THE RECIDIVISM OF YOUNG OFFENDERS IN BRITISH COLUMBIA: DOES SENTENCE LENGTH OR LENGTH OF ADMISSION MAKE A DIFFERENCE?

by

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ABSTRACT

This thesis examines the population of young offenders who received custodial sentences to determine what effect the length of incarceration has on recidivism in British Columbia. Using deterrence theory, this thesis determines that punishment (sentence length and length of admission) has a deterrent effect on juvenile recidivism. The data consists of the criminal history of all juveniles serving sentences in BC corrections facilities over a 17-year period as drawn from the Research and Information System (RIS) extracts of the Ministry of the Attorney General in April 2000 (N=8,202). This thesis distinguishes between one-time only offenders, infrequent offenders, and chronic offenders in the analysis of recidivism. Unlike most studies on recidivism, this thesis conducts separate analyses of male and female offenders. Furthermore, variables such as age at first admission, type of offence, ethnicity, and criminal history variables were controlled for in the analysis. The results of this thesis indicate that there are significant differences in the deterrence effect of punishment by gender. Length of admission was found to be a statistically significant deterrent for the male juvenile population; however, it was not significant for the females. Also, the type of offence for which a juvenile was incarcerated was discovered to be a significant predictor of re-offending for males but not females. The same was also found true for juveniles who had a history of escaping secured custody. Analysis also indicates that Natives were significantly more likely to re-offend than non-natives.

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DEDICATION

In memory of my mother

Frances Hiroko Tanaka (*nee* Maihara)

June 10, 1941 – August 10, 1994

Chapter One

Introduction

On February 5, 2001, the Federal Government of Canada re-introduced its youth criminal justice bill in the House of Commons (News Release, 2001). This date marks the third time in seven years that the Liberal government has proposed new law to replace the existing Young Offenders Act (YOA). As in the past, the proposed Youth Criminal Justice Act (YCJA) faces fierce opposition from other political parties, some arguing that the bill is too lenient, while others argue that it is too severe. Both the Canadian Alliance and Progressive Conservative Parties claim that the bill is too moderate and does not hold young criminals accountable for their actions. These two parties would like to see the minimum age at which children are included in the YCJA expanded to include 10 and 11 year olds (Gamble and Gordon, 2001:A3). On the other hand, the Bloc Quebecois describes the bill as draconian because "it could elevate children as young as age 14 to the adult justice system" (*Times Colonist*, 2001:A8).

Provincial governments are also critical: Ontario Attorney General Jim Flaherty criticized the bill for not automatically requiring 16 and 17 year olds accused of serious violent crimes to be tried as adults (Gamble and Gordon, 2001:A3). Quoting from a Canadian Centre for Justice Statistics' report, Flaherty pointed that

the violent crime rate has increased by 77 percent over the past 10 years and that 4 out of 10 offences are committed by repeat offenders (Gamble and Gordon, 2001:A3; Canadian Centre for Justice Statistics, August 1999). In Quebec, the provincial Justice Minister, Linda Goupil, proposed that Quebec be exempted from the proposed legislation because of the perceived threat to the province's "softer" approach to young criminals (Gamble and Gordon, 2001:A3). As is evident by the raging debate on the issue, there are considerably differing opinions in Canada on how to deal with young offenders.

One of the reasons for this diverse range of opinions is a lack of empirical evidence on the subject of recidivism of juvenile offenders. The majority of the empirical studies on recidivism have focused strictly on the adult male population. Although many of these adult studies acknowledge the significance of research on the juvenile population and suggest further study in the area of juvenile recidivism, most were unable to address the question themselves, as their data sources did not include juveniles.

There are, however, a few government-sponsored studies on juvenile crime. In 1981, the Canadian federal government's Ministry of the Solicitor General conducted a national survey of victims. The Canadian Urban Victimization Survey (CUVS) "revealed that Canadians are more concerned about youth crime now than they have been in the past" (Winterdyk, 1997: 147). Ironically, although public

concern has continued to rise, the overall charge rate for youth crime, measured by the number of youths charged with a Criminal Code offence per 100,000 youths, has decreased in the past ten years (Canadian Centre for Justice Statistics: 17, No. 10). In 1998, the youth crime rate was 10 percent lower than it was a decade ago. Unfortunately, even with this *overall* decline, the rate of youth charged with *violent* crimes is 77 percent higher now than a decade ago (Canadian Centre for Justice Statistics, August 1999). An extensive analysis of youth crime data from 1968-93 by British Columbia Policy Advisor Alan Markwart and SFU Criminologist Ray Corrado also concluded that there is "clear evidence of a real and substantial increase in youth violence in recent years" (Markwart and Corrado, 1995: 84).[1]

Juvenile chronic recidivism presents another area of concern. British Columbia's Ministry of Attorney's *General Management Report on Recidivism,* released in November 2000, found that chronic recidivists (adult and youth) make up only 1.4 percent of all offenders, but take up nearly 20 percent of custodial supervision resources. Moreover, chronic recidivists started their criminal histories as juveniles at the average age of 18. More telling, however, is their finding that 14 percent of all offenders who were first sentenced between 12 and 15 years of age represent 46 percent of chronic recidivists (Ministry of Attorney General, 2000: 11).

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[1] Most recent statistics (1999) on youth crime reveal a 5 percent decrease in violent crime. However, the overall rate remains higher than it was 10 years ago (Trembly, 2000:1).

Clearly, juvenile recidivism is an issue of concern, and the question of deterring or deflecting youth from a path of adult crime warrants focused research.

To that end, this thesis examines factors that may affect juvenile offender recidivism, and specifically any deterrence effect that incarceration may have on recidivism. The study utilizes longitudinal data on the juvenile population through their juvenile life course and, when necessary, includes their adult court records. The study population includes all juvenile offenders born between January 1, 1964 and December 31, 1981 who have been sentenced to a British Columbia corrections facility. For the purposes of this thesis, juvenile offenders are defined as aged 12 to 19, and sentenced to secured custody in a British Columbia corrections facility.

The study focuses primarily on whether *sentence length* and/or *length of admission* has a deterrent effect on juvenile recidivism. Sentence length is defined as the number of days of secured custody an offender is ordered to serve by the courts. The offender may not necessarily serve the specified sentence, as circumstances such as good behaviour or misbehaviour while in custody can either reduce or add the number of actual days served. Length of admission represents the actual number of days an offender is in secured custody, after taking into account time off for good behaviour or added time due to misbehaviour.[2] Both measures of punishment are

[2] Offenders may be under the supervision of the BC corrections facility while awaiting sentencing. These days in custody are not included in the sentence length or length of admission, which are strictly what offenders were given or served for an offence for which they were found guilty, and thus received the disposition of secured custody in a BC corrections facility.

important, as sentence length represents the perceived punishment and length of admission the actual punishment. Should it be shown that either perceived and/or actual punishment affects the chances of a juvenile offender re-offending, this finding will support one of the many theories of deviance.

The most popular theory of deviance, deterrence theory (Andenaes, 1968), assumes that individuals are rational beings who can make decisions that regulate their behaviour. By this reasoning, legal punishment ought to have an effect on re-offending. In this study, punishment severity is measured by sentence length and length of admission, on the assumption that an increase in punishment ought to deter the offender from re-offending. If, however, increased punishment results in more criminal activity, it might be assumed that incarceration reinforces criminal behaviour, that in effect, prison sentences give greater opportunity for offenders to learn the criminal trade, and that prisons are nothing more than "schools of crime."

Robert K. Merton's theory of anomie (*strain theory*, 1938) argues that people are taught to seek culturally prescribed goals, and outlines five means to attain them. Of these, the means of particular interest for the study of criminal deviant behaviour is *innovation,* in which a person identifies with culturally prescribed goals but, unable to achieve them by legitimate means, resorts to illegitimate means of acquiring them. Thus, punishment should have more of a deterrence effect for those individuals who

have legitimate opportunities for acquiring the culturally prescribed goals than for those who have fewer opportunities.

In a more sophisticated approach to the deterrence model, social control theorist Travis Hirschi (1969) treats offending as a conditional dependent variable, as punishment affects a person's ties to conventional society, and ultimately, whether or not that person chooses to deviate. Hirschi's theory holds that people are, by nature, deviant and require social bonds to prevent them from acting on their deviance. Measures of social bonds most frequently used are employment, socio-economic status, education, and "a good reputation". As Hirschi claims that self-control is the primary deterrent of criminal behaviour, punishment should have more of a deterrent effect on those who are more closely tied to conventional society.

Edwin Sutherland's social learning (1970), or differential association theory, claims that behaviour is learned through interactions with others, and therefore, criminal behaviour is learned over time through association with those who deviate. Once a person has internalized more unfavourable than favourable definitions of the law, that person is more at risk of deviating. According to social learning theory, then, increased punishment in the form of a longer sentence length or admission length should result in an increase in re-offending.

Finally, bio-social theorists (for example, Kruez and Rose, 1972, and Sandberg *et al.*, 1961) have focused on the hormone levels of adolescents and the

study of the "Y" chromosome, hoping to find a link between biological inheritance factors and crime. Bio-social theories state that criminal behaviour is caused by a "sickness," and is beyond the will of the individual. Thus, punishment will have no affect on re-offending.

Empirical work on the deterrence effect of sentence length and length of admission on recidivism has shown mixed results. Some studies have found support for a significant deterrence effect of the two variables on recidivism (Joo *et al.*, 1995 and Kronick *et al.*, 1998) while other studies have not (Babst *et al.*, 1976 and Paternoster *et al.* 1983). However, most of these studies were restricted to specific empirical settings and samples (for example, a city, school, or rehabilitation center, or to survey data from university students, prison wardens, or corrections employees). Moreover, most limited their research to adult males. Studies of juvenile recidivism are relatively sparse; even less prevalent are juvenile recidivism studies that include the female population. As symbolized by the ongoing debate raging in the House of Commons, the need for further research and study of the juvenile population in Canada is crucial.

Summary

This study attempts to determine what effects sentence length and the length of admission have on future offending, as well as identifies and examines available

variables that affect re-offending. With the advantage of having a complete criminal history of juveniles over a 17-year period, this thesis examines a population of young offenders who have received custodial sentences to secured custody in a BC correctional facility. Further, this study distinguishes between one-time only, infrequent, and chronic offenders, and unlike most other studies on recidivism, also conducts separate analyses of males and females.

The following chapter reviews the literature in the study of recidivism. The first section summarizes the research in adult recidivism; the second covers works on juvenile recidivism. Chapter Three reviews theories of deviance and outlines possible hypotheses about recidivism. A discussion of the data and study population used is presented in Chapter Four, as well as detailed descriptions of the explanatory variables and statistical methods used. Chapter Five presents the results of the statistical analysis, and Chapter Six discusses the results in detail with relation to deviance theories and other literature. Finally, Chapter Seven identifies the policy implications of this study. Limitations, as well as suggestions for future research are also included in the final chapter.

As politicians debate the need for a new Young Offender Act, and public concern grows about violent juvenile crimes and repeat juvenile offenders, more and more academic studies will be required for politicians, the courts and the public to make well-informed, intelligent decisions.

Chapter Two

Review of Empirical Research on Recidivism

Traditionally, studies on recidivism have used cross-sectional data and focused on a very specific aspect of the topic, such as the early stages of the legal process from when subjects made first contact with the police, court, or at the time they were charged. Although most studies on recidivism have focused on the adult offenders, a few have concentrated on juveniles. However, all of the studies have attempted to identify causal indicators of recidivism and/or test the effectiveness of various programs or deterrents to thwart re-offending. The following reviews highlight the key indicators of recidivism identified to date.

Adult Studies

It is important to understand adult recidivism to appreciate fully the uniqueness of the study of juvenile offenders. Generally, the studies reviewed here have a North American focus, although a few are from other Western societies; all provide some direction for recidivism studies in Canada.

Andenaes (1968) was one of the first scholars to identify and address the relation between the effects of criminal law and enforcement on deterrence. Specifically, he examined the effects of punishment on criminal behaviour, outlining

the "distinction between the effects of a threat of punishment and the effects of actual punishment on the punished individual" (Andenaes, 1968:78). His term *general deterrence* signifies the threat of punishment that applies to all members of a society in which consequences that can be applied by the courts have a restraining effect on criminal conduct. However, as Andenaes notes, once people are actually punished, although their future behaviour is still under the threat of law, their motivation changes, as they begin to comprehend the effects of prosecution, sentencing and incarceration. For this group of offenders, for whom general deterrence alone is insufficient to deter criminal behaviour, experiencing actual punishment may be a sufficient deterrent.

Andenaes reviewed studies from Canada, the United States, Scandinavia, and the United Kingdom, with stress on statistics from the British Ministry of Transport. He concludes that first time offenders have a low rate of recidivism, but that recidivism rates increase with the number of previous convictions. The majority of offenders, being first time lawbreakers, react positively to punishment, but neither general nor specific deterrence seems to have an effect on hard-core offenders. Andenaes' research and his conclusions encouraged other researchers to explore the impact of punishment.

Babst and his associates (1976) studied the impact of different lengths of imprisonment upon parole outcomes for adult male narcotic offenders. Their purpose

was to help parole boards find the "optimum time" served. Babst *et al.* used data from drug offenders paroled in 1968 and 1969 from 50 American jurisdictions; i.e., 48 states plus the District of Columbia and Puerto Rico. Their study found that when the relationship between time served and parole outcome alone is examined, the more months served the higher the likelihood that offenders will still be on parole at the 2-year follow-up. However, when Babst *et al.* controlled for type of offender, the main effect was no longer significant. This study concluded that there is no consistent relationship between length of imprisonment and parole outcome.

Pritchard's (1979) study of predictors of recidivism was based on a meta-analysis of seventy-one American studies of offenders. Based on his evaluation of the studies, Pritchard found that although the specific type of offence varied according to jurisdiction and/or time period, type of offence is a stable predictor of recidivism. Moreover, Pritchard (1979:19) found that "a first arrest before age 18 is consistently related to recidivism and that a first arrest after age 21 is consistently related to non-recidivism". He acknowledged that the issue of predictors of recidivism is complex and further study is necessary. However, Pritchard did not go as far as Babst *et al.* to conclude that there is no consistent relationship between length of imprisonment and parole outcomes.

Paternoster, Saltzman, Waldo, and Chiricos (1983) attempted to show that past studies on the effect of legal threats on social control were inadequate, arguing

that the methodologies were too simplistic. These studies "(1) confuse the causal ordering of perceptions and behaviour, and (2) fail to take into account other inhibitory factors in an explicit causal model" (Paternoster *et al.*, 1983:457). They hypothesized that these earlier studies reported an experiential rather than a deterrent effect of perceived sanctions on criminal involvement, once social factors described by Hirschi and Sutherland were controlled.

Data for Paternoster *et al.*'s study came from 300 randomly selected freshman college students at a US State university, interviewed between January and June 1975, and again approximately one year later. The sample population, 90 percent White and 51 percent male, closely represented the demographic characteristics of the student body. Travis Hirschi's social control theory and Edwin Sutherland's theory of differential association guided the interview questions. The study concluded that once other preventative factors are included in a model of social control, the deterrent effect disappears, thus emphasizing the importance of carefully considering the theoretical implications of methodological strategies.

Paternoster *et al.*'s study was limited by its sample population, which comprised of college students and not a true offender population. Further, this study's crime index was based solely on minor offences. A specific study of repeat offenders, with a sample population of offenders, and crime categories expanded to include serious offences, would obviously be more relevant.

Like Paternoster *et al.*, Bridges and Stone (1986) used survey methods, collecting data from a self-administered questionnaire as well as personal interviews of 550 male U.S. federal criminal offenders. Bridges and Stone wanted to test whether a relationship existed between the perceived threat and the actual experience of punishment. They found that actual punishment is only weakly associated with perceived threat for most offenders; however, other factors such as "educational attainment, beliefs about immunity from punishment, and persons' offence histories are strongly associated with threat perceptions" (Bridges and Stone, 1986:207).

Bridges and Stone's study identifies some differences between naïve offenders (one or more prior convictions) and experienced offenders (5 or more convictions). For the naïve offender, "punishment is associated with increased perceived threat and should, therefore, serve as an effective deterrent" (Bridges and Stone, 1986:230). However, for the experienced offender, "the effects of punishment run counter to the prediction of specific deterrence" (Bridges and Stone, 1986:230). Bridges and Stone found that prior criminal behaviour and the severity of past punishment in conjunction with other factors such as employment, age and education, indirectly influence the perceived threat. Their study could have been improved had they incorporated female offenders and included the juveniles.

In another survey study, Friedland (1990) examined how combined aspects of punishment (severity and certainty of threatened penalties) affect deterrence.

Friedland (1990: 1365) hypothesized that "the proposition that the process whereby the perceived severity and certainty of penalties combine to affect deterrence depends on the type of penalty with which a person is threatened." A questionnaire developed to measure the perceived deterrent power of monetary fines and prison sentences was given to undergraduate students from an Israeli university, a sample population consisting of 65 females and 55 males. The first experiment found some evidence that monetary fines have an interactive effect on deterrence, and sentence condition has an additional effect. However, the experiment also found significant evidence of an interaction between penalty severity and deterrence. When a second experiment was designed to measure the severity dimension, the results indicated that severity of punishment is significantly related to deterrence.

Friedland's findings have many limitations when extrapolated to the offender population, especially repeat offenders. The sample population was not criminal, nor did the gender ratio of the sample reflect the gender ratio of an offender population. Also, Friedland's subjects were asked what they thought would work as an effective deterrent, or what they believed were adequately severe levels of punishment. This self–assessment of "what is adequate" is problematic when determining the actual effectiveness of these variables, because a conjectural opinion may not hold true in an actual situation. Thus, the results from Friedland's study may not have much bearing on actual recidivism.

Joo, Ekland-Olson, and Kelly (1995) used data from four successive yearly cohorts of adult parolees to explore whether changes in the Texas criminal justice administration affected patterns of recidivism among parolees for property offences. These researchers found some indication that early releases reduce the deterrent effect of incarceration, possibly because "a sudden, unexpected release...may have meant fewer prior arrangements for life on the outside and thus reduced support resources" (Joo *et al.*, 1995:407). This study concluded that the American trend of constructing massive prison complexes may not be the best use of funds in pursuing a reduction in crime, as incarceration may yield a "more experienced criminal 'work force' and ironically a heightened collective potential for crime" (Joo *et al.*, 1995:407).

Conversely, Gendreau and Leipciger's (1978) study of male first-incarcerates sentenced to an Ontario reformatory between 1970 and 1972 challenges the popular notion that correctional institutions are "schools for crime." The recidivism rate they found after two years of follow-up was lower than anticipated, as 60.9 percent of the sample had not been re-imprisoned. Moreover, only 6.7 percent received penitentiary sentences in the two years of monitoring. Gendreau and Leipciger concluded their study after the two year follow-up, in part because other recidivism studies reported that "of those who recidivate, the majority do so within the first two years" (Gendreau and Leipciger, 1978:10).

Gendreau and Leipciger's study found that recidivism rates are not necessarily related to the success or failure of the rehabilitative effects of correctional institutions, nor are they due to any personal defect. They also found that recidivism rates cannot be attributed to prison culture, and there is little support for the hypothesis that prisons themselves create anti-social beliefs and values that lead inmates to re-offend. However, Gendreau and Leipciger were limited by a lack of available data on the actual prison environment, especially from the perspective of incarcerated individuals.

Like Gendreau and Leipciger, Wormith (1984) also used data from Canadian prisons. The focus population was offenders sentenced to federal prison terms of 21 years or more.[3] The initial purpose of the study was to examine the effects of long-term imprisonment on offenders' intellects, personalities, and attitudes. Wormith found that inmates who have served more time display less deviance on their MMPI psychological test; sentence length was also inversely related to psychopathology. However, age upon admission was moderately correlated with psychopathology, with younger offenders displaying greater disorder.

Wormith concluded that recidivism is related more to changes in the offender during incarceration than to personal attributes. However, Hirokazu Yoshikawa (1994) found that an increase in self-esteem while in prison increases the likelihood

[3] Most federal inmates are adults; however, there are cases of older juveniles who have committed serious enough offences that they are charged as adults and thus can be sent to a federal penitentiary.

of re-offending. Wormith found that inmates whose criminal self-identification increased in prison, but who experienced decreased self-esteem, was the most successful group in not re-offending at the three-year follow-up. Inmates with an increase in self-esteem in conjunction with an increase in criminal identification were the most at risk to recidivate.

A weakness of Wormith's study involves the difficulty of measuring the personal accounts of inmates. Furthermore, the causal relationship between length of sentence and any harmful effects on inmates is complex; many variables affect this relationship.

Using risk assessment measures on offenders, Andrews (1989) reviewed Canadian and American classical research on risk factors that may reduce recidivism. The review was intended to explore a more "humane and efficient management of the sentence and to [reduce] criminal recidivism" in adult and young offenders (Andrews, 1989:11). Andrews identified a number of risk factors that are fairly accurate in predicting recidivism in extreme cases, both those least likely and most likely to recidivate. Andrews does acknowledge, however, imperfections in the prediction methods used to identify risk factors. Moreover, the review finds "no convincing evidence that programs designed according to the principles of either deterrence or labeling theory have been very successful" (Andrews, 1989:16). Andrews concluded

that the most effective method of deterring recidivism is effective rehabilitation programs, rather than the American preference for incarceration.

Most studies on recidivism among male and female adults and youth have focused on static predictors such as criminal history, offence type, age, *etc.* Zamble (1993) included dynamic factors, such as offender attitudes, thoughts, and impulsiveness, in his study sample of 100 randomly selected male federal recidivists in Ontario, who were re-incarcerated for violent offences. The control groups consisted of males who were re-incarcerated for property offences, as well as another male group who were released and have not re-offended.

Zamble cautioned against drawing conclusions based on his preliminary findings, as his data source was incomplete. Nevertheless, he concluded that there is some evidence that offenders' "emotions and habits play critical roles in the chain of events leading to a relapse into criminal behaviour" (Zamble, 1993:30). He also predicted that the emotional and behaviour triggers that motivate a person to re-offend can be identified and are thus preventable. Zamble set the groundwork for the study of dynamic factors that may be related to recidivism.

Because information and data on female offenders is less common, most studies of offender recidivism focus primarily on males. Belcourt, Nouwends, and Lefebvre (1993) were among the first to examine recidivism among Canadian federal female offenders, using data from Canadian federal institutions. Their population

consisted of 968 adult women serving first sentences in a federal institution, who were released between January 1, 1978, and December 31, 1988. Belcourt *et al.* conducted a follow-up of these women until June 30, 1993, to learn if they were ever re-admitted to federal custody.

The study found that 78 percent of the women in this population did not return to federal custody. In addition, it also discovered that Native women were over-represented in the group who was re-admitted: "While native women made up only 14 percent of the study sample, they made up about 27 percent of the recidivists. And while non-Native women comprised about 81 percent of the sample, they comprised 71 percent of the recidivists" (Belcourt *et al.*, 1993:13). Moreover, Belcourt *et al.* found that Native offenders were again over-represented among multiple recidivists, comprising 28.8 percent of this group.

Belcourt *et al.*'s study was limited to federal data; less serious offences, which do not result in federal incarceration, are omitted from their sample. Thus, the dependent variable of recidivism may be conservative. Nevertheless, their study addressed a gap in the literature by focusing on female recidivists; it also identified areas for further research, such as provincial data and juvenile female recidivists.

While Belcourt *et al's* study of female offenders discovered an over-representation of natives, Bonta, Lipinski and Martin's (1992) Canadian study specifically compared aboriginal male offenders who re-offended with those who did

not. Bonta *et al.* used information on 282 male aboriginal offenders, collected for three years following their releases (between 1983 and 1984) from Canadian federal penitentiaries. Of approximately 30 variables examined with relation to recidivism, five indicated a significant relationship: offence type (specifically break and enter), previous convictions, previous incarcerations, age at first conviction, and length of sentence. Studied more closely, three of these variables were identified as the strongest predictors of recidivism: previous incarcerations, breaking and entering, and age at first conviction. Length of sentence was less significant than first thought, as it is closely related to type of offence. Bonita *et al.* found that predictive variables for recidivism among aboriginal offenders are no different than those found in studies on non-aboriginals.

Bonta *et al.* stress that the three strongest predictive variables indicate a strong relationship with recidivism, but warn that they alone are not sufficient to use in making release decisions. The variables that this study included were limited to static indicators. Research on dynamic risk variables, such as employment or personal addictions, should be further explored. If the dynamic characteristics that predict risk of recidivism were identified, then intervention programs "could be introduced that would greatly decrease the likelihood of recidivism" (Bonta *et al.*, 1992:10).

Gendreau, Goggin, and Little (1996) used meta-analytic techniques from a literature review of 131 relevant Canadian and American studies, published between

January 1970 and June 1994, to determine which characteristics best predict adult offender recidivism. They found that the strongest predictors are criminal history, a history of anti-social behaviour, social achievement, age, race, gender, and family factors. Less significant are intellectual function, an individual's anxiety or self-esteem, and social class. Gendreau, Goggin, and Little meta-analysis clarified "which predictor variables and measures of risk will provide the most assistance to practitioners and policy makers to reach their objectives of reducing prison overcrowding, managing probation and parole caseloads effectively, and for designing better treatment programs" (Gendreau *et al*, 1996: 23).

Dejong (1997) used data on adult males from a number of different sources, collected by the National Development and Research Institute, the New York City Criminal Justice Agency, the New York State Department of Corrections, the New York City Police Department, and several other criminal justice agencies. Using survival analysis techniques, her study examined several covariates - including number of prior arrests, age, drug test results, ethnicity, and offence type - on the timing and probability of recidivism. Results from Dejong's study suggest that for first-time arrestees with few ties to conventional society, incarceration increases the probability of re-arrest. Dejong used marital status, employment, family and education variables to test the individual's ties or bonds to conventional society. However, for experienced arrestees with few ties, the longer they were incarcerated,

the longer the time period until re-arrest. Therefore, incarceration did not have a deterrent effect on all individuals; it may, however, be a deterrent to those with strong ties to conventional society (Dejong, 1997:561, Gendreau, Goggin, & Cullen, 1999:3).

Again, this study has limitations: since Dejong's data were restricted to adults, the measure of criminal experience may be incomplete. Also, juvenile records were not included in the determination of naïve offenders. Further, the variables used to measure an individual's ties to conventional society (e.g., marital status, and high school education) may not be adequate: although these variables may imply ties to conventional society, they do not measure the degree of an individual's investment.

Kronick, Lambert, and Lambert (1998) studied a sample of 254 adult parolees (92 percent male) from Knoxville, Tennessee, to determine what parolee characteristics predicted the outcome of parole. The dependent variable was violation of parole that resulted in the individual being returned to prison before the completion of parole. Konick *et al.* found three variables that indicate a significant relationship: sentence length, parole officer's assessment of risk, and previous parole experience. They found that the longer the sentence length, the more likely the parolee is to violate parole. Moreover, if parole officers assess offenders as high risk for predicted violation, they are more likely to violate parole. However, Kronick *et al.* found that individuals who had been on parole before are less likely to violate parole; in

addition, older parolees are less likely to violate parole or re-offend. Kronick *et al.* concluded that there must be a relationship between age and length of sentence, and suggested further research in this area.

Gendreau, Goggin, and Cullen (1999) again employed meta-analytic techniques to create a precise, quantitative summary of a collection of 50 individual studies to determine the effect of prison on recidivism. The majority of those studied were adult males; variables such as race, criminal history and substance abuse were included in the analysis. Gendreau *et al.* found no support that recidivism rates correlate with prison sentences, and thus concluded that length of prison sentences has little effect on recidivism.

Gendreau *et al.*'s (1999) work was based on a collection of research studies, most of which used data from prison samples from the 1950s to the 1970s. Given that the information and descriptions were thus restricted, their conclusions should be considered with caution. Gendreau *et al.*'s study might have been strengthened had they included studies from this decade and from other countries.

Youth Studies

Although studies on youth recidivism are less common than those on adults, a few, mainly from North America, provide the bases for understanding the evolution of juvenile recidivism studies and highlight areas for further research.

Wolfgang, Figlio, and Sellin (1972) looked at a birth cohort of juvenile males from Philadelphia, born in 1942, whose interaction with the law could be examined throughout adolescence, ending at adulthood. The study's reference group was those with no contact with the law. One of Wolfgang *et al.*'s objectives was to examine the effects of background characteristics of offenders on the number of offences (arrests, convictions, court or police contact). They based their selection of independent variables on the availability of data: ethnicity, number of address moves, disabilities, highest grade completed, number of school moves, first IQ scores, and income. A second objective of Wolfgang *et al.*'s study was to investigate the relationship between socioeconomic factors and delinquency within the cohort. In addition, their study examined the relationship between school variables, such as grade completion, graduation and IQ scores and offending.

Wolfgang *et al.* found that recidivists are more likely to be non-white and of a lower socioeconomic status (SES) than one-time offenders or non-offenders. When SES was controlled, non-whites were still more likely to be recidivists, and of the recidivist group, non-whites were more likely to be chronic recidivists. Wolfgang *et al.* also found that the chronic offender "had a greater number of residential moves, lower I.Q. scores, a greater percentage classified as retarded, and fewer grades completed than either the non-chronic or the one-time offender, even when race and SES are considered" (Wolfgang *et al*, 1972:248).

Mednick, Gabrielli, and Hutchings (1987) studied genetic factors in the etiology of criminal behaviour, finding some relationship between biological parent criminal convictions and their children.[4] Their population was a group of individuals who were adopted from Denmark. The study evaluated the criminal records of the adoptive parents and the biological parents. They concluded that there is an association between biological parents' convictions and their sons' who were adopted by other families, and this relationship is stronger for chronic offenders. Though the study found some support for the hypothesis of biological influence in the likelihood to engage in criminal behaviour, it did not attempt to identify any specific biological traits.

Farrington's 1991 longitudinal study continued his earlier study of eight-year-old males whom he surveyed in London, England, in 1978. The sample was interviewed again at ages 10, 14, 16, 18 21, 25, and 32. Farrington's attrition rate was low: of 411 boys interviewed at age eight, 378 were re-interviewed as men at age 32. The study sought to identify the causal factors associated with offending. Farrington compared violent and non-violent offenders and concluded that his overall "tests indicate that violent offenders and non-violent frequent offenders are virtually identical in childhood, adolescent and adult features" (Farrington, 1991:24). The

[4] Mednick *et al.* followed Wolfgang *et al.*'s study, but defined a re-offence a little differently. Wolfgang *et al.* defined the chronic recidivist as having 5 or more arrests while Mednick *et al.* defined the chronic recidivist as having 5 or more court convictions.

cause of aggression and violence is probably not specific but is part of a general continuity in anti-social and deviant behaviour from childhood to adulthood. Farrington concluded that one method of preventing criminal behaviour is to target the causal factors and the causes of anti-social tendencies. Ultimately, early prevention programs would likely be more effective in reducing anti-social behaviour than incarceration in later life.

Farrington's study sample, comprising 400 males, from the same middle class neighbourhoods in London, is not representative, and therefore extrapolating the results to the general population of England is problematic. However, using samples from other countries, other researchers have replicated many of Farrington's findings (Farrington, 1991:24). Capaldi and Patterson's 1996 Oregon Youth Study (OYS) is one such work.

The OYS sampled boys drawn from schools that were considered high risk for delinquency in the American Pacific Northwest. There were no differences in family backgrounds, family management or prepubertal measures of boys' behaviours between violent and non-violent offenders when matched for arrest frequency. Capaldi and Patterson (1996:227) found results consistent with Farrington's conclusions that "the causes of aggression and violence must be essentially the same as the causes of persistent and extreme antisocial, delinquent, and animal behaviour." Moreover, they found that anti-social behaviour was the best predictor of chronic

offending. With a much larger sample size, their study improved on Farrington's earlier work. Nevertheless, replication of these studies using national data might be considered for future research.

Visher, Lattimore and Linster (1991) examined individual characteristics that might predict the timing of recidivism for serious youthful offenders. Some of the characteristics included in their study were age of first crime, number of previous arrests, previous parole violations, offence type, (misdemeanor, "wobbler," felony), length of confinement, alcohol abuse, drug abuse, gang involvement, school dropout, family size, parental criminality and sibling criminality.[5] The sample consisted of a randomly selected cohort of young males (adolescents to age 25) who were released on parole in California between July 1981 and June 1982.

Visher *et al.* found that their hazard model did an acceptable job of identifying the highest and lowest risk individuals. They did not find that the number of previous arrests was a strong predictor of the risk of recidivism, but felt that the significance of the relationship might have been reduced because of the other explanatory variables in the model. Like so many other studies on offender recidivism, the major limitation of Visher *et al.*'s study lies in the restriction of their data to a male population. Information on female juvenile offenders is not provided.

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[5] A "wobbler" is more serious than a misdemeanor, but less serious than a felony.

Minor, Hartmann, and Terry (1997) presented data on their two-year study of the recidivism rates of a group of juveniles who were referred for the first time to a US county juvenile court for status or delinquent offences during the first six months of 1990. Their study compares both predictors of discretionary court actions and predictors of recidivism. Minor *et al.* found that with the exception of age, the variables that predict recidivism have minimal impact on early court actions and vice versa. Minor *et al.* focused on two hypotheses: firstly, males have a higher likelihood of recidivism than females; secondly, the more serious the offence committed, the greater the likelihood of re-arrest. They concluded that those who are diverted (for example, given a warning or ordered to perform community service) rather than incarcerated for their first court actions are less likely to have charges filed against them in adulthood. Based on these findings, Minor *et al.* suggest that diversion is unlikely to promote recidivism. Nevertheless, this study focused on the predictive value of court actions on recidivism rather than the specific characteristics of the individual or criminal history variables on the risk of recidivism.

Using a sample of male youthful parolees from the California Youth Authority, Lattimore, Visher, and Linster (1995) attempted to determine if prior criminal history and socio-economic variables function as predictors of timing and arrest following parole. They found that a combination of predictive variables such as criminal history and personal background characteristics together are useful in the

prediction of serious youthful offenders. Some of the personal characteristics Lattimore *et al.* included in their study were substance abuse, school discipline problems, family criminality, age, criminal history, (offence type, number of previous offences, and length of confinement) and violent history (violent offences, aggressive acts in jail, and school discipline).

Lattimore *et al.*'s study found that several variables affect recidivism only during the first 36 weeks following release, while other variables affect recidivism after 36 weeks (Lattimore *et al.*, 1995:73). The results suggest that early parole failures differ from later failures and, therefore, parole officers or supervisors ought to be aware of specific differing risk variables. For example, parolees who are younger at first arrest are more likely to be rearrested for violence; however, this effect appears to be significant only *after* 36 weeks of release. Moreover, the number of prior arrests seems to be a predictor of the increased risk of re-arrest, but only during the *first* 36 weeks following release. Lattimore *et al.* added that further attention should be given to the study of these differences.

Reporting results separately by gender, Day (1998) expanded on previous research on the risk of court contact, using survival analysis to determine the probability of a youth having court contact by a given age. Day's survival analysis of a sample of 203 youth, "who were seen at a Toronto children's mental health center, between the ages of 6 and 12 years," found that 65.9 percent of the males and 32.9

percent of females in the study had contact with the courts by the age of 18. For males, the strongest predictor was the "child's likeability;" for females, the strongest predictor was "history of abuse." The likeability scale derived from an "Interviewer Impression Form" (IIF) was administered at the time the child was interviewed. The interviewer answered a number of subjective questions about the child, for example, "Was this child cooperative during the interview?" and "How much did you like the child during the interview?" (Day, 1998:443). Some of the other variables in Day's study included language spoken at home, highest education level, income level, sources of income, age, criminal history and history of abuse. However, the overall findings revealed a general lack of predictive effects for most of the risk variables. Thus, Day reached a similar conclusion to Visher *et al.* (1991): variables that predict early delinquency are less useful in predicting continued criminal behavior. Due to budget limitations, Day was unable to follow up and account for the absence of some members of the sample. Thus, some of the sample may in fact have had court contact in other locations.

Kowalski and Caputo's (1999) Canadian study had two main objectives: to examine whether first time juvenile offenders are treated more leniently than repeat offenders (recidivists) with respect to court dispositions, and to examine the relationship between type of disposition and key variables in the sentencing process (*e.g.*, seriousness of offence, gender and age). The study data came from youth court

cases reaching disposition in the 1995-96 fiscal year for all of Canada, except Nova Scotia. Even with the absence of Nova Scotia data, this study is unique, as it is the first to include data from Ontario.

To determine if a young offender was a recidivist, all those found guilty of an offence in the 1995-96 fiscal year were matched with earlier convictions; however, difficulties in matching created a methodological limitation. Thus, these data represent a conservative estimate of recidivism. The major finding from this study is that judges sentence repeat offenders more severely than first time offenders for the same charge. Moreover, Kowalski and Caputo found (unlike most previous studies on the key variables that affect recidivism) that the age variable "almost entirely disappeared when number of prior convictions and seriousness of the offence were controlled" (Kowalski and Caputo, 1999:80). This study helped to fill a gap in the literature on dispositions given to repeat offenders; however, it also identified a need to focus research on the area of custodial sentence lengths given to repeat offenders.

The Research Section of the Ministry of Attorney General (MAG), Corrections Branch, in British Columbia produced a management report on recidivism in the BC offender population that was released in November 2000. A major priority for this Research Section is to focus attention and research towards reducing recidivism through intervention with offenders, thus increasing public safety and reducing costs of the criminal justice system. The MAG report focused on the

adult offender, as its Corrections Branch is responsible for the adult offender population; the Ministry for Children and Families (MCF) is responsible for the juvenile offender population. Nevertheless, even though the MAG report focused on the adult population, juvenile records of the study group were included in the analysis. The focus of this study was first to identify characteristics of recidivism, and then to compare chronic recidivists with non-recidivists. Chronic recidivists were defined in this study as those having ten or more convictions. The study's sample consisted of both adults and youth who first contacted the BC Corrections system between 1980 and 1995, and who were then tracked through to the year 2000.

The Ministry of Attorney General's study found that although chronic recidivists make up 1.4 percent of all offenders, they take nearly 20 percent of all custodial supervision resources (including sentence and remand supervision), which equates to nearly $31 million for the 1998-99 fiscal year (MAG, 2000:27 and 29). The characteristics of recidivists identified in this study also support the findings from most of studies on recidivism regarding age, gender and race.

Some limitations of this study include the lack of dynamic predictors, inter-provincial mobility questions, and the cursory nature of the analysis. Nevertheless, the MAG study attempts to determine the duration of the criminal career of chronic and other recidivists. This study concluded by suggesting that special attention be paid to specific groups, such as those who first contact BC Corrections when they are

aged 12 to 15, as they were found to be a significant proportion of the chronic offender population. This recommendation suggests future research, with special attention paid to this age group, as well as evaluating other predictive variables such as sentence length.[6]

Summary

Although the study of recidivism is popular, and is becoming a priority in agencies related to the criminal justice system, there is a surprising lack of fully comprehensive studies. Most work on recidivism focuses on either adults or youth, and generally on male offenders. Understandably, the studies are often limited by the available data, which dictate the focus of the study.

A number of studies (Wolfgang *et al.*, Minor *et al.*, Dejong, and Day) focus on arrest rates or charge rates and find little predictive significance of these variables on recidivism. However, charge or arrest rates may be inappropriate in a focus on recidivism, as a general review of offender statistics indicates that the number of recidivists is low, and that chronic recidivists, who represent an even smaller proportion of lawbreakers, are more often serious offenders. Visher *et al.*'s 1991 study and Lattimore *et al.*'s study did take into account the unique characteristics of

[6] The MAG, Corrections branch is focused on Adult offenders while the Ministry for Children and Families (MCF), Youth Justice branch is responsible for the juvenile offender population. Nevertheless, the source of data that MAG and MCF use is the same. Even though the MAG report on recidivism acknowledges the juvenile age group, the focus and the concentration of the analysis is with the adult offender.

recidivists by focusing on serious repeat offenders. However, they limited their study specifically to violent offenders.

Based on the review of the literature, the most consistent and important predictors of recidivism for both adult and juvenile offenders include various static and dynamic variables. Static predictors in the literature have included age at the time of offense, length of sentence, length of incarceration, gender, ethnicity, SES, and criminal history. Dynamic predictors have included anti-social behaviour, self-esteem, peers, school achievement, and substance abuse. Many of the predictors found in studies on recidivism were available in the data set used for my thesis, and these are discussed and reviewed in more detail in Chapter 4.

Chapter Three

Theories of Crime and Deviance

This chapter outlines the development of the theoretical framework on crime and deviance that guides this analysis of juvenile recidivism in British Columbia. The first section reviews theoretical approaches to deviance and their explanations of criminal behaviour. The second section summarizes these theories and their hypothetical implications, and the third offers a general summary.

Pre-Classical

In the Middle Ages, criminal behaviour was considered to originate somehow outside the self. To Western medieval thinkers, deviant behaviour was due to the devil, sin or temptation, not the will of the individual. Since "the Devil made me do it" was the root of all deviant acts, an individual could seek redemption and be forgiven. Ultimately, a commitment to God would surely drive such evil away (Peace *et al.*, 2000:3). Although punishment could be brutal, and death was a common sentence, the threat of punishment was not believed to be an effective deterrent, simply because deviant behaviour was deemed beyond a person's control.

Classical Period

During the Enlightenment of the 1700s, new philosophies of human behaviour began to gain acceptance. People were no longer regarded as unwitting victims of supernatural forces, but as rational, reasoning beings capable of determining right from wrong: thus, they were responsible for their actions. With the further belief that people are motivated by pleasure and pain came classical theory's primary application to crime, the notion that "the punishment should fit the crime and that this punishment should deter repeat offences" (Peace *et al.*, 2000:3). However, this notion meant treating all offenders equally, so that stealing bread for a starving child was punished in the same fashion as stealing for a living. Eventually, neo-classical theorists tempered this harsh approach by arguing that mitigating factors such as starvation should be considered.

Neo-classical or Positivist, Bio-social Theories

From the realization of the causal nature of criminal behaviour developed the Positivist school of thought, which differed from the classical school in its pursuit of "empirical facts to confirm that crime was determined by multiple factors" (Lilly, Cullen, Ball, 1989:26). As the emphasis on individual free will shifted to external societal factors as possible causes of criminal behaviour, theorists explored these

factors using the scientific method through controlled experiments. [7] The best-known early work in this area was by Cesare Lombroso, often referred to as "the father of modern Criminology," who based his biological theory of "atavism" on the physique of individuals (Wolfgang *et al.*, 1973). Lombroso theorized that criminals have a peculiar physical type that differs from the non-criminal; he characterized the criminal as an evolutionary "throwback to earlier stages of physiological development" (Traub and Little, 1985:xi; Lilly, Cullen, & Ball, 1989:37; Peace *et al.*, 2000:8).

Although Lombroso's theory of physical type fell out of favour, bio-social theories persist: a number of crime theories hold that lawbreakers are inherently flawed. In 1950, Glueck and Glueck published "Unraveling Juvenile Delinquency," a study comparing delinquents with non-delinquents based on anatomical features and temperament variables (Glueck and Glueck, 1950:33; Glueck and Glueck, 1959:29; Traub and Little, 1985; Lilly, Cullen, & Ball, 1989:34,37). Then, during the 1960s, studies on sex-chromosomal abnormalities premised that although most males have one X and one Y chromosome, those with two Y-chromosomes were found to be over-represented in maximum-security hospitals (Mednick *et al.*, 1982:23). These biological studies of offenders highlight the interest by academics and lawmakers in linking biological inheritance factors with crime. Although this interest continues,

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[7] Early Positive theories were more popularly known as Social Darwinist, or bio-social theories.

bio-social theories are now less accepted because "they lack…empirical validation and [are] ideologically unsound" (Schissel, 1993:2).

In the area of juvenile delinquency, however, bio-social research continues, as evidenced by the work of Denno and Schwarts (1985) on the etiology of delinquency, and in research on links between hormone levels and adolescent male aggression by Magnussen, Stattin, and Duner (1983) (Shissel, 1993:2; Mednick *et al.*, 1982:63). These theories move juvenile deviant behaviour "from badness to sickness," which means that an individual can be "cured" of his or her deviance (Peace *et al.*, 2000:10). Proceeding logically from this theory, it can be hypothesized that if criminal behaviour is a "sickness" outside the control of the individual, then punishment will have no deterrent effect on recidivism, as the "sickness" is not treated.

Deterrence Theory

Grounded in the classical approach to deviance noted above, deterrence theory, an offshoot of rational choice theory, is probably the most popular way of thinking about the causality of offending. Work by classical theorist Cesare Beccaria (1767), concluded that swift and certain legal penalties should outweigh the pleasures of violating the law and deter criminal behaviour (Beccaria, 1964:43; Bean, 1981:30). Applying Beccaria's ideas to legislation, Jeremy Bentham (1823) proposed that the solution to crime was to "punish as many offenders as possible and the severity of the

punishment should only be enough to outweigh the pleasures one may gain from crime" (Coleman and Cressey, 1987:406).

University of Oslo Professor Johannes Andenaes was one of the first to study the "effects" of criminal law on deterrence. In his 1968 article, "Does Punishment Deter Crime?", he distinguished between two types of deterrence. General deterrence -- the threat of punishment -- applies to all members of society, and is sufficient to deter most from offending. However, for those who have offended and been punished, general deterrence is obviously ineffective; for these, specific deterrence may be needed. Specific deterrence theory suggests that "individuals who experience severe sanctions are more likely to refrain from future criminal behavior than those experiencing a lesser sanction" because the experience should reinforce the offenders' perceptions of the certainty and severity of punishment (Dejong, 1997:561; Andenaes, 1968:78; Griffiths and Verdun-Johnes, 1994:408). This theory holds great interest for the judiciary, as it suggests that the system may have a deterrence effect on individuals. A logical hypothesis from this theory is that increased punishment ultimately decreases the probability of re-offending.

Strain Theory

Nineteenth Century French sociologist Emile Durkheim had a significant impact on the theories of deviance, by analyzing societal, rather than psychological or

biological causes to explain social phenomena. The Durkheimian perspective states that society dictates norms and what offends those norms (Traub and Little, 1985:1; Frazier, 1976:50). Criminal behaviour therefore results from society's inability to regulate or prevent an individual from acting upon an "inherent avaricious nature" (Schissel, 1993:1).

Through his theory of anomie, or strain theory, Robert K. Merton (1938) expanded Durkheim's theory, arguing that society teaches all people to seek culturally prescribed goals. For those living in the United States and other capitalist societies, those goals are, specifically, occupational success and money (Frazier, 1976:15). Merton identified five means of adaptation to these goals: the first, *conformity*, represents both the cultural goals and acceptable means of attaining them. Conformity adds to social stability. *Innovation,* the second of Merton's identified means, is the adaptation of greatest interest to researchers in the study of crime, as it represents behaviour in which little or no emphasis is given to acquiring social goals through legitimate means. The third mode of adaptation is *ritualism,* which signifies that the means displace cultural goals and become goals in their own right. *Retreatism,* the fourth adaptation, involves those who deal with cultural goals through escapist behaviour (*e.g.*, drug abuse, or dropping out of school). The fifth and last mode of adaptation is *rebellion* in which the goals and means of society are rejected and redefined (Peace *et al.*, 2000:5; Merton, 1996:120).

Opportunities to reach social goals through legitimate means are unequal. Education and employment indicators frequently measure the strain individuals may experience in attaining culturally prescribed goals in a socially acceptable way. Those unable to attain these goals legitimately have a higher probability to deviate in order to achieve them (Traub and Little, 1985:xiii, Gibbons, 1987:109). Anomie theory builds on the deterrence approach to propose that offending is a conditional dependent variable, as punishment affects an individual's opportunities for attaining socially prescribed goals and thus, whether or not the individual chooses to deviate. A logical hypothesis is that the deterrent effect of punishment may be contingent with the offender's strain level, and thus may be more significant for those who have greater opportunity to acquire socially prescribed goals.

Determining offenders' thinking at the time a crime is committed, or the motivation for committing crime is difficult to capture, even when research designs specifically focus on these variables. The data in this thesis were not designed for this type of research, and consequently variables that could measure offenders' motivations, beliefs or thinking at the time an offence occurred are unavailable. Therefore, the hypothesis of anomie or strain theory cannot be tested in this study. However, should analysis of the data not validate any deviance theory, it will indirectly encourage further investigation into juvenile recidivism and strain theory.

Social Control Theory

Travis Hirschi's social control theory treats offending as a conditional dependent variable, as punishment affects the individual's ties to conventional society and thus, whether or not the individual chooses to deviate (Doob *et al*, 1995:65). Control theory assumes that "deviance is part of the natural order of society; therefore, most people are motivated to deviate" (Traub and Little, 1985:241; Frazier, 1976:67). However, since people have social bonds that prevent them from acting on the deviance, the effects of punishment may be contingent on the strength of the ties an individual has to conventional society; those who are more "strongly bonded may be more easily deterred than experienced criminals" (Dejong, 1997:561).

The four dimensions of social bonds are *attachment, commitment, involvement*, and *belief* (Traub and Little, 1985:257-262; Hirschi, 1996:172). The first dimension, *attachment*, internalizes social norms into an individual's conscience or superego, and thus precludes acting on deviance. *Commitment* prevents individual deviance because those who have invested in themselves, through education, career, acquiring a good reputation, *etc.* are less likely to risk losing what they have accomplished by engaging in criminal acts. *Involvement* discourages people from committing crimes as they are simply too busy with conventional activities. The fourth element, *belief*, assumes all people know the difference between right and

wrong and, therefore, those with a strong *belief* in conventional society will not deviate. Hirschi argues that people take into account these four social bonds, and perform a cost-benefit analysis that make them think twice about offending.

Hirschi's own research on juvenile delinquency finds that delinquent youths are less attached to conventional society (Traub and Little, 1985:242). In theory, if one could identify social bonds that affect the dependent variable, recidivism, then effective preventative programs could be developed. The question for researchers is whether the effect of punishment may be contingent on the strength of bonds or ties: the deterrent effect may be more significant for those who are more strongly bonded.

Differential Association Theory

The theoretical approaches reviewed above concentrate on either the relationship between social structure and deviance or biological makeup and deviance. Social learning theories, or differential association theories, investigate links between social structural conditions (*i.e.*, process, not structures) and deviant behaviour (Beaman, 1992:4; Traub and Little, 1985: 173).

Edwin H. Sutherland has made a significant contribution to sociology with his theory of differential association with respect to "explaining the processes by which one learns to behave in violation of conventional norms" (Traub and Little, 1985: 173). Sutherland hypothesized "that people acquire criminal behaviour patterns

through the same process by which they acquire conventional behaviour" (Traub and Little, 1985:174). Sutherland viewed all human behaviour, and specifically criminal conduct, as being learned through interaction with intimate personal groups over time (Sutherland and Cressey, 1970). Thus, those who deviate are closely related with others who deviate (*e.g.*, a deviant sub-culture), and from them learn those values, "norms, motivations, rationalizations, techniques and definitions" necessary and favourable to the violation of the law (Gibbons, 1987:116; Traub and Little, 1985: 174). Essentially, Sutherland and his supporters argue that when an offender's exposure to unfavourable definitions of the legal code exceeds favourable definitions, deviation will occur.

Sutherland's study of professional thieves concludes that careers in this type of crime stem from "contact with professional thieves, reciprocal confidence, and appreciation, a crisis situation, and tutelage" (Sutherland, 1937:212; Hagan and McCarthy, 1997:136; McCarthy, 1996). Sutherland emphasized learning from mentors who pass on criminal skills, while recognizing the importance of social structure and opportunity, tutelage and offending (Hagan and McCarthy, 1997:136).

Differential association theory proposes that significant people in one's social environment influence the frequency, intensity and exposure to criminal definitions and behaviour patterns. As a result, any hypothesis on recidivism based on the theory

of differential association must argue that an increase in punishment should result in an increase in reoffending.

Labeling Theory

Labeling theory concentrates on the consequences of identifying the individual, in this case the recidivist. In his article "Outsiders," theorist Howard S. Becker explains the basis of labeling theory, arguing that "one of the most crucial steps in the process of building a stable pattern of deviant behavior is likely to be the experience of being caught and publicly labeled as a deviant" (Becker, 1996:200; Traub and Little, 1985). Accordingly, first time offenders who are given a warning or a fine should be less likely to re-offend than those given a secured custody sentence: those sentenced to secured custody are publicly labeled as "deviant" or "criminal". Consequently, they may internalize the deviant label and continue criminal activities. One flaw in labeling theory is that it does not take into account the initial decision to deviate.

Since my entire study population was found guilty of at least one crime resulting in incarceration, these individuals have already been labeled "deviant". In that my study does not have a non-labeled, deviant, juvenile reference group, I cannot test labeling theory. However, in the general study of deterrence, labeling theory has made a significant contribution.

Summary of theories and their hypothetical implications

Bio-social theory suggests that deviant behaviour is beyond the control of the individual. During the Middle Ages, deviant behaviour was believed to be the product of the Devil and not of the individual. Although the Age of Enlightenment brought the idea of individual choice and free will, science also suggested that biology could account for deviant behaviour. More recent approaches to bio-social theory have evaluated an individual's chromosomes, or hormone levels, or physical types as possible explanations of the causality of deviant acts. Unfortunately, due to data limitations of this study, substantial biological variables cannot be identified or studied. Nevertheless, if bio-social theory is viable, then the expected outcome would be that no significant relationship will be found between punishment and recidivism.

Classical theorists Beccaria and Bentham proposed a popular causal approach to deterrence theory. The basic premise for deterrence theory has been that punishment ought to be severe enough to outweigh the pleasures gained from offending. Since people are assumed to be rational beings, deterrents such as sentence length and length of incarceration should be enough to discourage offenders from re-offending. From this perspective, the expected outcome of an increase in punishment would be a decrease in the probability of re-offending.

Social control theorist Travis Hirschi focuses on the social bonds or ties people have to society that might prevent them from deviating. A more complex approach to specific deterrence theory is to treat offending as a conditional dependent variable, as punishment affects an individual's ties to conventional society, and subsequently the individual's decision to deviate (Hirschi, 1969). The variables used to measure a juvenile offender's tie to conventional society differ from measures used for adults. For example, employment, often considered a significant measure of an individual's tie to conventional society, may not be relevant for a juvenile population. However, education may be a significant variable for juveniles as it is a significant part of their lives. In line with these ideas of social control theory, the effect of punishment is contingent on the strength of bonds or ties; thus the deterrent effect would be more significant for those who are more strongly bonded.

Differential Association is a social learning theory. The premise of social learning theory is that criminal behaviour is learned through interaction with intimate personal groups over time. Sutherland, for example, studied the professional thief and concluded that learning from mentors who pass on criminal skills is significant to offending. Based on differential association theory, one would expect that punishment would not be a significant deterrent to re-offending; in fact, it would probably encourage more offending, since the longer the sentence or admission to custody, the longer the time spent with other criminals. In these "schools of crime,"

the opportunity for learning criminal skills could only encourage recidivism (Gendreau, Goggin and Cullen, 1999:3). Thus, if differential association theory is valid, an increase in the length of admission to a correctional facility would result in an increase in re-offending.

Summary

The dominant theories of crime and deviance and their implications for recidivism have been examined in this chapter. Also my hypotheses based on these theories were outlined, including the "deterrence" hypothesis that punishment would have an inverse relationship with recidivism, the "differential association" hypothesis that re-offending would increase as punishment increases, and the "bio-social" hypothesis that punishment would have no effect on re-offending.

The primary purpose of this study of recidivism is to determine what effect sentence length or the length of admission has on future offending, as well as identifying and examining other variables that affect re-offending. This paper avoids many of the problems contained in the reviewed literature. It is not restricted by gender, and it has access to complete longitudinal youth and adult records. Consequently, it focuses on the life course of juvenile offenders, through to adulthood (aged 19). Further, the data in this study are complete for all juvenile offenders in British Columbia, covering a 17-year period (1964 – 1981 birth years).

Unfortunately, due to my data set, many independent variables recognized by other studies as related to recidivism (*e.g.*, SES, employment, status, family, income, school behaviour, substance abuse, and aggression) are not available. Nevertheless, this data set does include variables that have been identified in the literature as important predictors of recidivism. Static predictors include age at time of sentence (*e.g.*, Bonita *et al.*, 1993 and Minor *et al.*, 1997), ethnicity (*e.g.*, Dejong, 1997), gender (*e.g.*, Day, 1998), criminal history, (*e.g.* Kowalski and Caputo, 1999), and education level (*e.g.*, Dejong, 1997). Dynamic predictors include type of offence (*e.g.*, Pritchard, 1979), sentence length (*e.g.*, Andrews, 1989), and length of admission (*e.g.*, Babst *et al.*, 1976) to secured custody. Consequently, on balance, my thesis can make a significant contribution to identifying factors associated with recidivism among juvenile offenders.

Chapter Four

Data and Methods

This chapter reviews the data and methods used in this study. The chapter is divided into four main sections: (1) data and study population, (2) variable definitions, (3) methods, and (4) summary.

Data and Study Population

The data used in this study were obtained from the British Columbia Research Information System (RIS), a monthly, updated extract of a live database, CORNET,[8] also known as the Provincial Case File (PCF). This database and its RIS extract contain all "movement records" in BC correction facilities dating from April 1975, including admissions, discharges, transfers, escapes and recaptures. BC Corrections officers make an entry directly into CORNET, whenever a person in custody enters or exits any location as a result of a remand, probation, sentence or release. Historically, the Ministry of Attorney General (MAG) was responsible for the justice data in BC for adults and youth; however, since 1996, the Ministry for Children & Families (MCF) has been responsible for the youth portion of CORNET. Because the database

[8] The origin of the name CORNET is unknown. Furthermore, CORNET is always referred to in the capital letter format.

contains both youth and adult records, access to the full database for the purpose of this study was sought from and granted by both MCF and MAG.

The data extracted from CORNET were pulled in April 2000. For this study, a population group with the maximum years of opportunity to re-offend as juveniles for the maximum years available in the dataset was selected. As the CORNET database was implemented in April 1975, those born in 1963 could have been included in this study's population; however, this age cohort was excluded because the data in the first year was known to be incomplete and unreliable. Therefore, the population includes all those who were born between January 1, 1964, and December 31, 1981, who offended and were sentenced between the ages of 12 and 19, and who had the opportunity to re-offend as juveniles. Also, since CORNET collects "movements," as noted, the population was further restricted to those who were sentenced to secured custody,[9] to prevent double counting of movements of an individual during the "court process". Of the juvenile population initially captured, two died, 111 were moved to institutions outside of British Columbia and 46 were moved to a Federal penitentiary. These individuals were excluded from this study. The final study population totaled 928 females and 7,274 males.

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[9] Many studies have focused on the characteristics of an offending population that was arrested or charged. Studies by Yoshikawa, Visher *et al.* (1991), and Youth Court statistics from the Canadian Centre for Justice Statistics, CCJS, found that a small group of offenders are responsible for most juvenile offences that tend to be more serious in nature (also, Winterdyk, 1997:139). Since my study's focus is on juvenile recidivism, the study population includes offenders whose crimes were serious enough to receive sentences of secured custody.

The data used in this study cover the life course of 17 years of all juvenile offenders in the province of British Columbia, including any adult court sentences imposed while the offender was between the age of 12 and 19. A real strength of this work is that unlike many cross-sectional studies on recidivism, it is one of a very few that uses complete and longitudinal data rather than sampling techniques on a restricted population. Since this study is not restricted by cross-sectional data it should contribute to the literature in the area of recidivism.

Not only does this thesis add to the general body of knowledge in the area of deterrence and recidivism studies on juveniles, it also contributes to the very limited scholarship on female juvenile offenders. As mentioned, the majority of offender recidivism studies have focused on the adult male population, often due to limited access to data, or reliance on a sample population. Although, many of these studies had large male samples to allow for statistical analysis, the samples of females were simply too small for reliable analysis. As a result, female data are often ignored or not included. However, as this thesis utilizes complete data for the entire juvenile offender population in British Columbia, both the male and female populations are large enough for analysis.

Another unique aspect of the data used in this study is its ethnic diversity. Although it would be imprudent to attribute differences in recidivism patterns among different ethnic groups to bio-social factors, ethnicity may nevertheless relate to other

control variables, such that it may be possible to attribute any differences to cultural factors. For example, family definitions and family ties vary by ethnicity, which allows testing of Hirschi's theory of social control.

Although the data in this study have a number of advantages over those of other studies, they also have several limitations. As stated earlier, the CORNET system's main purpose was to track all "movements" of people while they were involved with the corrections process. Research was not a significant consideration in the development of CORNET. Consequently, the information collected does not contain all the information that social scientists would like included. For example, dynamic predictor variables such as family history, and psychological variables are not included. Moreover, the data do not provide information on the offenders' motivations, beliefs, or rationale for offending, nor do they include measures of employment, school aspirations, or SES. As a result, assessing the strength of ties or bonds that offenders have to conventional society is impossible. Also, physiological information, such as hormone levels and chromosome types, and IQ test results were not recorded, and therefore are not available for analysis.

The CORNET data set does have one dynamic predictor variable that could aid the researcher: education. Unfortunately, the quality of the education data in CORNET is problematic. In preliminary analysis, I found that more highly educated juvenile offenders are more likely to re-offend, which opposes previous studies on

recidivism (Bridges and Stone, 1986; Visher *et al.*, 1991; Capaldi and Patterson, 1996). A more detailed evaluation of the raw education data revealed systemic data errors. Due to this unfortunate data problem, the education variable could not be considered a true or even close measure of education, and, therefore, it was dropped. With no dynamic variable available, the "social control" hypothesis outlined in Chapter Three could not be tested.

Another limitation of the data set is that it does not contain inter-provincial mobility, as the BC RIS data collects data from BC sources only. Consequently, individuals sentenced to secured custody in BC, who then move to another province or country for the rest of their criminal careers, appear as one time only offenders. Also, individuals may move to and from BC throughout their criminal careers, but only offences charged while in BC are considered in this data set. Therefore, there is a possibility that the population is slightly underrepresented in the frequency of offending.[10]

The final limitation of the data involves selection bias. The data are limited to offenders with sentences to secured custody. Non-serious offenders were deliberately excluded. The rationale for limiting the study population to secured custody was to

[10] Research on outmigration of BC youth by Chris Hvid, research officer with the BC Ministry of Education, Data Management and Student Certification Branch, concluded that the estimated annual outmigration from BC was 2.44 percent.

preclude double counting, and to ensure that only those guilty of a crime were included as offenders.

Variable Definitions

Dependent Variable

Studies on re-offenders usually consider the dependent variable, recidivism, as a dichotomous variable. Some studies have broken this variable into three categories: one-time only offenders, infrequent offenders, and chronic offenders. For the purpose of this study, recidivism is defined in two ways: inmates were classified as one-time only offenders or not, and were further categorized as one-time offenders, infrequent offenders, (two to four sentences) and chronic offenders (five or more sentences). The RIS data were grouped into these three categories: one-time only, infrequent, and chronic. See Table 1 for the recidivism groupings and percentage distribution.

Independent Variables

Deterrence theory suggests punishment may be an effective deterrent to future offending if the punishment is severe enough to outweigh the benefits gained from offending. The measures of punishment used in this study are sentence length and length of admission. Sentence length is a continuous variable measured in the number of days of secured custody the courts ordered an offender to serve. The

TABLE 1. Definitions and Descriptive Statistics for Variables Used in the Analysis of British Columbia Juveniles (Aged 12 -18)

Variable	Description and Coding	Female Mean or %	Male Mean or %
Punishment			
Length of first admission	Length of first admission in days	42.90	71.07
Sentence length at first admission	Sentence length at first admission in days	48.05	106.55
Recidivism			
One time only	Reference group	61.96%	62.28%
Infrequent (2-4 times)	Dummy indicator (1 = yes, 0 = no)	33.08%	33.21%
Chronic (5 or more times)	Dummy indicator (1 = yes, 0 = no)	4.96%	4.51%
Type of Offense			
Violent	Dummy indicator (1 = yes, 0 = no)	20.26%	13.27%
Drug	Dummy indicator (1 = yes, 0 = no)	2.05%	1.59%
Breach/Admin	Dummy indicator (1 = yes, 0 = no)	47.63%	23.92%
Sexual	Dummy indicator (1 = yes, 0 = no)	0.65%	1.99%
Vehicle	Dummy indicator (1 = yes, 0 = no)	2.05%	4.59%
Fraud	Dummy indicator (1 = yes, 0 = no)	0.43%	0.93%
Unknown	Dummy indicator (1 = yes, 0 = no)	1.19%	1.44%
Property	Reference group	25.75%	52.25%
Age at first admission	Age at first admission in years	15.67	16.34
History			
Violent			
yes	Violent offender (1 = yes, 0 = no)	27.05%	28.27%
no	Reference group	72.95%	71.73%
Sexual			
yes	Sexual offender(1 = yes, 0 = no)	5.71%	4.91%
no	Reference group	94.29%	95.09%
Escape			
yes	Ever escape from custody (1 = yes, 0 = no)	9.70%	10.92%
no	Reference group	90.30%	89.08%
Ethnicity			
Native	Dummy indicator (1 = yes, 0 = no)	26.08%	17.18%
Other	Dummy indicator (1 = yes, 0 = no)	3.13%	6.19%
White	Reference group	70.80%	76.63%
N		928	7,274

Data Source: British Columbia Research Information System (RIS).

longer the sentence an offender receives, the more severe the punishment. However, as many circumstances can reduce or increase the time served, sentence length does not necessarily reflect the number of days offenders are actually incarcerated. For example, Table 1 shows that female offenders were sentenced to an average of 48 days, but were incarcerated on average for only 43 days. The same trend holds for males: the average sentence received was 107 days, but the average actually served was 72 days. Since the RIS data extract records the actual number of days an offender is in secured custody, length of admission is used as an alternate independent variable to measure punishment, as it follows the same assumptions as the variable of sentence length: the greater the length of admission, the greater the severity of the punishment. Moreover, the length of admission is a measure of actual punishment, while sentence length is a measure of perceived punishment.

Control Variables

Type of offence

Control variables are also included in my analytical model, as they may have confounding effects on recidivism. For example, the severity of the offences that offenders commit has significant impact on the sentencing outcome, and the length of time spent in custody. In most studies, seriousness of offence is measured by offence

type. Because type of offence is so closely related to the independent variable, it is important to control for it in the model.

In documenting the type of offence variable from the RIS database, it is important to understand that only the most serious offence is recorded per event. Crimes often involve more than one charge being laid; however, only the most serious charge is recorded on CORNET. The Youth Court Survey (YCS) Offence Library calculates the Most Serious Offence (MSO). The MSO is defined as the charge for which the offender receives the most severe punishment, measured in sentence days (Canadian Centre for Justice Statistics, 1997:13). If an offender receives the same number of sentence days for two or more charges, the highest ranked offence is recorded. Offence ranking was determined by a BC Ministry of Attorney General internal empirical study on PCF/CORNET between 1975 and 1980 on all dispositions (MAG, ICIS working document, 1999:4).

For this study, offence categories were grouped into eight types: *violent, drug, breach/administrative, sexual, vehicle, fraud, unknown* and *property*. Property offence is used as the "reference category" in my multivariate analysis. Table 1 shows that approximately 90 percent of all female juvenile offenders committed one of three types of offences: breach/administrative (48 percent), property (26 percent), and violent (20 percent). Approximately 90 percent of the male offenders committed

one of the same three types of offence, but in differing proportions: property (52 percent), breach/administrative (24 percent) and violent (13 percent).

The "unknown" category was necessary to accommodate missing offence information in the data set. Unfortunately, these offences could be from any of the other categories, so no conclusions can be drawn from examining this category.

The breach/administrative category groups all status offences, *i.e.*, those offences that a person can be charged with, only if they have committed a substantive offence. Examples of status offence charges include breach of probation, failure to appear in court, perjury, *etc.* This thesis analyzes the first offence type an offender received. Again, because only the most serious offence is recorded, it is possible for a first time offender to receive a breach/administrative offence. The remaining six offence categories represent substantive offences.

Age at first admission

Age at first admission is an important variable for two reasons. First, it has often been overlooked as researchers have concentrated on adult offenders. Second, now that it is receiving some attention, research indicates that chronic recidivists are generally younger when they begin their criminal activities than was earlier believed (MAG Report, 2000:10; Correctional Services of Canada, 1993:15). For example, the MAG Corrections Management report on Recidivism found that although only 14

percent of all offenders were first sentenced between 12 and 15 years of age, they represented 46 percent of chronic recidivists. Table 1 shows that the average age of female offenders at first admission is 15, and for male offenders it is 16.

History – Violent, Sexual, Escape

The history variables consist of "Yes" or "No" responses to whether offenders ever committed a violent or sexual crime, or ever escaped or attempted to escape the custody of BC Corrections. Once offenders have been classified as "Yes" for any history variable, that classification remains on their BC corrections files. Approximately one-fourth of both female and male inmates had violent criminal histories (see Table 1). Approximately 6 percent of female and 5 percent of male inmates had committed sexual crimes. Finally, approximately 10 percent of both female and male offenders had escape histories.

Ethnicity

Many of the studies on recidivism focus on ethnicity as a possible predictive indicator for future offending. For example, some studies have found that Black offenders are more likely to re-offend than Whites. However, depending upon the demographic characteristics of the study population, the categories of ethnicity vary. For instance, American studies usually focus on Black and White offenders, while

research in Canada has compared aboriginal and non-aboriginal populations. In this thesis, the ethnicity variable has been divided into three categories: Native, White and Other,[11] with White as the "reference category." The Other ethnicity category includes Asian, Black, East Indian and Hispanic ethnic groups. Table 1 shows that of female juvenile offenders, 71 percent are White, 26 percent are Native and 3 percent are Other. The ethnic breakdown for male juvenile offenders is 77 percent White, 17 percent Native and 6 percent Other. Because the Other ethnicity category consists of such a diverse range of ethnic groups, any meaningful interpretation within the Other category cannot be made. Therefore, the analysis of ethnicity primarily focuses on the Native and White ethnic groups.

Methods: Statistical Analysis

As discussed earlier, the RIS data set used in this study has recorded all movements of juvenile offenders in the British Columbia Corrections System since 1975. Also as noted, "re-offending" is defined as juveniles who received another secured custody sentence to a BC corrections facility before they reached the age of 19. Because the age of majority is 19 in BC (Age of Majority Act [RSBC 1996] Chapter 7 Section 1[1a]), both adult and youth sentences imposed on juveniles are

[11] The significant Asian population in British Columbia arguably could warrant their own category. However, in the juvenile offender population, the Asian population is not significant; therefore, those of Asian ethnicity were coded into the "other" category.

included. The data source used in this study has 17 years of complete data for all juveniles incarcerated in BC, born between January 1, 1964 and December 31, 1981.

This study analyzes two measures of the dependent variable. The first is a dichotomous measure that indicates whether a person is a one-time only offender (N=5,105) or has ever re-offended (N=3,097). The second measure is a trichotomy: one-time offenders (N=5,105), infrequent offenders (two to four sentences, N=2,723), and chronic offenders (five or more sentences, N=374). Because these measures are categorical, logistic and multinomial logistic regression models are utilized.

Logistic regression models estimate the log-odds, or the predicted proportion, that a value of the independent variable is associated with the dependent variable, all else being equal (Agresti and Finlay, 1986:483, Maddala, 1983). Essentially, the odds are the ratio of two probabilities: in this study, the probability of re-offending or not. The log-odds are estimated from the logistic regression equation by taking the anti log (e^L) of the parameter estimate. The predicted logit L can also be transformed to a (0, 1) probability scale. The antilogs of the parameter estimates are multiplied to obtain the estimated odds. A simple transformation, $100(e^L-1)$, can be interpreted as the percent change (increase or decrease) in the odds of re-offending for a one unit increase in a given independent variable, while holding the other variables constant (Agresti and Finlay, 1986:489-490).

A series of multinomial logit models were estimated in the analysis of the effects that independent variables have on the second measure of the dependent variable. Similar to binomial models, multinomial logit models estimate the log-odds that a value of the independent variable is associated with the dependent variable, holding all other variables constant. In the analysis, each level (one-time only offenders, infrequent offenders, and chronic offenders) of the dependent variable is taken as the ratio of the probability of taking one of the alternatives (Kennedy, 1992:244). Again, the transformation for interpreting the effects independent variables have on the odds of re-offending is $100(e^{L}-1)$. The comparable transformation for categorical variables is $100(e^{2L})$. All statistical analyses were conducted using SAS statistical software.

The independent variables as well as the control variables utilized in this study were derived from other empirical studies as well as the theoretical implications outlined in Chapter 3. For instance, specific deterrence theory proposes that punishment can deter re-offending, while social control theories expand on specific deterrence theory to include other possible deterrence variables, such as educational attainment. Unfortunately, the education variable was found to be unusable and thus, the social control hypothesis could not be tested. Differential association theory, while expanding on specific deterrence theory, draws a radically different conclusion,

stating that the greater the length of sentence or length of admission, the more likely people are to re-offend, as they have more opportunity to learn deviant behaviour.

Summary

The data utilized in this study were drawn from the British Columbia RIS database and are complete for the juvenile life course of 8,202 people born between January 1, 1964 and December 31, 1981. This thesis differs from other studies on recidivism as its data include both male and female juvenile offenders. Moreover, because the data do not rely on samples or surveys, they are a true representation of British Columbia's incarcerated male and female juvenile offender population. Two independent variables are available for analysis: sentence length and length of admission, which are analyzed separately. Control variables such as age of first admission, ethnicity, and violent, sexual, and escape histories are also included in the separate models. Logistic and multinomial logistic regression modeling techniques are used to assess the impact of the independent and control variables on recidivism. The following chapter presents the results from these analyses.

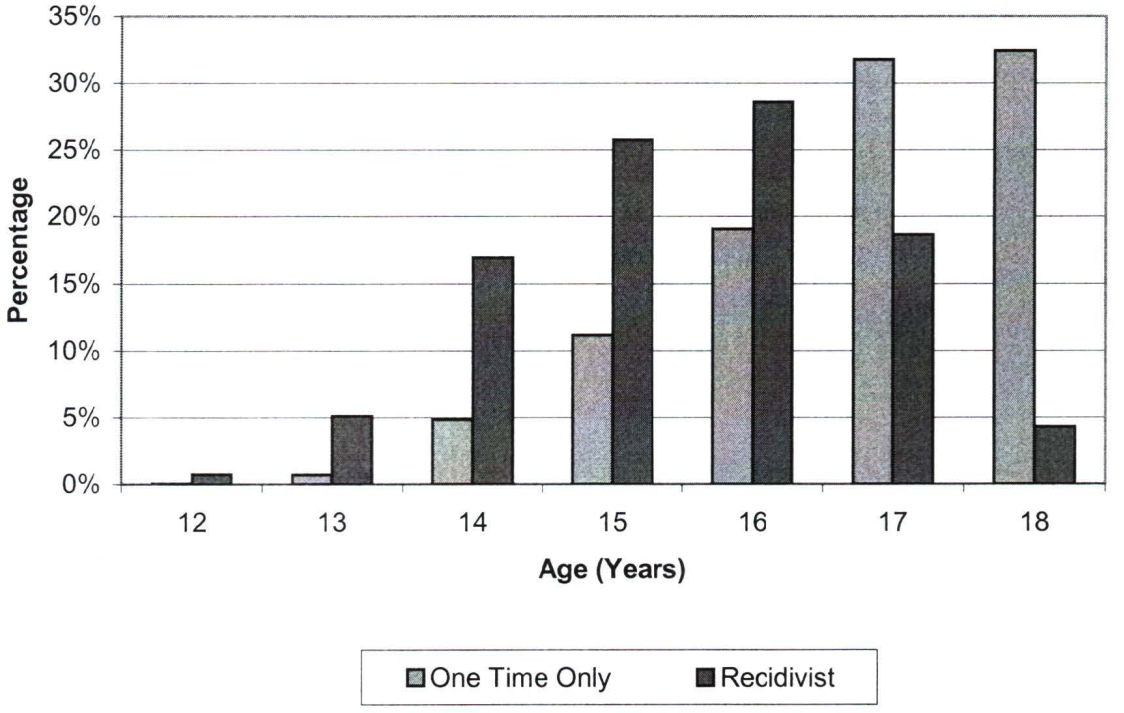
Chapter Five

Results

The results of the statistical analysis on the RIS juvenile offender data are presented in four main sections in this chapter: (1) profile of the offender recidivism groupings; (2) logistic regression results; (3) multinomial logistic regression results, and (4) summary. The first section profiles offender recidivism groupings (one-time only, infrequent [2 – 4 sentences] and chronic offenders [5 or more sentences]) and the predictor variables for re-offending. With the review of the logistic regression results, the second section considers in more detail the variables that affect recidivism. Multinomial logistic regression results are covered in the third section, and the final section provides a summary of the chapter. Chapter six presents a detailed interpretation of the results.

Many of the empirical studies of recidivism such as Bridges and Stone's 1986 work, and Kronick *et al.*'s 1998 analysis, found that the variable age is correlated to the likelihood of re-offending. Specifically, the younger offenders are when they begin their criminal history, the more likely they are to become repeat offenders. Figure 1 graphically presents, by age of first offence, the percentage of one-time only and repeat offenders. The largest proportion (64 percent) of the one-time only offender population started their criminal histories at the ages of 17 and 18. In the

Figure 1. Percent Distribution of the Recidivist and One-time Offender by Age at First Admission: BC Juveniles (Aged 12-18)



Note: One-time only (mean = 16.74 : SD =1.20)
Recidivist (mean = 15.49 : SD = 1.27)

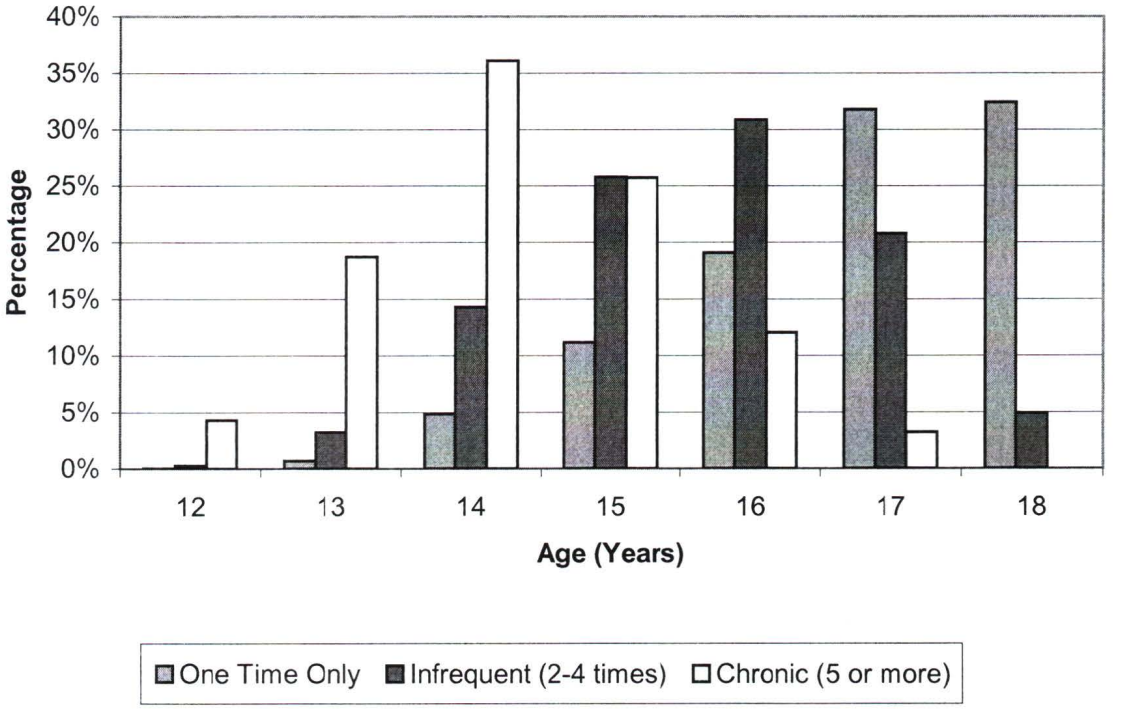
Data Source: British Columbia Research Information System (RIS); N = 8,202

recidivist population, 55 percent began their criminal histories at ages 15 and 16. This difference in age at first offence supports the hypothesis that the younger first-time offenders are, the more likely they are to re-offend. In the juvenile population, this phenomenon may relate to the younger offenders simply having more time to re-offend as juveniles than the older ones. However, although this rationale may be compelling, studies of adult recidivism have also consistently found age to be a significant variable in re-offending. Adult offenders who begin their criminal histories at an earlier age were also found to be at greater risk of re-offending than the adults who were older when they first offended (Correctional Services of Canada, 1993; MAG, 2000:10).

Figure 2 presents the percentage distribution of the recidivist categories (including one-time only offenders), but categorizes the recidivist group into infrequent (2-4 sentences) and chronic (5 or more sentences) offenders. The age distribution for the one-time only offender is unchanged. Although 57 percent of infrequent recidivists received their first sentence to secured custody at ages 15 and 16, the largest proportion of chronic recidivists (62 percent) started their criminal histories at the age of 14 and 15.

Based on the results in Figures 1 and 2, it seems that age is correlated to recidivism in the juvenile population. These results confirm findings from past

Figure 2. Percentage Distribution of One-time, Infrequent and Chronic Offenders by Age at First Admission: BC Juveniles (Aged 12-18)



Note: One-time only (mean = 16.74 : SD =1.20)
Infrequent (mean = 15.65 : SD = 1.20)
Chronic (mean = 14.32 : SD = 1.13)

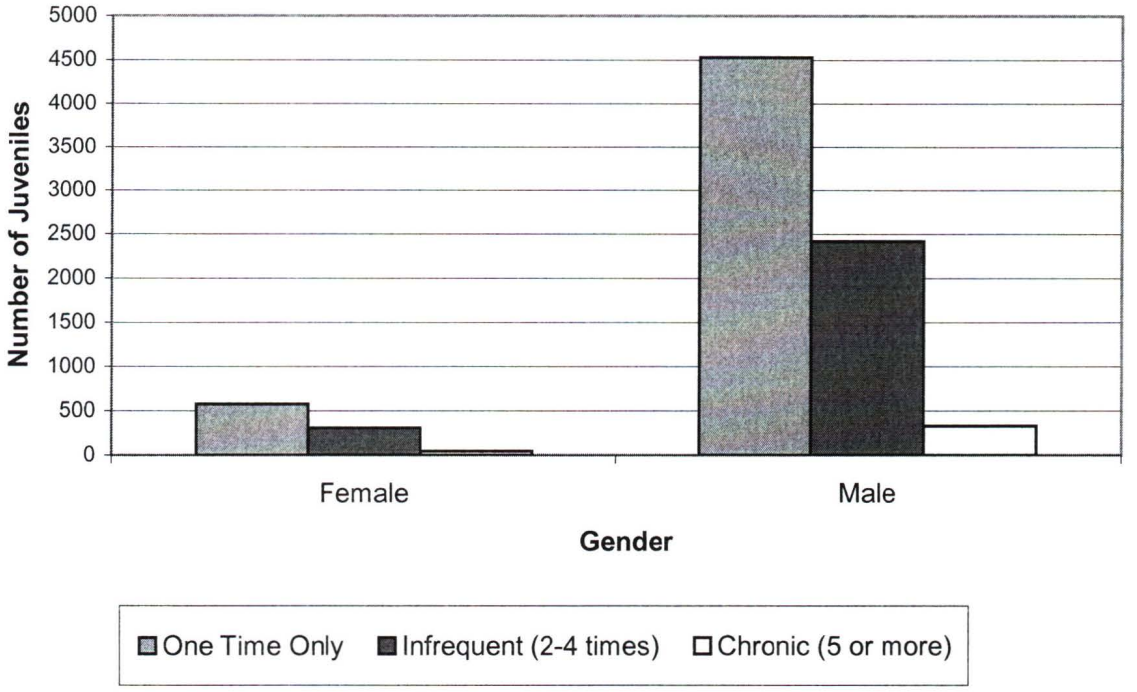
Data Source: British Columbia Research Information System (RIS); N = 8,202

recidivism studies (Kowalski and Caputo, 1999; Kronick, Lambert and Lambert, 1998).

In Figure 3, which presents the frequency distribution of offender groups by gender, it is clearly evident that males commit more offences than females. The displayed results are consistent with other research findings (Kowalski and Caputo, 1999; Kronick, Lambert and Lambert, 1998).

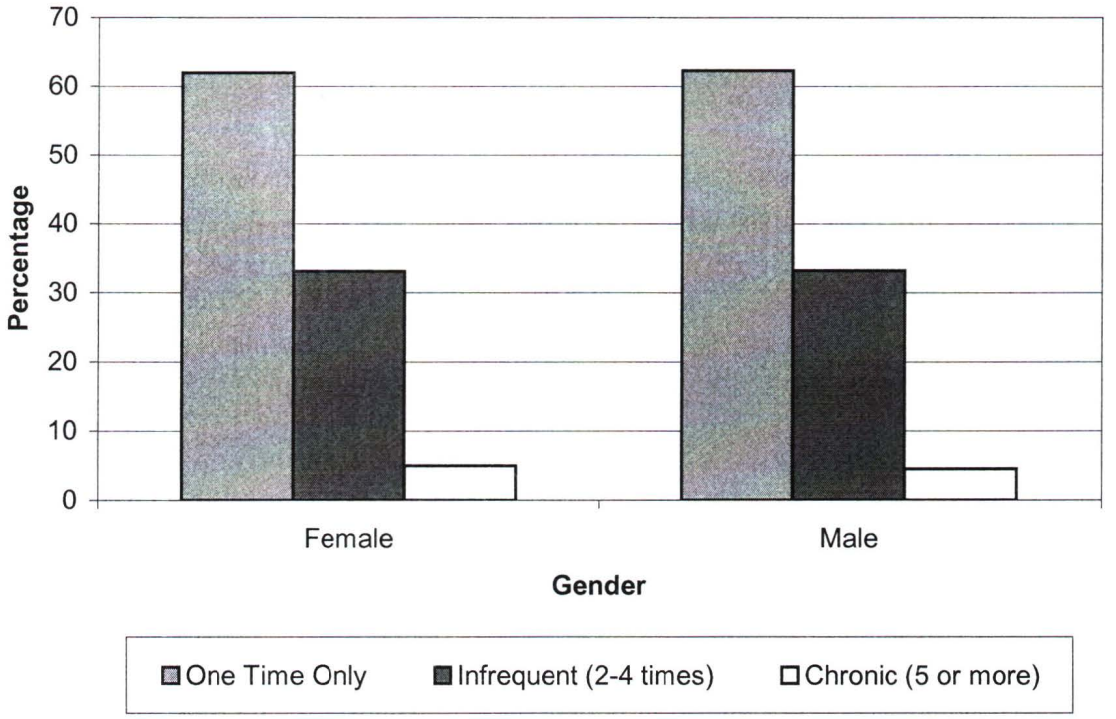
The finding that males offend more frequently than females was consistent in all three offender recidivism groups. Again, these results were expected, as this tendency is well documented in the criminological literature. Like Figure 3, Figure 4 graphically displays the three recidivism groups by gender, but presents results in percentages. Approximately 60 percent of the females sentenced to secure custody in a BC corrections facilities were one-time only offenders. Infrequent female offenders accounted for about 30 percent, and approximately 5 percent were chronic offenders. The percentage distribution for one-time only, infrequent and chronic offenders in the male population was the same as in the female population, an intriguing finding, given the significant gender difference in the frequency of offending. Figure 4 indicates that gender does not have an impact on the risk of being a re-offender. Based on the results displayed in Figures 3 and 4, gender is correlated to the risk of offending, but not to offender recidivism.

Figure 3. Frequency Distribution of Recidivism Groups by Gender: BC Juveniles aged 12-18



Data Source: British Columbia Research Information System (RIS); N = 8,202

Figure 4. Percentage Distribution of Recidivism Groups by Gender: BC Juveniles aged 12 - 18



Data Source: British Columbia Research Information System (RIS); N = 8,202

Table 2 presents the percentage distribution of the recidivist offender groups by ethnicity. For all three ethnicity groups, most offenders were one-time only offenders: Natives 57 percent, Whites 63 percent, and Others 71 percent. The infrequent and the chronic recidivist categories were proportionately larger for Natives than for Whites and Other ethnic groups. Native recidivists comprised 37 percent of infrequent offenders and 6 percent of chronic offenders.

According to Canada's 1996 Census data, Natives make up 3.8 percent of BC's population and 5.5 percent of the BC youth population (Statistics Canada, 1998).[12] Yet based on the data in this thesis, Natives are significantly over-represented, making up 18 percent of all juvenile offenders in this study. Native over-representation in many provincial, territorial, and federal correctional institutions is such a significant and common finding in the criminological literature that some Canadian researchers have focused their research on possible reasons for the phenomenon (Griffiths and Verdun-Jones, 1994; Moyer *et al.*, 1985; Cawsey, 1991).

Table 3 presents the distribution of offending recidivism categories by first offence type. Of the eight first offence type groups, six are substantive offence categories, one is a status offence (breach/administrative), and one is "unknown." The breach/administrative offence category may seem a little strange as a first

[12] The percentage of the BC Native youth population was based on the age group of those aged 10 – 19. The data source used for this calculation came from the 1996 Census.

TABLE 2. Percentage Distribution of Recidivism Categories by Ethnicity of BC Juveniles (Aged 12 - 18)

	Ethnicity		
Recidivism	Native	Other	White
One time only	56.90%	71.19%	62.83%
Infrequent (2-4 times)	37.13%	26.30%	32.79%
Chronic (5 or more times)	5.97%	2.51%	4.38%
Total	100%	100%	100%
N	1,492	479	6,231

Chi square = 38.80, $df = 4$, $p < .0001$

Data Source: British Columbia Research Information System (RIS); N = 8,202

TABLE 3. Percentage Distribution of Recidivism by Type of First Offence of BC Juveniles (Aged 12 - 18)

	Offence Type							
Recidivism	Violent	Drug	Breach/Admin.	Sexual	Vehicle	Fraud	Unkown	Property
One time only	72.85	71.85	53.94	71.52	83.29	72.22	43.97	61.53
Infrequent (2-4 times)	22.90	27.41	38.50	25.17	15.30	26.39	47.41	35.05
Chronic (5 or more times)	4.25	0.74	7.56	3.31	1.42	1.39	8.62	3.42
Total	100%	100%	100%	100%	100%	100%	100%	100%
N	1,153	135	2,182	151	353	72	116	4,040

Chi square = 261.07, *df* = 14, p = <.0001

Data Source: British Columbia Research Information System (RIS); N = 8,202

offence, since a status offence charge can only occur when the offender has received a previous conviction or concurrent offence charge. However, as discussed earlier, only the most serious offence per event is recorded. Therefore, in a situation in which an offender commits a crime and, for example, fails to appear in court, the offender is then given a status charge, which can carry a greater number of sentence days. In such a case, the status charge is considered the more serious offence of the two. There is also the possibility of a juvenile being found not guilty of a substantive charge, but still receiving a sentence to secured custody for a breach/administrative charge.

Juveniles who received secured custody for breach/administrative or property related charges were more likely to be re-offenders. Furthermore, juveniles who received vehicle related charges as their first offence were the least likely to re-offend. The types of offences that are prevalent for the one-time only juvenile offender may actually be indicators more of adolescent rebellion than criminal intent. Those individuals who normally follow conventional society, but act out in a single incident of adolescent rebellion are less likely to behave in a manner that would involve them receiving a breach/administrative charge. But juvenile offenders who do not have ties to conventional society and are, therefore, at greater risk of being

re-offenders, may be less likely to follow court instructions and thus receive breach/administrative charges.[13]

Table 4 presents the results of the offender recidivism groups by number of days of first admission to a BC Juvenile corrections facility. Juvenile offenders who are first admitted to secured custody for 22 to 70 days were the least likely to re-offend. The data presented in Table 4 indicates that length of first admission may have an impact on recidivism, however, because this relationship is not linear, further analysis is necessary before any definitive conclusions can be made. Nevertheless, Table 4 does give some general insight and understanding into juvenile offenders.

Logistic Regression Results

Table 5 portrays the results of a series of logistic regression models of juvenile recidivism to profile the hypothesized predictor and variables known to be important in determining the likelihood of re-offending. Six models are summarized in the table. Model 1 presents the effect that the length of first admission alone has on re-offending.[14] Model 2 portrays the effect of sentence length at first offence has on re-offending. Both Models 1 and 2 were designed to answer the question: does an

[13] Fraud offences seem to be a significant category but due to the small number of fraud offences in the population, it is not focused on here. Fraud offences were given their own offence type category, as they did not fit into any of the other offence groupings.

[14] As explained earlier the dependent variable is a dichotomous variable that indicates whether or not the offender was a repeat offender.

TABLE 4. Percentage Distribution of Recidivism by Length of First Admission, in days, of BC Juveniles (Aged 12 - 18)

	Length of First Admission				
Recidivism	< 7 days	7 - 21	22 - 70	71 - 140	141 or more
One time only	64.08	59.79	58.57	64.66	65.98
Infrequent (2-4 times)	30.61	34.02	36.42	32.29	31.49
Chronic (5 or more times)	5.31	6.19	5.01	3.04	2.53
Total	100%	100%	100%	100%	100%
N	1,715	1,649	2,095	1,282	1,461

Chi square = 55.74, *df* = 8, p = <.0001

Data Source: British Columbia Research Information System (RIS); N = 8,202

Table 5. Logistic Coefficients For Regression of Juvenile recidivism: British Columbia Juveniles (Aged 12 - 18)

Variables		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Punishment							
Length of 1st Admissior		-0.001 ***		-0.001 ***	-0.002 ***	-0.002 ***	
1st Sentence Length			-0.000				-0.000
Type of Offence							
Violent				-0.610 ***	-0.580 ***	-0.504 ***	-0.466 ***
Drug				0.064	0.073	0.164	0.219
Breach/Admin				0.037	0.019	0.097	0.205 ***
Sexual				-0.747 ***	-0.819 ***	-0.875 ***	-0.956 ***
Vehicle				-0.569 ***	-0.581 ***	-0.546 ***	-0.459 ***
Fraud				-0.035	-0.075	-0.026	0.001
Unknown				0.317	0.317	0.344	0.460 **
Property[a]							
Demographic Variables							
Age of First Admittance				-0.750 ***	-0.747 ***	-0.775 ***	-0.769 ***
History							
Violent	yes				-0.018	-0.004	-0.074
	no[a]						
Sexual	yes				0.123	0.109	0.118
	no[a]						
Escape	yes				0.584 ***	0.589 ***	0.410 ***
	no[a]						
Gender	Male					0.648 ***	0.609 ***
	Female[a]						
Ethnicity							
Native						0.328 ***	0.310 ***
Other						-0.208 *	-0.201 *
White [a]							
Intercept		-0.427 ***	-0.500 ***	11.796 ***	11.720 ***	11.540 ***	11.321 ***
Log Likelihood (chi sq)		-5428.0	-5436.9	-4540.9	-4516.4	-4474.7	-4498.1

[a] Reference group

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Data Source: British Columbia Research Information System (RIS).

increase in punishment (sentence length or length of admission) decrease recidivism?

Control variables were introduced to examine whether the effects of length of admission or sentence length can be explained by other factors. Model 3 introduces type of first offence and age at first admission variables with the length of admission. Model 4 further adds the history variables: violent, sexual, and escape; Model 5 further incorporates gender and ethnicity. Model 6 is the same as Model 5, except that sentence length is substituted for length of admission.

Models 1 and 2 were designed to determine if an increase in punishment (sentence length or length of admission) decreases recidivism. Both models reveal an inverse relationship between the number of days (for both sentence length and length of admission) and recidivism: as the number of days of punishment increases, the likelihood of re-offending decreases. However, this relationship is statistically significant only for length of admission, which is thus a better predictor of recidivism than sentence length.

As Model 5 evaluates the length of admission on recidivism, with all control variables included, it is preferred over Model 6, which employs sentence length as the measure of punishment. The results in Model 5 indicate that type of first offence (i.e., violent, sexual and vehicle) is statistically significant. Model 5 indicates that those who committed a violent first offence were 40 percent ($100[e^{-0.504} - 1]$) less likely to re-offend than those who committed property offences. Further, those who

committed sexual offences were 59 percent less likely to re-offend than those who committed property offences. Finally, the odds of those who committed vehicle-related offences were 42 percent less likely to re-offend than those who committed property offences. Based on these results, type of offence appears to influence the likelihood of recidivism.

Age at first admittance is also a statistically significant predictor for re-offending ($p < 0.01$). The younger juveniles are when they are first incarcerated, the more likely they are to re-offend.

Of the three history categories, only a history of escape is statistically significant ($p < 0.01$). Model 5 reveals that the odds of a juvenile with an escape history re-offending are 80 percent higher than those without this history.

Gender is also statistically significant ($p < 0.01$). The odds of juvenile males re-offending are approximately 90 percent higher than for juvenile females. Model 5 also indicates that Natives are 39 percent more likely to re-offend than Whites.

The model specifications in Tables 6 and 7 are the same as Table 5, except that Table 6 focuses exclusively on males and Table 7 on females. As in Table 5, Model 5 is preferred in both Tables 6 and 7.

Table 6 presents the results of the logistic regression of the male juvenile offender population. Again, there is support for the hypothesis that as the length of

Table 6. Logistic Coefficients For Regression of Juvenile recidivism: British Columbia Juvenile Males (Aged 12 - 18)

Variables		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Punishment							
Length of 1st Admission		-0.001 ***		-0.002 ***	-0.002 ***	-0.002 ***	
1st Sentence Length			-0.000				-0.000
Type of Offence							
Violent				-0.591 ***	-0.568 ***	-0.562 ***	-0.520 ***
Drug				0.077	0.088	0.107	0.167
Breach/Admin				0.103	0.085	0.083	0.203 ***
Sexual				-0.931 ***	-0.911 ***	-0.922 ***	-0.999 ***
Vehicle				-0.488 ***	-0.501 ***	-0.479 ***	-0.389 **
Fraud				-0.002	-0.052	-0.021	0.017
Unknown				0.307	0.303	0.328	0.453 **
Property[a]							
Demographic Variables							
Age of First Admittance				-0.829 ***	-0.825 ***	-0.827 ***	-0.819 ***
History							
Violent	yes				0.010	0.022	-0.055
	no[a]						
Sexual	yes				0.011	-0.025	-0.019
	no[a]						
Escape	yes				0.611 ***	0.607 ***	0.414 ***
	no[a]						
Ethnicity							
Native						0.302 ***	0.283 ***
Other						-0.146	-0.138
White [a]							
Intercept		-0.426 ***	-0.501 ***	13.127 ***	13.048 ***	13.032 ***	12.753 ***
Log Likelihood (chi sq)		-4812.4	-4820.4	-3921.1	-3898.5	-3888.6	-3911.3

[a] Reference group

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Data Source: British Columbia Research Information System (RIS).

admission increases, the risk of re-offending decreases. This relationship continues to be significant with the addition of control variables.

Similar to the combined male-female analysis, type of first offence is also statistically significant for male juvenile offenders. Again, similar to the overall findings, the types of first offences that are significant for males are violent, sexual, and vehicle-related. Male juvenile offenders who committed a violent first offence were 43 percent less likely to re-offend than males who committed a property crime. Also, juvenile males who committed sexual offences were 60 percent less likely to re-offend than males who committed property offences. Finally, the odds of re-offending by juvenile males who committed vehicle related offences were 38 percent less likely than by those males who committed property offences.

Age at first offence is also a statistically significant predictor for re-offending among male juvenile offenders. The results in Model 5 of Table 6 indicate that the younger males are when they first offend, the more likely they are to re-offend.

Of the three offender histories included in Table 6, again only a history of escape is statistically significant. The odds of males with an escape history re-offending are 83 percent greater than those without an escape history.

The final control variable, ethnicity, is also a statistically significant predictor of re-offending. Native male juvenile offenders are 35 percent more likely to re-offend than White males.

Table 7 presents the results for the juvenile female offender population. For females, the punishment indicators (sentence length and length of admission) are not statistically significant, i.e., neither the amount of time to which female juvenile offenders are sentenced, nor the actual time they are incarcerated affect the likelihood of re-offending.

Table 7 also shows that types of first offence are not statistically significant predictors of re-offending for females, although age at first arrest is ($p < 0.01$). The criminal history control variables also are not strong predictors of recidivism, although the odds of female juvenile offenders with escape histories re-offending were 53 percent greater than for those without escape histories.

Similar to the findings for males, ethnicity is statistically significant for female juvenile offenders. Native females are 57 percent more likely to re-offend than White female juvenile offenders.[15]

Tables 5, 6 and 7 indicate a significant gender difference in the deterrent effect that length of admission has on recidivism. As indicated in Table 6, there is support for the hypothesis that the greater the length of admission to custody, the less the likelihood of re-offending for juvenile males. However, length of admission is neither an effective nor significant deterrent for juvenile females.

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[15] The general finding of the Other category was that Others were found less likely to be re-offenders than Whites.

Table 7. Logistic Coefficients For Regression of Juvenile recidivism: British Columbia Juvenile Females (Aged 12 - 18)

Variables		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Punishment							
Length of 1st Admission		-0.002		-0.001	-0.001	-0.002	
1st Sentence Length			-0.001				-0.001
Type of Offence							
Violent				-0.229	-0.179	-0.150	-0.149
Drug				0.344	0.344	0.537	0.539
Breach/Admin				0.264	0.229	0.262	0.276
Sexual				1.468 *	0.922	0.995	0.997
Vehicle				-0.994	-1.017	-1.050	-1.025
Fraud				-0.076	-0.010	0.047	-0.013
Unknown				0.536	0.552	0.445	0.459
Property[a]							
Demographic Variables							
Age of First Admittance				-0.450 ***	-0.459 ***	-0.473 ***	-0.471 ***
History							
Violent	yes				-0.108	-0.081	-0.095
	no[a]						
Sexual	yes				0.542 *	0.454	0.473
	no[a]						
Escape	yes				0.444 *	0.427 *	0.376
	no[a]						
Ethnicity							
Native						0.452 ***	0.441 ***
Other						-1.141 **	-1.137 **
White [a]							
Intercept		-0.422 ***	-0.431 ***	6.471 ***	6.584 ***	6.703 ***	6.645 ***
Log Likelihood (chi sq)		-615.42	-615.54	-570.12	-566.84	-559.56	-560.23

[a] Reference group

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Data Source: British Columbia Research Information System (RIS).

Multinomial Logit Regression Results

The results displayed in the logistic regression tables (Tables 5, 6, and 7) reveal some insight into the dichotomous dependent variable of whether or not a juvenile offender is likely to re-offend. For the trichotomous measure of the dependent variable, a multinomial logit regression analysis was used. Tables 8, 9 and 10 present the multinomial logit regression models of recidivism of BC juveniles that accommodates all three options in the dependent variable: one-time only offenders, infrequent offenders (2 to 4 sentences) and chronic offenders (5 or more sentences). The multinomial logit tables reveal the likelihood that inmates will be infrequent or chronic offenders, compared to once only offenders. Males and females are modeled together in Table 8, and separately in Tables 9 and 10. The models in the multivariate regressions followed essentially the same structure as in Tables 5, 6, and 7.

Model 1 in Table 8 presents the multinomial logit regression models of juvenile recidivists on length of first admission. Length of admission reveals a statistically significant inverse relationship ($p < 0.01$) on recidivism. The greater the length of admission reduces the likelihood juveniles are to be infrequent or chronic offenders.

Model 2 examines sentence length as a possible deterrent for recidivism. Although it also indicates an inverse relationship on recidivism, it was not found to be

TABLE 8. Multinomial Logit Models of Recidivism of BC Juveniles (Aged 12 - 18)

	Total							
	Model 1		Model 2		Model 3		Model 4	
Variables	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once
Punishment								
Length of 1st Admission	-0.001 ***	-0.006 ***			-0.002 ***	-0.006 ***		
1st Sentence Length			1.95E-06	-0.006 ***			-9.13E-07	-0.005 ***
Type of Offence								
Violent					-0.365 ***	0.127	-0.370 ***	0.143
Drug					0.338 *	-0.181	0.347 *	-0.164
Breach/Admin.					0.246 ***	0.670 ***	0.302 ***	0.716 ***
Sexual					-0.661 ***	-1.052 *	-0.768 ***	-1.098 **
Vehicle					-0.398 ***	-0.244	-0.360 **	-0.230
Fraud					0.150	-0.278	0.135	-0.285
Unknown					0.507 ***	0.828 **	0.570 ***	0.796 **
Property[a]								
Demographic Variables								
Age at First Admittance					-0.711 ***	-1.561 ***	-0.703 ***	-1.546 ***
History								
Violent: yes					-0.016	0.207 ***	-0.047	0.187 **
no[a]								
Sexual: yes					0.047	0.112	0.050	0.122
no[a]								
Escape: yes					0.284 ***	0.459 ***	0.205 ***	0.376 ***
no[a]								

TABLE 8. Multinomial Logit Models of Recidivism of BC Juveniles (Aged 12 - 18)

	Total							
	Model 1		Model 2		Model 3		Model 4	
Variables	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once
Continued								
Gender								
Male					0.300 ***	0.580 ***	0.282 ***	0.558 ***
Female[a]								
Ethnicity								
Native					0.267 ***	0.553 ***	0.253 ***	0.549 ***
Other					-0.229 ***	-0.472 **	-0.219 ***	-0.484 **
White[a]								
Intercept	-0.5806 ***	-2.3121 ***	-0.6287 ***	-2.3029 ***	10.947 ***	21.766 ***	10.636 ***	21.373 ***
Log Likelihood (chi sq)	807.06		363.75**		6861.79		4903.4	

[a] Reference group

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Data Source: British Columbia Research Information System (RIS).

a statistically significant variable. Consequently, Model 3, which contains the impact of length of admission together with the control variables, is the preferred model.

The results in Model 3 indicate that length of admission continues to remain statistically significant and strong. When compared with property offences, those whose first offence was breach/administrative were more likely to be re-offenders. More specifically, compared with those who had property as their first offence, those who committed a breach/administrative offence are 28 percent more likely to be infrequent offenders and 95 percent more likely to be chronic offenders. These results indicate that breach/administrative offences are significant predictors of re-offending.

Age at first admittance to custody has a negative effect on recidivism. The younger juvenile offenders are when they are first admitted to secured custody, the more likely they are to re-offend. In the reverse, for every one year juvenile offenders increase in age before being admitted to secured custody the likelihood of them becoming infrequent offenders is reduced by 51 percent or chronic offenders by 79 percent.

Of the three offenders' criminal histories categories (violent, sexual, and escape), escape history is statistically significant. Compared with offenders without the escape history designation, those with an escape history were 33 percent more likely to be infrequent offenders and 58 percent more likely to be chronic offenders.

Gender is also a statistically significant predictor of re-offending; males are more likely to re-offend than females. Ethnicity was also found to be statistically significant. Specifically, Native juvenile offenders were 31 percent more likely to be infrequent offenders and 74 percent more likely to be chronic offenders than Whites.

Table 9 presents the multinomial logit models of juvenile male offenders. Again, length of admission yields a statistically significant inverse relationship ($p < 0.01$). Like length of admission, sentence length in Model 2 was found inversely related; as sentence length increased, the likelihood of re-offending decreased. But this relationship was not significant in all cases.

Length of admission remains statistically significant and strong ($p < 0.01$), even with the introduction of the control variables. The types of first offences are compared with property offences. Male juvenile offenders whose first offence was breach/administrative are 28 percent more likely to be infrequent offenders and 88 percent more likely to be chronic offenders than those whose first offence was property crimes.

Age at first admittance is a statistically significant predictor of re-offending ($p < 0.01$) and has a negative affect on re-offending. For every year increase in the age of first admittance, the odds of being an infrequent offender increases by 53 percent while the odds of being a chronic offender increases by 81 percent. In other

TABLE 9. Multinomial Logit Models of Recidivism of BC Juvenile Males (Aged 12 - 18)

		Males							
		Model 1		Model 2		Model 3		Model 4	
Variables		Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once
Punishment									
Length of 1st Admission		-0.001 **	-0.006 ***			-0.002 ***	-0.006 ***		
1st Sentence Length				2.15E-06	-0.006 ***			-9.67E-07	-0.005 ***
Type of Offence									
Violent						-0.399 ***	-0.024	-0.407 ***	-0.009
Drug						0.297	-0.077	0.306	-0.058
Breach/Admin.						0.249 ***	0.629 **	0.312 ***	0.682 ***
Sexual						-0.711 ***	-0.923	-0.822 ***	-0.972 *
Vehicle						-0.310 *	-0.252	-0.274 *	-0.241
Fraud						0.173	-0.323	0.163	-0.327
Unknown						0.499 **	0.890 **	0.565 ***	0.863 **
Property[a]									
Demographic Variables									
Age at First Admittance						-0.763 ***	-1.668 ***	-0.754 ***	-1.651 ***
History									
Violent:	yes					-0.003	0.244 ***	-0.038	0.222 ***
	no[a]								
Sexual:	yes					-0.010	-0.068	-0.008	-0.056
	no[a]								
Escape:	yes					0.294 ***	0.463 ***	0.208 ***	0.371 ***
	no[a]								

TABLE 9. Multinomial Logit Models of Recidivism of BC Juvenile Males (Aged 12 - 18)

	Males							
	Model 1		Model 2		Model 3		Model 4	
Variables	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once
Continued								
Ethnicity								
Native					0.232 ***	0.487 ***	0.218 ***	0.484 ***
Other					-0.184 **	-0.339	-0.173 **	-0.353
White[a]								
Intercept	-0.580 ***	-2.313 ***	-0.629 ***	-2.300 ***	12.062 ***	23.938 ***	11.703 ***	23.477 ***
Log Likelihood (chi sq)	800.14		364.55**		5693.28		3856.63	

[a] Reference group

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Data Source: British Columbia Research Information System (RIS).

words, the younger a male juvenile is when he commits his first crime, the more likely he is to re-offend.

For male juvenile offenders, certain criminal histories (violent, sexual and escape) are statistically significant predictors of recidivism. Of the three histories, escape is a statistically significant predictor of re-offending. Those who receive an escape history designation are more likely to re-offend both infrequently (34 percent) and chronically (59 percent). A history of violence is also a statistically significant predictor for male offenders; as those with violent histories are 28 percent more likely to be chronic offenders than those without the designation.

The final control variable in the model is ethnicity. Native juvenile males are more likely to re-offend than White juvenile males. Specifically, Native offenders were 26 percent more likely to be infrequent offenders and 63 percent more likely to be chronic offenders than Whites.

Table 10 presents the multinomial logit regression models of female juvenile offenders. Similar to Table 7, neither sentence length nor length of first admission are strong predictors of re-offending. However, a weak ($p < 0.10$) but significant inverse relationship appears for female offenders in relation to length of admission, which indicates that Model 3 is again the preferred model for the analysis.

Compared with those whose first offence is property related, those incarcerated for violent offences are more likely to be chronic offenders. In addition,

TABLE 10. Multinomial Logit Models of Recidivism of BC Juvenile Females (Aged 12 - 18)

		Females							
		Model 1		Model 2		Model 3		Model 4	
Variables		Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once
Punishment									
Length of 1st Admission		-0.001	-0.006 *			-0.001	-0.007 *		
1st Sentence Length				-0.001	-0.006			-0.000	-0.006
Type of Offence									
Violent						-0.354	3.253 ***	-0.355	3.273 ***
Drug						0.416	-3.459	0.417	-3.443
Breach/Admin.						0.102	3.328 ***	0.114	3.360 ***
Sexual						1.046	-2.611	1.049	-2.581
Vehicle						-1.419 *	2.575 ***	-1.396 *	2.598 ***
Fraud						-0.086	-2.942	-0.135	-3.068
Unknown						0.444	-3.063	0.458	-3.101
Property[a]									
Demographic Variables									
Age at First Admittance						-0.418 ***	-0.930 ***	-0.417 ***	-0.929 ***
History									
Violent:	yes					-0.048	0.036	-0.054	0.025
	no[a]								
Sexual:	yes					0.166	0.609 **	0.174	0.617 **
	no[a]								
Escape:	yes					0.195	0.404	0.173	0.366
	no[a]								

TABLE 10. Multinomial Logit Models of Recidivism of BC Juvenile Females (Aged 12 - 18)

	Females							
	Model 1		Model 2		Model 3		Model 4	
Variables	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once	Infrequent vs. Once	Chronic vs. Once
continued								
Ethnicity								
Native					0.616 ***	3.461	0.608 ***	3.447
Other					-0.804 **	-6.317	-0.799 **	-6.309
White[a]								
Intercept	-0.581 ***	-2.300 ***	-0.587 ***	-2.311 ***	6.016 ***	6.591 ***	5.941 ***	6.479 ***
Log Likelihood (chi sq)	235.66		121.94		1099.52		978.91	

[a] Reference group

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Data Source: British Columbia Research Information System (RIS).

those whose first offence is breach/administrative are more likely to be chronic offenders than those whose first offence is property related. But unlike the results found for the male population the type of offence variables was not found to be a good predictor of recidivism for the female population.

Age at first offence has a negative effect on re-offending. For every year increase in age of first admittance, the odds of being an infrequent offender increase by 34 percent and of being a chronic offender by 61 percent. Thus, the younger female offenders are when they first offend, the more likely they are to re-offend.

With regard to the history variables, contrary to the findings in Table 7, only a previous sexual history was a significant predictor of re-offending for females. Those with a sexual history designation were 84 percent more likely to re-offend than those without it.

Finally, ethnicity is a statistically significant predictor for female juvenile offenders; Native females were 85 percent more likely to be infrequent offenders than Whites.

Summary

Based on the overall results in the logistic regression and multinomial logit regression tables, the "deterrence hypothesis" appears to be supported. In both Tables 5 and 8, which include the total population of juvenile inmates in British Columbia,

there are statistically significant inverse relationships between length of first admission and recidivism: the longer the time spent in incarceration, the less likely juveniles will re-offend. However, upon conducting more detailed analyses based on gender, I found that this hypothesis holds only for *male* juveniles. Chapter 6 discusses the implications of this finding, together with an interpretation of the other results of my analyses.

Chapter Six

Discussion

The main objective of this study was to determine how punishment relates to the recidivism of juvenile male and female offenders. I considered deterrence theory, social control theory, differential association theory, and even bio-social theories in developing the hypothesis that punishment has a deterrent effect on recidivism.

This chapter contains two main sections. First, each hypothesis stemming from the theories of deviance discussed in Chapter 3 is evaluated in terms of the results from Chapter 5. Second, I discuss these results with respect to gender similarities and differences.

Assessing Theories of Deviance

The first hypothesis was based on bio-social theories of deviance, which propose that individuals deviate, not by choice, but because of certain biological or physiological factors, such as an extra "Y" chromosome or a hormone imbalance. My study did not have any means available to test the bio-social hypothesis. Even so, if punishment were to have no effect on re-offending, a potential explanation could possibly be derived from bio-social theories. Yet, because my results do indicate a

statistically significant relationship between punishment and re-offending for male juvenile offenders, the bio-social hypothesis must be rejected.

The hypothesis based on social learning or differential association theory proposes that over time people learn to be deviant from significant others who deviate; thus, the greater the exposure to deviant others (which would naturally occur in secured custody), the greater the likelihood of future offending. Accordingly, an increase in punishment should result in an increase in re-offending. However, the results of my study indicate that increased punishment (length of admission) actually decreases the number of future offences. Therefore, differential association theory is not supported.

The social control hypothesis proposes that the effects of punishment may be contingent on the strength of bonds or ties. Consequently, the deterrent effect should be more significant for those who are more strongly bonded. However, upon examining the only measure of social bonds (education) in my data set, it was found to be unusable. As a result, I could not test the social control hypothesis.

The final hypothesis in this thesis was based on deterrence theory. The deterrence hypothesis holds that an increase in punishment will decrease the probability of re-offending. Consistent with this hypothesis, my results indicate that punishment, as measured by length of first admission, is a significant deterrent to

re-offending. Consequently, the results outlined in Chapter Five support popular thinking about the causality of offending based on deterrence theory.

As general deterrence is intended to discourage people from offending in the first place, and the research subjects in this study all had at least one sentence to secured custody, general deterrence was obviously ineffective for this group. However, I did find support for specific deterrence theory, which proposes that "individuals who experience severe sanctions are more likely to refrain from future criminal behaviour than those experiencing a lesser sanction" (Dejong, 1997:561). An important feature of this proposition is that individuals are capable of making their own decisions, and thus become responsible for their actions.

Regarding my two measures of punishment, *perceived* punishment, (*i.e.*, sentence length), is less significant a deterrent than the *actual* punishment, (*i.e.*, length of admission). Length of admission was found to be a better measure of punishment than sentence length, as it measures the actual *time* an offender is in secured custody. Increasing the severity of punishment (*i.e.*, the number of days in secured custody) lowers the odds of an individual re-offending.

Other Main Findings

The principal finding of this study supports the "deterrence" hypothesis: an increase in punishment decreases the odds of recidivism in the total incarcerated

juvenile population. However, when the analysis is conducted separately for males and females, this finding does not apply to females. Neither sentence length nor length of admission are significantly related to recidivism for the female offender population. Consequently, my results reveal that punishment is a statistically significant deterrent for the male, but not female, population.

One possible reason for this difference is that the most effective deterrents for females may occur earlier in the judicial process than they do for men. Initial contact with police, experiencing the process of arrest, and having to go to court may deter all but the most chronic female offenders. If female offenders are deterred earlier in the criminal justice process, they may therefore be diverted before they graduate to committing serious crimes that result in secured custody sentencing. These factors may also account for the significantly lower percentage of female offenders who actually receive sentences of secured custody. Alternatively, as Kowalski and Caputo (1999) suggest, perhaps women are more bonded to society, so the embarrassment of being arrested is deterrent enough. Sobered by the judicial process, female one-time offenders may refrain from further criminal behaviour.

A related reason for gender differences in the deterrent effect of punishment upon recidivism is that incarceration itself may act as a sufficient deterrent for females. The actual length of time they are incarcerated may have no additional effect. Although incarceration is stressful for both male and female offenders,

emerging research suggests that the stresses and anxieties associated with custody may be substantially more severe for female offenders (Griffiths and Verdun-Jones, 1994:574). Females are found to experience a "distinctly different sort of stress" from males, such as that associated with separation from their children.

Another important finding in my research is that age at first admission was statistically significant in all models, for both male and female offenders. Tables 5 through 10 indicate that as the age at which offenders first receive a custodial sentence increases the chances of re-offending decrease. In other words, the younger juveniles are when first incarcerated, the greater the probability of re-offending. Figure 2 reveals that the largest proportion of one-time only offenders received custodial sentences when they were aged 17 and 18, compared to ages 15 and 16 for infrequent offenders and ages 14 and 15 for chronic offenders. This result is consistent with other studies, such as the Ministry of Attorney General's (2000) report on recidivism, which found that a significant proportion of chronic recidivists started their criminal careers at age 15. My findings suggest that the starting age may be nearer to 14.

Ethnicity is also statistically significant in determining the odds of recidivism. Overall, Native juvenile offenders have a higher probability of re-offending than Whites. This relationship is significant for both male and female populations. Studies such as Bridges and Steen's (1998) have suggested that racial bias in juvenile

courts may account for at least part of the ethnic differences in the severity of sentencing. Native Canadians may receive secured custody sentences more frequently than Whites for the same reasons that Black offenders receive longer sentences than Whites in the United States (Bridges and Steen, 1998:554). Bridges and Steen also found that court reports used in sentencing decisions consistently portray White and Black offenders differently, with Black offenders depicted as having greater chances of re-offending (Bridges and Steen, 1998:567).

Other possible reasons for ethnic disparity in sentencing include different access to resources such as legal aid, funding for psychiatric assessments, and alternative schools, all of which could influence court-sentencing outcomes (Bridges and Steen, 1998:555). Also, because socio-economic status (SES) is a significant predictor of recidivism (Wolfgang, *et al.*, 1972), and because measures were lacking in this study, ethnicity here could also partially reflect the effects of SES. Clearly, the relationship between ethnicity and SES should be studied in more detail.

The significance of type of first offence differs between male and female juvenile offenders. My logistic regression analysis revealed that females who were incarcerated for the first time on an offence of a sexual nature are more likely to re-offend than those incarcerated for property offences. However, when all the control variables were added into the model, no offence type, not even sexual, could be linked to female recidivism. For male offenders, violent, sexual, and vehicle types of

first offence are strongly related to recidivism even after all control variables were included in the model. My multinomial logit analysis also revealed that males who "messed" with the system (i.e., breach/administration offences) are more likely to re-offend than those who committed property crimes.

The escape history variable was found to be statistically significant for both the male and female juvenile offender population. Juvenile males with an escape history designation are more likely to re-offend than those without the designation. Although, this relationship also holds true for female juvenile offenders, the multinomial logit results indicate that this relationship is not statistically significant. In fact, the multinomial logit regression analysis results for females found that statistical significance appears only for those with a sexual history designation and the likelihood of them being a chronic offender.

The final chapter discusses possible policy implications, and how they may affect individuals or society. Data and other limitations of this paper are reviewed, and directions for future research discussed.

Chapter Seven

Conclusion

Analysis of the RIS data on juvenile offenders in British Columbia reveals that increased length of admission reduces the likelihood of re-offending, but only for males. For reasons that are beyond the scope of this thesis, it is evident that the length of admission to secured custody is a significant deterrent for re-offending to male, but not female, offenders. However, given that 89 percent of British Columbia's incarcerated young offenders born between 1964 and 1981 were male, and that length of admission appears to have had significant impact on their odds of re-offending, clearly incarceration works as a deterrent on the majority of young offenders.

This final chapter has two sections. First, it offers possible policy implications of my research, and second, it presents limitations of this study and provides possible directions for future research in the area of recidivism.

Policy Implications

Adult studies on recidivism have found that the younger offenders were when they first started their criminal histories, the more likely they were to re-offend. This pattern also holds true for the juvenile population. In fact, as this study shows, a large

percentage of chronic recidivists start their criminal careers between the ages of 14 and 15. Clearly the implications of these findings on policy should be to focus limited provincial government resources on preventative programs targeting this age group. One such example is the "scared straight" program introduced in the mid-1970s, in which a group of lifers at Rahway State Prison (New Jersey, USA) attempts to "deter or scare delinquency out of kids" (Finckenauer, 1982:68). Other less controversial programs, such as the Texas "Operation Outreach Program" or "Speak out Programs" that emphasize education through real life experiences to combat crime (rather than scare tactics) might also be appropriate for general deterrence (Texas Department of Criminal Justice). However, if general deterrence fails, courts and social agencies should not avoid harsh sentencing for fear of sending young offenders to "schools of crime," in that such sentences have clearly deterred a significant proportion of male juveniles in British Columbia from continuing in their criminal ways.

The gender difference in the deterrence effect of sentence length suggests yet another policy implication. As the deterrent effect of length of admission differs between male and female juveniles, clearly the formulation and design of gender-based deterrent methods and rehabilitative programs needs to be considered. However, as research in the area of juvenile recidivism is limited, and study by

gender even more sparse, more research in the area is definitely recommended before implementing any policy changes.

Analysis results also show that Natives are at greater risk of re-offending and re-incarceration than any other ethnic group. Although research is being conducted that focuses on the Native population, more is needed. Specifically, we need research on juvenile Native offenders to identify causes of Native recidivism with the aim of developing new policies and programs for this group.

Limitations and Future Research

The greatest limitation of this study is the lack of explanatory variables. As the RIS database was created to track the movement of offenders, it lacks many variables that could help to explain and predict recidivism. More specifically, the RIS database lacks dynamic variables, (for example, education), which would be extremely valuable as measures of offenders' ties to conventional society. Reprogramming the RIS database to include possible predictive variables could assist in the future design of effective deterrent programs.

Research could be done in cooperation with British Columbia's Ministry for Children and Families and the Ministry of Attorney General, and also with the Ministry of Education (MoE) and the Ministry of Health (MoH). The MoE could provide accurate and current educational information, and possible dynamic

predicator variables such as behaviour at and attitude toward school. The MoH might be able to provide possible biological or physiological variables for deviant behaviour. If the ultimate goal of the provincial government is to reduce or eliminate offender recidivism, all government bodies ought to consider working together to create solid solutions.

Unlike many studies on recidivism, my data source was not restricted to a specific city, program or social group. All juvenile offenders born between 1964 and 1981 who received a secured custody sentence in British Columbia were included in this analysis. Incorporating this advantage, it would be useful to replicate this study using similar *national* data. With national data, the issue of inter-provincial mobility would not arise, and possible regional differences could be examined. Also, given the addition of more dynamic variables, even more detailed analysis could be accomplished.

The most unexpected finding of this study is the significant gender difference in the effect that punishment has on the likelihood of future offending. Why does this gender difference exist? Should preventative or deterrent programs be customized by gender, rather than by age, or by both? Answers to these questions would contribute further to the study of recidivism, and, in fact, would expand the frontiers of recidivism research.

It is imperative that recidivism research continue, for although youth crime may be declining in quantity, it is growing in severity and violence. Reversing this trend should be a priority of social science researchers and government and judicial officials in the 21st Century.

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