1996; Spears & Spohn, 1997). For adult victim cases, the victim's moral character and her behaviour at the time of the incident were factors that significantly affected the likelihood of prosecution (Spears & Spohn, 1996; Spears & Spohn, 1997). Overall, these studies suggest that prosecutors attempt to avoid uncertainty by screening out sexual assault cases unlikely to result in conviction because of lack of evidence or questions about the victim's character, behaviour and credibility (Horney & Spohn, 1996; Spears & Spohn, 1996; Spears & Spohn, 1997).

These studies illustrate the criminal justice "filtering" processing of sexual offences prior to an individual receiving a sentence of incarceration. The subjects of the current study are therefore a very select group, who have passed through the earlier stages of the process and ended up with a sentence of incarceration for two years or more. The factors related to decision-making within the criminal justice system at earlier stages of the process, such as at prosecution and at sentencing, may be related to decision-making at later stages of the criminal justice process, such as at release. This review of the literature has demonstrated that, to some degree, those variables related to decisions are not always the same ones that are related to recidivism following release. A later section will examine in more detail the variables that have been found to be related to reoffending among sexual offenders.

Decision Goals

Decision goals is one of Carroll and Burke's (1990) three generalizations, which is based partly on the structure and policies of the institutions, as well as the

personal ideologies of individual decision-makers. Although personal ideologies are not examined, policy and legislation and their effect on decision-making are investigated. In addition, an example of biased decision-making in the Canadian correctional context is provided.

Sex Offenders and Legislation

Recently, there has been an onslaught of legislation specifically targeting sex offenders for special treatment. Prentky, Lee, Knight and Cerce (1997) state that “sex offenders constitute a subsample of dangerous criminals who both elicit a disproportionate number of special statutes involving legal proceedings for commitments to segregated units of prison or mental health facilities, and require an inordinate number of ad hoc discretionary and dispositional decisions” (p. 654). For example, the United States has imposed extra supervision or specialized sentencing alternatives on sexual offenders (i.e., Berliner et al., 1995). Most sex offender commitment statutes set out criteria for detention, such as a history of sexual offending, a current mental disorder or abnormality, a likelihood of future sexual offending, and a link between previous offending, mental disorder and recidivism (Hanson, 1998).

In Canada, Dangerous Offender legislation allows for the imposition of an indeterminate sentence to offenders considered dangerous. Although the criteria for a Dangerous Offender (DO) designation is the commission of a “serious personal injury offence” (such as sexual assault, manslaughter, aggravated assault), a large percentage of DO’s (approximately 92%) have committed a sexual offence (Bonta & Motiuk, 1996). More recently, Canadian legislation has allowed for the imposition of a “Long

Term Supervision Order” to sexual offenders who are judged to be in need of longer term supervision following release than normally provided. As described below, the application of detention legislation in Canada has tended to target sex offenders for extended time in custody (Corrections and Conditional Release Act, 1992; Case Management Manual, 1998).

Prentky and his colleagues (1997) have noted that the requirement for sex offenders to serve all or most of their sentences is in vogue, and therefore has become public policy. However, they note that “the role of empirical data in such decisions [such as timing of release] is often moderated by other consideration, including social and moral issues and practical concerns, such as resource allocation” (Prentky et al., 1997, p. 655). Research regarding the perceptions of sexual offenders and evaluations of crime seriousness would support the importance that moral issues may play in decision-making.

Conditional Release and Detention

This section provides an overview of the conditional release process in the federal correctional system to provide an understanding of when, how and who makes decisions. In addition, research to be reviewed provides evidence of possible biased decision-making in the conditional release process in Canada.

In the Canadian federal correctional system, there are generally three options for release from prison: discretionary release such as parole or day parole, statutory release (after two-thirds of the sentence has been served in custody), or release after the statutory release date following a period of detention. For discretionary releases, institutional parole officers recommend parole or day parole and a final decision is

made by the National Parole Board. Offenders in the federal correctional system serving determinate sentences in custody of two years or more are eligible for release on parole after serving one-third of their sentence, and for day parole, six months prior to their full parole eligibility date. In the case of statutory release, offenders are automatically released after they have served two-thirds of their sentence, unless the offender is referred for detention. In special circumstances, offenders may be detained for a period of time after the statutory release date to the end of their sentence if they meet the criteria set out in the Corrections and Conditional Release Act (CCRA, 1992). Offenders may be detained if (1) they have committed violent or sexual offence as set out in Schedule I of the Act, that has caused serious harm to the victim(s) or they have committed a serious drug offence (Schedule II), and (2) they have been deemed likely to reoffend with a serious violent, sexual or drug offence before the completion of their sentence. In addition, in special circumstances, offenders may be detained if they aren't currently serving a sentence for a serious violent, sexual or drug offence, but if they have been deemed likely to commit an offence causing the death of, or serious harm to another person or a serious drug offence prior to the expiration of the sentence.

Institutional Parole Officers decide which offenders to refer to the National Parole Board for a detention hearing following a review of the offender's criminal history and institutional behaviour. All offenders who have committed a violent or serious drug offence have their cases reviewed for detention prior to their normal release date. Once a referral has been made, the National Parole Board must decide to detain or release the offender at the statutory release date. If the National Parole

Board decides to detain the offender, the Board must review the case every twelve months to determine if the offender can be safely released.

For serious violent offences (Schedule I), serious harm is determined by the existence of a number of factors, as set out in the Case Management Manual (1998). However, recent amendments to the detention provisions of the CCRA (CCRA, August 1997) state that serious harm does not need to be proven where the offence is a sexual offence involving a child victim. The factors defining serious harm include: extent of injury of the victim as assessed or indicated by medical care sought or required; the nature of the offence and the circumstances surrounding it, and in particular whether it involved brutality, excessive force, viciousness, or deviant sexual behaviour; the use of weapons to harm or threaten the victim; whether or not the victim was subjected to prolonged or repeated abuse or terror; any particular vulnerability of the victim, such as being very young, aged, infirm, helpless, or handicapped. In addition, sexual offences are considered to be more likely to cause severe psychological damage than non-sexual offences. Furthermore, the involvement of penetration in sexual offences, use of brutality in offences, holding the victim captive, the repetition of offences against the victim, and long duration of the victimization are considered to be factors associated with severe psychological damage. Victim characteristics cited as being associated with severe psychological damage include prior mental health or adjustment problems, prior criminal victimization, being a female victim, and being 50 years of age or older. While these factors are listed in the Case Management Manual (1998), the research literature

examining the actual factors associated with degree of psychological harm is presented later.

While the previous sections reviewed the conditional release process and legislation in Canada, the next section presents empirical results from evaluations of detention and outcome following detention. These studies suggest that detention decisions may be an example of biased release decision-making in the Canadian context.

Detention Research

Several studies (Grant, 1996; Grant & Gal, 1999; Motiuk, Belcourt & Bonta, 1995; Motiuk & Bonta, 1996; Nugent, 1999) have examined the use of detention among federal offenders and the rates of recidivism among detained and other offenders. Especially relevant for the purpose of this study is the percentage of referred or detained offenders who have a current conviction for a sexual offence. Studies have found that offenders who have committed sexual offences are particularly likely to be referred for detention and to subsequently be detained (Grant, 1996; Nugent, 1999). For example, Grant (1996) found that 59% of offenders referred for detention had a sexual offence in their current sentence, while in comparison less than 20% of all other offenders who were not referred for detention had sexual offences in their current sentence.

In terms of the type of sex offence, Grant and Gal (1999) found that of the offenders referred for detention from 1989 to 1993, 39% of offenders detained to the end of their sentence were child molesters while 30% were rapists, and that 27% of offenders "detained then released" were child molesters and 33% of "detained then

released" offenders were rapists. In comparison, among a random group of offenders released on statutory release who were not referred for detention, the vast majority were non-sexual offenders (73%) while only 14% were identified as child molesters and 13% were rapists. Comparisons between child molesters, rapists and non-sex offenders revealed that non-sex offenders had a higher number of all offences and charges, with a greater proportion of these offences being non-violent. Child molesters and rapists had more sexual offences than non-sexual offenders did, but child molesters had more previous sexual offences than rapists while rapists had more violent non-sexual offences than child molesters did. Since type of previous offending is one of the best predictors of future offending, child molesters would be expected to continue offending with sexual offences while rapists would be expected to continue their criminally versatile pattern and reoffend with both sexual and violent offences.

Researchers have consistently found that offenders who are referred for detention, and specifically offenders detained until their warrant expiry are not the offenders considered to be the highest risk to reoffend (Grant, 1996; Grant & Gal, 1999; Motiuk, Belcourt & Bonta, 1995; Nugent, 1999). For example, Motiuk, Belcourt and Bonta (1995) found that approximately half of the detained offenders in their study had a SIR proxy risk categorization that ranged from "fair" to "very good". The risk rating was based on an approximation of the SIR scale (Statistical Information on Recidivism; Nuffield, 1982), an empirically derived risk prediction instrument that relies on criminal history variables.

It appears then that sex offenders are particularly likely to be referred and subsequently detained despite the fact that risk prediction instruments and factors related to risk have determined that they may not be the offenders who are at highest risk to reoffend, or violently reoffend. In fact, follow-up analyses have revealed that referred offenders have been found to have either lower or equivalent rates of recidivism than other groups of offenders (Grant, 1996; Grant & Gal, 1999; Nugent, 1999). Offenders referred for detention had a similar rate of reoffending with a violent offence for their first sentence following release than offenders who were released at their statutory release date (approximately 11%), while offenders released on statutory release had a higher rate of general recidivism (Grant, 1996).

Grant and Gal (1999) further examined various measures of recidivism among detained and non-detained offenders on the basis of their offence type. When classified on the basis of admitting offence, child molesters were found to have the best survival (i.e., not reoffending) on general (any) recidivism among offenders classified as child molester (60%), rapist (45%) or non-sexual offender (20%) (Grant & Gal, 1999). In terms of violent recidivism within four years of release, which includes such offences as assaults, sexual offences, homicide, and robbery, once again child molesters had the best survival (70%) followed by rapists (60%) and finally non-sexual offenders (just under 50%) (Grant & Gal, 1999). In terms of sexual reconviction survival curves, child molesters and rapists were found to have similar curves while non-sexual offenders were found to have a higher rate of survival. For example, four years following release, child molesters and rapists had a survival rate

of approximately 85% while approximately 95% of non-sexual offenders had not been convicted of a sexual offence.

Since the purpose of detention is to prevent offenders from reoffending with a violent (including sexual) offence during the period between their statutory release date and their sentence expiry date, this period of time should be examined in terms of the likelihood of violent and sexual reconviction. Therefore, the important period of time to consider for detention decisions is the 415 day or 14 month time period following release which is the approximate average period of detention (Grant, 1996). Approximately fourteen months following release, 87% of child molesters, 77% of rapists, and 62% of non-sexual offenders had survived without a violent reconviction (Grant & Gal, 1999). For sexual reconviction, all groups had a survival rate of over 90% (Grant & Gal, 1999). This finding is not surprising since several researchers (i.e., Prentky et al., 1997) have found that among sex offenders, a large proportion of violent and especially sexual recidivism occurs after a longer period of time has elapsed.

A study by Barbaree et al. (1996) examined the release type of sexual offenders who had attended treatment at the Warkworth Institution. They found that among the 198 men who were eligible for conditional release, 132 (67%) had been conditionally released, 3 men had passed their parole eligibility dates but not reached their statutory release date, and the remaining 63 (32%) men were detained. No differences between offender types (child molester, rapist, sex killer) in the proportion who were detained were observed. However, being detained was significantly related

to whether the offender had completed the sex offender treatment program and whether the offender was a first-time offender.

Furthermore, Barbaree, Seto and Maric (1996) performed a stepwise discriminant function analysis to identify predictors of detention. Overall, among the 148 cases included in the analysis, 32% (48) of these offenders had been detained. Two significant predictors of being detained were post-treatment level of risk and recommended level of management. Offenders assessed as higher risk and assessed as requiring more restrictive levels of management were more likely to be detained.

In sum, the results presented in this section suggest that a large percentage of detained offenders are sexual offenders. However, these offenders are rated as lower risk and recidivate at an equivalent or lower rate than other offenders. Therefore, it appears that sexual offenders are being detained more often than would be expected given their risk to reoffend. These results suggest that the use of detention in Canada is an example of biased decision-making in the release process. Bias, in this case, refers to the use of subjective information and/or distorted objective information in making a decision.

Summary

Evidence of factors that impact criminal justice decisions was found in the literature presented. As indicated by Carroll and Burke (1990), crime seriousness is contained within the evaluation and prediction component of the model. Sexual offences were found to rate highly on perceived levels of seriousness and sex offenders rated highly on dangerousness.

Support for components of the evaluation and prediction and causal attributions are found within the vignette studies. Although a majority of the findings from vignette studies have not been directly linked to decisions within the criminal justice process, the variables found to affect subjects' judgments and decisions are nonetheless likely to affect decisions among criminal justice personnel. These variables include such things as victim-perpetrator relationship, victim or perpetrator intoxication, perpetrator's intention of committing the offence and perpetrator's level of remorse following the commission of the offence. For example, offender intoxication and victim-offender relationship were found to affect judgements of offenders and victims.

Perceptions of sexual offenders fit into the causal attribution component, specifically regarding stereotypes or schemas. In general, sex offenders are judged as dangerous, deviant, immoral and mentally ill, with offenders who commit sex offences against children being judged the most harshly. Different groups of individuals had differential judgements. For example, treatment deliverers tended to have more positive attitudes of sexual offenders than correctional officers and police officers. However, sex offenders were consistently judged more severely than other offenders were.

Research regarding decision-making for sexual offenders appears to support the notion of biased decision-making within the criminal justice system, although this has not been examined for parole decisions. For example, several variables such as age and gender of the victim and victim-offender relationship have been found to be related to decision-making. Overall, sexual offenders appear to be sentenced more

harshly than non-sex offenders, and child sexual offenders appear to receive the harshest sentences. Studies also suggest that certain variables, including gender and age of the victim, relationship between the victim and the perpetrator, degree of physical harm, instrumentality of force, presence or absence of penetration, psychiatric diagnosis of offender and use of a weapon may affect the sentence length. Upon comparing the prediction of use of a sentencing alternative with the prediction of sexual recidivism, several victim, offence and offender variables were found to be associated with sentencing decision but not with sexual recidivism. These findings suggest that variables not associated with sexual reoffending are affecting criminal justice decision-making.

Further evidence for biased correctional decision-making can be found in the Canadian context. Overall, sexual offenders were found to be likely to be kept in custody longer than would be expected given their risk of reoffending. The recent increase in the use of specialized legislation for sexual offenders also suggests a bias towards sexual offenders in the criminal justice system.

Table 1 presents a summary of the factors that fit into Carroll and Burke's (1990) three generalizations, as presented in Figure 1 and the proposed release decision-making conceptual framework presented in Figure 2.

Table 1

Summary of characteristics related to Carroll and Burke's parole decision-making generalizations

Generalization		
Evaluation and Prediction	Decision Goals	Causal Attributions
Offender characteristics	Legislation	Offender characteristics
dangerousness	Specialized legislation for sex offenders (International and Canadian)	mental illness
Offence Characteristics	Application of legislation	intoxication
victim-offender relationship	detention of sex offenders	intent
use of force	use of sentencing alternative (USA)	remorse
intrusiveness/ "severity" of offence	Individual differences (ideology)	Victim characteristics
use of weapon	perceptions of sex offenders differ between groups of subjects	homosexual vs. heterosexual
Victim characteristics		adult vs. child victims
age and age difference		Stereotypes/ schemas
gender		perceptions of sex offenders as immoral, dangerous, harmful, etc.

The next section will examine if the variables found to be related to decisions are the ones that are also related to victim harm and risk of recidivism.

Evaluating Variables Related to Victim Harm and Recidivism

In making decisions regarding the detention of offenders two basic premises are evaluated: (1) serious harm of current offence and prospective future offences, and (2) likelihood of sexual or non-sexual violent recidivism. An overview of the literature examining how various victim, offender, and offence characteristics are related to harm and recidivism is presented. It should be reiterated that not only are harm to the victim and prediction of recidivism important in making detention decisions, Carroll and Burke (1990) also highlight importance of these issues in parole decisions in the evaluation and prediction generalization. Thus, both theorists and policy-makers recognize the importance of evaluation of victim harm and prediction of recidivism in release decision-making.

Variables Associated with Harm

Within the concept of serious harm, two sub-components are evident: physical harm and psychological harm. Physical harm is easily measured as the presence or absence of physical injury to the body. However, psychological harm is not as overtly evident in victims, and determination of psychological harm should be guided by the results of research literature, which has identified numerous factors that are related to the degree of psychological harm.

Browne and Finkelhor (1986) and Hanson (1990) have provided qualitative reviews of effects of sexual assault on victims. Some of the short-term psychological effects of sexual assault on children include fear, anger and hostility, guilt and shame, inappropriate sexual behaviour, physical symptoms indicative of anxiety and stress such as sleep disturbance and change in eating habits, difficulties in school, truancy,

running away from home and early marriages by adolescent female victims (Browne & Finkelhor, 1986). Long term effects include depression, self-destructiveness, anxiety and tension, feelings of isolation and stigmatization, negative self-concept, difficulties relating to others and trusting others, increased probability of future victimization, sexual dysfunction, promiscuity, prostitution, and substance abuse (Browne & Finkelhor, 1986). The two most common long-term symptoms for adult victims of sexual assault are problems in sexual relationships and general fears, symptoms consistent with Post Traumatic Stress Disorder (Hanson, 1990). Overall, rape has been found to induce the most distress in adult victims as compared to other offences including robbery, assault and burglary (Hanson, 1990). However, Rind, Tromovitch, and Bauserman (1998) found that although subjects who had experienced sexual abuse in childhood were slightly less well adjusted, this poorer adjustment could not be attributed to the victimization alone because family environment factors were consistently confounded with child sexual abuse. They conclude that child sexual abuse "does not cause intense harm on a pervasive basis regardless of gender in the college population" (p. 46). Furthermore, their sample was found to closely parallel national samples with regard to the prevalence of child sexual abuse, the types of experiences, the self-perceived effects and the child sexual abuse-symptom relations.

Researchers have sought to determine which variables mitigate the level of psychological harm suffered by victims. Hanson's (1990) review of moderator variables considered by adult and child victims separately while Browne and Finkelhor (1986) reviewed only female child victims. Overall, Hanson (1990) states

that “the effects of specific rape characteristics tend to be small, and conflicting findings are common” (p. 200). However, one relatively consistent finding was that victims of completed rapes had more severe symptomology than victims of attempted rapes (Hanson, 1990). Interestingly though, little support has been received for the expected relationship between severity of the assault and the victim’s adjustment (Hanson, 1990). In defining the severity of the assault, such things as the use of a weapon, injury, more than one perpetrator, and confinement were considered (Hanson, 1990). In fact, Koss and Harvey (1987) indicate that victims who were assaulted by assailants with weapons demonstrated less adjustment problems in their personal relationships. The context in which the rape occurred in reference to the “safeness” of the situation, has not shown a consistent relationship to the level of victim distress (Hanson, 1990). Similarly, whether the victims was raped by a stranger or an acquaintance has not been found to be consistently related to degree of victim distress (Hanson, 1990).

In terms of victim variables, victims with a history of sexual victimization tend to suffer more harm than those without such a history (Hanson, 1990). Most studies have found that older adults tend to have somewhat worse adjustment than young adults do, although this difference is relatively small. In comparing child and adult victims of sexual assault, however, the results have been inconsistent (Hanson, 1990). Hanson (1990) concludes that for adult victims, assaults that are severely brutal and where intercourse was completed, committed against victims who were older, had a history of sexual victimization, had a history of adjustment problems, and

who lacked social support and who were not provided with treatment are all factors that are associated with increased trauma.

For child victims, several moderator variables have been found to be related to degree of psychological harm (Beitchman, Zucker, Hood, DaCosta & Akman, 1991; Browne & Finkelhor, 1986; Hanson, 1990; Kendall-Tackett, Williams & Finkelhor, 1993). Several researchers (Browne & Finkelhor, 1986; Hanson, 1990; Kendall-Tackett, Williams & Finkelhor, 1993) note that duration and frequency of abuse are related to adjustment, however a recent meta-analysis (Rind, Tromovitch & Bauserman, 1998) found that duration and frequency of abuse to be unrelated to symptoms or self-reported effects in adults abused as children. Although sexual abuse by a close relative has been hypothesized to be more traumatic for children, support for this has been inconsistent (Browne & Finkelhor, 1986; Hanson, 1990). However, regardless of whether the perpetrator is a blood relative, the degree of trust violation appears to play an important role in the amount of trauma suffered by the child victim (Browne & Finkelhor, 1986; Hanson, 1990; Kendall-Tackett, Williams & Finkelhor, 1993).

The impact of sexual abuse of a child on later adjustment has also been found to be related to certain aspects of the sexual act itself. Overall, vaginal penetration (phallic or digital) has been found to be related to a higher degree of trauma than less serious forms of sexual contact (Beitchman, Zucker, Hood & Akman, 1991; Browne & Finkelhor, 1986; Hanson, 1990). In terms of degree of force, the two reviews which considered this issue (Browne & Finkelhor, 1986; Hanson, 1990) had different conclusions about whether a relationship existed between use of overt force and

amount of trauma while in their meta-analysis, Rind, Tromovitch and Bauserman (1998) found that "presence of force" was related to self-reported effects but not symptoms.

Victim and perpetrator considerations such as age and gender have also been examined. Hanson (1990) concludes that "the relationship between victim age and trauma tend to be weak and inconsistent" (pp. 216). However, Hanson (1990) notes that very young children (under the age of six) are less affected than other children but there is little difference in the amount of negative impact for children between the ages of six and sixteen. Furthermore, three reviews (Beitchman, Zucker, Hood & Akman, 1991; Browne and Finkelhor, 1986; Kendall-Tackett, Williams & Finkelhor, 1993) noted that the research does appear to indicate that older children are more negatively affected, but that these results need to be interpreted with caution due to potential interactions with other variables such as duration of abuse and type of relationship between victim and perpetrator. In terms of the perpetrator's age, the greater the age difference between the victim and the offender, the greater the trauma (Browne & Finkelhor, 1986; Hanson, 1990). For victim gender, Hanson (1990) and Rind, Tromovitch and Bauserman (1998) found that female victims had more negative reactions than male victims, but this may be explained by the finding that female victims report the sexual act as more coercive than male victims. Overall, Hanson (1990) concluded that for child victims, penetration (digital or phallic), long duration of abuse, overt coercion, male offender, offender much older than victim, offender is victim's father, offender and victim had prior positive relationship, and female victim, are factors associated with increased trauma.

In sum, the qualitative literature reviews have found that certain victim, offender, and offence variables are related to severity of psychological harm, while a meta-analytic review found few significant relationships. Common to both types of reviews are the findings that severity of abuse or assault (i.e., use of force or type of sexual offence), and type of relationship between perpetrator and victim are related to degree of harm. The role of such variables in making decisions is evident in both the existing research and the policy. However, the practical value in considering evaluative dimensions related to harm may not exist, if the variables are not related to outcome following release. The next section will examine the variables predictive of recidivism.

Sex Offender Recidivism

Much research has been conducted on sex offender recidivism and the prediction of sex offender recidivism. In general, the research literature has divided sex offenders into groups on the basis of the age of the victims of their offences: offenders with adult victims are referred to as rapists, while offenders victimizing children are referred to as child molesters. It is important to examine the relationship between sex offender type and recidivism.

Hanson and Bussière (1996) used a meta-analytic approach to examine rates of recidivism among sex offenders. The overall rate of recidivism for an average of 4 to 5 year follow-up period was 13% for sexual recidivism, 12% for non-sexual violent recidivism, and 36% for any recidivism however, rates of recidivism differed between rapists and child molesters. Rapists had a 46% general recidivism rate, compared to 37% for child molesters. Similarly, rapists were found to have a higher rate of non-

sexual violent recidivism (22% vs. 10%) and sexual recidivism (19% vs. 13%) than child molesters. However, these results need to be interpreted with caution due to the diverse methods and follow-up periods of the studies included in the meta-analysis.

Survival analysis is an effective statistical technique to measure the rate of survival (not reoffending in this case) while controlling for differences in follow-up periods. It also gives a sense for the changes in survival over time. Several studies (Grant & Gal, 1999; Hanson, Scott & Steffy, 1995; Hanson, Steffy & Gauthier, 1993; Mair, 1995; Prentky et al., 1999; Quinsey, Rice & Harris, 1995) have evaluated the reoffence survival curves of sexual offenders. Hanson, Scott and Steffy (1995) compared the rates of long-term (15 to 30 years) recidivism among child molesters and non-sexual criminals. They found that after controlling for differences in initial characteristics, child molesters were 921% more likely to recidivate with a sexual offence than non-sexual offenders, while they were 83% less likely to recidivate violently, and 48% less likely to recidivate with any offence. This finding emphasizes crime specialization among child molesters.

Grant and Gal (1999) compared survival curves of rapists, child molesters and non-sexual offenders and found that non-sexual offenders reoffended (any offence) earlier and at a higher rate than rapists or child molesters, while child molesters had the lowest and most gradual curves, and rapists were between the two (Grant & Gal, 1999). Similarly, non-sexual offenders were found to have the poorest survival for violent reoffending, followed by rapists and finally child molesters, who had the lowest rate of violent recidivism. Finally, in terms of sexual recidivism, non-sexual offenders had the best survival (96%) while the child molesters and rapists had

similar overall survival rates (approximately 87%), although rapists sexually recidivated more quickly than child molesters or non-sexual offenders.

Although child molesters appear to have higher rates of sexual reconviction when using very long-term follow-up than rapists (Prentky et al., 1997), results suggest that rapists may be more likely to reoffend in the shorter term (i.e., less than five years) (Doren, 1998, Prentky et al., 1997). Furthermore, certain types of child molesters, such as non-incest offenders with female or both female and male victims may be more likely to reoffend than others (Hanson, Steffy & Gauthier, 1993). In addition, rapists tend to reoffend with any offence, and violently reoffend at a higher rate than child molesters (Grant & Gal, 1999; Polascheck, Ward & Hudson, 1997). In contrast, child molesters are less likely to reoffend with any offence, or with a non-sexual violent offence. Furthermore, child molesters have a more consistent and gradual level of sexual reoffending over time (Doren, 1998; Grant & Gal, 1999).

Since detention targets offenders who are likely to commit a serious sexual or non-sexual violent offence, factors related to sexual recidivism and non-sexual violent recidivism are of interest. In their meta-analysis, Hanson and Bussière (1996) performed separate analyses for sexual recidivism and non-sexual violent recidivism. The largest predictor of sexual offence recidivism was a sexual preference for children as measured by phallometric methods ($r = .32$). Furthermore, a general category “deviant sexual preference” also predicted recidivism. For this category, studies used mixed definitions of deviance (rape/child molesting) or mixed methods of assessment (phallometric, self-report, unknown). Specifically, as measured by phallometric methods, the broad definition of sexual preference for children ($r = .32$),

and a sexual preference for boys ($r = .14$) were found to be good predictors of sexual reoffending, but a sexual preference for rape was not significantly related to sexual offence recidivism.

A history of sexual offending increased the risk of sexual recidivism ($r = .19$). Offenders who committed sexual offences against strangers were more likely to reoffend sexually than offenders who committed sexual offences against non-related acquaintances ($r = .15$). In addition, offenders who committed sexual offences against related child victims were less likely to recidivate ($r = -.11$) and offenders with female child victims were less likely to recidivate ($r = -.14$). Conversely, offenders who committed sexual offences against boys were slightly more likely to reoffend sexually than other offenders ($r = .11$). In addition, offenders who had committed a variety of different sexual offences were more likely to reoffend sexually than those who limited themselves to one specific type of sexual offending ($r = .10$). Other crime history variables such as sexual intrusiveness, injury to victim, offender type (child molester versus rapist) showed little relationship with sexual recidivism.

Other non-sexual variables which had a moderate to high predictive ability included a diagnosis of personality disorder (typically antisocial personality disorder) ($r = .16$), number of prior offences ($r = .13$), and admission to corrections ($r = .09$). However, histories of prior non-sexual violent offences and non-violent offences were not significant risk factors for sexual recidivism.

Hanson and Bussière (1996) also examined predictors of non-sexual violent recidivism. Among sexual offenders, several of the well known predictors of recidivism such as prior juvenile delinquency ($r = .22$), age (young) ($r = -.24$),

minority race ($r = .23$) and marital status (currently married) ($r = -.10$) were found to be predictive of non-sexual violent recidivism. Offenders with previous offences ($r = .11$), especially violent offences ($r = .21$), were more likely to recidivate violently. In addition, rapists were at higher risk to commit non-sexual violent offences than were other sexual offenders ($r = .23$), especially child molesters ($r = -.16$). Offenders who committed sexual offences against males ($r = -.13$ for adult males and $r = -.09$ for male children), related victims ($r = -.12$), or young victims ($r = -.11$) were less likely to recidivate violently. In addition, sexual offenders diagnosed with antisocial personality disorder or psychopathy were significantly more likely to recidivate violently ($r = .19$).

In sum, rapists have a higher probability of being reconvicted with a sexual and/ or a violent offence and have a shorter time to failure than child molesters. Furthermore, this section identified which variables have been found to be related to risk of violent and sexual recidivism among sexual offenders, and it is important that these factors are taken into account when making release decisions.

Risk Assessment Tools

Previous research has found that clinical prediction of recidivism is often unimpressive, and this finding holds true for predicting sexual and non-sexual violent reoffending among sexual offenders (Hanson, 1998). Clinical judgement is most likely affected by cognitive distortions and therefore may reflect biases. Therefore, the use of actuarial risk assessment tools in making release decisions is essential. Several actuarial risk assessment tools have been applied or created specifically for the sex offender population, or to predict sexual recidivism among all populations.

For example, Rice and Harris (1995) applied the VRAG (Violence Risk Appraisal Guide, Webster, Harris, Rice, Cormier & Quinsey, 1994), which is a scale intended to predict violent reoffending among offender populations, to a group of sexual offenders, and found that this scale correlated .47 with violent recidivism (sexual and non-sexual violence), but only .20 with sexual recidivism.

In a recent review, Hanson (1998) evaluated risk assessment of sexual offenders. In general, “there is some evidence that factors that predict sexual recidivism are distinct from the factors that predict other forms of violent crime” (Hanson, 1998, p. 51). Furthermore, risk assessment tools designed to predict violent reoffending have been found to be relatively successful in predicting violent reoffending among sexual offenders, but have not been found to be very effective in predicting sexual reoffending (Rice & Harris, 1997). In order to address this apparent deficit in risk assessment tools to predict violent and sexual reoffending, Hanson (1997) first constructed the RRASOR (Rapid Risk Assessment for Sex Offence Recidivism), a short, easily scored risk assessment tool, found to have an average correlation of .27 with sexual recidivism. The four items in the RRASOR are male victims, unrelated victims, prior sexual offences, and age. These variables were selected on the basis of their correlation to sexual recidivism in Hanson and Bussière’s (1998) meta-analysis. In order to improve the risk assessment for sex offenders, Hanson and Thornton (1999) created a new scale (Static-99) by combining the items from the RRASOR and the SACJ-Min (Structured Anchored Clinical Judgement; Grubin, 1998). The Static-99 contains 10 items (male victim, never married, non-contact sex offences, unrelated victims, stranger victims, prior sex

offences, current non-sexual violence, 4+ sentencing dates, age), and was found to show moderate predictive accuracy for both sexual recidivism ($r = .33$, ROC area = .71) and violent (including sexual) recidivism ($r = .32$, ROC area = .69). Upon cross validation, the variation in the predictive accuracy of Static-99 across the four samples was more than would be expected by chance (Hanson & Thornton, 1999).

In conclusion, the Static-99 appears to be a good choice for predicting sexual and violent recidivism among sexual offenders. Although other tools such as the VRAG may be more useful in predicting violent recidivism (Rice & Harris, 1997), the Static-99 contains easily scored items, and has a higher predictive accuracy for sexual recidivism than the VRAG. Furthermore, it shows moderate predictive accuracy for both types of recidivism and cross-validated well.

Current Study

Purpose

The overall purpose of this study is to investigate release decision-making for a population of sexual and violent offenders. Based on the literature examined, biases in release decision-making are likely to occur, especially when decisions are made about sexual offenders. Two issues are evaluated in this study, first whether release decisions are biased against sexual offenders is assessed, and secondly this research seeks to determine if certain characteristics of sexual offenders placed them at higher risk of being targeted for more restrictive release decisions. The current study will determine the relationship between offence, offender and victim variables, and the timing of release from prison of sexual offenders, and their subsequent recidivism. The research will assess whether biases exist in release decisions of sexual offenders,

and will identify which offenders are held in custody longer than expected, given their risk of violent or sexual reoffending.

In order to address these issues, two sets of analyses will be performed, related to one of the two issues addressed in this study. First, in order to determine if sexual offenders are more likely to receive biased release decisions, offenders will be examined in terms of their release decisions, then in terms of their reoffending following release. In order to address the second purpose, analyses will determine which variables predict release decisions and which variables predict recidivism. According to policy, release decisions should be based upon an evaluation of offenders and their offences (i.e., degree of victim harm), and the prediction of their likelihood of reoffending. Although both elements are evident in policy, the practical utility of the risk of reoffending element seems more relevant than evaluation of victim harm, since the purpose of early release from prison is to reintegrate the offender into the community and to prevent the commission of new offences.

Variables related to decisions, harm and recidivism have been drawn from the research literature examined, and are presented in Table 2. The most directly related variables are presented, and are presented in approximate order of the size of their association to decision-making, harm and recidivism. The results of the review indicate that there are some similarities in the lists of variables predictive of decisions and those predictive of recidivism, and some similarities between the lists of variables predictive of decisions and those predictive of harm. The review also indicates that although some of these similarities in variables related to decision-making and recidivism exist, some of these relationships are not in the same direction. For

example, although offences where males were victimized are related to more severe decision-making and a higher likelihood of sexual reoffending, offences with female victims are related to an increased likelihood of violent (non-sexual) reoffending. These similarities and differences suggest that decision-making takes into account factors related to recidivism, as well as factors serving other purposes, and this may potentially lead to biased decisions. For example, if the decision-maker emphasizes retribution in the decisions made, considerations of degree of victim harm will play a major role in release decision-making. Furthermore, it may be that the variables related to the degree of harm suffered by the victim are not related to the likelihood of recidivism, and therefore offenders kept in custody longer may not in fact be likely to reoffend following release.

For the current study, most of the variables listed in Table 2, which are variables associated with decision-making and recidivism, are measured prior to release decisions. The variables that were available in this study are indicated in bold. Offenders are followed to determine type and time of release from prison (release decision) and eventually outcome following release (recidivism). Therefore, it is possible to look at factors predictive of release decisions and those predictive of release outcome. It is expected that the variables predictive of release decision will differ from those predictive of recidivism, and that the factors found in previous literature to be related to degree of harm will play more of a role in release decisions than factors related to risk of reoffending.

Table 2

Empirically supported variables related to decision-making, harm and recidivism

Outcome				
Decision-making	Harm		Recidivism	
	Adult Victim	Child Victim	Sexual Recidivism	Violent Non-sexual Recidivism
victim age (child) victim gender (male) victim-offender relationship (stranger) intrusiveness of offence (penetration) psychiatric diagnosis of offender use of force weapon use	completed vs. attempted rape context (re: "safeness") of rape victim has a history of sexual victimization brutality of offence victim age (older)	subjective importance of victim-offender relationship intrusiveness of offence (penetration) duration and frequency of abuse victim-offender age difference victim gender (female) use of force victim age (older)	sexual preference for children history of sexual offending personality disorder victim-offender relationship (non-related acquaintances) number of prior offences victim gender (male child) variety of sexual offending number of admissions to corrections	offender age (young) race (minority) prior juvenile delinquency sex offender type (rapist) number of prior violent offences antisocial personality disorder or psychopathy victim gender (female) victim-offender relationship (unrelated) victim age (older) number of prior offences marital status (single)

Note: Items in bold are used in the study

Hypotheses

Based upon the conceptual framework of parole decision-making presented, information that takes the subjective route, such as information influenced by cognitive distortions, evaluation and prediction, causal attributions and decision goals, will be likely to be related to release decision but not release outcome. In contrast, information that is not "filtered" through the subjective process will be more likely to be related to release outcome. The literature review indicated which variables have been found to be related to criminal justice decisions versus those found to be related to outcome following release. Based on the conceptual framework, the literature supportive of the conceptual framework, and the research findings on the recidivism of sex offenders, the following hypotheses are tested:

1. A large percentage of sex offenders will have been released later in their sentence and will have more restrictive release types (i.e., less discretion required in making decision) than the comparison group of (non-sexual) violent offenders.
2. The different offender groups (violent offenders, incest offenders, child molesters, rapists, mixed sexual offenders) will differ in their release type and percentage of sentence served at release.
3. Sexual offenders will have lower violent non-sexual recidivism rate, a lower overall violent recidivism rate, but higher sexual recidivism rate than a comparison group of (non-sexual) violent offenders.
4. When sexual offenders are differentiated into groups (incest offenders, child molesters, rapists, mixed sexual offenders), their violent non-sexual recidivism rate and sexual recidivism rate and overall violent sexual recidivism rate will

differ, and will differ from the violent offenders. Specifically, rapists are hypothesized to have the highest rate of violent recidivism, while incest offenders are hypothesized to have the lowest rate of violent recidivism. Violent offenders and rapists are hypothesized to have the highest rate of violent non-sexual recidivism, while all other sex offender groups are expected to have lower violent non-sexual recidivism rates, with incest offenders having the lowest.

Child molesters, rapists and mixed sexual offenders are anticipated to have the highest rates of sexual reoffending, while violent offenders are expected to have the lowest rate of sexual reoffending.

5. Consistent with the literature, variables predictive of release decision will be those listed in column 1 of Table 2, and a composite victim harm score, which are variables shown to be related to decision-making.
6. Consistent with the literature, variables predictive of recidivism will be those listed in columns 4 and 5 of Table 2, and a score on an actuarial risk prediction scale (Static-99 proxy score), which are variables shown to be related to recidivism.
7. There will be little if any overlap between variables predictive of release decision and variables predictive of reoffence.

If the hypotheses are supported then it implies that release decisions are based on subjective rather than objective data, such as factors related to recidivism. This would indicate that release decision-makers are not considering variables found to be related to risk of recidivism but rather are influenced by other factors.

Method

Using historical records, offenders with a current sexual or sexual-related offence in 1991 were followed to their first release date and subsequently to any sexual and/or non-sexual violent recidivism date along with a comparison group of offenders serving a sentence for a non-sexual violent offence. The study is prospective in nature with all predictor variables collected in advance of the release and recidivism results. Throughout the method section, all references to current sentence or current offence refer to the sentence being served at the time of the initial data collection in 1991.

Data Sources

The data for this study were from the three sources: the Sex Offender Census, the Offender Population Profile System (OPPS), and the Offender Management System (OMS).

Sex Offender Census

The sex offender census (Porporino & Motiuk, 1991) database includes all federally sentenced offenders in institutions and in the community in 1991 identified by case management staff fitting one or more of the following criteria:

- 1) is currently serving a sentence for a sexual offence;
- 2) has been convicted in the past for one or more sexual offences;
- 3) committed a sexually-related offence but is not currently serving a sentence for a sexual offence [i.e., the offence has sexual overtones but is not classified as a sexual offence]; or

4) committed a sexual offence in the past but were never convicted.

The population of incarcerated sex offenders identified in this census was 2,162.

Results of the census were compiled and entered into a database by staff at the Research Branch of the Correctional Service of Canada. The sex offender census includes data on demographic, sexual offender status, current sexual offence, and past history of sexual offences (Porporino & Motiuk, 1991). Case management staff completed the sex offender census checklist (see Appendix A) during the month of March 1991.

Offender Management System (OMS)

The Offender Management System (OMS), which was created in 1992, is an electronic file system maintained by the Correctional Service of Canada (CSC) used to track all offenders in custody or under supervision of the Correctional Service. However, the OMS also contains historical release and admissions data prior to 1992. As an administrative data system, OMS is constantly changing as records are added or updated with new information. For research purposes, data from OMS are extracted and placed into a number of research databases that contain all the relevant information to a certain point in time.

Variables extracted or created from the OMS include demographic data (age at release, marital status, race, etc.); previous and current offences; release dates and types; readmission dates and types following release; and number and types of reconvictions. These data are considered very reliable since their reliability is legally mandated. For example, offence data, and release type and date must be accurate as this information has a direct impact on the release of an offender. Furthermore,

several individuals, such as staff, lawyers, and the offenders themselves, are able to directly monitor the accuracy of the data. All parties have access to the records and therefore are able to request corrections to inaccurate information.

A complete list of variables from this data source is presented in Appendix B. The predictor and outcome variables derived from the Sex Offender Census and OMS are described in the Measures section.

Offender Population Profile System (OPPS)

The Offender Population Profile System (OPPS) was developed in the late 1980's prior to the introduction of the OMS in 1992. Its purpose was to provide a record of all offenders in custody at the end of each month. Information for OPPS was taken from other automated CSC information systems in operation at that time. OPPS provided an offender identifier, admission, release, and offence type data. In the current study, these data are used to identify offenders for the comparison group who were incarcerated on March 31, 1991. Follow-up information for these offenders was obtained using OMS, the current automated data system at CSC.

Participants

The participants were federally sentenced offenders in Canada either with convictions for sexual offences (study group) or violent offences (comparison group). The study group of sexual offenders was identified using the sex offender census conducted in 1991 (Porporino & Motiuk, 1991). The comparison group of violent offenders was identified separately using a second database, the Offender Population Profile System (OPPS).

Study Group: Sexual Offenders

From the pool of incarcerated sex offenders (2,162 offenders) identified in the census, a study group of offenders was selected who met the following criteria:

- 1) male
- 2) were serving a sentence for a sexual offence at the time of the census or had committed a sexually-related offence[but not murder or manslaughter], but were not serving a sentence for a sexual offence at the time of the census (criteria 1 and 3 above);
- 3) were serving a determinate sentence (i.e., not a life sentence or indeterminate sentence as a dangerous offender);
- 4) had reached their statutory release date by January 1, 1999 and had a release date prior to March 30, 2000

This group consists of 1,417 offenders.

This group was further divided into four groups for analysis as defined below:

- 1) **Incest offender:** any sexual offender with one or more incest offences as identified in the census.
- 2) **Child molester:** any sexual offender who had a child victim of a sexual offence, but did not have an incest offence, and did not have any adult victims.
- 3) **Rapist:** any sexual offender who had an adult victim of a sexual offence, but did not have an incest offence, and did not have any child victims.
- 4) **Mixed sexual offender:** any sexual offender who had both adult and child victims of sexual offences, but did not have an incest offence.

Comparison Group: Violent Offenders

The comparison group was created using a list of all offenders in custody on March 31, 1991, available on the OPPS dataset. The comparison group includes offenders who met the following criteria:

- 1) male
- 2) were currently incarcerated for an assault (all levels), attempted murder, causing bodily harm, and related person-based offences, but not homicide-related or robbery offences (see Appendix C)
- 3) were serving a determinate sentence
- 4) were not contained in the sex offender census
- 5) had reached their statutory release date by January 1, 1999 and had a release date prior to March 30, 2000

This group consisted of 1,777 offenders. The distribution of offenders in both the study and comparison groups used in this study, as well as the distribution of specific sex offender groups is presented in Table 3.

Table 3**Frequency Distribution of Offender Groups**

	Frequency	Percent	Percent of Sex Offender Population ¹
Sexual Offenders	1,417	44.4	
Incest Offenders	237	7.6	17.8
Child Molesters	363	11.7	27.3
Rapists	646	20.8	48.6
Mixed Sexual Offenders	84	2.7	6.3
Violent Offenders	1,777	55.6	

¹ 87 sexual offenders (6%) were of unknown types and therefore could not be categorized. These offenders were included in analyses comparing the sex offender group with violent offenders, but not in analyses comparing the five offender groups.

As mentioned earlier, one of the criteria for detention is that the offender has a current violent or sexual offence and therefore both the study and comparison groups include offenders who are eligible for detention. Since offenders committing sexual or violent offences meet the criteria for detention, the comparison group was constructed in a way to insure that, if all other things were equal, they were equally likely to be detained than the study group. Therefore, the current offences of offenders in the comparison group (violent offenders) are similar in severity to the current offences of offenders in the study group (sexual offenders), but without the sexual component.

For example, offenders in the study group could have a current offence of sexual assault or aggravated sexual assault, while analogous offenders in the comparison group could have a current offence of assault or aggravated assault. In addition, offenders who had committed robbery offences were excluded, because there no sexual offences similar in nature to robbery offences.

Measures

Two types of measures were used in this study: predictor and outcome variables. These variables are described below.

Predictor Variables

The predictor variables are presented in Table 4 and the sources of these variables are identified. In general, the predictor variables include victim information, offence dynamics, offender demographics and offender criminal history. These measures include some variables that have been found to be related to decision-making, victim harm, and recidivism as indicated in Table 2, as well as additional variables for exploratory purposes.

Table 4**List of Predictor variables**

Sex Offender Census	Offender Management System
<ul style="list-style-type: none"> • Overall number of victims (item 10c) ¹ • Victim age(s) (child, adolescent, adult) (item 10c) • Victim gender(s) (item 10c) • Versatility of sexual offending: number of victim types (female child, male child, female adolescent, male adolescent, female adult, male adult) (item 10c) • Incest offence (item 10a) 1.) • Highest level of force or coercion used (increasing from no coercion to caused death; post-death mutilation) (item 12.) • received treatment from CSC (item 16(a)) 	<ul style="list-style-type: none"> • Total number of current offences • Number of each type of current offence (sexual, non-sexual violent, non-violent) • Current sentence length • Total number of previous offences for which a sentence was served in federal custody (federal offence) • Number of each type of previous federal offences (sexual, non-sexual violent, non-violent) • Age at release • Age at current admission • Age at first federal incarceration • Offender's marital status at census date • Offender's race • Previous revocation(s) of conditional release (yes/no)

¹ Numbers in parentheses refer to questions on the census that are presented in

Appendix A

Static-99

A measure of risk to reoffend was created for the study group, based upon the Static-99 scale (Hanson & Thornton, 1999). This scale includes 10 items found to be related to the likelihood of sexual or violent recidivism. The items and coding of items in the Static-99 is presented in Table 5. The Static-99 was found to have moderate predictive accuracy for both sexual recidivism ($r = .33$, ROC area = .71) and violent (including sexual) recidivism ($r = .32$, ROC area = .69) (Hanson & Thornton, 1999). It was found to cross-validate well across four samples (Hanson & Thornton, 1999). Other researchers have found low-moderate to moderate predictive accuracy, with ROC area's ranging from .62 (Firestone, Bradford, Greenberg, Nunes & Broom, 1999) to .73 (Beech, Erikson & Friendship, in press).

Table 5**Coding rules of Static-99.**

Risk Factor	Codes		Score
Prior Sex Offences	Charges	Convictions	
	None	None	0
	1-2	1	1
	3-5	2-3	2
	6 +	4 +	3
Prior sentencing dates (excluding index)	3 or less		0
	4 or more		1
Any convictions for non-contact sex offences	No		0
	Yes		1
Index non-sexual violence	No		0
	Yes		1
Prior non-sexual violence	No		0
	Yes		1
Any Unrelated Victims	No		0
	Yes		1
Any Stranger Victims	No		0
	Yes		1
Any Male Victims	No		0
	Yes		1
Young	Aged 25 or older		0
	Aged 18 – 24.99		1
Single	Ever lived with lover for at least two years?		
	Yes		0
	No		1
Total Score	Add up scores from individual risk factors		

Note: The following items were missing from the Static-99 proxy score included in this study: prior sentencing dates, any convictions for non-contact sex offences, and any stranger victims.

Seven out of the ten items from the Static-99 were available in the data. The three items missing from this scale that were in the original Static-99 include: prior

sentencing dates, any convictions for non-contact sex offences and any stranger victims. Although, any stranger victims is a strong correlate with violent (including sexual) recidivism, prior sentencing dates is a common predictor but not a very strong one, while convictions for non-contact sex offences has been found to be a somewhat weak predictor, and is reported relatively infrequently.

The maximum total score of the Static-99 proxy score is 9 and the minimum is 0. In the current study, subjects' minimum score was 0 and the maximum score was 8, the mean was 3, with a standard deviation of 1.24. When the scores were divided into risk levels, based upon the guidelines set by Hanson and Thornton (1999), adjusting for the number of items available, a trend of increasing rates of violent (including sexual) recidivism for a fixed period of five years was observed. Those rated as low risk had a recidivism rate of 5%, while those rated medium-low risk had a recidivism rate of 10%, those rated as medium-high risk had a recidivism rate of 14% and those rated as high risk recidivated 25% of the time. Therefore the same general trends observed in Hanson and Thornton's (1999) study were observed in this study.

Composite Harm Score

A composite score of "harm" was constructed based upon the findings in the literature on victim harm and the availability of information in the dataset. This measure was constructed in order to represent the evaluative dimension of the evaluation and prediction component of the conceptual framework. Furthermore, the role of victim harm has also been identified in the policy on making detention referrals and decisions. Rather than using single items to represent overall victim

harm, different items related to victim harm were combined in order to create a more robust measure.

For offences with adult victims, the composite measure was based upon two items: the age category of the victim (adolescent = 0, adult = 1) and the level of force used in the offence (from 0 to 6, with higher values indicating higher level of force used). For offences with child victims, the composite measure included the following variables: incest offence (yes = 1, no = 0), victim gender (0 = male, 1 = female), and level of force (from 0 to 6). For offenders with both adult and child victims, and average score was calculated. For offenders with multiple victims the average victim harm value was multiplied by the number of victims to reflect the "cumulative" harm inflicted. Overall, sufficient data was available to calculate this composite score for 1,100 of the 1,417 subjects in the sexual offender group. The minimum observed score was 0 while the maximum was 440. The mean score was 5.59, with a standard deviation of 15.47. The median composite harm score was 4.

Outcome variables

There are two sets of outcome variables: those related to release and those related to recidivism. These variables are described below.

Release

Release decision is the operationalization of correctional decision-making in the study. Although this is the end result of a series of decisions made by several individuals within the Correctional Service of Canada and the National Parole Board, research has found that final parole decisions and release decisions often reflect earlier recommendations made by other individuals at earlier stages of the process

(Carroll, Weiner, Coates, Galegher & Alibrio, 1982; Grant, 1996). The following variables were used when calculating variables related to release:

Release decision: the first release granted to offenders on this sentence after March 1991. Release decision (or release type) is an ordinal variable, ranging from discretionary release to warrant expiry release. This variable is described in terms of restrictiveness, with more restrictive releases requiring less discretion in decision-making.

The types of release decisions include:

1. Discretionary release (parole): full parole is available after offenders have served one-third of their sentence while day parole is available 6 months prior to the full parole eligibility date; both full parole and day parole can be granted up until the statutory release date and both require a decision by the National Parole Board to grant the release.
2. Statutory release: available when two-thirds of the sentence is completed; is automatic and does not require a decision by the National Parole Board
3. Warrant Expiry/ End of Sentence (Detention): a decision made by the National Parole Board not to allow the automatic release of offenders on statutory release. Detained offenders must be released at the end of their sentence and may be released earlier.

Release date: the first release date on the current sentence after March 1991; the points from which offenders are followed in survival analyses

Percentage of sentence served: the percentage of the total current sentence served at the time of the first release date after March 1991.

In following the offenders, only the initial release date was used as the date from which offenders are followed up, even for offenders with more than one release date (i.e., those readmitted and re-released).

Recidivism

For all types of recidivism analyzed in this study, the presence or absence of recidivism, the first recidivism date, the time to recidivism, and the number and type of offence(s) committed from the release date are examined. The dichotomous measures (recidivism: yes/no), the recidivism date, and the time to recidivism measures are defined below. Each of these measures was used for the three types of recidivism used in this study: sexual, violent non-sexual and violent recidivism.

Dichotomous measure: the presence or absence of reoffending for a fixed period of five years, from the release date to the date five years from that date.

Offenders who do not have the full follow-up period available are not included in these analyses. This measure was used in the logistic regression analyses as an outcome measure.

Recidivism date: the sentence date for the new offence (sentence commencement date). The last possible date for recidivism was March 30, 2000, the date on which the data were assembled.

Time to recidivism: the recidivism dates were used in the survival analyses to measure the amount of time from release to recidivism (failure), and therefore the measure of time to recidivism is defined as the number of days from release to recidivism. The time available to fail differed for all offenders, although the last possible date for failure was March 30, 2000. That is,

depending on the release date, the time available for offenders to recidivate differed.

These measures of recidivism include all violent and sexual offences committed while under federal supervision. In addition, convictions for offences for which an offender received a sentence of two years or more after the sentence has expired were included. The three types of recidivism used in the current study are defined below.

Sexual recidivism: includes offences classified as sexual offences in the criminal code such as sexual assault (all levels), sexual interference, indecent assault, incest, sexual exploitation, invite sexual touching, etc. (see Appendix D)

Violent non-sexual recidivism: includes all non-sexual violent offences such as assault (all levels), cause bodily harm, overcome resistance, attempt murder, and related person-based offences (see Appendix C). In addition to the offences listed in Appendix C, all homicide (first degree murder, second degree murder, and manslaughter) offences are included. Robbery is not included.

Violent recidivism: includes both violent non-sexual and sexual recidivism (see above)

The first sexual or violent reoffence that occurs after the release date was included in the analyses. For the logistic regression and survival analyses, if an offender has a sexual offence and a violent offence they were both used in the separate analyses. If an offender has more than one offence of the same type, only the

first reoffence date was used. However, all offences that occur from the release to the end date were counted and evaluated in other descriptive analyses.

Statistical Analyses

Several types of statistical analyses were performed using Statistical Analyses System (SAS) version 6.12 (SAS Institute Inc., 1997). In order to compare groups of offenders on release type, chi-square analyses were employed. The Phi Coefficient (ϕ) or Cramer's Phi (ϕ_c) was used to assess the degree of association between variables (Howell, 1987). When the five offender groups (violent offender, incest offender, child molester, rapist, mixed sexual offender) were compared on release type, subsequent chi-square analyses comparing two groups at a time were conducted. The Bonferoni adjustment for Type 1 error was used. The Bonferoni adjustment controls the likelihood of committing Type 1 error by dividing the critical alpha level by the number of analyses conducted (Howell, 1987).

In addition, groups were compared on the percentage of sentence served prior to first release using a t-test or F-test. Subsequent paired comparisons were conducted using Tukey's HSD procedure. Tukey's HSD test is the most conservative of pairwise comparison tests in that it exercises the greatest control over the erroneous rejection of the null hypothesis (Type 1 error) (Klockars & Sax, 1986).

In order to examine recidivism following release, survival analysis was employed. Survival analysis determines the amount of time until the event (i.e., reoffending) occurs (Allison, 1995). In this study, the Kaplan-Meier method was used, which is the most widely used method for estimating survivor functions (Allison, 1995). Offenders were followed from their release date until they

recidivated or until March 30, 2000 if they did not recidivate, and the time to reoffend was plotted on a survival curve. The slope of the curve demonstrates the rate of surviving without a new offence over time. Steep slopes indicate that many offenders are reoffending within a relatively short period of time while more gradual slopes demonstrate that reoffending is more steady and gradual over time. Random censoring of survival data was used, which translates to offenders having a single termination date (censor date) but having various release dates (i.e., they differ between offenders). Offenders who are censored are removed from the calculation estimating the proportion of subjects who have reoffended by a certain month. Therefore, the amount of censoring increases as the end point of the study approaches. Thus, estimates calculated on the basis of observations late in the study are less stable. Differences between survivor functions were tested using the log rank test. The log rank test is the most suitable statistic to use in this study since it has been found to be more sensitive to differences between groups that occur at later points in time than other tests such as the Wilcoxon test (Allison, 1995).

Stepwise logistic regression was used in order to examine which variables significantly predict release decision and combined sexual and/or violent recidivism for a five year fixed follow-up period. Logistic regression is appropriate for predicting categorical dichotomous dependent variables (i.e., presence or absence of recidivism) or ordinal dependent variables (i.e., release type). For both analyses, the predictors were those listed in Table 4 as well as the harm composite score and the Static-99 proxy score. In addition, both sets of stepwise logistic regressions were cross-validated by randomly splitting the data into two sets; one set was used to

perform the initial stepwise logistic regression, while the second was used to cross-validate. Since stepwise logistic regression capitalizes on chance, it is essential to cross-validate on a second dataset. These analyses were performed using the study group only, in order to determine the variables associated with the release decision and the variables associated with recidivism (violent recidivism). In this study, only the variables that entered and remained in the logistic regression equation at the .05 level were retained. The overall fit of the model generated using stepwise regression was evaluated and the contribution of the individual predictors to a model was evaluated using the Wald test, evaluation of the effect of omitting a predictor, and the score (Lagrange multiplier) test (Tabachnick & Fidell, 1996). Coefficients were also interpreted in terms of the odds ratio values generated. "The odds ratio is the increase (or decrease if the ratio is less than one) in odds of being in one outcome category when the value of the predictor increases by one unit" (Tabachnick & Fidell, 1996, p. 607). Odds values can range from zero to infinity, and represent how much more likely it is that an observation is a member of the target group rather than a member of the other group (Wright, 1995).

Although prediction of recidivism could be performed using Cox Regression, Cox Regression cannot be used in the prediction of release decision. Therefore, since the two predictions were compared, similar analyses must be performed. However, survival analysis provides additional information not available through logistic regression, such as the pattern of reoffending over time, and therefore both types of analyses (survival analysis and stepwise logistic regression) were performed.

Logistic regression was also used to examine how well the regression equation generated from the stepwise logistic regression predicting release decision, predicted recidivism. In addition, the regression equation that predicted recidivism in the stepwise logistic regression was entered as the predictor of release decision. If the hypothesis is correct, then variables found to predict release decision will not successfully predict recidivism, and those found to predict recidivism will not successfully predict release decision.

Results

The results section is divided into four parts in order to address the two main issues in this study. First a description of and comparison between the groups is provided. In order to address whether or not sexual offenders are more likely to receive biased release decisions, type of release for each group is examined, followed by comparisons of recidivism results using survival analysis. In order to determine if certain characteristics of sexual offenders placed them at higher risk of being targeted for more restrictive release decisions, the prediction of release and recidivism among sexual offenders is investigated using stepwise logistic regression.

Description of Groups

As described in the method section, subjects were divided into two groups based on the type of offence committed, sexual or violent. The sexual offender group was further subdivided into four groups, incest offenders, child molesters, rapists and mixed sexual offenders (child and adult victims). The results are presented in this manner in order to examine overall differences between the violent and sexual offenders in the study first, and then to examine in more detail differences among sex offender groups. Previous researchers (i.e., Hanson & Bussière, 1996) have found that there are some differences between sex offenders who have different types of victims, and therefore analyses are focussed on examining what these differences are. The frequency distribution of offender groups was presented previously in the method section (see Table 3). Results are presented in this section provide a description of the groups in terms of demographics and offence history.

Sexual and violent offenders are compared in terms of race and marital status in Table 6. Although sexual offenders and violent offenders were significantly different in terms of racial composition ($\chi^2(1) = 10.74, p < 0.01$), the Cramer's Phi value indicates that this is in fact a weak effect ($\phi_c = 0.060$). Overall, approximately 76% of both groups are Caucasian, between 15% and 19% were Aboriginal, and between 5% and 8% were of other races.

Sexual and violent offenders were found to differ significantly in terms of marital status ($\chi^2(1) = 50.29, p < 0.001$) (see Table 6), and this effect was moderate, as indicated by Cramer's Phi ($\phi_c = 0.129$). Overall, a higher percentage of sexual offenders were separated, divorced or widowed, while a higher percentage of violent offenders were single.

Table 6**Comparison between sexual and violent offenders on race and marital status**

	Sexual Offenders % (<u>n</u>)	Violent Offenders % (<u>n</u>)	χ^2	Cramer's Phi
Race				
Caucasian	75.8 (992)	76.5 (1320)		
Aboriginal	18.6 (244)	15.5 (268)	10.74**	0.060
Other races	5.5 (72)	7.9 (137)		
Marital Status				
Single	42.2 (551)	50.5 (870)		
Married/ Common-law	40.2 (524)	40.3 (694)	50.29***	0.129
Divorced/ Separated/ Widowed	17.6 (229)	9.3 (160)		

** $p < 0.01$ *** $p < 0.001$

The five offender groups are compared on race and marital status in Table 7.

The groups significantly differed on race, but the effect was relatively small ($\phi_c = 0.068$). Relative to all other groups, a higher percentage of Aboriginal offenders were in the rapist group (22%), while for all other groups approximately 15% were Aboriginal offenders. The violent offender and rapist groups had the largest composition of offenders of other races (8% and 7%, respectively).

Table 7**Comparison between offender groups on race and marital status**

	Incest offender % (n)	Child Molester % (n)	Rapist % (n)	Mixed sexual offender % (n)	Violent offender % (n)	χ^2 (Cramer's Phi)
Race						
Caucasian	82.5 (179)	79.5 (264)	71.1 (428)	81.3 (61)	76.5 (1,320)	
Aboriginal	14.3 (31)	15.4 (51)	22.1 (133)	16.0 (12)	15.5 (268)	27.31*** (0.068)
Other races	3.2 (7)	5.1 (17)	6.8 (41)	2.7 (2)	7.9 (137)	
Marital Status						
Single	13.5 (29)	44.3 (147)	50.1 (302)	41.9 (31)	50.5 (870)	
Married/ Common-law	53.9 (116)	38.2 (127)	37.3 (225)	37.8 (28)	40.3 (694)	160.64*** (0.165)
Divorced/ Separated/ Widowed	32.6 (70)	17.5 (58)	12.6 (76)	20.3 (15)	9.3 (160)	

*** $p < 0.001$

In terms of marital status, the incest group contained the smallest percentage of offenders who were single (13%) relative to all other groups (42% to 50%) and incest offenders were also the most likely to be currently married or in a common-law relationship (54%) or be divorced, separated or widowed (33%). The rapist and violent offender groups had the largest percentage of offenders who were single

(approximately 50% each) and had the smallest percentage of offenders who were divorced, separated or widowed (13% and 9% respectively).

Overall, sexual offenders were approximately seven years older at release than violent offenders ($t(3,192) = -20.61, p < 0.001$) (see Table 8). The sentence length of the two groups did not differ significantly ($t(3,186) = 1.03, ns$). On average, both groups had a total aggregate sentence length of just over six years in length.

Table 8

Comparison between sexual and violent offenders on age at release and sentence length

	Sexual Offenders <u>M (SD)</u>	Violent Offenders <u>M (SD)</u>	<u>t</u>
Age at release	39.29 (11.06)	32.38 (7.85)	-20.61***
Sentence length (in days)	2,284 (1,436)	2,347 (1,926)	1.03

*** $p < 0.001$

Mean offender age at release and mean current sentence length are compared across the five offender groups (Table 9). Interestingly, when the sex offender group was broken down into four groups, significant differences on age at release were found ($F(4, 3,102) = 242.11, p < 0.001$). Overall, violent offenders ($M = 32.38$) and rapists ($M = 34.55$) were youngest at release. The other three groups were, on average, between 42 and 48 years of age at release, with incest offenders being the oldest.

In terms of aggregate sentence length, the five offender groups were found to have significantly different sentence lengths ($F(4, 3,097) = 10.03, p < 0.001$), although this effect is not a very large one. Across the five offender groups, rapists and violent offenders had the longest sentences, approximately 7.1 years and 6.4 years respectively. However, it needs to be stated that offenders may have more than one offence for which they were serving the total aggregate sentence length, and therefore the sentence length reflects the accumulation of sentences for all of the offences the offender has committed. Thus, those offenders who have committed more offences or have committed more "serious" offences may be expected to have longer sentences than those with fewer offences and less "serious" offences. This will be examined when criminal history is discussed below.

Table 9

Comparison between offender groups on sentence length and age at release

	Incest offender <u>M (SD)</u>	Child Molester <u>M (SD)</u>	Rapist <u>M (SD)</u>	Mixed sexual offender <u>M (SD)</u>	Violent offender <u>M (SD)</u>	<u>F</u> (<u>r</u> ²)
Age at release	47.80 (11.44)	42.11 (10.99)	34.55 (8.31)	43.16 (11.01)	32.38 (7.85)	242.11*** (0.238)
Sentence length (in days)	1,922 (1,076)	2,035 (2,035)	2,596 (1,647)	2,148 (2,147)	2,347 (2,347)	10.03*** (0.013)

*** $p < 0.001$

The offenders' criminal history is examined and compared in this section, first between sexual offenders versus violent offenders, and then among the five offender groups.

Sexual and violent offenders differed significantly on the number of current and previous offences for which they had received a federal sentence (see Table 10). Overall, violent offenders had more than double the number of current ($M = 11.22$ vs. $M = 5.02$) and previous offences ($M = 2.61$ vs. $M = 1.14$) than sexual offenders. However, sexual offenders had a larger average number of violent and/or sexual offences ($M = 2.78$ vs. $M = 1.66$) and had a larger percentage of their current offences being violent and/or sexual in nature ($M = 66.35$ vs. $M = 30.62$).

Table 10

Comparison between sexual and violent offenders on number of offences

	Sexual Offenders M (SD)	Violent Offenders M (SD)	t
Number of current offences	5.13 (6.31)	11.23 (16.08)	14.65***
Number of previous offences	1.22 (3.59)	2.61 (6.63)	7.56***
Number of current violent and/or sexual offences	2.78 (3.83)	1.66 (1.22)	-10.60***
Percentage of current offences being violent and/or sexual	66.35 (34.49)	30.62 (27.72)	-31.69***

*** $p < 0.001$

In order to get a clear understanding of an offender's criminal history, it is also essential to examine the type of offence committed (see Table 11). Since all offenders in the sexual offender group had a sexual offence and none in the violent offender

group had a sexual offence, this comparison is not presented. Having a current assault conviction was one of the criteria to be included offenders in the violent offender group, and therefore it is not surprising that almost all (93%) of them have an assault conviction. However, approximately 19% of the sexual offenders also had an assault conviction. Attempt or conspire to commit murder was another offence type that permitted offenders to be included in the violent offender group, and 10% of violent offenders had such a conviction. In contrast, 2% of the sexual offenders had an attempt or conspire to commit murder offence on the current sentence. In terms of offences that were not included in the categorization of groups, sexual offenders were more likely to have committed a forcible confinement or kidnapping offence than violent offenders (13% vs. 8%), while violent offenders were more likely to be currently serving a sentence for a robbery offence (39% vs. 19%), or a non-violent offence (29% vs. 17%).

Table 11**Comparison between sexual and violent offenders on type of current offence(s)**

	Sexual Offenders % (<u>n</u>)	Violent Offenders % (<u>n</u>)	χ^2	Cramer's Phi
Assaults	19.3 (274)	92.6 (1645)	1762.97***	-0.743
Attempt/ conspire murder	2.3 (32)	10.5 (186)	83.53***	-.162
Kidnapping/ forcible confinement	13.3 (188)	7.7 (137)	26.64***	0.091
Robbery	10.2 (144)	39.0 (694)	340.04***	-0.326
Non-violent offences	16.6 (236)	29.0 (515)	66.60***	-0.144

Note: Offence types are not mutually exclusive as offenders may have more than one type of current offence. Column totals do not add to 100%.

*** $p < 0.001$

Differences among the five offender groups in terms of offence history are also examined. Overall, violent offenders still had the largest number of current and previous offences as compared to all other groups, and these differences were significant (see Table 12). However, among the sex offender groups, mixed sexual offenders had the largest number of current offences ($\underline{M} = 6.5$), followed by rapists ($\underline{M} = 5.2$), child molesters ($\underline{M} = 4.75$) and incest offenders ($\underline{M} = 4.45$). For previous offences, rapists ($\underline{M} = 1.5$) and child molesters ($\underline{M} = 1.12$) had the largest number of offences, while mixed sexual offenders ($\underline{M} = 0.95$) and incest offenders ($\underline{M} = 0.33$)

had the fewest previous offences. Upon examination of the number and percentage of offences that are violent and/or sexual in nature, the degree of crime specialization among the incest offenders, rapists and mixed sexual offenders becomes evident, with them committing between 3.4 and 4.9 violent and/or sexual offences, and these offences accounting for between 75% and 87% of their current offences. In contrast violent offenders only had 1.7 violent and/or sexual offences accounting for only 31% of their current offences.

Table 12

Comparison between offender groups on the number of offences

	Incest offender <u>M (SD)</u>	Child Molester <u>M (SD)</u>	Rapist <u>M (SD)</u>	Mixed sexual offender <u>M (SD)</u>	Violent offender <u>M (SD)</u>	F (r^2)
Number of current offences	4.45 (4.06)	4.75 (5.64)	5.19 (6.43)	6.50 (8.44)	11.23 (16.08)	45.30*** (0.055)
Number of previous offences	0.33 (1.3)	1.12 (3.08)	1.5 (4.30)	0.95 (2.04)	2.61 (6.63)	15.44*** (0.019)
Number of current violent and/or sexual offences	3.62 (3.29)	3.38 (4.30)	1.97 (2.09)	4.88 (8.17)	1.66 (1.22)	82.37*** (0.096)
Percentage of current offences being violent and/or sexual	86.90 (23.97)	78.65 (29.94)	54.62 (32.97)	75.41 (29.21)	30.62 (27.72)	395.10*** (0.337)

*** $p < 0.001$

In terms of the types of offences committed, significant and meaningful differences were observed between the five offender groups on the percentage who had not only assaults and attempt or conspire to commit murder, but also for forcible confinement/ kidnapping, robbery, and non-violent offences (see Table 13). Among the four sex offender groups, rapists were most likely to have an assault (28%), attempt or conspire to commit murder (4%), kidnapping or forcible confinement (22%), robbery (17%), and non-violent offence(s) (20%). This finding is consistent with the literature, which has found the rapists tend to be the most criminally versatile type of sexual offender (Hanson & Bussière, 1996). A fairly large percentage of mixed sexual offenders had an assault (12%), kidnapping or forcible confinement (9%), or non-violent offence (18%). It was relatively infrequent for incest offenders and child molesters to have committed any of these other types of non-sexual offences, indicating a large degree of crime specialization among these two groups. In fact, when the proportion of current offences which were sexual offences was compared across the four sex offender types, incest offenders and child molesters had the largest proportion of offences being sexual offences ($M = 83.53$ and $M = 75.51$, respectively). In comparison, rapists had 44% of their current offences being sexual in nature, while mixed sexual offenders had a proportion of 72% of their offences being sexual offences.

Table 13

Comparison between offender groups on type of current offence(s)

	Incest offender % (n)	Child Molester % (n)	Rapist % (n)	Mixed sexual offender % (n)	Violent offender % (n)	χ^2 (Cramer's Phi)
Assaults	11.4 (27)	9.1 (33)	28.0 (181)	11.9 (10)	92.6 (1645)	1,781.72*** (0.757)
Attempt/ conspire murder	0.4 (1)	0.8 (3)	3.7 (24)	0	10.5 (186)	88.01*** (0.168)
Kidnapping/ forcible confinement	1.7 (4)	7.2 (26)	21.8 (141)	9.5 (8)	7.7 (137)	130.15*** (0.205)
Robbery	0.4 (1)	3.3 (12)	16.6 (107)	0	39.0 (694)	392.57*** (0.355)
Non-violent offences	8.9 (21)	12.7 (46)	20.1 (130)	17.9 (15)	29.0 (515)	87.45*** (0.168)

Note: Offence types are not mutually exclusive as offenders may have more than one type of current offence. Column totals do not add to 100%.

*** $p < 0.001$

As mentioned in the method, a risk measure, based upon the Static-99 was created for the sex offender groups. These scores and risk levels, are presented for the four sexual offender groups in Table 14. Overall, a large and significant difference was found between the sex offender groups on the Static-99 proxy risk levels. Over half of the incest offenders were considered to be a low risk to reoffend with a sexual and/ or violent offence, in comparison to less than 2% of all other groups. Mixed

sexual offenders contained the largest percentage of offenders who had a score in the high risk level (18%) followed by child molesters (13%) and rapists (9%). Overall, mixed sexual offenders had the highest mean Static-99 proxy score ($M = 3.41$), followed closely by rapists and child molesters ($M = 3.25$ and $M = 3.24$ respectively), and incest offenders having the lowest mean Static-99 proxy score ($M = 1.65$).

Table 14

Comparison across the sex offender groups on Static-99 proxy risk level and overall scores

	Incest offender % (n)	Child Molester % (n)	Rapist % (n)	Mixed sexual offender % (n)	χ^2 (Cramer's Phi)
Static-99 proxy risk level					
Low	52.3 (124)	0	1.7 (11)	1.2 (1)	
Medium low	35.4 (84)	33.3 (121)	19.8 (128)	28.6 (24)	
Medium high	11.4 (27)	53.7 (195)	69.3 (448)	52.4 (44)	663.35*** (0.408)
High	0.8 (2)	12.9 (47)	9.1 (59)	17.9 (15)	
	<u>M (SD)</u>	<u>M (SD)</u>	<u>M (SD)</u>	<u>M (SD)</u>	<u>F (r^2)</u>
Static-99 proxy score	1.65 (0.86)	3.24 (1.24)	3.25 (1.02)	3.41 (1.25)	146.2*** (0.248)

**** $p < 0.001$

In sum, violent and sexual offenders were found to differ in terms of race, marital status, age at release, and offence history. Sexual offenders were more likely

to be Aboriginal, be separated, divorced or widowed, were older at release, had fewer current or previous offences, but had a larger number of offences that were sexual and/or violent in nature. Overall, sexual offenders exhibited more crime specialization than violent offenders.

Differences were also found when the sex offender group was broken down into four groups and these groups were compared with each other and with violent offenders. These groups differed in terms of racial composition, marital status, age at release, sentence length, and number and types of offences. Furthermore, when the sex offender groups were compared on an actuarial risk assessment tool, incest offenders were scored as lowest risk, while very little differentiation was observed between child molesters, rapists or mixed sexual offenders. The rapist group contained the largest proportion of Aboriginal offenders, had the longest aggregate sentence length, and were most likely to have a variety of offences other than sexual offences among the sex offender groups. Incest offenders were primarily Caucasian, were either currently married/common law or had been married (divorced, separated, widowed), were oldest at release (48 years), had the fewest current or previous offences, but had the largest proportion of their offences being violent and/or sexual in nature, and were rated lowest in terms of risk to reoffend with any violent offence among the sex offender groups. Mixed sexual offenders and child molesters were similar to one another in many ways, including race, marital status, age, and proportion of offences that were violent and/or sexual.

These differences may be related to release decision and recidivism. The next sections will examine each dependent variable, and compare between violent and sexual offenders, then between the five offender groups.

Release

Two measures of release were examined: type of release, and percentage of sentence served at release date. These measures were compared among groups in order to test the following hypotheses: (1) a large percentage of sex offenders will have been released later in their sentence and will have more restrictive release decisions than the comparison group of violent offenders and (2) the five offender groups will differ in their release type and percentage of sentence served at release.

As discussed in the introduction, sexual offenders are hypothesized to have more restrictive (i.e., less discretion needed to make decision) release decisions and to be released later in their sentence than violent offenders. As can be seen in Table 15, sexual and violent offenders significantly differed on release type ($\chi^2(2) = 282.87, p < 0.001$). Furthermore, the Cramer's Phi coefficient ($\phi_c = 0.298$) indicates that the relationship between offender type and release type is a strong one. In general, as was hypothesized, violent offenders were more likely to have a discretionary release or a statutory release while sexual offenders were more likely to be released at warrant expiry after a period of detention. Overall, approximately 30% of the sexual offenders were released at warrant expiry, compared to only 8% of the violent offenders, amounting to more than three times as many sexual offenders being released at warrant expiry than violent offenders.

Furthermore, sexual and violent offenders significantly differed in the percentage of sentence served at release ($t(2856) = -5.8831, p < .0001$). Sexual offenders had served more of their sentence at release, an average of 76%, than violent offenders who had served 72% of their sentence.

Table 15

Comparison between sexual and violent offenders on release type and percent of sentence served at release

	Sexual Offenders % (n)	Violent Offenders % (n)	χ^2	Cramer's Phi
Discretionary Release	18.9 (268)	30.0 (533)		
Statutory Release	50.7 (719)	62.2 (1,106)	282.87***	0.298
Warrant Expiry (detention)	30.3 (430)	7.8 (138)		
	<u>M (SD)</u>	<u>M (SD)</u>	<u>t</u>	
Percent of sentence served at release	75.63 (19.83)	71.66 (17.67)	-5.8831***	
Number of Cases	1,417	1,777		

*** $p < 0.001$

Although some parole decisions may be made about sexual offenders as a group, there is some evidence that certain types of sexual offenders may be treated more harshly and therefore be released later than others, such as those committing sexual offences against children (child molesters). In order to evaluate this, further

comparisons between the four sex offender groups (incest offender, child molester, rapist, mixed sexual offender) and the violent offender group on release type were performed and are presented in Table 16. Once again, the groups significantly differed on release type ($\chi^2(8) = 327.11, p < 0.001$), and this difference was meaningful ($\phi_c = 0.223$).

Table 16

Comparison between sexual offender groups and violent offenders on release type and percent of sentence served at release

	Incest offender % (n)	Child Molester % (n)	Rapist % (n)	Mixed sexual offender % (n)	Violent offender % (n)	χ^2 (Cramer's Phi)
Discretionary Release	28.3 (67)	18.2 (66)	17.0 (110)	8.3 (7)	30.0 (533)	
Statutory release	48.1 (56)	47.9 (174)	51.7 (334)	57.1 (48)	62.2 (1,106)	309.96*** (0.223)
Warrant expiry (detention)	23.6 (56)	33.9 (123)	31.3 (202)	34.5 (29)	7.8 (138)	
	<u>M (SD)</u>	<u>M (SD)</u>	<u>M (SD)</u>	<u>M (SD)</u>	<u>M (SD)</u>	<u>F (r²)</u>
Percent of sentence served	70.88 (20.88)	76.30 (20.48)	77.02 (19.17)	77.08 (19.75)	71.66 (17.67)	14.09*** (0.018)

*** $p < 0.001$

Paired comparisons between groups after using the Bonferoni correction for Type I error, were performed (see Table 17). Violent offenders' release type was

significantly different from that of child molesters, rapists, mixed sexual offenders and incest offenders, with the difference between violent offenders and child molesters and between violent offenders and rapists being the most meaningful ones. Incest offenders had significantly different release types than mixed sexual offenders, rapists, child molesters, and violent offenders. However, child molesters did not differ from mixed sexual offenders or rapists in their release types, and rapists did not differ from mixed sexual offenders. Overall, child molesters and mixed sexual offenders had the largest percentage of offenders who were released at warrant expiry (detention), and the mixed sexual offenders had the lowest rate of discretionary release relative to all other groups.

Table 17

Pairwise comparisons on release type

	Incest offender $\chi^2 (\phi_c)$	Child molester $\chi^2 (\phi_c)$	Rapist $\chi^2 (\phi_c)$	Mixed sexual offender $\chi^2 (\phi_c)$	Violent offender $\chi^2 (\phi_c)$
Incest offender	-				
Child molester	11.64** (0.14)	-			
Rapist	14.84*** (0.13)	1.33 (0.04)	-		
Mixed sexual offender	14.48*** (0.21)	5.22 (0.11)	4.17 (0.08)	-	
Violent offender	61.73*** (0.17)	193.94*** (0.30)	225.38*** (0.30)	77.30*** (0.20)	-

** $p < 0.01$ *** $p < 0.001$

In addition, the five offender groups had served significantly different percentage of their sentence at release ($F(4, 3,097) = 14.09$ $p. < .0001$) (see Table 16). Overall, mixed sexual offenders, rapists, and child molesters had served approximately 77% of their sentence at release, compared to incest offenders and violent offenders who had served approximately 72% of their sentence. Pairwise comparisons using Tukey's HSD procedure were performed to isolate differences between groups, and the results of these comparisons are displayed in Table 18. In general, mixed sexual offenders, rapists, and child molesters were found to differ from violent offenders and incest offenders, while incest offenders and violent offenders did not differ from each other. In addition, mixed offenders, rapists and child molesters did not differ from one another in the percentage of sentence served at release. Overall, incest offenders and violent offenders had served approximately 72% of their sentence at release, compared to child molesters, rapists and mixed sexual offenders who had served approximately 77% of their sentence.

Table 18**Pairwise comparisons between groups on percentage of sentence served at release**

Comparison		Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	Significance
Group	Group				
Mixed	Rapist	-4.1693	0.0600	4.2894	
	Child Molester	-3.6311	0.7831	5.1973	
	Violent offender	1.3472	5.4182	9.4891	*
	Incest offender	1.5720	6.2015	10.8309	*
Rapist	Mixed	-4.2894	-0.0600	4.1693	
	Child Molester	-1.6698	0.7230	3.1158	
	Violent offender	3.6809	5.3581	7.0354	*
	Incest offender	3.3716	6.1414	8.9113	*
Child Molester	Mixed	-5.1973	-0.7831	3.6311	
	Rapist	-3.1158	-0.7230	1.6698	
	Violent offender	2.5349	4.6351	6.7353	*
	Incest offender	2.3738	5.4184	8.4631	*
Violent Offender	Mixed	-9.4891	-5.4182	-1.3472	*
	Rapist	-7.0354	-5.3581	-3.6809	*
	Child Molester	-6.7353	-4.6351	-2.5349	*
	Incest offender	-1.7381	0.7833	3.3047	
Incest	Mixed	-10.8309	-6.2015	-1.5720	*
	Rapist	-8.9113	-6.1414	-3.3716	*
	Child Molester	-8.4631	-5.4184	-2.3738	*
	Violent Offender	-3.3047	-0.7833	1.7381	

*comparisons significant at the 0.05 level

In sum, as was hypothesized, sexual offenders were more likely to be released later in their sentence and had more restrictive release types. The differences across release type also indicate that, in comparison to sexual offenders, violent offenders were more likely to receive a discretionary release, rather than a non-discretionary release such as statutory release or released at their warrant expiry date. Furthermore, significant differences were found on the release type and percent of sentence served across the five offender groups. Interestingly, incest offenders and violent offenders appear to be different from the other groups in terms of release, while there was little differentiation between the child molesters, rapists and mixed sexual offenders.

Recidivism

Survival analysis was used to evaluate three types of recidivism (violent non-sexual, sexual, violent). Comparisons were first made across the sexual and violent offender groups, then comparisons were made across the four sex offender groups and violent offender groups on each measure of recidivism.

Violent offenders were hypothesized to have higher rates of violent non-sexual recidivism than sexual offenders. In fact, significant differences were observed between sexual and violent offenders on violent non-sexual recidivism ($\chi^2(1) = 81.88$, $p < .0001$), with approximately 10% fewer violent offenders surviving without committing a new violent non-sexual offence than sexual offenders (see Figure 3). At approximately 96 months (8 years), approximately 80% of the violent offenders compared to over 92% of the sexual offenders had not recidivated with a violent non-sexual offence. The survival curve for violent offenders was much steeper than that observed for sexual offenders, indicating that violent offenders are recidivating with a

violent non-sexual offence at a faster rate over a shorter period of time. In fact, in the first year alone, 6% of the violent offenders had committed a new violent non-sexual offence, compared to only 2% of sexual offenders. For the next few years, the rate of violent non-sexual reoffence per year for violent offenders was approximately 2% to 3%, after which the rate of failure per year declines to less than 1% per year. For sexual offenders, the rate of failure per year is 2% or less, with very little variation in the rate of failure over the years. Therefore, if a violent offender is going to reoffend with a violent non-sexual offence, it is most likely to occur within the first few years of release. For sexual offenders, a violent non-sexual reoffence is relatively unlikely with most (92%) surviving, but if a sexual offender does commit a new violent non-sexual offence, it is equally likely occur at any time in the follow-up period.

When compared on sexual recidivism, sexual offenders were found to have significantly lower rate of surviving without a new sexual offence than violent offenders ($\chi^2 (1) = 108.1, p < .0001$) as hypothesized (see Figure 4). Eighty-nine percent of the sexual offenders compared to 98% of the violent offenders did not have a sexual reoffence eight years after release. The sexual reoffence survival curve for sexual offenders was gradual and steady over the full follow-up period, with the rate of additional failure per year being between 2.3 and 1.0 percentage points up until the seventh year, after which the decline in failure per year amounts to less than 1%.

The two groups were then compared on overall violent recidivism in Figure 5. As was predicted, violent offenders had a significantly higher rate of violent recidivism than sexual offenders ($\chi^2 (1) = 13.3, p < .0003$). Eight years after release, 79% of violent offenders had survived without committing a new a violent offence, while

84% of sexual offenders had survived. The violent recidivism survival curve was quite different between the two groups, with the violent offenders having a steeper curve in the first four to five years. For the violent offenders, there was a 6% rate of recidivating in the first year after release after which the rate declined to 4.5% for the second year, and to between 2% and 3% for years three to five. In comparison, the sexual offenders had a 4% rate of reoffending with a violent offence in the first year, followed by a small decrease to between 2.5% and 3% for the next two years, then between 1% and 2% recidivating per year until the eighth and ninth year, when less than 1% recidivated per year. Therefore, overall, violent offenders are more likely to reoffend with a violent offence within an extended follow-up period of nine years, and were particularly more likely to reoffend within the first few years after release.

Figure 3. Violent non-sexual reoffence survival curves: violent versus sexual offenders

Figure 4. Sexual reoffence survival curves: violent versus sexual offenders

Figure 5. Violent reoffence survival curves: violent versus sexual offenders

As indicated earlier, there appear to be some differences between different types of sexual offenders on rates of violent and sexual recidivism. In order to evaluate these possible differences, three survival analyses were performed examining the three types of recidivism used in this study: violent non-sexual, sexual, and violent. It was hypothesized that survival rates would be different across the five groups (violent offenders, incest offenders, child molesters, rapists, mixed sexual offenders). Specifically, rapists were hypothesized to have the highest rate of violent recidivism, and incest offenders were hypothesized to have the lowest rate of violent recidivism. Violent offenders and rapists were hypothesized to have the highest rate of violent non-sexual recidivism, while all other sex offender groups were expected to have lower violent non-sexual recidivism rates, with incest offenders having the lowest. Child molesters, rapists and mixed sexual offenders were anticipated to have the highest rates of sexual reoffending, while violent offenders were expected to have the lowest rate of sexual reoffending.

Comparisons among the four sexual offender groups (incest offender, child molester, rapist, mixed sexual offender), and the violent offender group on violent non-sexual recidivism were performed using survival analysis (see Figure 6). Significant differences were found between the five groups on violent non-sexual recidivism ($\chi^2(4) = 91.1850, p = 0.0001$). Overall, violent offenders had the steepest curve (80% survival in 96 months), followed by rapists (88% survival in 96 months) and mixed sexual offenders (92% survival in 96 months). However, mixed sexual offenders had a similar curve to the rapist group up until approximately 60 months. Incest offenders had the best survival (96% at 96 months), followed closely by child

molesters (95% at 96 months). Overall, child molesters and incest offenders had similar survival curves, while mixed sexual offenders and rapists were similar to one another. Violent offenders had a very different violent non-sexual recidivism survival curve than all other groups.

In terms of sexual recidivism, the five offender groups (incest offender, child molester, rapist, mixed sexual offender, violent offender) differed significantly ($\chi^2(4) = 108.1270$, $p = 0.0001$) (see Figure 7). Overall, eight years (96 months) after release, mixed sexual offenders had the steepest curve (86%), followed by rapists and child molesters (88% and 89% respectively), incest offenders (93%), and finally violent offenders (98%). However, the survival curves of child molesters, mixed sexual offenders and rapists had very similar shapes and slopes, indicating that their pattern of reoffending over time is very similar. In contrast, incest offenders and violent offenders had different curves from each other and from all other groups.

The five offender groups were then compared on violent recidivism in Figure 8. The groups were found to differ significantly ($\chi^2(4) = 26.3840$, $p = 0.0001$), with violent offenders and rapists having the steepest survival curve, (79% and 81%, respectively), followed by mixed sexual offenders (84%), child molesters (86%), incest offenders (90%) at approximately 96 months after release. These findings would suggest that violent offenders and rapists are the types of offenders who are most likely to recidivate with a violent offence, although the violent offenders do appear to fail earlier after release than rapists. For example, in the first year after release, approximately 6% of the violent offenders had committed a new violent offence compared to approximately 4% of the rapists. This difference in the rate of

reoffending per year continues until late in the follow-up period, at approximately seven years after release. Therefore, even though rapists are reoffending with a violent offence at the same rate as the violent offenders in the full follow-up period, violent offenders commit these offences in a shorter time period after release than rapists do.

Figure 6. Violent non-sexual reoffence survival curves: comparisons between five groups

Figure 7. Sexual reoffence survival curves: comparisons between five groups

Figure 8. Violent reoffence survival curves: comparisons between five groups

Further comparisons between groups were made in order to examine if they differed in terms of the number of new offences committed among those who had recidivated. Table 19 presents the percentage of each group who recidivated with each type of offence over the full follow-up period as examined in the survival curves. This table also presents the average number of offences committed among those who had reoffended. In terms of new violent non-sexual offences, although there were no significant differences between the five groups on the mean number of offences committed, there were large differences in the percentage of offenders had committed a new violent non-sexual offence.

For sexual reoffending, mixed sexual offenders, child molesters and rapists were most likely to have reoffended. Among the eleven mixed sexual offenders who had committed a new sexual offence, the average number of sexual offences was approximately 3.5. In comparison, all other groups had an average of between 1.1 (violent offenders) and 1.87 (incest offenders) new sexual offences. However, it needs to be noted that these means are derived from rather small groups, especially for the mixed sexual offender and incest offender groups, and therefore may be limited in their generalizability.

Finally, overall violent reoffending was examined. As discussed earlier, violent offenders, rapists and mixed sexual offenders were most likely to have committed a new violent offence. However, once again, mixed sexual offenders had the highest mean number of new violent offences ($\underline{M} = 3.61$), with all other groups having

committed between 1.79 (violent offenders) and 2.40 (child molesters) new violent offences.

Table 19

Comparisons of percent of offender with new offences and number of new offences

	Incest offenders	Child molesters	Rapists	Mixed sexual offender	Violent offenders	F (r ²)
New Violent non-sexual offence						
Percent (<u>n</u>)	3.4 (8)	4.4 (16)	10.2 (66)	7.1 (6)	19.0 (337)	
Mean (<u>SD</u>)	1.75 (1.03)	1.75 (0.86)	1.74 (1.50)	1.33 (0.51)	1.71 (1.25)	0.15 (0.001)
New sexual offence						
Percent (<u>n</u>)	6.7 (16)	10.5 (38)	10.5 (68)	13.1 (11)	2.1 (38)	
Mean (<u>SD</u>)	2.19 (1.87)	2.10 (1.80)	1.59 (1.34)	3.54 (3.93)	1.60 (1.10)	3.59** (0.079)
New violent offence						
Percent (<u>n</u>)	8.4 (20)	12.4 (45)	17.0 (110)	15.5 (13)	20.0 (356)	
Mean (<u>SD</u>)	2.45 (1.88)	2.40 (1.76)	2.02 (1.76)	3.61 (3.64)	1.79 (1.34)	6.01*** (0.043)

*** $p < 0.001$

These findings suggest that mixed sexual offenders are the most problematic in terms of sexual reoffending and any violent reoffending, with a relatively large proportion of them committing sexual offences after release and committing the largest number of sexual offences.

Prediction of Release and Recidivism

Two sets of stepwise logistic regression analyses were performed. These analyses tested the following hypotheses: (1) variables predictive of release decision are those variables previously found to be related to decision-making, (2) variables predictive of recidivism are those variables previously found to be related to recidivism, and (3) there will be little if any overlap between variables predictive of release decision and variables predictive of recidivism.

Prediction of Release

In order to examine the variables that were predictive of release decision, a stepwise logistic regression was performed with release decision as the dependent variable. Logistic regression is appropriate in predicting an ordinal dependent variable, such as release decision, from a set of categorical, ordinal or continuous independent variables. Release decision was coded as an ordinal variable, with the value of 1 representing warrant expiry, 2 representing statutory release, and 3 representing discretionary release. The independent variables entered into the analysis include the Static-99 proxy score, composite harm score, number of current sexual offences, number of previous sexual offences, total number of previous offences, total number of current offences, number of current non-violent offences,

number of previous non-violent offences, sentence length, number of victims, gender(s) of victims (dummy coded), victim age category (dummy coded), sex offender type (dummy coded), marital status (dummy coded), race (dummy coded), age at release, previous revocations, and treatment (yes, no). The correlation matrix for these predictive variables is presented in Appendix E. A stepwise logistic regression was applied to predict release decision, with only variables entering and staying in the equation at the 0.05 alpha level being retained. This rather conservative approach was employed in order to minimize the possibility of Type 1 error being committed, and due to the large sample size and therefore large power.

The intercept and parameter values for the prediction of release decision are presented in Table 20. The order in which the variables are presented in the table represents the order in which they were entered into the stepwise regression equation predicting release decision. This model correctly classified 62.2% of the 548 cases on release type ($\chi^2 (3) 54.113, p = 0.0001$). The Static 99 proxy score was entered into the equation first, followed by whether or not there was a child victim, and finally, the highest level of force in the current sexual offence(s). In general, the odds of having a more restrictive release type increased with each one value increase in the Static-99 proxy score, each one value increase in the degree of force used, and with the presence of a child victim. The odds of having a one unit decrease in release decision is 1.585 times greater for each one unit increase on the Static 99 proxy score. Similarly, for every one unit increase in the level of force used in the offence, there is between a 1.177 and 1.560 increase in the odds of having a one unit decrease in the release type. In terms of the presence or absence of a child victim, the odds of a one

unit decrease in the release type was between 1.560 and 3.282 when the victim was a child, with a 95% certainty.

Table 20

Results of stepwise logistic regression analysis predicting release decision

Variable	Parameter Estimate	Standard Error	Wald Chi-Square	Odds Ratio	CI (odds)
Intercept 1	-2.8967	0.3111	86.7051***		
Intercept 2	-0.4901	0.2828	3.0038		
Static-99 proxy score	0.4604	0.0753	37.3379***	1.585	1.367-1.837
Level of force	0.1633	0.0637	6.5816*	1.177	1.039-1.334
Child victim	0.8166	0.1897	18.5240***	2.263	1.560-3.282
* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$					

The logistic regression equation generated was applied to a validation sample, the second half of the dataset ($N = 597$). This equation correctly classified 60.2% of the cases in terms of release type ($\chi^2(1) = 38.881$, $p = 0.0001$). Therefore, the model cross-validated quite well, with a decrease of only two percentage points in the ability to correctly classify.

The next set of tables provides a detailed comparison between the offenders with the three types of release, on the variables that were found to significantly predict release decision. As can be seen in Table 21, the Static-99 proxy score was significantly different across the three release types, with the score increasing from

discretionary release, to statutory release, to warrant expiry release. Overall, as the restrictiveness of release increased, the mean level of force increased, in both the original and validation samples.

Table 21

Comparisons on Static-99 proxy scores and level of force across release types

	Conditional release <u>M (SD)</u>		Statutory release <u>M (SD)</u>		Warrant expiry <u>M (SD)</u>		<u>F</u>	
	O	V	O	V	O	V	O	V
Static-99 proxy score	2.60 (1.08)	2.47 (1.06)	2.93 (1.16)	2.92 (1.25)	3.41 (1.31)	3.42 (1.29)	20.60***	25.83***
Level of Force	1.81 (1.41)	1.81 (1.43)	1.88 (1.40)	1.88 (1.31)	2.20 (1.32)	2.12 (1.30)	3.84*	2.66†

Note: O = Original sample V = Validation sample

† $p < 0.10$ * $p < 0.05$ *** $p < 0.001$

The presence or absence of a child victim was also compared across the release types (see Table 22). As can be seen, a larger percentage of offenders in the original sample who were held until warrant expiry had a child victim (43%) than offenders with a discretionary release (34%) or statutory release (33%). However, this finding did not hold for the validation sample, where no significant differences in the presence or absence of a child victim were observed across release types.

Table 22**Comparison on presence or absence of child victim on release type**

	Discretionary release % (N)		Statutory release % (N)		Warrant expiry % (N)		χ^2	
	O	V	O	V	O	V	O	V
No child victim	66.4 (87)	64.6 (84)	66.5 (230)	68.4 (232)	56.5 (113)	68.4 (232)	6.029*	0.69
Child victim(s)	33.6 (44)	35.4 (46)	33.5 (116)	31.6 (107)	43.5 (87)	33.6 (73)		

Note: O = Original sample V = Validation sample

* $p < 0.05$

Overall, in the prediction of release decision, only three variables were found to enter and remain in the model at the 0.05 level. As was expected, offenders who had committed offences against child victims were more likely to receive a more restrictive release. In addition, the level of force used in the offence against the victim was found to predict release decision. Interestingly, the Static-99 proxy score, an actuarial risk prediction instrument, was found to be the variable most highly related to release decision. Most release decisions for these offenders would have pre-dated the creation of the Static-99 instrument and this implies that correctional decision-makers were aware of the variables related to recidivism and applied them in their decision-making. However, the fact that level of force and presence of a child victim were also predictive of release decision indicates that decision-makers may

also be including other information in their decision-making process that may not be related to risk of reoffending.

Since the Static-99 proxy score is a composite score which includes other separate variables in the analysis, and since the Static-99 proxy score was found to be the variable most related to release decision, a subsequent stepwise logistic regression was performed excluding the Static-99 proxy score. This method was employed in order to examine the unique effects of variables that may have been included in the Static-99 proxy score.

The results of the stepwise logistic regression predicting release decision are presented in Table 23. As can be seen, there were a total of eight variables entered into the equation, and the order in which they appear in the table represent the order in which they entered the equation. This equation classified 64% of the cases in terms of release decision correctly ($\chi^2(8) = 61.876, p < 0.0001$). This is a slight improvement in the ability to classify of the initial prediction equation that included the Static-99 proxy score (62.2%). Overall, the odds of receiving a more restrictive release were increased when the offender had previous revocations (odds = 2.374), was single (odds = 1.602), had a larger number of previous sex offences (odds = 1.367), had a child victim (odds = 2.252), had committed an offence with a higher level of force (odds = 1.209), was not an incest offence (odds = 0.553 for incest offence), had a male victim (odds = 1.740), and had a higher number of previous non-violent offences (odds = 1.231).

Table 23**Results of stepwise logistic regression analysis predicting release decision excluding****Static-99 proxy score**

Variable	Parameter Estimate	Standard Error	Wald Chi-Square	Odds Ratio	CI (odds)
Intercept 1	-1.932	0.220	77.093***		
Intercept 2	0.494	0.202	5.957		
Previous revocations	0.864	0.308	7.862**	2.374	1.297-4.344
Single	0.471	0.178	7.029**	1.602	1.131-2.271
Number of previous sex offences	0.312	0.115	7.361**	1.367	1.091-1.713
Child victim	0.812	0.209	15.086***	2.252	1.495-3.392
Level of force	0.190	0.066	8.329**	1.209	1.063-1.375
Incest offence	-0.5927	0.248	5.688*	0.553	0.340-0.900
Male victim	0.554	0.248	4.980*	1.740	1.070-2.831
Number of previous non-violent offences	0.208	0.101	4.266*	1.231	1.011-1.500
*p < 0.05 ** p < 0.01 *** p < 0.001					

Once again, this equation was applied to a validation sample, and was found to cross-validate quite well, with 61.8% of the 597 cases classified correctly ($\chi^2(1) =$

38.734, $p < 0.0001$). This was a decrease of approximately two percentage points in the ability to classify from the original sample.

Comparisons on the variables found to predict release decision are presented in Table 24 and Table 25. Overall, for both the original and validation samples, as the release type progressed from discretionary release to statutory release to warrant expiry release, offenders were significantly more likely to have a previous revocation, more likely to be single, and less likely to have had an incest offence. Offenders who had victimized children had more restrictive release types in the original sample but not the validation sample, while offenders with male victims had more restrictive release types, although this difference was statistically significant only in the validation sample. Offenders with more restrictive releases also had a significantly larger overall number of previous sexual offences, had used a significantly higher level of force during their current sexual offence, and, although not statistically significant, had more previous non-violent offences.

Table 24

Comparisons across release type on previous revocation, marital status (single), child victim, incest offence and male victim

	Discretionary release % (N)		Statutory release % (N)		Warrant expiry % (N)		χ^2	
	O	V	O	V	O	V	O	V
Previous Revocation								
No previous revocations	97.1 (132)	95.4 (126)	90.4 (331)	90.9 (321)	84.5 (174)	78.6 (176)	14.58***	28.41***
One or more previous revocation	2.9 (4)	4.5 (6)	9.6 (35)	9.1 (32)	15.5 (32)	21.4 (48)		
Marital Status (single)								
Not single	73.5 (100)	78.8 (104)	61.2 (224)	60.1 (212)	54.4 (112)	50.9 (114)	12.76**	27.18***
Single	26.5 (36)	21.1 (28)	38.8 (142)	39.9 (141)	45.6 (94)	49.1 (110)		
Child Victim								
No child victim	66.4 (87)	64.6 (84)	66.5 (230)	68.4 (232)	56.5 (113)	66.4 (144)	6.029*	0.69
Child victim(s)	33.6 (44)	35.4 (46)	33.5 (116)	31.6 (107)	43.5 (87)	33.6 (73)		
Incest offence								
No incest offence	75.0 (102)	75.0 (99)	85.5 (313)	82.7 (292)	84.5 (174)	89.3 (200)	8.18*	12.42**
Incest offence(s)	25.0 (34)	25.0 (33)	14.5 (53)	17.3 (61)	15.5 (32)	10.7 (24)		
Male victim								
No male victim	89.3 (117)	90.8 (118)	85.0 (294)	83.8 (284)	81.0 (162)	77.4 (168)	4.26	10.54**
Male victim(s)	10.7 (14)	9.2 (12)	15.0 (52)	16.2 (55)	19.0 (38)	22.6 (49)		

Note: O = Original sample V = Validation sample

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Table 25

Comparison across release type on number of previous sexual offences, level of force and number of previous non-violent offences

	Discretionary release		Statutory release		Warrant expiry		F	
	<u>M (SD)</u>		<u>M (SD)</u>		<u>M (SD)</u>			
	O	V	O	V	O	V	O	V
Number of previous sexual offences	0.07 (0.30)	0.04 (0.19)	0.17 (0.75)	0.17 (0.69)	0.43 (1.23)	0.35 (1.23)	8.51***	5.98**
Level of Force	1.81 (1.41)	1.81 (1.43)	1.88 (1.40)	1.88 (1.31)	2.20 (1.32)	2.12 (1.30)	3.84*	2.66†
Number of previous non-violent offences	0.18 (0.91)	0.25 (1.15)	0.25 (1.81)	0.40 (1.69)	0.39 (1.37)	0.40 (1.28)	0.93	0.55

Note: O = Original sample V = Validation sample

† $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

In sum, when the Static-99 proxy score was not included in the stepwise logistic regression predicting release decision, a very different prediction equation emerged. The variables found to be predictive of release decision, when the Static-99 score was not included, were previous revocations, single marital status, number of previous sex offences, child victim, level of force, incest offence, male victim and number of previous non-violent offences. Out of these eight variables, four are actually items that are included in the scoring of the Static-99 proxy score, namely single marital status, number of previous sex offences, incest offence (re: any unrelated victims item), and male victim. Therefore, it is clear that the individual

contribution of these items was lost when the Static-99 proxy score was included in the analyses.

Furthermore, one item that was in the original Static-99 scale but was not available in this study was the number of prior sentencing dates. Two variables that entered the equation predicting release, namely number of previous non-violent offences and previous revocations are likely to be related to this item. For example, if an offender had a previous revocation they would have had to have had a previous sentence, and the larger the number of previous non-violent offences, the more likely it is that the offender had a larger number of previous sentencing dates.

Four variables that entered into this equation, namely child victim, level of force, incest offence and male victim, were found to be related to decision-making in previous research. However, five variables (single, number of previous sex offences, incest offence, child victim and male victim) were found, or were also found, to be related to recidivism in prior research. Therefore, these findings once again support the notion that decision-makers were aware of variables related to reoffending among sexual offenders and took this information into consideration in making release decisions. However, some additional information, such as level of force was also considered in making decisions.

The issue that now needs to be examined is which variables were found to be related to recidivism in this study. This will be addressed in the next section, which examines the prediction of recidivism.

Prediction of Recidivism

A stepwise logistic regression was performed in order to examine which variables significantly predicted violent recidivism within a fixed five year time period following release. Table 26 displays the variables entered into the equation, and the order in which they are presented represents the order in which they were entered and remained in the equation at the 0.05 level. This model correctly classified 73.8% of the 465 cases as having or not having recidivated ($\chi^2(3) = 36.925$, $p < 0.0001$). As can be seen in the table, three variables were entered into the model: Static-99 proxy score, whether or not the offender was Aboriginal, and the offender's age at release. For every one unit increase in the Static 99 proxy score, the odds of recidivism increased by between 1.452 and 2.404, with a 95% certainty. Aboriginal offenders had an increased odds of between 1.138 and 4.503 (with a 95% certainty) of recidivism than non-Aboriginal offenders. For every one unit (year) increase in age at release, the odds of recidivating decreased by between 0.935 to 0.998, with a 95% certainty. Therefore, the odds of recidivating increased with an increase in Static 99 proxy score, increased with Aboriginal offenders, and decreased with every year increase in age.

Table 26

Results of stepwise logistic regression predicting violent recidivism for a fixed five year time period

Variable	Parameter Estimate	Standard Error	Wald Chi-Square	Odds Ratio	CI (odds)
Intercept	-2.8610	0.7469	14.6745***		
Static-99 proxy score	0.6252	0.12863	23.6413***	1.869	1.461-2.424
Aboriginal	0.8170	0.3509	5.4217*	2.264	1.118-4.459
Age at release	-0.0347	0.0168	4.2507*	0.966	0.933-0.998
* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$					

The regression equation generated by this stepwise logistic regression was applied to a validation sample ($N = 588$). Overall, this equation was found to correctly classify 67.3% of the cases as having recidivated or not having recidivated ($\chi^2(1) = 24.509$, $p < 0.0001$). Therefore, although the model did not classify as well in the validation sample as it did in the original sample, it did correctly classify over two-thirds of the cases.

The following section presents a comparison between offenders who recidivated and did not recidivate on the variables found to significantly predict recidivism in the stepwise logistic regression. Overall, recidivating sex offenders had significantly higher scores on the Static 99 proxy scale than non-recidivating sex offenders. Recidivating offenders were found to be significantly younger at release

than non-recidivating offenders for both the original sample ($\underline{M} = 34.41$ vs. $\underline{M} = 39.21$, respectively) and the validation sample ($\underline{M} = 33.53$ vs. $\underline{M} = 39.84$, respectively).

Table 27

Comparison between recidivating and non-recidivating offenders on Static 99 proxy scores and age at release

	No recidivism <u>M (SD)</u>		Recidivism <u>M (SD)</u>		<u>t</u>	
	O	V	O	V	O	V
Static-99 proxy score	2.85 (1.17)	2.82 (1.25)	3.46 (1.38)	3.30 (1.23)	-3.5976***	-3.0604**
Age at release	39.21 (11.12)	39.84 (11.43)	34.41 (9.66)	33.53 (9.51)	3.5254***	4.4991***

Note: O = Original sample V = Validation sample

** $p < 0.01$ *** $p < 0.001$

Table 28 presents a comparison between recidivating and non-recidivating offenders in terms of race. Among the 74 offenders found to recidivate in the original sample, 32% were Aboriginal, while 15% of the non-recidivist were Aboriginal ($\chi^2(1) = 13.36$, $p < 0.0001$). Similarly, in the validation sample 30% of the recidivist were of Aboriginal descent while 16% of the non-recidivists were Aboriginal ($\chi^2(1) = 8.271$, $p < 0.0001$).

Table 28**Comparison between recidivating and non-recidivating offenders on race**

	No recidivism % (<u>n</u>)		Recidivism % (<u>n</u>)		χ^2	
	O	V	O	V	O	V
Non-aboriginal	84.8 (445)	83.7 (431)	67.6 (50)	69.9 (51)	13.36***	8.271**
Aboriginal	15.2 (80)	16.3 (84)	32.4 (24)	30.1 (22)		

Note: O = Original sample V = Validation sample

** $p < 0.01$ *** $p < 0.001$

In sum, three variables were found to significantly predict combined violent recidivism within a five year time period after release: Static-99 proxy score, Aboriginal race, and age at release. These finding are consistent with the literature regarding the prediction of violent recidivism among sexual offenders.

A second stepwise logistic regression analysis was performed excluding the Static-99 proxy score as a potential predictor variable. This analysis was performed in order to examine if variables that were items in the Static-99 proxy score had any unique individual contribution to the prediction of recidivism. As can be seen in Table 29, a total of five variables entered and remained in the equation. This equation was found to correctly classify 74.4% of the 465 cases in terms of violent reoffending within five years of release ($\chi^2(5) = 36.229$, $p < 0.0001$). This is approximately equal

to the ability of the initial logistic regression equation that included the Static-99 proxy score, to classify cases (73.8% concordance).

The age at release and any male victims variables were items in the Static-99 proxy score, and therefore the contribution of these items individually may have been lost when using the Static-99 proxy score as a predictor. However, the number of previous offences variables may be related to an item that was in the original Static-99 measure but not available in this study: the number of prior sentencing dates. Only offenders who had previous offences would have had one or more previous sentencing date, and offenders who had committed more previous offences are likely to have had more previous sentencing dates.

Overall, the odds of recidivating were greater with each one unit increase in the previous number of offences, with each one unit decrease in the offender's age at release, with each one unit increase the offender's current sentence length, when the offender was Aboriginal, and when the victim of the sexual offence was male.

Table 29

Results of stepwise logistic regression predicting violent recidivism for a fixed five year time period, with Static-99 proxy score excluded

Variable	Parameter Estimate	Standard Error	Wald Chi-Square	Odds Ratio	CI (odds)
Intercept	-1.212	0.636	3.632		
Number of previous offences	0.149	0.046	10.652**	1.160	1.061-1.269
Aboriginal	0.890	0.353	6.361*	2.435	1.219-4.862
Male victim	1.319	0.388	11.566***	3.739	1.749-7.995
Age at release	-0.051	0.017	8.670**	0.950	0.918-0.983
Sentence length	0.0002	0.0001	5.7903*	1.000	1.000-1.000
* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$					

This logistic regression equation generated in the original sample was then applied to a validation sample ($N = 568$). This equation significantly predicted violent recidivism ($\chi^2(1) = 32.323$, $p < 0.0001$), and correctly classified 69.3% of the cases in the validation sample. This amounted to a decrease of approximately 5 percentage points in the ability to classify correctly.

The recidivating and non-recidivating offenders were compared on the variables found to enter the equation (see Table 30 and Table 31). In both the original and validation samples, Aboriginal offenders were approximately twice as likely to

reoffend than non-Aboriginal offenders were. However, this finding needs to be interpreted with caution due to the possibility that offence dynamics, social setting and other contextual factors may be affecting the likelihood that Aboriginal offenders are reoffending. Recidivating offenders were found to have more than double the number of previous offences, were younger by approximately five years, and had sentences that were approximately 300 days longer than non-recidivating offenders in both the original and validation samples. Offenders committing sexual offences against male victims were found to be more likely to recidivate in the original sample but not in the validation sample. This suggests that the male victim variable may not be a very reliable and consistent predictor of recidivism.

Table 30

Comparison between recidivating and non-recidivating offenders on race and male victim

	No Recidivism % (N)		Recidivism % (N)		χ^2	
	O	V	O	V	O	V
Race (Aboriginal)						
Non-Aboriginal	84.8 (445)	83.7 (431)	67.6 (50)	69.9 (51)	13.36***	8.27**
Aboriginal	15.2 (80)	16.3 (84)	32.4 (24)	30.1 (22)		
Male victim						
No male victim	84.3 (423)	82.6 (414)	78.3 (54)	89.7 (61)	1.59	2.17
Male victim(s)	15.7 (79)	17.4 (87)	21.7 (15)	10.3 (7)		

Note: O = Original sample V = Validation sample

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Table 31

Comparisons between recidivating and non-recidivating offenders on number of previous offences, age at release and sentence length

	No Recidivism <u>M (SD)</u>		Recidivism <u>M (SD)</u>		<u>t</u>	
	O	V	O	V	O	V
Number of previous offences	0.94 (3.72)	0.79 (2.21)	1.85 (3.15)	2.71 (5.13)	-2.00*	-3.16**
Age at release	39.21 (11.13)	39.84 (11.42)	34.41 (9.66)	33.53 (9.51)	3.53***	4.50***
Sentence length (in days)	2,013 (1,281)	1,926 (1,155)	2,336 (1,368)	2,212 (1,539)	-2.02*	-1.52

Note: O = Original sample V = Validation sample

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

In sum, when the Static-99 proxy score was excluded from the stepwise logistic regression analysis, five variables were found to significantly predict violent reoffending for a fixed five year time period. Four out of the five variables found to be predictive of recidivism in this study, have been found to predict recidivism in previous studies, namely, number of previous offences, race (Aboriginal), male victim, and age at release. Therefore, as would be expected, the variables found to predict violent recidivism, even when an actuarial risk score is excluded, are those variables that have been found to predict recidivism in previous studies.

Comparison of predictions

In the previous sections, release type and recidivism were predicted using a set of independent variables. This section compares the two sets of predictions. Furthermore, the regression equations produced in each logistic regression are applied to the other dependent variable, and the ability of these equations to predict and classify is examined. It was hypothesized that the variables predictive of release decision versus those predictive of recidivism would differ. Furthermore, it was hypothesized that variables found to predict release decision would not successfully predict recidivism, and those found to predict recidivism would not successfully predict release decision.

A comparison between the variables found to predict release type and variables predicting recidivism when the Static-99 proxy score was included are presented in Table 32. The Static-99 proxy score was the first variable entered in both sets of predictions; however, there were differences between the two sets of predictions on the second and third variables entered into the logistic regression equation. The additional variables entered into the equation predicting release were child victim and level of force, while in contrast, Aboriginal race and age at release were predictive of recidivism. Referring back to Table 2, the presence of the child victim and level of force variables in predicting decision-making is consistent with the previous findings regarding which variables are related to decision-making. In comparison to previous research on variables predictive of sexual or violent recidivism, the findings of this study are consistent. However, a proxy for an

actuarial risk assessment tool, the Static-99, best predicts both release decisions and recidivism.

Table 32

Comparison between variables predictive of release versus variables predictive of recidivism

Order	Variable predicting release	Variable predicting recidivism
1	Static-99 proxy score	Static-99 proxy score
2	Child Victim	Aboriginal
3	Level of force	Age at release

A second set of analyses was also performed where the Static-99 proxy score was not included as a potential predictor. A comparison between the variables found to predict release and the variables found to predict recidivism are presented in Table 33. As can be seen, only one variable, male victim, was found to be common to both predictions. Overall, offenders who had victimized males tended to have more restrictive release types and tended to have a higher rate of recidivism. However, the higher rate of recidivism among offenders with male victims was only found in the original sample, not in the validation sample, suggesting that this variable may not be a consistent predictor.

Outside of the male victim variable, all other significant predictors of release and recidivism differed. Overall, although some of the variables predictive of release were found in previous research to be related to recidivism (single, number of previous offences, incest offence, male victim), four of the variable were found in the

literature to have been related to decision-making (child victim, level of force, incest offence, male victim). For the prediction of recidivism, four out of five variables have been found to be related to violent and/or sexual reoffending in the research literature, and only one variable (male victim) was also previously found to be related to decision-making.

Table 33

Comparison between variables predictive of release versus variables predictive of recidivism, excluding Static-99 proxy score

Order	Variable predicting release	Variable predicting recidivism
1	Previous revocations	Number of previous offences
2	Single	Aboriginal
3	Number of previous sex offences	Male victim
4	Child victim	Age at release
5	Level of force	Sentence length
6	Incest offence	
7	Male victim	
8	Number of previous non-violent offences	

The two sets of predictions were also compared in a statistical manner. In order to examine how well variables predictive of release decision, predict recidivism, and how well variables predictive of recidivism, predict release decision, the logistic regression equation generated from each prediction was applied to the prediction of the other dependent variable. If the logistic regression equation is not found to

predict well and classify well, this would indicate that variables predictive of release are not the same variables predictive of recidivism and vice versa.

The logistic equation predicting release type which included the Static-99 proxy score (see Table 32) was applied to predict recidivism. Although this was found to be a significant results ($\chi^2(1) = 4.354$, $p = 0.0369$), this model was found to correctly classify only 52.3% of the 990 cases in terms of recidivism. In contrast, the rate of correct classification was 62.2% in the original sample and 60.2% in the validation sample.

In order to evaluate the ability of the regression equation generated in the stepwise logistic regression analysis including the Static-99 proxy score, predicting violent recidivism for a fixed five year period, to predict release type, the equation was applied to the prediction of release type. Overall, this equation correctly classified 58.8% of the 1,417 cases in regards to release type ($\chi^2(1) = 31.358$, $p < 0.0001$). Although this equation was found to significantly predict release type, the percent of cases correctly classified is greatly reduced from that found in both the original (73.8%) and the validation sample (67.3%) for recidivism.

The second set of equations generated which did not include the Static-99 proxy score as a potential predictor were also examined in terms of their ability to predict the other dependent variable. Overall, when the equation predicting release type was applied to the prediction of recidivism, this equation significantly predicted recidivism ($\chi^2(1) = 11.178$, $p < 0.0008$). However, this equation only classified 56.5% of the 990 cases correctly in terms of recidivism. This is a reduction from the ability

of this equation to predict release type in both the original (64.0%) and validation (61.8%) samples, by five percentage points or more.

When the prediction equation generated from the prediction of recidivism (Static-99 proxy score excluded), was applied to the prediction of release, only 56.8% of the 1,361 cases were correctly classified ($\chi^2(1) = 29.182, p < 0.0001$). This is a reduction of more than ten percentage points in the ability to classify cases from its ability to classify cases in terms of reoffending in the original (74.4%) and validation (69.3%) samples.

In sum, although when the Static-99 proxy score was included in the analysis, both logistic regression equations had the Static-99 proxy scores entered first, they differed in terms of the additional variables found to be predictive. Furthermore, although when the regression equations generated from the initial analysis were applied to opposing dependent variable the findings were significant, both showed large decreases in the ability to classify the other dependent variable. In addition, subsequent analyses excluding the Static-99 proxy score resulted in only one common variable between the two predictions. Furthermore, these equations were found have greatly reduced ability to classify offenders when applied to the prediction of the opposing dependent variable. This supports the notion that although some variables which are related to actual risk of reoffending are considered in release decision-making, other information is also taken into account which is not related to risk of recidivism.

Discussion

The study examined one example of biased decision-making within the correctional context. The purpose was to investigate release decision-making for a group of sexual and violent offenders. In order to address this purpose two general issues were attended to. First, whether or not release decisions are biased against sexual offenders was addressed. Secondly, this research sought to determine if certain characteristics of sexual offenders placed them at higher risk of being targeted for more restrictive release decisions than would be expected given their risk of recidivism. In order to address the first issue, sexual and violent offenders were compared in terms of release type, and recidivism following release. Different types of sexual offenders were also compared with each other and with violent offenders on release and recidivism. To determine which characteristics of sexual offenders were related to more restrictive release decisions, predictive analyses of release decision, and recidivism were performed and compared. In general, violent offenders were found to have less restrictive release types but had higher levels of recidivism following release as compared to sexual offenders. Furthermore, child molesters and incest offenders had the largest disparity between the likelihood to recidivate and the restrictiveness of their release. In predicting release decision and recidivism, different predictors were found to be significantly related to each dependent variable. In general, level of force plays a role in decision-making, but not in the risk of reoffending.

The discussion will address the degree to which the hypotheses were supported by the findings of this study, the implications of these findings, and the limitations of the study.

Hypotheses

In total, seven hypotheses were tested in this study. Hypotheses one through four are related to the first issue addressed in this study, while hypotheses five through seven are related to the second issue.

Are release decisions biased against sex offenders?

In order to examine whether or not sexual offenders received more restrictive release decisions than would be expected given their risk to reoffend, sexual offenders were compared with violent offenders in terms of release decision and recidivism (hypotheses 1 and 3). Furthermore, sexual offenders were divided into groups on the basis of the types of victims they perpetrated their offences against, and these four offender groups were compared to each other and to violent offenders in terms of release decision and recidivism (hypotheses 2 and 4).

In order to address the first hypothesis, a larger percentage of sex offenders will have been released later in their sentence than the comparison group of non-sexual violent offenders; violent offenders and sexual offenders were compared on release decision. As was predicted, violent offenders were more likely to have a discretionary release or statutory release than sexual offenders while sexual offenders were more likely to have been released at end of their sentence. In fact, more than three times as many sexual offenders were released at warrant expiry as violent

offenders. Furthermore, sexual offenders had served a larger proportion of their sentence at release (76%) compared to violent offenders (72%).

While sexual offenders were predicted to be released later in their sentence, suggesting that they were perceived to be at a higher level of risk, it was predicted that sexual offenders would have a lower violent non-sexual recidivism rate, lower overall violent recidivism rate but higher sexual recidivism rate than a comparison group of non-sexual violent offenders. These hypotheses were supported by the findings. In terms of violent non-sexual reoffending, 80% of violent offenders compared to 92% of sexual offenders had not recidivated with a violent non-sexual offence 8 years after release. In addition, the violent non-sexual recidivism occurred more quickly after release for violent offenders than sexual offenders. In terms of sexual reoffending, 89% of sexual offenders versus 98% of violent offenders had not recidivated with a sexual offence eight years after release. Furthermore, violent offenders recidivated with any violent offence more often than sexual offenders, and violent offenders committed their offences sooner after release than sexual offenders.

Taken together, these findings demonstrate that although sexual offenders may be more likely to reoffend with a sexual offence, they recidivated less often with any violent offence. Both violent and sexual offences are the types of offences focussed on when making release decisions, and the likelihood of both types of recidivism should be considered in release decision-making. However, as indicated by the proportion of sentence served and the release type, sexual offenders tend to be released later in their sentence and receive more restrictive releases than violent

offenders. This suggests that risk of recidivism is focussed on less than other issues in making release decisions.

Based upon the findings in the literature, it was also expected that specific sexual offender types would differ in terms of release decision and recidivism. Accordingly, the following two hypotheses were tested: (1) the different offender groups (violent offenders, incest offenders, child molesters, rapists, mixed sexual offenders) will differ in their release type and percentage of sentence served at release, and (2) when sexual offenders are differentiated into groups (incest offenders, child molesters, rapists, mixed sexual offenders), their violent non-sexual recidivism rate, sexual recidivism rate, and violent recidivism rate will vary across the groups.

In terms of release decision, the five offender groups differed significantly. Paired comparisons between the five offender groups revealed that incest offenders and violent offenders were least likely to be held in custody to the end of their sentence with 8% of violent offenders and 24% of incest offenders released at the end of their sentence. In comparison, mixed sexual offenders, rapists and child molesters were more likely to be released at the end of their sentence, with approximately 31% to 34% being released at warrant expiry. Mixed sexual offenders, child molesters and rapists did not differ from each other in the percentage of sentence served at release (approximately 77%), but all three differed from incest offenders and violent offenders (approximately 72%).

As hypothesized, the five offender groups differed from one another in their rates of violent non-sexual, sexual and violent sexual recidivism. In terms of violent non-sexual reoffending, violent offenders had the worst survival without a violent

non-sexual reoffence (80% in 96 months) followed by rapists (88% in 96 months), and mixed sexual offenders (92% in 96 months). It was hypothesized that violent offenders and rapists would have the highest rate of violent non-sexual reoffending, and this hypothesis was supported. However, the rate of violent non-sexual reoffending among rapists was quite a bit lower than that of violent offenders. It was also hypothesized that all sex offender groups other than rapists would have lower violent non-sexual reoffending rates, with incest offenders having the lowest. This hypothesis was only partially supported since mixed sexual offenders had a survival rate similar to rapists up to approximately 60 months after release. Incest offenders and child molesters had the best rates of surviving without a new violent non-sexual offence (95% to 96% in 96 months).

For sexual recidivism, child molesters, rapists and mixed sexual offenders were least likely to survive without a new sexual offence, with between 86% and 89% surviving without a new sexual offence in 96 months. Violent offenders had the lowest rate of sexual reoffence (98% surviving), and incest offenders were between the two extremes with 93% surviving without a new sexual offence. The sexual reoffence survival curves of child molesters, mixed sexual offenders, and rapists were similar in shape and slope to one another while incest offenders and violent offenders had different curves than each other and than all other groups.

Finally, for overall violent recidivism, incest offenders did have the best survival and therefore lowest rate of violent recidivism as was hypothesized. However, contrary to what was hypothesized, rapists did not have the highest rate of violent recidivism (81% survival in 96 months) but rather violent offenders did (79%

survival in 96 months). Although violent offenders and rapists had similar rates of surviving without a new violent offence in the full follow-up period, their pattern over time differed, with violent offenders tending to fail earlier after release than rapists.

These findings indicate that although child molesters, mixed sexual offenders and rapists were most likely to be released the latest in their sentence, the rapist group was most likely to recidivate with any violent offence. Furthermore, violent offenders were most likely to be released on discretionary or statutory release, and had served the lowest percentage of their sentence at release, but they were the most likely to recidivate with any violent offence. Incest offenders were least likely to recidivate with a violent non-sexual offence or with any violent offence, but were more than twice as likely to have been released at their warrant expiry date than violent offenders. These findings suggest that out of all five offender groups, violent offenders and rapists should have remained in custody the longest, if the release decision was based upon likelihood to reoffend with a violent offence, but that only the rapists receive the most restrictive release. Furthermore, child molesters and incest offenders receive more restrictive release types than would be expected given their risk to reoffend.

However, it may be that individuals making release decisions are most affected by highly recidivistic offenders within the offender groups when making decisions and therefore err in making overly harsh decisions. This suggestion may be particularly true when making judgements about mixed sexual offenders since these offenders, although somewhat less likely to reoffend with any violent offence, had committed a larger number of such new offences after release than all other groups.

Among the sex offender groups, mixed sexual offenders also had the largest number of current offences ($M = 6.5$), but this was significantly lower than the number of current offences the violent offenders had committed ($M = 11.23$). However, mixed sexual offenders had committed the largest number of current violent offences than all other groups. It is possible that these types of considerations had an effect on the decision-making process.

What factors are related to more restrictive release decisions than would be expected given their risk of recidivism?

It is also highly probable that some offender groups committed offences that were perceived as more serious due to the nature of the offence, the characteristics of the victims, or the characteristics of the offender. In order to examine the factors that may have contributed to the release decisions made by decision-makers, predictors of release decisions were examined. The next set of hypotheses addressed which factors were related to release decisions and those that were related to recidivism, and whether or not they differed. If variables predictive of release decision differ from those predictive of recidivism, this implies that information that is unrelated to risk of reoffending is being considered in release decision-making.

Among the sex offender group, prediction of release type was performed using stepwise logistic regression in order to test the hypothesis that variables predictive of release decision were those previously found to be related to decision-making (see column 1 of Table 2). Two analyses were performed, one including the Static-99 proxy score as a potential predictor, and one excluding the Static-99 proxy score. For the first analysis which included the Static-99 proxy score, level of force, and victim

age (child victim) did predict release decision, as was expected. However, the variable that entered into the analysis first, was a proxy for actuarial risk prediction scale, the Static-99. When the Static-99 proxy score was excluded as a potential predictor variable, the best predictors of release decisions were previous revocations, single marital status, number of previous sex offences, child victim, level of force, incest offence, male victims and number of previous non-violent offences. Five of these variables have been shown to be related to recidivism (single marital status, number of previous sex offences, incest offence, male victim, child victim), with four of the five being contained in the Static-99 proxy measure. In addition, child victim, level of force, incest offence and male victim have been found to be related to decision-making in the previous studies, but only the child victim, incest offence, and male victim variables have been found to also be related to recidivism in the previous research.

These findings support the notion that decision-makers were aware of variables associated with recidivism and were considering this information in making decisions, but that other information not related to recidivism, such as level of force, was also taken into account.

In order to examine the variables predictive of violent reoffending, a second set of stepwise logistic regression were performed, using the same variables as the analysis predicting release decision, the first analysis including the Static-99 proxy score, and the second analysis excluding the Static-99 proxy score. As was hypothesized, with one exception, the variables that predicted violent recidivism were those that have been previously found to be related to recidivism (see columns 4 and

5 in Table 2). When the Static-99 proxy score was included in the analysis, the first variable entered into the analysis predicting violent recidivism was an actuarial scale intended to predict recidivism (Static-99 proxy score). In addition to the Static-99 proxy score, race (Aboriginal) and age at release significantly predicted violent recidivism for a fixed five year follow-up period. However, in making conclusions about risk of reoffending, the inclusion of the race variable needs to put into the context in which the Aboriginal people in Canada live. For example, it may be that Aboriginal individuals who commit crimes are more likely to be apprehended by the police and convicted of the offence than non-Aboriginal individuals. When the Static-99 proxy score was excluded from the prediction of sexual and/or violent recidivism, five variables were found to predict recidivism: number of previous offences, race (Aboriginal), male victim, age at release, and sentence length. The prediction equation was found to cross-validate well, but the male victim variable did not show a consistent relationship to recidivism from the original to the validation sample. With the exception of the sentence length variable, the variables found to significantly predict violent recidivism for a fixed five year period were consistent with the previous research findings.

Finally, the two sets of predictions were compared in order to determine if the variables related to release were the same ones that were related to recidivism. It was hypothesized that there will be little if any overlap between variables predictive of release decision and variables predictive of recidivism. Overall, the findings indicate that there were some similarities and some differences in the variables predictive of release, and the variables predictive of recidivism, and therefore decision-makers are

considering information related to risk of reoffending, but are also considering other information unrelated to reoffending. In analyses predicting release, and recidivism including the Static-99 proxy score as a potential predictor, the Static-99 proxy score was entered, and was entered in the first step. However, this is the only variable common to both analyses. For the release decision dependent variable, child victim and level of force were additional predictors, while for the recidivism prediction, Aboriginal race and age at release were also significantly related when the Static-99 proxy score was included in the analysis.

In addition, the factors that predicted release and recidivism when the Static-99 proxy score was excluded were compared. Only one variable was found to be a predictor of both release and recidivism, the male victim variable. As mentioned earlier, this variable did not cross-validate well in the prediction of recidivism and therefore its generalizability is questionable. However, offenders who had victimized males tended to have more restrictive release decisions in both the original and validation samples. Outside of the male victim variable, there were no other common predictors of release and recidivism. With the exception of the sentence length variable, all of the significant predictors of recidivism were consistent with previous findings. For the prediction of release decision, four of the variables were found to related to decision-making in the literature (child victim, level of force, incest offence, male victim), five were found to be related to recidivism (single, number of previous sex offences, child victim, incest offence, male victim) and two were found to be unrelated to decisions or violent recidivism (previous revocations, number of previous non-violent offences). Number of previous revocations and number of

previous non-violent offences have been found to be related to general recidivism risk and therefore their inclusion in the prediction of release decision is understandable. However, the results of this study indicate that these variables are not good predictors of violent reoffending for sexual offenders. Overall, these findings suggest that in making release decisions, risk of recidivism is taken into account but that other factors such as level of force and presence of a child victim, are also considered.

In sum, the comparisons between violent and sexual offenders on release decisions and recidivism indicate that although sexual offenders are at lower risk to commit a new violent offence after release, they are kept in custody longer and are more likely to be released at the end of their sentence. When the sex offender group was broken down, the largest disparity between risk of reoffending and restrictiveness of release was found for the child molesters and the incest offenders. The findings would suggest that if risk of recidivating with a violent offence were the only factor taken into consideration in release decision-making, that rapists and violent offenders should be kept in custody longer, but rapists are more than three times as likely to be released at the end of their sentence than violent offenders.

In order to address which factors were related to release decisions and recidivism two sets of predictive analyses were performed. In general, the factors that predicted release decisions tended to differ from those predicting recidivism. Presence of a child victim and level of force are factors that were taken into account when making release decisions but were found to be unrelated to recidivism in this study. This suggests that factors unrelated to recidivism are being taken into account when making release decisions.

Implications

Decision-making under conditions of uncertainty is difficult, and decision-makers tend to use techniques to simplify the process (Tversky & Kahneman, 1974). Previous research has suggested that this simplification leads to cognitive distortions. Furthermore, previous research has indicated that these cognitive distortions can lead to biases in making decisions in the criminal justice process (Farrell & Holmes, 1991), and that parole or release decision-making is no exception (Carroll & Burke, 1990; Carroll et al., 1982).

It has been suggested by several researchers that most parole decisions are influenced by the evaluation of the offender, offence seriousness, and victim harm, coupled with the prediction of the likelihood of reoffending following release (Carroll & Burke, 1990; Metchik, 1988). In making parole decisions for sexual offenders, it was hypothesized that they would be evaluated negatively due to the perceived seriousness of their offence, and the perceived degree of harm to the victims. However, the likelihood of reoffending among sexual offenders has been previously found to be lower than that of other types of offenders, with specific types of sexual offenders having extremely low reoffence rates (Doren, 1998; Grant & Gal, 1999; Hanson & Bussière, 1995; Hanson, Steffy & Gauthier, 1993; Hanson, Scott & Steffy, 1995; Mair, 1995; Prentky et al., 1997). If both evaluation and prediction were given equal weight in parole decisions, the sexual offenders should receive the same treatment as other offenders who may be at increased risk of recidivism but have committed crimes that are considered less serious and less harmful. The results of this study indicate that, in fact, sexual offenders had lower recidivism rates than a

comparable group of violent offenders but were required to serve a greater proportion of their sentence in custody and received much more restrictive parole decisions.

This would suggest that in fact the likelihood of recidivism is receiving less weight in decision-making regarding the release of sexual offenders, and perhaps that decision-makers' perception of the abhorrence of their offences is skewing their decision.

Furthermore, child molesters and incest offenders were treated most harshly in relation to their actual risk of reoffending. Upon analyzing the relationship between specific variables and release decision, the presence of a child victim and the level of force used were found to be related to release decision, but not related to reoffending after release.

The Canadian policy regarding the recommendation for parole or other releases contains references to both evaluation and prediction. It has been suggested that risk of recidivism is the most important consideration in parole decision-making since the purpose of parole is to assist in offender reintegration. Policy regarding parole may be influenced by the perceived public opinion on the appropriate method of parole decision-making. However, previous research has found that public opinions are very inaccurate in estimating recidivism rates (Roberts & White, 1986). In fact, when estimating the risk of sexual reoffending among sexual offenders, the public is extremely inaccurate. For example, Roberts and White (1986) found that respondents estimated that 57.6% of first time sexual offenders would reoffend with a sexual offence whereas official statistics indicated that only 13.5% were reconvicted. It is also likely that these decision-makers would not be immune to these misperceptions of the probability of recidivism.

Furthermore, the decision-making literature suggests that individuals may not pay enough attention to such things as base rates in making decisions under uncertainty. For example, Cannon and Quinsey (1995) found that the estimated likelihood of recidivism among violent offenders was unaffected by base rate information. Fong, Lurigio and Stalans (1990) found that novice parole officers who had not received statistical training were unaffected by base rate information in making estimates of the probability of recidivism, and that even after statistical training, parole officers did not consider base rate information in making decisions about low base rate conditions. Sexual offenders are among a group of offenders who have a low base rate of reoffending, and therefore the accurate prediction is unlikely to occur without providing decision-makers with guidelines or training.

It is essential that errors in decision-making be minimized since the cost of such errors is large. The financial cost of maintaining offenders in custody longer than needed given their risk of reoffending is high. For example, the cost of maintaining an offender in custody for one year in a Canadian federal institution during 1998-99 was approximately \$61,000 per inmate (Solicitor General of Canada, 1999). In comparison, the average annual cost of supervising an offender on parole or statutory release during the same time was from approximately \$13,000 per offender (Solicitor General of Canada, 1999). If sexual offenders are being kept in custody an average of 76% of their sentence with an average sentence length of 2,284 days, versus violent offenders who are kept in 72% of their sentence with an average sentence length of 2,347 days, the difference in the cost of incarcerating sexual offenders instead of supervising them in the community for this period of time

(average of 108 days) is \$17,664 per offender. Therefore, the relatively low risk of reoffending among sexual offenders does not seem to warrant this financial cost.

Since the results of this study suggest that release decisions for sexual offenders are subject to bias, the next step would be to find methods to resolve this problem. One possibility is to develop more detailed parole guidelines for decision-makers. However, a study which examined the effect of parole guidelines on parole decisions made by experienced and educated parole hearing officers found that guidelines seemed to have a minimal effect when making parole decisions for offenders who had committed sexual assault (Turpin-Petrosino, 1999). In fact, "a sexual assault conviction practically guaranteed parole denial, regardless of crime particulars, institutional record or defendant factors" (Turpin-Petrosino, 1999; p. 328).

One other suggestion for improved release decision-making is to provide statistical training to decision-makers in order to offset some of the cognitive distortions that may occur in making decisions. Fong, Lurigio and Stalans (1990) performed an experiment to examine whether statistical training regarding base rates could increase the use of statistical principles in probation decisions. Although the training seems to assist decision-makers in making judgements about risk of recidivism, this was only true for cases where the base rate for reoffending was high (.80), not for the base rate for reoffending was low (.20). Therefore, this type of training would be unlikely to be effective in assisting decision-makers in making accurate estimates of risk of violent reoffending among sexual offenders, since the base rate is so low.

Another potential method of correcting for the bias in release decision-making for sexual offenders could be to use the method recommended by Hanson (1998), the adjusted actuarial evaluation. The adjusted actuarial approach starts with predictions based upon actuarial instruments and adjusts these assessments on the basis of other compelling evidence. This approach has advantages over both the guided clinical and the pure actuarial approaches to risk assessment, since "it is difficult to obtain recidivism rate estimates from guided clinical approaches and since the pure actuarial approach has the potential of ignoring potentially important variables" (Hanson, 1998; p. 67). This approach may be the most promising of those suggested, but the current study is evidence that the other 'compelling evidence' that will adjust the actuarial prediction may be subject to bias. For example, in addition to the risk score calculated by an actuarial tool, other information such as the degree of force used in the offence may be included in the assessment of risk even though, as this study and others have demonstrated, level of force used is not related to risk of recidivism. However, it is important to consider not only the likelihood of reoffending but also the relative seriousness of the reoffending. The higher the perceived risk of an offender committing a large number of offences, or an offence that will cause serious harm to a victim, the higher the likelihood that the decision-maker will recommend the offender be kept in custody longer. However, level of force used in previous offences may not be reflective of the level of force that is likely to occur in a new offence, if a reoffence occurs, and therefore level of force may not be relevant. The results of this study indicate that mixed sexual offenders, although not the most probable to reoffend, do commit the largest number of new sexual offences after

release. This would suggest that if, in addition to the likelihood of reoffending, the number of offences committed is considered, releasing mixed sexual offender later in their sentence than other offenders may be warranted.

In order to improve the ability to make accurate and informed release decisions based upon the probability of recidivism, it is also important to consider dynamic factors (Hanson, 1998). These factors are essential in order to detect changeable risk factors. One example of a useful dynamic factor is the level of cooperation with treatment (Hanson, 1998). In addition, Hanson and Harris (2000) have recently created a dynamic actuarial risk instrument to detect change in risk among sexual offenders, the Sex Offender Needs Assessment Rating (SONAR). This instrument includes five relatively stable factors, namely intimacy deficits, negative social influences, attitudes tolerant of sex offending, sexual self-regulation, and general self-regulation, and four acute factors, namely substance abuse, negative mood, anger, and victim access. If considerations of dynamic factors are used in addition to the risk assessment tools that contain static factors alone, the ability to accurately estimate the probability of violent recidivism among sexual offenders could be greatly improved. These considerations would likely enhance the ability of decision-makers to make informed release decisions, and to decrease the amount of bias.

It is also likely that any one of these interventions in isolation would not assist decision-makers in improving their ability to accurately predict risk of reoffending, especially among sexual offenders. Therefore, combining these proposed solutions

may be a better method of assisting decision-makers and providing necessary guidance.

Study Limitations

This study attempted to discern whether biases existed in release decision-making towards sexual offenders. Furthermore, the purpose of this study was to examine which specific variables were related to release decisions and which were related to recidivism and if these factors differed. However, this study did not directly examine the process of decision-making. In order to do this, it would have been preferable to use a vignette study where certain characteristics of the offence, offender and victim could have been manipulated in order to examine the effects directly. Although this study did not directly assess the process, it did provide the basis for examining the process for a future study. This study was 'real life' in nature, using available information and existing decisions, and therefore the practical usefulness of the results is substantial. However, future research should be performed in which decision-makers are directly questioned about the specific information that is affecting their decisions.

In addition, some factors that have been found to be related to violent and/or sexual recidivism among sexual offenders was not available in these data. These include dynamic risk factors, treatment response and treatment cooperation, level of sexual deviance as measured by phallometric assessment, and denial and minimization of sexual offending. However, since this study used archival data, this information was not available. Although this may limit some of the findings in some ways, the predictive nature of the study, the large sample size and long follow-up

period make the study powerful. Long follow-up periods are essential when examining violent reoffending (i.e., Prentky et al., 1996), especially among sexual offenders and therefore the use of archival data was necessary.

The use of official statistics such as criminal convictions as measures of reoffending have been criticized as being inaccurate due to the fact that many crimes are not reported, or that offenders do not get convicted of offences, especially for sexual offences (Bonta & Hanson, 1994). For this study the measure of reoffending was a return to a federal institution due to a new offence. Therefore, offenders who are convicted of offences but are not sentenced to a period of incarceration of two years or more would not be counted. Although this means that recidivism was underreported in this study, a previous study found that the same general trends of violent and sexual reoffending among sexual and non-sexual offenders existed when measuring all dispositions, not just those of incarceration for two years or more (Grant & Gal, 1999). Therefore, although underestimates of recidivism, these findings likely represent the same trend if all offences committed, regardless of disposition, were recorded.

Furthermore, offenders who have undetected offences or who were charged with offences but were not convicted could have committed offences that would not have been measured in this study. Undetected recidivism is a problem, and has especially been mentioned as a concern for sexual offending (Bonta & Hanson, 1994). For example, when asked to self-report the number of offences they had committed, rapists reported an average of 5.2 undetected completed or attempted sexual assaults, while child molesters reported an average of 4.7 undetected completed or attempted

sexual assaults (Groth, Longo & McFadin, 1982). A recent Canadian victimization study indicates that 78% of sexual assaults were not reported to police compared to 63% of assaults (Besserer & Trainor, 2000). However, this study only included responses from subjects who were 15 years of age or older and therefore crimes against children were not included. Furthermore, the rate of conviction and the rate at which offenders received sentences of incarceration when convicted for sexual offences versus violent offences was not considered. However, the results from Roberts and Birkenmayer's (1997) study suggest that offenders convicted of sexual assault would be more likely to be sentenced to a period of incarceration and would receive longer sentences than offenders convicted of assault. Taken together, these findings suggest that although sexual offences may be less likely to be reported, when reported, perpetrators of sexual assault are more likely to receive sentences of incarceration. Therefore, although the recidivism findings from this study are likely to be an underestimate, they probably reflect an equivalent level of underestimation of sexual offending and violent offending, although this should be addressed in a future study.

Conclusion

Despite the few limitations of this study, the practical contributions are considerable. This study used a large sample size and had a long follow-up period. Long follow-up periods are essential when examining violent reoffending, especially among child molesters (Prentky et al., 1997). Furthermore, it has a practical significance since it evaluates the release decisions of actual offenders and the reoffence rates of these offenders. Therefore, decisions and the accuracy of these

decisions are measured and compared in terms of the actual risk of reoffending.

Although there is existing research which examines the relationship between mitigating and aggravating factors and decisions in the criminal justice setting, few researchers have examined these relationships specifically for release or parole decisions, and even fewer have also examined their relationship to reoffending following release. There is also a paucity of research in the area of decision-making in the Canadian context and therefore this research will assist in filling this void.

Overall, large and significant differences were observed between sexual and violent offenders on release decisions, and overall violent reoffending following release. In general, sexual offenders are kept incarcerated longer than would be expected given their risk to reoffend, as demonstrated in their lower rates of recidivism following release. Furthermore, child molesters and incest offenders appeared to be most likely to be kept in custody longer than necessary given their risk to reoffend. In addition, offenders who had committed offences with a higher level of force were more likely to have a more restrictive release type, even though level of force was found to be unrelated to risk of recidivism.

The solution to the problem of selecting offenders for early release and avoiding bias in these decisions is not simple. Previous research has indicated that cognitive distortions often lead to biases in decision-making, and that even some proposed solutions such as statistical training and parole guidelines have not counteracted these biases among parole decision-makers. However, a combination of bias minimizing techniques such as statistical training, parole guidelines, or use of actuarial tools may assist in decreasing the amount of bias in parole decision-making.

Bias in decision-making in the criminal justice system occurs at many levels, not just at the time of parole. In an attempt to make the best decision under conditions of uncertainty, decision-makers tend to commit errors by not adhering to objective information such as base rates. Other cognitive simplification techniques also affect decisions in a manner that is more likely to create cognitive distortions and bias. For this study, estimation of risk of recidivism is a primary consideration for release decisions, but for other decisions to be made in the criminal justice system, other information plays more of a role. For example, determining the sentence to be meted out against an offender who has been convicted serves several purposes and for each purpose different information is relevant. If the purpose of the sentence is retribution, then the degree of harm or damage to the victim, or to the public in general, is relevant. An essential consideration for the purpose of incapacitation is the degree to which the offender is a danger to society at large. For parole decisions, the degree of harm is represented in the decision, but its relevance is limited. Decision-makers and policy-makers need to consider whether it is the goal of parole to further punish offenders for their crimes, or to encourage the earliest safe return to the community possible. If it is to encourage safe return then the most relevant information is the likelihood of reoffending, and the degree of harm caused to victims if a new offence occurs. The results of this study indicate that risk of recidivism is taken into account but the degree to which the offence is offensive, or caused harm to victims is also considered.

The wider implication of this study is that parole officers are just as likely to be influenced by non-objective information when making decisions as other individuals

making decisions in other settings. For these decisions, however, there are far reaching negative consequences if the decisions are inaccurate. It may be that parole officers tend to make more errors in making decisions about sexual offenders due to the perceived seriousness of their offences and their perceived dangerousness. It is also likely that parole officers do not pay enough attention to the objective data, such as an offender's likelihood to recidivate, and base rates of reoffending, and that they are more affected by other information that may not be related to reoffending. This study provides further evidence of biased decision-making. Decision-making theory is able to provide explanations for these errors. However, to complete the picture, future social psychological research should be conducted to examine which cognitive distortions are occurring, and the emotional issues associated with actual decisions within the criminal justice system, especially for parole decisions.

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Appendix A: Sex Offender Census Checklist

CORRECTIONAL SERVICE OF CANADA
Census on Sex Offenders:
Checklist for Case Management Officers

IDENTIFYING INFORMATION

1. FPS Number: :__:__:__:__:__:
2. Coding Date (yy/mm/dd): ____/____/____
3. Offender's Date of Birth (yy/mm/dd): ____/____/____
4. Date of admission on this sentence (yy/mm/dd): ____/____/____
5. Mandatory supervision date (yy/mm/dd): ____/____/____
6. Parole eligibility date (yy/mm/dd): ____/____/____
7. Present location of offender:
 1. Institution: _____
 2. Parole Office: _____ :__:__:
8. Present status:
 1. Incarcerated
 2. Day parole
 3. Full parole
 4. Mandatory supervision

SEXUAL OFFENDER STATUS

1. Indicate all of the ways in which this individual was identified as a sex offender. (Check all that apply)
 The offender:
 1. is currently serving a sentence for a sexual offence :__:__:
 2. has been convicted in the past for one or more sexual offences:
 - Federal ()
 - Provincial, including probation ()
 3. committed a **sexually-related** offence, but is not currently serving a sentence for a sex offence (see Guidelines). :__:__:
 4. has previously committed a sexual offence for which he was never convicted (see Guidelines). :__:__:

Appendix A: (cont'd)

CURRENT SEXUAL OFFENCE

10. If the offender is currently serving a sentence for a sexual offence(s):

a) Specify the nature of the offence(s): (Check all that apply)

1. Incest	:_:
2. Paedophilia: male child under 16 yrs.	:_:
3. Paedophilia: female child under 16 yrs.	:_:
4. Paedophilia: male and female children under 16 yrs.	:_:
5. Sexual Assault: adult male or female 16 yrs.& over	:_:
6. Other sexual offenses (e.g., exhibitionism)	:_:
9. No information	:_:

b) How many were involved (_)

c) indicate sex (M/F) and age group of the victims:
(Check all that apply)

	M	F
1. Children (< 12 years)	:_:	:_:
2. 12 to 17 years	:_:	:_:
3. Adult (18 or over)	:_:	:_:

11. Degree of victim injury from the current sexual offence(s): :_:

0. No injury
1. Slight injury; no weapon
2. Slight injury; weapon used
3. Treated in a clinic and released
4. Hospitalized for at least one night
5. Caused death; without post-death mutilation
6. Caused death; with post-death mutilation
9. Not known

Appendix A: (cont'd)

12. Degree of force or coercion used to commit the current sexual offence(s): :__:

- 0. No coercion
- 1. Threatened to use force; no weapon used
- 2. Threatened to use force; weapon used
- 3. Used physical aggression, minor assault
(e.g., hit, slapped, struck, minor physical injury)
- 4. Brutal assault with serious physical injury
(e.g., wounding maiming, disfiguring, endangering victim's life)
- 5. Caused death; without post-death mutilation
- 6. Caused death; post-death mutilation
- 9. Not known

13. Were alcohol or drugs involved in any of the current sexual offence(s)? :__:

- 0. No
- 1. Yes
- 9. Not known

PAST HISTORY OF SEXUAL OFFENSES

14. Were alcohol or drugs involved in any of the previous sexual offence(s)? :__:

- 0. No
- 1. Yes
- 9. Not known

15. Is there a pattern of increasing seriousness (violence) and rate of sexual offenses over time? :__:

- 0. No
- 1. Yes
- 9. Not known

Appendix A: (cont'd)

16. a) Has the offender ever received any sex offender treatment program offered or sponsored by CSC: :__:

0. No

1. Yes, completed

Date of completion: (yy/mm/dd):

___/___/___

(go to part (b))

2. Yes, but dropped out

Date of last attendance at program: (yy/mm/dd):

___/___/___

(go to part (b))

3. Yes, in progress now (go to part (b))

9. Not known

b) If yes, specify the type/nature of treatment:
and the location (Institution or Community):

17. a) Has the offender ever received any sex offender treatment program offered or sponsored by any other organization or treatment facility: :__:

0. No

1. Yes, completed

Date of completion: (yy/mm/dd):

___/___/___

(go to part (b))

2. Yes, but dropped out

Date of last attendance at program: (yy/mm/dd):

___/___/___

(go to part (b))

3. Yes, in progress now (go to part (b))

9. Not known

b) If yes, specify the type/nature of treatment:
and the location:

Appendix A: (cont'd)

18. Has the offender expressed interest for any sex offender treatment program during the current sentence: :

- 0. No
- 1. Yes
- 9. Not known

THANK YOU!

Your cooperation is very much appreciated.

Appendix B: Variables Extracted from OMS

- **current offence(s)**
 - **total number**
 - **number of each type (sexual, non-sexual violent, non-violent)**
- **previous federal offence(s):**
 - **total number**
 - **number of each type (sexual, non-sexual violent, non-violent)**
 - **most serious previous offence**
- **current sentence length**
- **eligibility dates (day parole, full parole, statutory release)**
- **sentence completion date (Warrant Expiry Date)**
- **current admission date**
- **age at release**
- **first release**
 - **date**
 - **type**
- **readmitting federal offence(s):**
 - **total number**
 - **number of each type (sexual, non-sexual violent, total violent non-violent)**
- **reoffence dates**
 - **violent non-sexual reoffence**
 - **sexual reoffence**
 - **any violent reoffence**
- **percentage of sentence served prior to release**
- **time to readmission with a:**
 - **violent non-sexual reoffence**
 - **sexual reoffence**
 - **any violent reoffence**

Appendix C: Violent Non-sexual Offences

Assault Peace Officer

Assault with Intent to Resist Arrest

Assault to Prevent Execution of Process

Cause Bodily Harm to Wound

Cause Bodily Harm to Endanger Life

Cause Bodily Harm to Prevent Arrest

Overcome Resistance - Choke

Overcome Resistance - Administer Drugs

Assault - Intentional Use of Force

Common Assault

Assault with a Weapon

Assault Causing Bodily Harm

Aggravated Assault

Unlawfully Cause Bodily Harm

Assault

Assault with Intent

Assault Peace Officer

Other Assaults

Assault - Use of Force

Assault - Threats of Violence

Assault - Accost with Weapon in View

Assault with Intent to Commit Robbery

Endanger Safety Aircraft - Assault

Assaults Officiating Clergy

Assault with Intent to Commit Robbery

Endanger Safety Aircraft - Assault

Assaults Officiating Clergy

Cause Bodily Harm to Servant

Cause Bodily Harm by Criminal Negligence

Duty Safeguard - Cause Bodily Harm

Attempted Murder

Appendix D: Sexual Offences

Sexual Assault with Threats to Cause Bodily Harm

Sexual Assault

Sexual Assault with Weapon

Sexual Assault Causing Bodily Harm

Sexual Assault - Party to Offence

Aggravated Sexual Assault

Sexual Exploitation

Sexual Exploitation - Touch

Sexual Exploitation - Invite

Parent/ Guardian Procuring Defilement of Child under 14

Parent/ Guardian Procuring Defilement of Child over 14

Parent/ Guardian Procuring Sex Act Under 14

Parent/ Guardian Procuring Sex Act 15 to 18

Parent/ Guardian Procuring Sex Act Under 18

Parent/ Guardian Procuring Sex Act Under 14

Householder Permitting Defilement

Householder Permitting Sex Act with 15 to 18 year old

Householder Permitting Sex Act Under 14

Householder Permitting Sex Act Under 18

Sexual Interference

Invite Sexual Touching

Rape

Attempt Rape

Indecent Assault Female

Incest

Anal Intercourse

Bestiality

Compel Bestiality

Buggery or Bestiality

Indecent Assault Male

Commit/ Incite Bestiality Under 14

Obtain Sexual Services of Person Under 18

Print/ Publish Child Pornography

Distribute/ Sell Child Pornography

Possess Child Pornography

Seduction Under Promise of Marriage

Seduction of Female Passengers

Seduction of Female Between 16 and 18

Sexual Interference

Sexual Interference with Step Daughter

Sexual Interference with Female under 14

Sexual Interference with Female under 16

Sexual Interference with Feebleminded

Sexual Interference with Female Employee

Acts of Gross Indecency

Indecent Act in Public

Indecent Act with Intent to Insult

Exposure

Indecent Act in Public Place

Indecent Exposure

Indecent Exhibition

Entice for Illicit Intercourse

Procure Illicit Sexual Intercourse

Use Intoxicants to Enable Illicit Sexual Intercourse

Indecent Telephone Calls

Appendix E: Correlation Matrix (Pearson's Correlation Coefficients)

	Static-99 proxy score	# Prev. sex offences	# Cur. sex offences	# Prev. offences	# Cur. offences	# Prev. violent offences	# Cur. violent offences	# Prev. non-viol. offences	# Cur. non-viol. offences	Sentence length	Adolescent victim(s)	Adult victim(s)	Child victim(s)
Static-99 proxy score	1.00	0.47***	-0.04	0.38***	0.13***	0.25***	0.19***	0.09***	0.01	0.17***	0.20***	-0.13***	-0.21***
# Prev. sex offences		1.00	-0.01	0.39***	-0.03	-0.04	-0.002	0.04	-0.02	0.003	-0.02	0.01	0.001
# Cur. sex offences			1.00	-0.05*	0.57***	-0.63*	0.000	-0.05*	-0.05*	0.06*	-0.20***	0.22***	0.22***
# Prev. offences				1.00	0.12***	0.39***	0.22***	0.49***	0.02	0.06*	0.09***	-0.07**	-0.08**
# Cur. offences					1.00	-0.004	0.23***	0.05	0.18***	0.21***	0.04	0.05	-0.01
# Prev. violent offences						1.00	0.11***	0.08**	0.05	-0.02	0.09**	-0.05	-0.07**
# Cur. violent offences							1.00	0.04	-0.01	0.15***	0.17***	-0.03	-0.12***

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

	Static-99 proxy score	# Prev. sex offences	# Cur. sex offences	# Prev. offences	# Cur. offences	# Prev. violent offences	# Cur. violent offences	# Prev. non-viol. offences	# Cur. non-viol. offences	Sentence length	Adolescent victim(s)	Adult victim(s)	Child victim(s)
# Prev. non-viol. offences								1.00	0.02	0.07**	0.07*	-0.07*	-0.07*
# Cur. non-viol. offences								1.00	-0.01	0.05	-0.03	-0.05	
Sentence length					1.00		0.20***		-0.06*	-0.17***			
Adolescent victim(s)						1.00	-0.48***	-0.61***					
Adult victim(s)							1.00	0.01					
Child victim(s)													1.00*

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

	Male victim(s)	Female victim(s)	Incest offence(s)	Child molester	Rapist	Mixed sexual offender	Single	Previously married	Married/ common- law	Caucasian	Aboriginal	Other race
Static-99 proxy score	0.27***	-0.27***	-0.48***	0.11***	0.18***	0.08**	0.47***	-0.23***	-0.30***	-0.02	0.02	0.01
# Prev. sex offences	0.09***	-0.11***	-0.05	0.08**	-0.08**	0.05*	-0.04	-0.02	-0.02	-0.06*	-0.001	-0.05
# Cur. sex offences	0.29***	-0.22***	0.12***	0.13***	-0.24***	0.15***	-0.02	0.002	0.01	0.10***	-0.11***	-0.03
# Prev. offences	-0.02	-0.01	-0.12***	-0.02	0.06*	-0.02	-0.01	-0.05	0.02	-0.05	0.05	-0.04
# Cur. offences	0.11***	-0.11***	-0.05	-0.03	0.01	0.05*	0.05	-0.05*	-0.03	0.10***	-0.12***	-0.03
# Prev. violent offences	-0.03	0.02	-0.08**	-0.01	0.06*	-0.03	0.001	-0.02	0.02	-0.11***	0.14***	-0.003
# Cur. violent offences	-0.09**	0.07**	-0.07**	-0.12***	0.16***	-0.03	0.004	-0.01	0.002	-0.00	0.01	0.01

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

	Male victim(s)	Female victim(s)	Incest offence(s)	Child molester	Rapist	Mixed sexual offender	Single	Previously married	Married/ common- law	Caucasian	Aboriginal	Other race
# Prev. non-viol. offences	-0.04	0.02	-0.07**	-0.04	0.07*	-0.03	-0.01	0.01	-0.02	-0.01	-0.001	-0.02
# Cur. non- viol. offences	-0.04	0.02	-0.06*	-0.04	0.05	0.03	0.06*	-0.02	0.004	0.003	0.02	-0.02
Sentence length	-0.07*	0.06*	-0.11***	-0.10***	0.20***	-0.02	0.13***	-0.08**	-0.00	0.07***	-0.05*	-0.04
Adolescent victim(s)	-0.33***	0.26***	-0.34***	-0.58***	0.78***	-0.04	0.12***	-0.10***	-0.04	-0.10***	0.12***	0.03
Adult victim(s)	0.14***	-0.11***	0.21***	0.18***	-0.42***	0.21***	-0.07**	0.02	0.05	0.03	-0.07*	0.04
Child victim(s)	0.30***	-0.16***	0.42***	0.37***	-0.67***	0.09***	-0.16***	0.13***	0.05	0.09***	-0.08**	-0.08**
Male victim(s)	1.00	-0.71***	0.09***	0.26***	-0.35***	0.14***	0.03	0.005	-0.06*	0.11***	-0.13***	-0.06*
Female victim(s)		1.00	0.02	-0.24***	0.24***	-0.11***	-0.12***	0.02	0.10***	-0.11***	0.10***	0.06*

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

	Male victim(s)	Female victim(s)	Incest offence(s)	Child molester	Rapist	Mixed sexual offender	Single	Previously married	Married/ common- law	Cau:asian	Aboriginal	Other race
Incest offence(s)			1.00	-0.26***	-0.41***	-0.11***	-0.24***	0.16***	0.11***	0.05*	-0.05	-0.04
Child molester				1.00	-0.54***	-0.14***	0.02	-0.003	-0.02	0.03	-0.05	-0.01
Rapist					1.00	-0.23***	0.15***	-0.11***	-0.04	-0.07***	0.08**	0.05*
Mixed sexual offender						1.00	-0.01	0.01	-0.02	0.01	-0.02	-0.03
Single							1.00	-0.35***	-0.61***	0.05*	0.07**	0.04
Previously married								1.00	-0.34***	0.16***	-0.11***	0.003
Married/ common- law									1.00	0.06*	0.08**	-0.004
Caucasian										1.00	-0.70***	-0.35***
Aboriginal											1.00	-0.10***
Other race												1.00

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

	Age at release	Previous revocation	Treatment	Level of force	Number of victims	Composite harm score
Static-99 proxy score	-0.13***	0.37***	0.09***	0.11***	0.06*	0.05
# Prev. sex offences	0.11***	0.29***	0.06*	-0.08**	0.04	0.01
# Cur. sex offences	0.32***	-0.09***	0.09***	-0.20***	0.32***	0.14***
# Prev. offences	0.002	0.45***	-0.002	0.07**	-0.01	-0.01
# Cur. offences	0.06*	-0.02	0.01	-0.09**	0.23***	0.13***
# Prev. violent offences	-0.02	0.31***	0.001	0.04	0.01	0.01
# Cur. violent offences	-0.06*	0.06*	0.02	0.13***	-0.01	0.04

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

	Age at release	Previous revocation	Treatment t	Level of force	Number of victims	Composite harm score
# Prev. non-viol. offences	-0.02	0.16***	-0.002	0.08**	-0.04	-0.02
# Cur. non- viol. offences	-0.08**	0.01	-0.04	-0.03	0.01	-0.02
Sentence length	0.07**	0.07*	0.11***	0.025***	0.05	0.10***
Adolescent victim(s)	-0.37***	0.08**	-0.02	0.43***	-0.07*	0.06
Adult victim(s)	0.23***	-0.08**	0.07**	-0.17***	0.08**	-0.02
Child victim(s)	0.37***	-0.05	-0.02	-0.34***	0.13***	0.07*
Male victim(s)	0.22***	-0.01	0.06*	-0.27***	0.19***	0.06
Female victim(s)	-0.08**	-0.02	-0.08**	0.24***	-0.06*	0.07*

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

	Age at release	Previous revocation	Treatment	Level of force	Number of victims	Composite harm score
Incest offence(s)	0.34***	-0.07*	0.001	0.001	0.03	0.04
Child molester	0.15***	0.01	0.01	0.01	0.08**	-0.02
Rapist	-0.39***	0.02	-0.05	-0.04	-0.12***	-0.01
Mixed sexual offender	0.09***	-0.03	0.05	0.05	0.04	0.03
Single	-0.32***	0.04	0.04	0.04	0.02	0.03
Previously married	0.16***	-0.04	-0.002	0.002	-0.01	-0.01
Married/ common- law	0.06*	-0.04	-0.04	-0.04	-0.01	-0.01
Caucasian	0.05*	-0.09***	0.04	-0.10***	0.06*	0.04
Aboriginal	-0.22***	0.10***	-0.02	0.10***	-0.07*	-0.02
Other race	-0.06*	-0.05	-0.04	0.08**	0.01	-0.01
Age at release	1.00	0.05	-0.02	-0.19***	0.11***	0.05

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

	Age at release	Previous revocation	Treatment	Level of force	Number of victims	Composite harm score
Previous revocation		1.00	0.05	0.05	-0.02	0.001
Treatment			1.00	0.02	0.06*	0.04
Level of force				1.00	-0.07*	0.1***
Number of victims					1.00	0.86***
Composite harm score						1.00

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$