RISK AND PROTECTIVE FACTORS: MALE YOUNG OFFENDERS
VERSUS MALE YOUTH IN SCHOOL

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ABSTRACT

A number of studies examine risk behaviours and risk and protective factors in young offender populations, others study these factors in school populations. Few studies compare a young offender population to youth in school. The present study compares participation in risk behaviours and health risk and protective factors in a population of male youth in custody centres in British Columbia with a matched sample of males in schools across British Columbia. Results from the univariate analyses comparing the two groups on each of the dichotomised independent variables indicate that the two groups of males differ significantly on each of the variables except those indicating emotional health status; parental employment; and family and school connectedness. Results from the logistic regression analysis indicate that the set of predictors reliably distinguish between males in custody and males in school. Results are discussed in the context of current research and policy concerns.
DEDICATION

As with all my accomplishments, of which there are few, this is because of my mom, and therefore, it is for my mom.
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INTRODUCTION

Developmentally, adolescence is a time of biological, social and psychological changes; adolescents are faced with a number of changes to their sense of self and to their relationships with others (Lerner & Galambos, 1998). For most youth, these changes are part of a positive adjustment to age-appropriate autonomy. Adolescence is also a time of experimentation and participation in a variety of activities, including risky behaviour. The types of potentially self-harming behaviours adolescents may engage in includes substance use, sex, fighting, carrying weapons, and delinquency. Although a majority of teens may experiment with some risky, potentially health-compromising behaviours, the majority of teens do not suffer negative outcomes.

Research has examined the question of why some adolescents engage in health-compromising behaviors, suffering morbidity as a result, whereas others do not. Long-term negative consequences to the health and well-being of adolescents depends on the degree and type of involvement in risky behaviors and are more likely when participation in these behaviors begins early, continues beyond experimentation, and occurs in the context of a risk-behaviour lifestyle; that is, continuing engagement in multiple or very serious problem behaviors and a set of close friends who engage in these same activities (Lerner & Galambos, 1998; Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998). Furthermore, the likelihood of negative health and social outcomes depends on the presence of both risk and protective factors (Resnick et al., 1997).
Research identifies various risk and protective factors associated with a number of negative outcomes, including the outcome of interest in the present study: delinquency. However, there is little research that directly compares large groups of serious young offenders and youth in school. Existing research uses various terms for the variables examined in the present study; for example, in some studies the variables are “factors” or “predictors” that lead to the outcome of interest. The present study is not longitudinal, therefore, the variables examined may not have predated the delinquent behaviour of the young offenders. The purpose of this study is to examine the variables, including participation in risk behaviors, that are associated with serious delinquency in a group of male adolescents. As many of the variables have been found in other research to be risk or protective factors with respect to delinquency, the present study also refers to them as such, although the variables were all measured at the same time and no assumptions were made regarding causation.

Factors Associated with Delinquency

Compas, Hinden, and Gerhardt (1995) define risk factors as characteristics of the person or the environment that increase the probability of negative outcomes. Protective factors, in turn, are assumed to affect sources of risk such that the probability of maladaptive outcomes is reduced (Compas et al.). Resilience, a positive outcome despite the presence of risk factors and participation in risk behaviors, represents an interaction of the risk and protective factors within the individual and those within the many levels of the individual’s environment (Blum, 1998).
There are relatively few studies that have explored risk and protective factors in serious young offenders compared with non-offenders (Bliesener & Losel, 1992). Research with youth already at risk, such as high school dropouts or young offenders, is valuable because these youth are likely to be engaging in health-compromising behaviours, such as substance use, to a greater extent than high-school students (Swaim, Bates & Chavez, 1998; Donovan & Jessor, 1985). Given their higher rates of risk behaviours, it is important to determine whether or not the risk and protective factors of high-risk youth differ from those of youth in school, as the findings will have implications for prevention and intervention programs.

Cross-sectional and longitudinal studies have identified a number of variables correlated with delinquency, including individual (e.g., the inability to delay gratification), childrearing (e.g., discipline techniques and supervision), parental characteristics (e.g., family communication, parents' happiness), and socio-economic status (e.g., poverty, bad neighbourhood). As Repucci, Fried, and Schmidt (2002) caution, however, although there are identifiable risk factors that increase the risk of delinquency, not all youth with these risk factors become delinquent. What is generally accepted, however, is that the more risk factors, without protective factors, experienced by a youth, the greater the risk for delinquent behaviour (Repucci, et al., 2002).

Two of the most comprehensive longitudinal studies on the precursors to delinquent behaviour are the Cambridge Study in Delinquent Development and the Pittsburgh Youth Study (Farrington & Loeber, 1999). Both studies were prospective longitudinal surveys of the development of offending, mental health problems, and drug use in samples of inner-city boys. The Cambridge project began with 411 boys, aged eight to nine years old. The researchers collected data from interviews conducted every
three years until the participants were 32 years old. The sample for the Pittsburgh study was approximately 500 boys in each of Grades 1, 4 and 7 (mean ages were 7.4, 10.7 and 13.8 years, respectively). For participants in each grade, 250 were the most antisocial, based on initial screening and 250 were randomly selected from the rest of the initial sample. Data for the study were collected at regular intervals over a number of years: for the youngest sample from age 7 to 20; for the middle sample from ages 10 to 13; and, for the oldest sample from ages 13 to 25.5.

The Cambridge study tested the participants in school on individual characteristics (e.g., intelligence, impulsivity) and included interviews on living circumstances, employment, relationships with females, drinking and fighting and delinquency. Researchers also interviewed participants' parents and teachers and conducted criminal record searches for the participants, their parents, siblings, and later for their wives and common law partners. Similarly, the Pittsburgh study gathered information on the participants' antisocial and prosocial behaviour from the participants, their caretakers and teachers.

To identify predictors of delinquency, the researchers in both studies measured many hypothesised explanatory variables at the early assessments and defined outcome in terms of any convictions or self-reported offending behaviour as adolescents. Using hierarchical regression analyses, the following variables significantly increased the odds of delinquency in both the London and the Pittsburgh samples: high impulsivity, poor concentration, low achievement in school, poor supervision by parents, low family income, separation from a parent, low mother education (predictive in the Pittsburgh sample, no comparable variable in the Cambridge study), unemployed mother, and conflict between parents. Although the researchers found that the individual difference
variables were the best predictors of delinquency. Parental and childrearing variables (i.e., childrearing, socio-economic status, and parental characteristics) were the best predictors of the individual predictors. For example, the individual characteristic of "high daring" in the London sample and "lacks guilt" in the Pittsburgh sample were the best predictors of delinquency. The best predictors of a youth having "high daring" were poor supervision, harsh parental discipline and the boy spending leisure time outside the home. The best predictors of a boy lacking guilt in the Pittsburgh study were poor family communication, unhappy parents, and maternal physical punishment. The researchers suggest that these results indicate a model with pathways to each level of the predictors, proximal to distal.

Using data from the Pittsburgh study, Loeber, Farrington, Stouthamer-Loeber, and Van Kammen (1998) separately analysed boys from the middle and oldest samples who had committed the most serious crimes during their lifetime (approximately 25% of each of the samples) and the boys from the youngest sample who had committed moderately or seriously delinquent acts (27.9% of the youngest sample). These researchers found that a number of risk factors were related to delinquency, including: boys’ low participation in organizations, African American ethnicity, having a young mother, and living in a bad neighbourhood.

Similarly, in another longitudinal study, Born, Chevalier and Humblet (1997) examined participation in delinquent behaviours and the factors that predict continued delinquency or an increase or decrease in delinquency between childhood and adolescence. This project included 363 youth (79.6% boys, 20.4% girls) ages 12 to 18 in institutions for delinquent youth across Belgium between 1987 and 1992. Data were collected in 1995 and included information from childhood to 12 years of age; 12 months
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to four months immediately before placement; and, the time spent in the institution. For those participants in the institution for more than one year, information was included from one year after placement until after the participants turned 18 years old.

Based on information collected during the participants' childhoods, risk factors included living in a family with financial difficulties and/or being of low socio-economic status, growing up in an environment that favoured delinquency and deviant behaviour, or having family members with delinquent behaviours.

The researchers in this study were particularly interested in the “resilient” youth; those individuals who did not participate in risk or delinquent behaviours, despite having been exposed to risk factors or predictors. In this study, however, all of the youth could be considered “non-resilient” as all had committed at least one delinquent act resulting in an institutional placement. These researchers, therefore, defined resilience as lower severity delinquency or transitory delinquency. For this study, the researchers classified a participant as resilient if the youth had been exposed to cumulative risk but had committed less than three types of low gravity criminal acts; had committed less than three acts of the same type of low gravity criminal acts; had committed only one (or no) act of average gravity in addition to less than three acts of low severity; or, the youth had never committed one high gravity criminal act. Furthermore, the youth had to have continued to qualify with these conditions after leaving the institution.

The results of this study demonstrated that the resilient youth were different from the non-resilient youth as being more mature and less aggressive and better able to establish steady relationships with adults, most frequently a parent of the same sex or an adult non-member of the family. Furthermore, the resilient youth were more likely to have had emotional ties with teachers and other positive relationships outside of the
Male young offenders versus males in school family. The resilient youth were also more able to accept the rules and regimen of the institution and use their time effectively such that they tended to be more satisfied at the end of the placement, with the educational personnel also being more satisfied with their work.

**Risk and Protective Factors**

Despite the amount of research on risk and protective factors, reconciling the findings of the various studies is difficult for a number of reasons. Generally, the literature on risk and resilience differentiates between "risk" and "risk-taking behaviors," the former referring to factors that limit the likelihood of successful development and the latter to the behaviors themselves. However, this distinction is often blurred depending on how the researcher operationalizes the variables. Furthermore, the same variable could be considered as either a risk factor or an outcome, depending on the perspective of the researcher and the sample being studied. For example, substance use is a risk factor for lower achievement at school and increased aggression (Blum, 1998). Substance use, however, could also be considered an outcome, affected by the presence or absence of factors such as poverty, parental substance use, and negative life events.

The current study examines risk and protective factors and participation in risk behaviors within a group of males in custody and a group of males in school. The variables I will examine have been identified in the empirical literature as associated with delinquency and with negative mental and physical health outcomes in school samples and high-risk samples of youth. This is not a longitudinal study, rather the present study
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is a case-control (i.e., known groups, criterion groups) design, and the purpose is to explore individual and environmental risk behaviors and risk and protective factors within two groups of youth.¹

**Individual Characteristics and Risk Behaviours**

There are generally three major categories of risk behaviors in late childhood and adolescence: 1) substance use; 2) unsafe sex and teenage pregnancy; and, 3) delinquency, crime, and violence (Dryfoos, 1990). Furthermore, there are several risk and protective factors in the individual that may affect his or her involvement in risk behaviors.

**Substance Use**

Substance use among adolescents is not uncommon, although the majority of youth may do no more than experiment. Gabriel, Hopson, Haskins and Powell (1996) asked youth (95% African American) in Grades 7, 8 and 9 a number of questions on alcohol and drug use and found that 30% had at least one full drink of alcohol in the previous month and 15% had drunk heavily (five or more drinks at the same time). Furthermore, 18% had used marijuana in the past month. Recent results from The McCreary Centre Society (1999) indicate that in British Columbia, 63% of youth in Grades 7 to 12 had at least one drink of alcohol in the previous month, with 44% of those who have had a drink reporting that they engaged in episodes of binge drinking (five or more drinks of alcohol within a couple of hours) in the previous month. As for drug use, 40% of the youth in school had tried marijuana at least once with 13%

¹ Although the variables were measured at the same time as the behaviours, I refer to them as 'predictors.'
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reporting having used it more than 40 times; and, 76% had tried at least one of the following, at least once: cocaine, hallucinogens, mushrooms, inhalants, amphetamines or heroin (The McCreary Centre Society, 1999).

Dolan, Holloway, Bailey, and Smith (1999), reported that of their sample of 192 young offenders listed for court appearances (mean age = 15.5 years), 41.6% admitted to using either alcohol or illicit drugs (i.e., solvents, cannabis and other drugs). Specifically, of those youth who received custodial remands, (n = 41) 46.3% used alcohol weekly; 12.2% used solvents weekly; 51.2% used cannabis weekly; and, 24.3% used other drugs weekly. The custody sample’s use was significantly different than the non-custodial sample’s use for everything but the “other drug use” (which included ecstasy, opiates or hallucinogens)

Hagell and Newburn (1996) found in their sample of re-offenders outside of custody that only 4 of the 74 interviewed (5.4%) had never tried alcohol (compared to 14% of school children). Three quarters drank regularly, compared to 30% of adolescents in schools reporting being weekly drinkers; 100% had tried cannabis; 52.7% had tried hallucinogens; 31.1% had tried solvents; 43.2% had tried amphetamines; 21.6% had tried ecstasy; 14.9% cocaine (including crack); and, 6.8% had tried heroin (100% had tried any drug).

Zhang, Wieczorek, and Welte (1997) examined the impact of early age of first use of drugs and alcohol on delinquency. In their sample of 625 male youth between the ages of 16 and 19, results from a regression analysis indicated that substance users who began at an early age were more likely to continue drug and alcohol use, to be associated with delinquent peers and to participate in deviant activities (e.g. go to nightclubs or strip joints, watch X-rated movies, go to the horse-racing track). Age of
onset of initiation with substance use did not have a significant effect on participation in delinquent activities, although association with delinquent peers and participation in deviant activities were significantly and directly related to minor delinquency (e.g., unauthorized credit card use, disorderly conduct, theft of less than $10.00 from home or work); general delinquency (e.g., possession of stolen property, carry a concealed weapon, theft of less than $100 and simple assault); and, to Federal Bureau of Investigation index offences (e.g., aggravated assault, sexual assault, and robbery). Although results indicated that early age of onset of delinquency was also a significant predictor of associating with delinquent peers, alcohol use and deviant activities, early age of initiation into substance use was a stronger predictor than onset of delinquency.

**Emotional Health Status**

Emotional distress and suicidal tendencies have obvious direct implications for health and functioning, but may also result in higher involvement in other risk behaviors including substance use and violence or aggression (Kendall, Andre, Pease, & Boulton, 1992; Biggam & Power, 1997). Attempted and completed suicide is a behavior often associated with emotional distress. Attempting suicide is a risk factor for completed suicide and may be an indication of other health problems including substance use (Putnins, 1995), depression, or adjustment and stress reactions (Page, 1996). Importantly, findings suggest that most high school students have thought about suicide and for about 25% suicide is a serious concern (Smith & Crawford, 1986).
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Abuse and Victimization

A history of abuse is associated with a range of risk behaviors (Dembo, et al., 1992) although research indicates that child abuse does not result in the same consequences for each victim (Kendall, et al., 1992; Kendall-Tackett, Williams, & Finkelhor, 1993). There is a growing body of research linking physical and sexual abuse of adolescents as well as less severe forms of maltreatment (e.g., parental rejection, verbal and emotional abuse) to violence, theft, and drug use (Brezina, 1998), running away from home and risk of arrest (Kaufman & Widom, 1999). Generally, child maltreatment has negative effects on a variety of areas of development including school functioning, social competence, self-perceptions, relationships with others, and emotional well-being (Egeland, 1997).

Sexual Behavior

Risks associated with unsafe sexual practices include an increased risk of sexually transmitted diseases and teenage pregnancy (Sells & Blum, 1996). Stallard, Thomason, and Churchyard (2003) in their community-based sample of 41 young offenders found that 63% reported having had a sexual relationship. Of these 73% had unprotected sexual intercourse, with 64% reporting unprotected intercourse on more than one occasion and 25% reporting concerns about their sexual health. Early sexual activity has also been associated with violent and aggressive adolescent behavior (Dryfoos, 1990).
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Religiosity

Much research has been conducted on the relation between religiosity and risk behaviors providing support for the general view that the relation is inverse. Cochran, Wood, and Arneklev (1994) investigated whether or not the relation between religiosity and self-reported delinquency remained after controlling for other related variables, including impulsivity and sensation-seeking. With their sample of students in Grades 9 to 12, the researchers found that the religiosity variables had no effect on any of the types of delinquency examined when other variables were added to the model. However, religious participation and religious salience were strong, significant predictors of alcohol and tobacco use.

Benda (1995) examined the relation between religiosity and several forms of delinquency in a sample of high-school students in Grades 9 to 12. Religiosity was measured with eight items, including church attendance, time in prayer, and level of involvement in church. These researchers found that when the demographic variables were controlled, religiosity was moderately inversely related to marijuana and alcohol use, status offences and property crimes, but was unrelated to use of amphetamines and to crimes against the person.

Johnson, Jang, Larson, and De Li (2001) found with their sample of 1,725 youth aged 11 to 17 that the negative, direct effects of religiosity on delinquency remained significant when intervening variables (e.g., beliefs, delinquent peers) and sociodemographic variables were controlled.
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**Family Context**

The most fundamental social factors that influence adolescent health-risk behavior are the social contexts in which youth are embedded, with their family and school contexts being the most crucial (Resnick et al., 1997). Whereas family disruption and anti-social peer influence can be risk factors for involvement in substance use, delinquency, and emotional distress, feeling connected to school and family may diminish the likelihood of engaging in risk behaviors (Urzúa, 1993; Resnick et al., 1997).

One possible indicator of family disruption is low socio-economic status, as indicated by poorly educated or unemployed parents (Lerner & Galambos, 1998). Specifically, chronic poverty during childhood is associated with early school failure, unemployability, violence, and feelings of hopelessness and despair (Lerner & Galambos, 1998). Other studies have found a significant relation between employment problems in parents and delinquency in their children (Farnworth, Thornberry, Krohn, & Lizotte, 1994).

Despite poverty and other family disruption, many youth overcome these obstacles and develop in healthy and productive ways (Garmezy & Masten, 1986). Family **connectedness** as a scale includes a number of variables including closeness with parent (either mother or father, biological or adoptive), feeling like the parent cares about the youth, and participation in family activities (Resnick et al., 1997). Other researchers have entered similar variables as individual factors rather than as a “family connectedness” scale as used by Resnick and colleagues. For example, Loeber, Farrington, Stouthamer-Loeber, Moffitt, and Caspi (1998) found that poor supervision by a parent was the best explanatory variable for delinquency and increased the risk for
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Delinquency by a factor of 2.6 for the oldest sample, but less for the other samples. The same researchers found that the next highest risk factor was poor communication between the male adolescent and parent (Loeber et al., 1998).

Hagell and Newburn (1996) interviewed 74 youth (66 boys and 8 girls) between the ages of 11 and 18 at the time of their arrest, who appeared three or more times on police arrest records for one year, in and around London England. Interviewees generally reported a significant amount of disruption in their living circumstances with high levels of contact with social services: 7% had been in foster care and 36% had been in a children’s home. Half (49%) reported they had run away from home for at least one night, and often for much longer.

However, regardless of whether or not the youth were living with their mothers, 86% of the youth reported they either “got on very well or fairly well” with their mothers, the other 14% reported that they either “got on badly with her” or they did not have enough contact with her to measure the quality of the relationship. Of the 55 youth with fathers, 76% reported satisfactory relationships. The authors noted that the above could be surprising given that these youth were often in trouble but thought it might be due to a reluctance to betray their parents to strangers.

**School & Community**

Factors that are negatively associated with risk behaviors are school achievement, having higher educational expectations (Swaim, et al., 1998, Farrington & Loeber, 1999), and having social support within the school (e.g., from teachers, Lerner & Galambos, 1998). Educational problems, such as truancy and disruptive behavior, may be an important element in young offenders’ continued involvement in criminal activity.
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and adds to the general disadvantages experienced by the majority of young offenders (Ball & Connolly, 2000).

Experiences at school and education can affect antisocial behavior in a number of ways. Attendance at school enforces some level of supervision on youth and separates those who are at risk for antisocial behaviors from antisocial peers who are more likely to not be at school (Hansen, 2003). But not all youth appreciate the benefits of school, particularly in the absence of a role model to highlight the importance of education. As a result, many youth may skip school or drop-out to avoid what for them is an unpleasant experience because they have difficulty with the curriculum, other students or the teachers.

Hansen (2003) found with her sample of 14 to 25 year-olds in England and Wales, that generally, at age 16, a greater percentage of youth who dropped out of school were involved in more types of crimes than were youth who remained in school. After controlling for other explanatory variables including race, family commitment, family income level, and conditions in the economy such as unemployment rates, wage levels and inequality, the differences between the two groups diminished and for some offence types and ages, the differences disappeared completely. However, for all offence types, school variables then family variables followed by individual variables accounted for the variance between the two groups of youth. Therefore, although dropping out of school alone did not account for the different types of crimes youth tended to commit, variables such as whether or not the youth had been expelled or suspended from school and skipped school or was truant did affect the offending patterns of this sample of youth.
Recreational Activities

Participation in leisure activities may decrease antisocial behavior by structuring the youth's time; offering adult and peer role models; and, by building skills and interest (Mahoney & Stattin, 2000). Osgood, Wilson, O'Malley, Bachman, and Johnston (1996) found that participation in unstructured leisure activities with peers, in the absence of authority figures was significantly associated with criminal behavior, heavy alcohol use, use of marijuana and other illicit drugs.

Jones and Offord (1989) found that participation in structured community activities (i.e., organized activities supervised by adults) resulted in lower rates of aggression and antisocial behavior among the children aged 5 to 15 over the 4 years of data collection. Similarly, in a sample of Grade 8 students, Mahoney and Stattin (2000) found a significant main effect for structured activity as both boys and girls participating in structured activities reported low involvement in antisocial behaviors.

In a group of adolescents with multiple adjustment problems, participation in extracurricular activity resulted in a significantly decreased likelihood of dropping out of school, for those most at risk of dropping out, and for being arrested for criminal behavior (Mahoney, 2000). Hoge, Andrews, and Leschied (1996) found that effective use of leisure time is one factor that protects young offenders from engaging in criminal activities. However, research indicates that young offenders tend to spend the majority of their time participating in passive activities (e.g., watching television, talking, listening to music) and self-care activities (e.g., smoking, drinking, eating or resting) and do not engage in many productive activities like work or education, or in achievement leisure
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activities (e.g., sports, music lessons, homework, etc.) that may contribute to mental health and well-being (Farnworth, 1999).

The Present Study

Although there is strong evidence for the coexistence of health-compromising behaviors among different groups of youth, there are few studies that directly compare groups of young offenders versus non-offending youths (Bliesener & Lösel, 1992). Another limitation with the current body of research is that most studies include relatively small samples of young offenders, which makes it difficult to analyze the factors associated with serious delinquency, a relatively low occurring outcome (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998). The current study will add to existing research by conducting multivariate analyses of a relatively large number of risk and protective factors and risk behaviors by comparing relatively large samples of male youth in school and male young offenders in custody on the presence or absence of risk and protective factors and their recent participation in risk behaviors.
METHOD

The current study involves analysis of data collected by the McCreary Centre Society using the Adolescent Health Survey (AHS), a standardized survey, administered to students in Grades 7 to 12 throughout the province of British Columbia (The McCreary Centre Society, 1999). A similar AHS was later administered to young offender in custody centers. Because risk and protective factors may not operate uniformly across levels of delinquency (Stouthamer-Loeber et al., 1993; Bender & Lösel, 1997), the current study will compare serious young offenders (i.e., those in custody centers) with non-offenders (i.e., males in schools) and does not include less serious offenders.

Participants

Males in School

The sampling frame for the AHS included all public and independent schools in British Columbia that had students in Grades 7 to 12. The province was stratified by region, school district and grade level with classrooms, rather than individual students, being the sampling unit. This approach meant that all students within the region had an equal probability of being in a classroom randomly selected for participation in the AHS (The McCreary Centre Society, 2002). Forty-three of the 59 provincial school districts, containing 69% of all students enrolled in schools in the province, agreed to allow surveying in selected schools. The final sample was 25,838 students from 407 schools.
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the overall response rate for the province was 70% (The McCreary Centre Society, 1999). A total of 12,206 male students (48%) in Grades 7 to 12 completed the survey.

Young Offenders

In 2000/2001 there was a monthly average of 290 youth in custody centres in British Columbia and 3,200 youth on probation (Ministry of Children and Family Development, 2001). The present study included all of British Columbia's nine youth custody centres, including both secure and open facilities. The centres are located in Burnaby, Maple Ridge, Chilliwack, Kamloops, Campbell River, Prince George and Victoria (see Appendix A for a description of the custody centres). All youth who were serving sentences or were remanded in the nine custodial facilities between May and July of 2000 were asked to participate in the study. The sample of young offenders would be considered serious offenders because although a number of the youth (23.3%) are in remand awaiting trial or sentencing, the majority are serving a custody sentence (76.7%) and repeat offenders, those convicted on multiple charges and those with previous custody dispositions are the most likely to receive a period of custody (Statistics Canada, 2000).

The overall response rate for youth in custody was 88%, ranging from 72% to 100% among the various facilities (The McCreary Centre Society, 2001). Most of the variation in response rates was due to scheduling conflicts so research assistants revisited several of the centres to ensure that all youth who wanted to participate were given an opportunity to do so. A total of 193 males and 50 females between the ages of...
12 and 19 completed the young offender survey. Given the relatively small number of females, the present study includes analyses on males.

I received ethics approval from the Simon Fraser University Research and Ethics Committee. For the present study, as I was conducting secondary analyses on an existing database, the ethical concerns were not the same as those for research with human subjects. Of particular ethical concern with the present study was that although all the participants gave consent to the original projects, they did not explicitly consent to my use of the information they provided. This concern is alleviated, however, by the fact that the research I conducted was similar to the original research. Furthermore, all analyses, both for the original research and my own, were conducted on group data, rather than individual questionnaires, thereby assuring the confidentiality and privacy of the individual responses.

**Matching Criteria**

I matched the two samples on age, ethnicity (Aboriginal or not) and region. Matching provides confidence that differences in outcomes detected between the two groups of males are not due to differences in the matching criteria (Gabriel et al., 1996). The average age of the male youth in school was 14.8 with 6.3% being Aboriginal. The average age of the male youth in custody was 16.6 with 38.3% reporting Aboriginal status. As the sample of males in custody was older, with a greater proportion being Aboriginal than the males in school, these variables were controlled. In order to match on the three variables of interest, I divided the final sample of 193 males in custody first into their region (location of the custody center), then on ethnicity (Aboriginal or not) and
Male young offenders versus males in school 21

Finally on age. Using a random number table I selected males within the 12,206 school sample that matched a male in custody on the variables of interest.

For each of the 193 males in custody centers I was able to match on all three variables except for four, 18-year-old Aboriginal males in a Burnaby custody center where I randomly selected three 18-year-old Aboriginal males in schools in the South Fraser Valley as there was only one 18-year-old Aboriginal male in school in Burnaby. Similarly, for the 19 or older Aboriginal male in a custody center in Mission, I randomly selected from the 18-year-old Aboriginal males in schools in Mission as there were not any older Aboriginal males in schools in that region (see Appendix B).

Given the above matching criteria, the final sample for this study consisted of 386 males aged 13 to 19\(^3\), with 193 males in school (\(M = 16.56\) years; SD = 1.19) and 193 males in custody centers (\(M = 16.57\) years; SD = 1.19). As the two groups of males were matched on age, the difference is not significant, \(F(1, 384) = 0.002, p = .966\) (see Table 1).

\(^3\) The oldest category on the AHS for age was "19 or older". The twelve males who selected this category were recoded as being 19 years old for analyses.
Table 1: Age and ethnicity of participants by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Age</th>
<th>Aboriginal</th>
<th>Non-Aboriginal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission</td>
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<td></td>
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<td>2</td>
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<tr>
<td></td>
<td>Sub-total</td>
<td>6</td>
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<td>Burnaby</td>
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<td>18</td>
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<td>6</td>
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<td>19 and older</td>
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<td>0</td>
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<td>Sub-total</td>
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<td>19 and older</td>
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<td>19 and older</td>
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<tr>
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<td>19 and older</td>
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</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td>12</td>
<td>16</td>
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</tbody>
</table>
Male young offenders versus males in school 23

The table below shows the distribution of Aboriginal and Non-Aboriginal youth by age in Chilliwack.

<table>
<thead>
<tr>
<th>Region</th>
<th>Age</th>
<th>Aboriginal</th>
<th>Non-Aboriginal</th>
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<tr>
<td>Chilliwack</td>
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<tr>
<td></td>
<td>18</td>
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<td>6</td>
</tr>
<tr>
<td></td>
<td>19 and older</td>
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<td>0</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td></td>
<td><strong>14</strong></td>
<td><strong>28</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>148</strong></td>
<td><strong>238</strong></td>
</tr>
</tbody>
</table>

**Procedure**

Trained research assistants administered the surveys in the school and in the custody centers. For the school sample, local public health nurses administered the surveys during school hours; for the custody sample, administrators were research assistants employed by The McCreary Centre Society, who traveled across the province to all the custody centers. Participation in the survey was voluntary and anonymous and youth were assured of the confidentiality of their answers; the youth sealed their completed questionnaires in envelopes that were then collected by the research assistants and returned to The McCreary Centre Society, unopened. All youth were assured that neither school staff (for youth in school) nor the custody center staff or ministry officials (for youth in custody) would have access to the questionnaires.

For youth in school, each school district arranged for parent’s consent. For youth in the custody center, youth provided their own consent. The research assistants who administered the survey in youth custody centers emphasized that participation was voluntary and that there would not be any negative consequences if they chose not to participate. Youth in custody centers were given a small remuneration for their time, either $5 or snacks, depending on the preference of each custody center director.
Male young offenders versus males in school 24

**Measures**

The AHS is a self-completed, paper-and-pencil questionnaire that most youth are able to complete in an hour. For administration in custody centers, to overcome potential literacy problems, the research assistant read aloud the survey questions and the answer categories, while the youth marked their answers privately.

The AHS asks questions on a broad range of health-related behaviors including: weight and appearance; exercise and diet; drug, alcohol and tobacco use; sexual activities; injuries; volunteer activities; perceptions of safety in school and in the community; knowledge about the prevention of sexually transmitted diseases; and, weapon carrying, victimization and involvement in fighting. All youth answered similar, but not identical, questions on each measure as some questions were changed to reflect the fact that the youth in custody were in a contained facility without the opportunity to participate in certain activities. For example, questions about recreational activities, sexual behavior and substance use asked the youth in custody to respond based on a period of time before he entered the facility.

Analyses were conducted to compare youth in school and youth in custody centers on a number of different measures (see Appendix C for the list of questions as they appeared on the questionnaires). The original questions included a number of answer categories. For the purposes of the present study, answers were collapsed into two possible options, the scales were also re-coded into dichotomized variables. Although dichotomizing variables risks misrepresenting the interaction with the full-scaled variables, there are a number of advantages particularly as some variables are
Nonlinearly related to delinquency, with an increase in delinquency in the most extreme categories (Farrington & Loeber, 1999).

**Individual Characteristics and Behaviors**

**Substance use.** Youth were asked a number of questions regarding their recent use of cigarettes, alcohol, marijuana, and a number of hard drugs. For age of initiation into smoking, drinking alcohol, and trying marijuana, youth were coded as either 12 or younger or 13 and older.

For their smoking behavior, youth were classified as either smokers or non-smokers based on their answers to four questions. "Non-smokers" indicated that they had never smoked a whole cigarette. "Smokers" included experimental smokers (smoked a whole cigarette but had smoked less than 100 cigarettes in their life); occasional smokers (had smoked at least 100 cigarettes in their life, one to thirty days a month, but indicated they smoked "occasionally"); former smokers (had smoked at least 100 cigarettes in their life, but had not smoked recently); and, everyday smokers (had smoked at least 100 cigarettes in their life, and recently smoked everyday).

Alcohol use was assessed by asking if the youth had at least one drink of alcohol on 100 or more days. Marijuana use was assessed by grouping youth according to whether or not they had used marijuana more than 100 times during their lifetime.

Hard drug use was assessed by collapsing each youth's response into whether or not he had ever used at least one of the following drugs at least one time: Cocaine, hallucinogens, mushrooms, inhalants, amphetamines, heroin, steroids, and injecting drugs, or taking prescription pills without a doctor's consent.
**Emotional health status.** The emotional distress scale of the AHS includes five questions that ask about how often the youth needs or likes to have time by themselves; the amount of stress or pressure in the past 30 days; the frequency in the last 30 days of being bothered by illness, physical problems, pains or fears about his health; and of being bothered by feelings of nervousness, sadness and hopelessness.

The items with a response indicating high frequency of health concerns or stress were summed to yield scores ranging from 0 to 5. Low scores indicated low emotional distress, and high scores indicating severe emotional distress. The internal consistency reliability of the scale was adequate for the custody sample ($\alpha = .81$) and for the school sample ($\alpha = .77$).

Youth were also asked how often in the past six months they had experienced the following emotional health concerns: feeling low or depressed, being in a bad mood, feeling nervous or uneasy, and having difficulty in getting to sleep. These items were summed and youth were divided into those who had had one or more emotional health concerns once or more times a week, and those who had less frequent concerns.

Two questions asked youth about suicide and suicidal ideation: Whether or not the youth considered attempting suicide in the past twelve months, and whether or not he attempted suicide in the past 12 months.

**Abuse and victimization.** There are three questions that asked about any experiences of abuse and victimization. Youth were asked if they had ever been physically abused or mistreated by anyone in their family, or by anyone else. This question indicated whether or not the male had a history of physical abuse. Youth were also asked if they had ever been sexually abused, which was defined as “when anyone (including a family member) touches you in a place you did not want to be touched, or
does something to you sexually which you did not want." Victimization was assessed by asking if the youth had ever been forced to have sex. Answering "yes" to either of these latter two questions indicated a history of sexual abuse.

**Sexual behavior.** Youth were asked if they had ever had sexual intercourse, the age they first had sex, and the number of lifetime partners. For the purposes of the present study, the age for early initiation was 13; youth were divided into those who had had sexual intercourse when they were 13 years old or younger, and those who were 14 years old or older. Sexual activity was assessed by asking how many people the youth had had sex with, in his life. Participant responses were divided into those who had four or more partners in his lifetime, and those who had three or fewer.

**Religiosity.** There was only one question on the AHS that asked the youth about the extent of their religious or spiritual feelings. Youth were asked how religious or spiritual they thought they were. Responses were dichotomized into high ("Very much so," "Quite a bit," and "Some") versus low ("A little" and "Not at all").

**Family Context**

**Family disruption.** Indicators of family disruption include low socio-economic status as measured by mother or father being unemployed, and mother or father not having completed high school. There are two questions that asked about the highest level of education completed by both mother and father, and two questions that asked about each parent's employment status.

The present study includes the variable "parent unemployed" and "parent education" which selected the higher level of employment and education between the mother and father. For those youth who responded that they did not know their parents'
Male young offenders versus males in school 28

education or employment status or that the question did not apply, were included in the
analyses as “did not finish high school” and “not employed,” the categories that indicate
a possible risk factor.

Family connectedness. There are eleven questions included on the
questionnaire that ask about closeness with parents and family. These questions are
combined into a continuous scale of family connectedness (Resnick et al., 1997). The
youth are asked how close they feel to each parent, and how much they feel that each
parent cares about them. There are also four questions asking how satisfied the youth
are with their relationship with each of their parents, and if most of the time their mother
or father is warm and loving towards them. The last three questions on family
connectedness ask about how much the youth feels understood by his family, how much
fun the youth and his family has together, and how much attention the youth receives
from his family.

All eight questions about parents have an answer category of "Don't know/Does
not apply". The youth are instructed to answer the question for whoever they consider to
be their parents, whether that be biological parents, adoptive parents, stepparents or
foster parents. The "Don't know/ Does not apply" category was coded as missing.
Research has indicated that closeness with one parent is sufficient as a protective factor
(Resnick et al., 1997), even if the family as a whole was characterized by discord
(Rutter, 1993). The scale included the answers to the youth's relationship with his or her
mother or the questions on the youth's relationship with his or her father, depending on
the parent to whom the youth feels closest. The family connectedness scale had
adequate internal consistency reliability in the custody sample ($\alpha = .81$) and the school
sample ($\alpha = .85$).
School and Community Context

School achievement. Educational achievement was assessed by first determining grade expectations by age. For example, youth aged 12 or 13 should be in Grade 7, those aged 13 or 14 should be in Grade 8; those aged 14 or 15 should be in Grade 9 and so on. Youth who were in the expected grade for their age, were younger than expected for their grade, or who indicated they had graduated, were coded as "Expected," whereas those who were one or two years older than expected for their grade level were coded as "Delayed". Youth who indicated they had dropped out of school \( (n = 21) \) were included in the "Delayed" category.

School connectedness. "School connectedness" is a concept that measures the nature of the interactions between the youth and teachers and between the youth and other students (Resnick et al., 1997). Seven questions combine to form a continuous scale of how much the youth feels he belongs in his school. Two questions ask about how much the youth feels that teachers care about him and the extent to which he agrees that teachers treat students fairly. Two questions ask how often the youth has had trouble getting along both with teachers and students. Finally, three questions assess the youth's level of agreement with the following statements: "I feel like I am a part of my school," "I am happy to be at my school," and "I feel safe at my school." The scale had adequate internal consistency reliability in the custody sample \( (\alpha = .81) \) and the school sample \( (\alpha = .70) \).

Recreational activities. Youth were asked how often in the past 12 months or in the 12 months before being detained in the custody center they participated in organized sports, such as: playing sports with a coach or instructor, attending dance or aerobic
Male young offenders versus males in school 30

classes or lessons; taking art, drama, singing or music lessons; and, attending clubs or groups such as Guides or Scouts, 4-H club, community, church or other religious groups. Responses were collapsed into one score indicating participation in one or more organized activities one or more times a week.

Analysis

In order to determine whether or not the two groups of males significantly differed on the presence or absence of the risk and protective factors and their participation in risk behaviors I dichotomized the independent variables (IVs) and ran $\chi^2$ analyses. I then entered the IVs in a logistic regression analysis. Logistic regression allows the prediction of a discrete outcome, like group membership, from a set of variables that can be continuous, discrete or dichotomous. Multiple logistic regression analysis generates adjusted odds ratios (OR), which measure the strength of the relation between the predictors and group membership, controlling for the other variables. An OR is the increase or decrease in odds of being in one of the outcome categories when the value of the predictor variable increases by one unit (Tabachnick & Fidell, 2001).
RESULTS

Univariate analyses compared the two groups on each of the dichotomized IVs using $\chi^2$ tests. Table 2 presents the prevalence rates and the comparison between males in custody and those in school. The groups differed significantly on each of the variables except those indicating emotional health status; less than 10% of each group expressed serious emotional distress in the previous 30 days. Furthermore, although 22.1% of males in custody and 15.6% of males in school considered suicide within the past year, this difference was not significant.

The two samples also did not differ significantly on having a mother or father not regularly employed although significantly more males in custody had neither parent as regularly employed. Lastly, the two groups did not differ significantly on the protective factors: high family connectedness and high school connectedness, or on religiosity or spirituality.

Table 2: Health Risk and Protective Factors

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Custody Sample (%)</th>
<th>School Sample (%)</th>
<th>$X^2 (1)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 12-years-old when first tried a cigarette</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Current/ Former regular smoker</td>
<td>171/189 (90.5%)</td>
<td>60/189 (31.7%)</td>
<td>137.15***</td>
</tr>
<tr>
<td>≤ 12-years-old when first tried alcohol</td>
<td>105/168 (62.5%)</td>
<td>47/192 (24.5%)</td>
<td>53.09***</td>
</tr>
<tr>
<td>Had alcohol on ≥ 100 days in lifetime</td>
<td>87/168 (51.8%)</td>
<td>41/193 (21.2%)</td>
<td>36.61***</td>
</tr>
<tr>
<td>≤ 12-years-old when first tried marijuana</td>
<td>135/193 (69.9%)</td>
<td>29/188 (15.4%)</td>
<td>115.48***</td>
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<tr>
<td>Lifetime use of marijuana ≥ 100 times</td>
<td>167/193 (86.5%)</td>
<td>46/189 (24.3%)</td>
<td>149.71***</td>
</tr>
</tbody>
</table>
Male young offenders versus males in school 32

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Custody Sample (%)</th>
<th>School Sample (%)</th>
<th>X² (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used ≥ 1 of the following drugs ≥ 1 time</td>
<td>183/193 (94.8%)</td>
<td>84/193 (43.5%)</td>
<td>119.07***</td>
</tr>
<tr>
<td>Cocaine</td>
<td>144/191 (75.4%)</td>
<td>34/187 (18.2%)</td>
<td>124.13***</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>159/191 (83.2%)</td>
<td>55/186 (29.6%)</td>
<td>110.62***</td>
</tr>
<tr>
<td>Mushrooms</td>
<td>167/193 (86.5%)</td>
<td>63/186 (33.9%)</td>
<td>110.08***</td>
</tr>
<tr>
<td>Inhalants</td>
<td>22/188 (11.7%)</td>
<td>10/186 (5.4%)</td>
<td>4.78*</td>
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<tr>
<td>Amphetamines</td>
<td>75/188 (39.9%)</td>
<td>20/186 (10.8%)</td>
<td>41.90***</td>
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<tr>
<td>Heroin</td>
<td>69/190 (36.3%)</td>
<td>4/184 (2.2%)</td>
<td>69.36***</td>
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<tr>
<td>Injected illegal drugs</td>
<td>13/187 (7.0%)</td>
<td>2/186 (1.1%)</td>
<td>8.34**</td>
</tr>
<tr>
<td>Steroids</td>
<td>11/189 (5.8%)</td>
<td>5/186 (2.7%)</td>
<td>2.25</td>
</tr>
<tr>
<td>Prescription pills</td>
<td>74/190 (38.8%)</td>
<td>20/186 (10.8%)</td>
<td>39.85***</td>
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<tr>
<td>Ever had sexual intercourse</td>
<td>188/191 (98.4%)</td>
<td>80/187 (42.8%)</td>
<td>141.82***</td>
</tr>
<tr>
<td>≤ 13 years old when first had sexual</td>
<td>122/190 (64.2%)</td>
<td>20/82 (24.4%)</td>
<td>36.40***</td>
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<td>intercourse</td>
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</tr>
<tr>
<td>Had sex with ≥ 4 people in lifetime</td>
<td>146/192 (76.0%)</td>
<td>25/189 (13.2%)</td>
<td>151.91***</td>
</tr>
<tr>
<td>Very or quite religious or spiritual</td>
<td>33/193 (17.1%)</td>
<td>34/193 (17.6%)</td>
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<tr>
<td>Serious emotional distress</td>
<td>19/193 (9.8%)</td>
<td>15/193 (7.8%)</td>
<td>0.516</td>
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<td>Frequent emotional health concerns</td>
<td>120/193 (62.2%)</td>
<td>84/193 (43.5%)</td>
<td>13.47***</td>
</tr>
<tr>
<td>Considered suicide in past year</td>
<td>42/190 (22.1%)</td>
<td>29/186 (15.6%)</td>
<td>2.60</td>
</tr>
<tr>
<td>Attempted suicide in past year</td>
<td>32/188 (17.0%)</td>
<td>10/185 (5.4%)</td>
<td>12.59***</td>
</tr>
<tr>
<td>History of physical abuse</td>
<td>142/191 (74.3%)</td>
<td>26/187 (13.9%)</td>
<td>139.80***</td>
</tr>
<tr>
<td>History of sexual abuse</td>
<td>26/171 (15.2%)</td>
<td>9/187 (4.8%)</td>
<td>10.94**</td>
</tr>
<tr>
<td>Forced to have sexual intercourse</td>
<td>23/191 (12.0%)</td>
<td>10/188 (5.3%)</td>
<td>5.39*</td>
</tr>
<tr>
<td>Sexual abuse/ Forced to have sex</td>
<td>37/193 (19.2%)</td>
<td>14/193 (7.3%)</td>
<td>11.95**</td>
</tr>
</tbody>
</table>
Male young offenders versus males in school 33

<table>
<thead>
<tr>
<th></th>
<th>Independent Variable</th>
<th>Custody Sample (%)</th>
<th>School Sample (%)</th>
<th>$X^2$ (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family</strong></td>
<td>Father did not finish high school</td>
<td>48/134 (35.8%)</td>
<td>38/157 (24.2%)</td>
<td>4.69*</td>
</tr>
<tr>
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<td>Mother did not finish high school</td>
<td>47/155 (30.3%)</td>
<td>24/168 (14.3%)</td>
<td>12.09**</td>
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<td>Father not regularly employed</td>
<td>27/144 (18.8%)</td>
<td>21/179 (11.7%)</td>
<td>3.11</td>
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<tr>
<td></td>
<td>Mother not regularly employed</td>
<td>56/169 (33.1%)</td>
<td>50/186 (26.9%)</td>
<td>1.65</td>
</tr>
<tr>
<td></td>
<td>Neither parent finished high school</td>
<td>62/193 (32.1%)</td>
<td>34/193 (17.6%)</td>
<td>10.87**</td>
</tr>
<tr>
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<td>Parent not regularly employed</td>
<td>42/193 (21.8%)</td>
<td>11/193 (5.7%)</td>
<td>21.02***</td>
</tr>
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<td></td>
<td>High family connectedness</td>
<td>9/193 (4.7%)</td>
<td>13/193 (6.7%)</td>
<td>0.77</td>
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<tr>
<td><strong>School &amp; Community</strong></td>
<td>Achievement</td>
<td>110/193 (57.0%)</td>
<td>173/193 (89.6%)</td>
<td>52.56***</td>
</tr>
<tr>
<td></td>
<td>High school connectedness</td>
<td>8/193 (4.1%)</td>
<td>17/193 (8.8%)</td>
<td>3.46</td>
</tr>
<tr>
<td></td>
<td>1+ Recreational activities 1+ times a week</td>
<td>73/193 (37.8%)</td>
<td>124/193 (64.2%)</td>
<td>26.97***</td>
</tr>
</tbody>
</table>

Note. Not all youth answered all of the questions so for a number of the questions, the total number of youth is less than the total number in each sample group (i.e., 193).

* $p < .05$; adjusted residual > |2|.
** $p < .01$; adjusted residual > |2|.
*** $p < .001$; adjusted residual > |2|.

**Multivariate Results**

In the logistic regression analysis, all predictors were entered into the equation simultaneously. This method allowed the evaluation of the contribution made by each predictor over and above that of the other predictors; in other words, each predictor was evaluated as if it entered the equation last. This method was used for the present study because there were no specific hypotheses about the order of importance of the predictor variables.
Male young offenders versus males in school

The classification table is presented in Table 3. The overall model was significant, \( \chi^2 (22, N = 386) = 385.95, p < .001 \), resulting in 93.5% of the cases being correctly classified. This indicates that the set of predictors reliably distinguished between males in custody and males in school. Furthermore, the Nagelkerke \( R^2 \) of .843 indicated that the variance in group membership accounted for was high.

**Table 3 Logistic Regression: Classification Table**

<table>
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<tr>
<th>Observed</th>
<th>Predicted</th>
<th>Percentage Correct</th>
</tr>
</thead>
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<tr>
<td>Males in Custody (N= 193)</td>
<td>&quot;Males in Custody&quot;</td>
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<tr>
<td>Males in School (N= 193)</td>
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<tr>
<td>Overall Percentage</td>
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</tbody>
</table>

Table 4 reports regression coefficients, Wald statistics, adjusted ORs, and the 95% confidence intervals for the ORs for each of the 22 predictors. According to the Wald criterion the only variables that reliably predicted group membership were lifetime use of marijuana \( (z = -9.85, p < .01) \) and early use of marijuana \( (z = 3.86, p < .05) \); number of sexual partners \( (z = -16.39, p < .001) \) and early first experience with sexual intercourse \( (z = 5.60, p < .05) \); history of physical abuse \( (z = 34.32, p < .001) \); parents being regularly unemployed \( (z = 9.13, p < .01) \); academic achievement \( (z = -6.13, p < .05) \); and, participation in structured leisure activities \( (z = 4.76, p < .05) \). See Table 5 for the Correlation Matrix.
Male young offenders versus males in school 35

**Table 4 Logistic regression analysis of group membership: Males in custody versus males in school**

<table>
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<tr>
<th></th>
<th>( \beta )</th>
<th>Wald</th>
<th>OR (Adj)</th>
<th>Lower</th>
<th>Upper</th>
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<tr>
<td>1. Had alcohol on ( \geq ) 100 days in lifetime</td>
<td>.06</td>
<td>.01</td>
<td>.94</td>
<td>.35</td>
<td>2.56</td>
</tr>
<tr>
<td>2. ( \leq ) 13-years-old when first tried alcohol/ Never tried</td>
<td>-1.12</td>
<td>3.81</td>
<td>3.03</td>
<td>1.00</td>
<td>9.09</td>
</tr>
<tr>
<td>3. Smoker</td>
<td>-1.02</td>
<td>3.45</td>
<td>2.78</td>
<td>.94</td>
<td>8.33</td>
</tr>
<tr>
<td>4. ( \geq ) 13-years-old when first tried smoking/ Never tried</td>
<td>1.00</td>
<td>3.65</td>
<td>.37</td>
<td>.14</td>
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</tr>
<tr>
<td>5. Lifetime use of marijuana ( \geq ) 100 times</td>
<td>-2.00</td>
<td>9.85**</td>
<td>7.14</td>
<td>2.13</td>
<td>25.00</td>
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<tr>
<td>6. ( \geq ) 13-years-old when first tried marijuana/ Never tried</td>
<td>1.09</td>
<td>3.86*</td>
<td>.34</td>
<td>.11</td>
<td>1.00</td>
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<tr>
<td>7. Hard drug use</td>
<td>-.48</td>
<td>.48</td>
<td>1.61</td>
<td>.42</td>
<td>6.25</td>
</tr>
<tr>
<td>8. Had sex with ( \geq ) 4 people in lifetime</td>
<td>-2.01</td>
<td>16.39***</td>
<td>7.69</td>
<td>2.78</td>
<td>20.00</td>
</tr>
<tr>
<td>9. ( \geq ) 14-years-old when first had sex/ Never had sex</td>
<td>1.25</td>
<td>5.60*</td>
<td>.29</td>
<td>.10</td>
<td>.81</td>
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<tr>
<td>10. Low/ Moderate emotional distress</td>
<td>.13</td>
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<td>.88</td>
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<td>11. Regular emotional health concerns</td>
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<td>12. Considered suicide</td>
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<tr>
<td>13. Attempted suicide</td>
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<tr>
<td>14. No history of physical abuse</td>
<td>3.27</td>
<td>34.32***</td>
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<td>15. No history of sexual abuse</td>
<td>.74</td>
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<td>16. Religious</td>
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<td>.34</td>
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<td>17. Parent completed high school</td>
<td>.52</td>
<td>.86</td>
<td>.60</td>
<td>.20</td>
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<tr>
<td>18. Parent employed regularly</td>
<td>1.96</td>
<td>9.13**</td>
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<td>19. Low family connectedness</td>
<td>-1.74</td>
<td>2.32</td>
<td>5.56</td>
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<td>50.00</td>
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<td>20. Delayed academic attainment</td>
<td>-1.37</td>
<td>6.13*</td>
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<td>21. Low school connectedness</td>
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<tr>
<td>22. Organized activities</td>
<td>1.05</td>
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</table>

Note: Numbers before the variables correspond to those in the correlation matrix in Table 4.

* \( p < .05 \)

** \( p < .01 \)

*** \( p < .001 \)
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DISCUSSION AND CONCLUSIONS

Overall, the results of the present study are consistent with the existing body of research. Any differences between this study and other findings could be because of differences in culture and context. The majority of the existing research is conducted in the United States, with members of inner-city or disadvantaged communities. The differences could also be due to different operational definitions of theoretical concepts (e.g., socioeconomic status, religiosity, emotional distress). This is particularly true given that the selection and use of variables as either risk or protective factors also differs across studies, as does the definition of "risk factors" and "protective factors." Many individual and social variables may be both protective and risk factors, depending on whether the variable is present or absent (Swaim, et al., 1998; Kraemer et al., 1997); and, the extent to which a variable is a risk or protective factor may vary across levels of the outcome measure, or between individuals (Stouthamer-Loeber et al., 1993).

Individual Factors

Risk Behaviours

Although the two groups of males differed significantly on alcohol use, smoking behaviour and hard drug use in the univariate analyses, these variables did not reliably differentiate between the groups in the logistic regression analysis. Of the substance use variables, the two variables that were significant in the multivariate analysis were lifetime use of marijuana greater than 100 times and first marijuana use at 13 years old or
Male young offenders versus males in school

Zhang et al. (1997) did not find a direct relation between early age of first use of drugs and alcohol and participation in delinquent activities in their study of adolescent males aged 16 to 19. However, these researchers found an indirect pathway as males with an early initiation into substance use were more likely to be associated with delinquent peers and to participate in deviant activities, factors, which in turn, were significantly and directly related to criminal activity.

As with Zhang et al. (1997), the results of the present study indicate that early initiation with sexual activity was a significant predictor of group membership. Valois, McKeown, Garrison, and Vincent (1995) also found a significant association between sexual activity and fighting and carrying weapons; however, the association between sexual activity and violent and/or delinquent behaviour may be more an indication of clustering of risk-taking behaviours, rather than indicating a causal connection between sexual activity and other violent or criminal behaviour.

**Emotional Health**

The univariate analyses indicate that the two groups differed significantly on the frequency of emotional health concerns and on suicide attempts in the past year, although none of the emotional health variables were predictive in the multivariate analyses. The youth differed on frequency of indicators of emotional upset such as feeling nervous, having difficulty going to sleep, being in a bad mood or feeling low. It is not surprising that more youth in custody than males in school experienced these health concerns, what is interesting is that the youth did not differ significantly on “emotional distress”. One possible reason is that the questions on emotional distress were obviously assessing mental health status and the youth in custody were “faking good.”
Male young offenders versus males in school 39

Research on the effect of religiosity or spirituality as a protective factor is mixed, I did not find it to be predictive, which could be because it was assessed with a single question; therefore as a measure it was not sufficient in assessing the whole construct. For example, Benda (1995) found religiosity to be moderately related to participation in a number of risk behaviours and delinquent acts, but their construct included eight items.

**Family Context**

Surprisingly, the two groups of males did not differ significantly on family or on school connectedness. These results are consistent with Hagell and Newburn’s (1996) results where the young offenders also indicated closer relationships than would be expected, given their otherwise disruptive family lives. However, the lack of difference between the groups could also be because the males in school indicated low family and school connectedness, which has implications for interventions with this age group, rather than only with young offenders.

Research has found a significant relation between low socio-economic status and delinquency (e.g., the Cambridge and Pittsburgh studies discussed above), and indicators of poverty include single parent families (Lerner & Galambos, 1998) and mothers or father who had not attained grade 12 or were unemployed (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998). In the present study, having an unemployed parent was a significant predictor of group membership, which supports existing research; however, unlike the Pittsburgh and Cambridge studies, in the present study, having a parent not complete high school was not predictive.

The present study found a significant difference between the two groups of on having a parent regularly employed; the males in school were nine times more likely to
Male young offenders versus males in school 40

have a parent being regularly employed. Although this is an indicator of low socio-economic status, parental unemployment is also a concern if the youth do not have other role models. If youth see that their parents and other adults are unemployed or insecurely employed or know that these adults dropped out of school or did not continue beyond high school, the youth may have little motivation to continue school or may not see that education has an effect on their future prospects (Hansen, 2003). Although the present study did not test parental unemployment over time, studies have found a significant relation between employment problems in parents and delinquency in their children when both were measured over time; that is, persistent unemployment was significantly negatively related to general delinquency and street crimes (Farnworth, Thornberry, Krohn, & Lizotte, 1994).

School and Community

Although school connectedness was not predictive, school achievement was predictive as the males in custody were more likely to indicate delayed achievement (i.e., one or more grades behind the expected grade for their age). Delayed school achievement could be the result of interruptions from being in custody, or could have predated the youths' involvement with the criminal justice system. Regardless of whether or not the males in custody had problems in school before or after their involvement in criminal activity, delayed school achievement is a risk factor for these youth to drop out of school. Although not guaranteed, remaining in school is the most important way for youth to improve their future economic prospects by increasing skills and knowledge that ultimately will lead to better jobs and earning potential (Lerner & Galambos, 1998).
The groups also differed significantly on their participation in community recreational activities, and this variable was significant in predicting group membership. It should be noted, however, that participation in any activity depends on the individual youth’s interests, the types of opportunities available in the community, and parental encouragement and ability to pay for the after-school activities (Mahoney, Stattin, & Magnusson, 2000).

Regardless of whether or not the variables included in the present study were predictive of group membership, the present study offers valuable insight into the behaviours and activities of these two groups of males. A majority of the custody sample engaged regularly, beginning at a young age, in cigarette smoking, alcohol, marijuana and other drug use. Although significantly fewer males in school engaged in substance use, almost a third of them were regular smokers and had more than 100 drinks in their lifetime, and almost a half had tried the harder drugs. Similarly, almost all the custody sample and almost half of the youth in school had had sexual intercourse and two-thirds of the custody sample and almost one-third of the school sample first had sexual intercourse before they were thirteen.

Furthermore, almost twenty percent of the males in custody had attempted suicide in the past year, compared to the five percent of the males in school that had made an attempt. The youth also differed significantly on experiences of physical and sexual abuse, although in the multivariate analysis, only a history of physical abuse was predictive (males in custody were 26 times more likely to have been physically abused, compared to males in school). These findings are obviously important for intervention and program-planning. Many of the risk factors that affect youths’ lives are not specific to
Male young offenders versus males in school

any one group; however, youth in custody are at risk for a number of emotional health issues that need to be addressed.

Implications: Theory and Intervention and Prevention Programs

Although the present study is not based directly on any one theory, the variables were selected from the established empirical research, which in turn is guided by theoretical considerations. Essentially, no one theory can account for the findings of the present study. Although classic theories of crime focus on low social class, and criminal neighborhoods, there was restricted variability in the present study because I controlled for region and ethnicity by matching the males in custody with the school sample. Other theories that emphasize the importance of individual factors such as low self-control and impulsivity could also not be directly tested in this study because questions on these variables were not included on the original AHS.

Following established research principles, the variables in the present study were chosen to reflect the premise that adolescent participation in criminal activities results from factors within the individual, the familial environment and social contexts, and from the interaction between these contexts. For example, Loeber et al. (1998) found that impulsivity was one of the strongest individual level predictors of antisocial behaviour, but its effects on delinquent behaviour were affected by the social context of the adolescents’ development.

Although the present study supports previous findings that young offenders have more risk factors and participate in more risk behaviours than their peers at school, a number of the males in school were participating in risk behaviours, without the
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presence of any protective factors. This reflects the reality that most teens are participating in risk behaviours; compared to either children or adults, adolescents are more likely to engage in behaviour that carries the potential for harm to themselves and/or the people around them (Arnet, 1999). Since all youth appear to participate in some risk behaviours and have some risk factors, further research is needed to determine those factors that are uniquely associated with serious delinquency. The present study came close to answering that important question as the sample of young offenders are considered to be more serious offenders as all received a custody sentence.

Further research is also needed to determine what risk factors are associated with multiple problems and which risk factors are specific to each problem, so as to increase the specificity and sensitivity of intervention and prevention programs. Further research should also study which factors affect the onset of delinquency and which affect the course of delinquency. For example, is there a point where the presence or absence of certain factors will have no effect on whether or not the youth continues committing delinquent acts? Loeber, Farrington, Stouthamer-Loeber, Moffitt, and Caspi's (1998) pathway model indicates that warning signs of early onset of disruptive behaviour should not be dismissed, but that we cannot yet distinguish accurately between those youth whose problem behaviour will get more serious over time, and those for whom participation in delinquent activities is a passing phase, as for many males criminal offending is only a transitional phenomenon of adolescence (Moffit, 1993). Moffit (1993) refers to an "adolescent limited" offender describing those adolescents who are involved in delinquency during adolescence and participate in less serious crimes. The adolescent limited offender tends to follow antisocial peers because delinquency allows
access to some desirable resource such as excitement, status, money, power or privilege (Bliesener & Lösel, 1992).

This reflects the reality that some youth believe that participation in many risk behaviours, such as substance use and early sexual activity, serve social and personal functions, by providing social acceptance by peers, a subjective sense of autonomy and maturity (Jessor, 1991). So although the cost of these behaviours go beyond the biomedical (e.g., heart disease, unintentional injury, STDs) by potentially delaying or preventing the acquisition of essential skills, the accomplishment of normal developmental tasks, and the fulfilment of expected social roles (Jessor, 1991), participation in these activities is therefore not likely to be abandoned without alternatives that can provide similar satisfaction.

**Limitations**

The cross-sectional study design precludes assigning a cause-effect relationship between the risk factors considered and delinquency. However, the traditional view in criminology is that a variable is a cause if it is correlated with delinquency, if it occurs before delinquency, and if the relationship between the variable and delinquency holds up after controlling for other possible confounding variables that might be causes (Farrington, Loeber, Yin, & Anderson, 2002). These criteria allow the study of the causes of delinquency in cross-sectional surveys although it is often difficult to establish causal order in these surveys.

In the present study, most of the questions asked about behaviour that occurred in the past, such as, lifetime use of alcohol, cigarettes and marijuana and other drugs, or
the participation in activities "in the thirty days before being in custody" (for the custody sample) or "the previous thirty days" (for the school sample). Furthermore, questions on protective factors measured overall relationship with family and teachers, people with whom the youth would have had longer-term relationships.

Although the present study measured behaviour and factors that occurred before the youth were incarcerated, the study did not assess whether or not the risk behaviours and factors pre-dated the first time the youth committed or engaged in delinquent behaviour. Longitudinal research is still needed to determine the sequencing or cause of problem behaviours and the course of these behaviours over time. And such research is necessary for different groups of youth, not just for youth at risk of engaging in delinquent behaviours.

The present study asked youth to answer based on their past behaviour; the youth in custody centres were asked to consider the time period before they entered the custody centre. For many youth, this meant considering their lifestyles years before they answered the questionnaire, as 12% of the males had already been in custody for a year or more, with 5% having been in custody for two years or more. For the youth in school, the questions assessed their more recent past, the previous thirty days. While the nature of these questions allow for the study of causes in a cross-sectional research design, time is important in risk-factor research. Therefore, using retrospective recall data to measure a factor or an outcome is a limitation, as participants may not be able to remember, or remember accurately, but also, because they may reinterpret the events in light of subsequent experiences (Kraemer, et al., 1997).

Self-report data may also be problematic, as participants may say what they think the interviewer wants or participants may exaggerate or conceal information. However,
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studies have shown that self-reports actually may reveal more risk behaviours, such as violence and delinquency, than official records or other sources (Elliot, Huizinga, & Morse, 1986) and there is evidence from multitrait-multimethod analyses of independent ratings, that self-report data on other sensitive issues, such as drug use, are valid (Stacy, Widaman, Hays, & DiMatteo, 1985).

Because the researchers in the present study were aware of the sensitive nature of the questions, they attempted to alleviate participants' concerns regarding privacy and confidentiality; for youth in school, youth were advised that teachers and school staff would not have access to questionnaires. For youth in custody centres, youth may have had more motivation to prevaricate or not answer in fear of punishment from correctional guards or custody centre staff. As with the survey conducted in schools, McCreary Centre research assistants handed out and gathered the completed questionnaires. For the youth in custody centres, custody centre staff members were not present while the youth completed their questionnaires, and youth sealed their questionnaires in envelopes before handing them to the research assistant. Youth were separated from other youth, assuring them that no one could see their questionnaires, and McCreary research assistants did not walk around the room while the youth were answering the survey.

Although there are weaknesses with using self-report data, the alternatives, such as, studies on family or school reports of the youths' behaviour, also have limitations. Although there is research that considers multiple sources of information including the youth, providing detailed and valuable information, these types of projects are often based on select samples (e.g., psychiatric patients, young offenders, inner-city youth) which limit their generalisability (Valois, McKeown, Garrison, & Vincent, 1995). Lastly,
there is research indicating that perceived environment is a better predictor of later adjustment than more objective measures of the environment (Buysse, 1997).

As for the choice of statistic, logistic regression is a flexible procedure because it does not make any assumptions about the distributions of the predictor variables; in logistic regression the variables do not have to be normally distributed, linearly related or of equal variance within each group. On the other hand, problems with using logistic regression can arise when the number of participants is less than the number of predictor variables and logistic regression is sensitive to high correlations among predictor variables. Another problem with logistic regression is that if a case is missing data on any one variable, the case is deleted from the analysis. In the present study, the number of variables was limited so as not to outnumber the sample size and to prevent the loss of subjects who would otherwise be deleted, missing answers were re-coded into the negative answer choice.

One of the strengths of the present study is that the young offenders are serious offenders as they are serving a custody sentence. A lot of empirical research does not separate according to degree of delinquency, which leaves open the question of what factors are associated with serious or increased delinquency, rather than engaging in minor delinquent acts because most youth commit some illegal behaviour (Moffit, 1993). According to the results of Statistics Canada’s National Longitudinal Survey on Children and Youth, 30% of the males aged 12 to 13 reported delinquent acts involving property, including stealing outside the home, destroying other people’s things and vandalizing, and 54% reported some form of aggressive behaviour including getting into fights and physically attacking people (Statistics Canada, 2001). Missing from the analyses, however, is information on whether or not any of the males in the school sample had
ever participated in delinquent activity, or the extent of delinquent activity, as the AHS questionnaire for school students did not include measures of self-reported criminal or delinquent behaviour.

**Conclusions and Future Directions**

Future research needs to be conducted to remedy the limitations of the present study; for example, youth in school should be asked about their delinquent behaviour and involvement in criminal activity and with criminal peers, to provide a measure of general delinquency among youth in British Columbia. More research also needs to be conducted on Aboriginal youth as Aboriginal youth are disproportionately represented at all levels of the criminal justice system; although representing 5% of the Canadian youth population, Aboriginal youth account for 26% of admissions to remand, and 24% of those sentenced to custody (Canadian Centre for Justice Statistics, 2002). In 1998/1999 Aboriginal youth represented 4% of the Canadian youth population, but accounted for 15% of youth admitted to open custody facilities, 16% to secure custody facilities and 15% of youth on probation.

Despite the limitations discussed above, the present study adds to the existing body of research on young offenders. There is a large body of research, both longitudinal and cross-sectional, on young offenders across the world; the present study compares a relatively large sample of males in custody samples with their counterparts in school in British Columbia. Intervention during adolescence is crucial, as research indicates that across Canada, among 18 to 25 year old male and female convicted
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offenders in adult criminal court in 1999/2000, only 22.7% did not have a prior youth conviction (national, both genders) (Statistics Canada, 2002).

The present study also adds to the existing body of research on resiliency. Although the males in custody may be considered as non-resilient, as they have already experienced a negative outcome (i.e., incarceration), the overwhelming majority of young offenders are not committed to a life of criminal behaviour and there is still the opportunity to provide protective factors, such as familial support, school and other social institutions, to positively impact the decisions these youth make once they are out of custody (Garrido & Redondo, 1993).

One of the major strengths of the present research, therefore, is its practical application. The McCreary Centre Society provides important information on the health behaviour of youth across British Columbia, the project the present study was based on adds to their comprehensive database by including health information on youth in custody centres. In addition, the survey instrument used with youth in custody centres was designed in consultation with youth justice staff and was administered with the help and advice of the directors of the custody centres. The results, therefore, are directly applicable by the youth custody centres for their prevention and intervention programs.
REFERENCES


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APPENDIX A

Description of Youth Custody Centers in British Columbia

Boulder Bay Youth Custody Centre

Secure custody facility in Maple Ridge with capacity for 26 males. Facilities include school up to Grade 12, and work duties in the kitchen, camp maintenance and forestry work. Residents share cabins.

Willingdon Youth Custody Centre

Secure custody facility located in Burnaby with capacity for 91 males and/or females. Activities include on-site work and school. Structure of the facility includes a main building with eight units, two cottages and two trailers, one for males, one for females.

Burnaby Youth Custody Centre

Open custody facility located next to the Willingdon Custody Centre with capacity for 12 males. Separate house on the grounds with Maples Adolescent Treatment Centre. Provides schooling up to Grade 12 and some community service work.

Holly Open Custody Centre

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Located in Burnaby with Willingdon Custody Centre with capacity for 23 males and/or females. Two-floor building with individualized academic programs and some occupational training.

Victoria Youth Custody Centre

Secure custody facility located in downtown Victoria. Resident capacity is 27 males and/or females. Services include school up to Grade 12 and a formal work program of building maintenance, painting and repairs. Structure includes a 21-bed unit and a separate six-bed unit.

Prince George Youth Custody Centre

Provides both secure and open custody facilities for both males and females. Total capacity is for 24. Activities include school, yard, maintenance and community work.

Lakeview Youth Camp

Located near Campbell River with four, ten-bed living units with individual rooms. Capacity is for 40 male youth. Activities include Grades 6-9 and Grade 10 equivalency, work includes camp maintenance, log salvage and sawmill.

High Valley Camp

Open custody center located near Logan Lake, Kamloops. Facility is a 400-acre ranch with two, eight-bed units, one eight-bed duplex, one six-bed duplex with a capacity for 30 male and/or female residents. Activities include school and ranch maintenance, forestry, fisheries, highway and community work.

Centre Creek Youth Custody Centre
Open custody camp located near Chilliwack for 30 males. Facility is a wilderness camp with six, 5-bed cabins. Services include schooling up to Grade 12, camp maintenance, automotive, forestry, food services and landscaping work.
## APPENDIX B

### Custody Centres and the Corresponding School Region

<table>
<thead>
<tr>
<th>Custody Centre</th>
<th>AHS II Regions (School Districts)</th>
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<tbody>
<tr>
<td>Boulder Bay Youth Custody Centre</td>
<td>Upper Fraser Valley (Chilliwack, Abbotsford, Mission)</td>
</tr>
<tr>
<td>Willingdon Youth Custody Centre, Burnaby Youth Custody Centre and Holly Open Custody Centre</td>
<td>Burnaby and Simon Fraser (Burnaby, New Westminster, Coquitlam, Maple Ridge)</td>
</tr>
<tr>
<td>Victoria Youth Custody Centre</td>
<td>Capital (Greater Victoria, Sooke, Saanich, Gulf Islands)</td>
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<tr>
<td>Prince George Youth Custody Centre</td>
<td>Northern Interior/ North West (Haida Gwaii/ Queen Charlotte, Prince Rupert, Coast Mountains, Stikine)</td>
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<tr>
<td>Lakeview Youth Camp</td>
<td>Central Vancouver Island and Upper Island/ Central Coast (Comox Valley, Campbell River, Vancouver Island West)</td>
</tr>
<tr>
<td>High Valley Camp</td>
<td>Thompson and Cariboo (Kamloops, Thompson)</td>
</tr>
<tr>
<td>Centre Creek Youth Custody Centre</td>
<td>Upper Fraser Valley (Chilliwack, Abbotsford, Mission)</td>
</tr>
</tbody>
</table>
Appendix C

Questions from the Adolescent Health Survey

Individual Characteristics and Risk Behaviours

Substance Use

During your life, how many times have you used marijuana (pot, grass)?
- 0 times
- 1 or 2 times
- 3 to 9 times
- 10 to 19 times
- 20 to 39 times
- 40 to 99 times
- 100 or more times

How old were you when you tried marijuana (pot, grass) for the first time?
- I have never tried marijuana
- Less than 9 years old
- 9 or 10 years old
- 11 or 12 years old
- 13 or 14 years old
- 15 or 16 years old
- 17 or more years old

During your life, on how many days have you had at least one drink of alcohol?
- 0 days
- 1 or 2 days
- 3 to 9 days
- 10 to 19 days
- 20 to 39 days
- 40 to 99 days
- 100 or more days

How old were you when you had your first drink of alcohol other than a few sips?
- I have never had a drink of alcohol other than a few sips
- Less than 9 years old
- 9 or 10 years old
- 11 or 12 years old
- 13 or 14 years old
During your life, have you used any of the following drugs: (Mark an answer for each one)

<table>
<thead>
<tr>
<th>Drug Type</th>
<th>0 times</th>
<th>1 or 2 times</th>
<th>3 to 9 times</th>
<th>10 or more times</th>
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<tbody>
<tr>
<td>Cocaine (coke, crack, toot, snow)</td>
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<td>Hallucinogens (LSD, ecstasy, acid, PCP, dust, mescaline)</td>
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<td>Mushrooms (magic mushrooms)</td>
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<td>Inhalants (glue, gas, paint, aerosols)</td>
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<td>Amphetamines (speed, ice)</td>
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<tr>
<td>Heroin</td>
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<td>Injected an illegal drug (shot up with a needle)</td>
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<tr>
<td>Steroids without a doctor’s prescription</td>
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<tr>
<td>Prescription pills without a doctor’s consent</td>
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</tbody>
</table>

How old were you when you smoked a whole cigarette for the first time?
- I have never smoked a whole cigarette
- Less than 9 years old
- 9 or 10 years old
- 11 or 12 years old
- 13 or 14 years old
- 15 or 16 years old
- 17 or more years old

During your life, have you smoked at least 100 or more cigarettes?
- Yes
- No

At the present time, do you smoke cigarettes every day, occasionally or not at all? (Youth in custody were asked: "Before being detained in the custody centre, did you smoke cigarettes...")
- Not at all
- Occasionally
- Everyday

During the past 30 days, on how many days did you smoke cigarettes? (Youth in custody were asked: "During an average 30 day period, before being detained in the custody centre, on how many days did you smoke cigarettes?")
- 0 days
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1 or 2 days
3 to 5 days
6 to 9 days
10 to 19 days
20 to 29 days
All 30 days

**Emotional Health Status**

5 Items included in the Emotional Distress Scale:
Some people need or like to have time by themselves. How often do you feel this way?
- All the time
- Quite often
- Sometimes
- Rarely
- Never

During the past 30 days, have you felt you were under any strain, stress or pressure?
- Yes, almost more than I could take
- Yes, quite a bit of pressure
- Yes, some/more than usual
- Yes, a little/about usual
- Not at all

During the past 30 days, have you been bothered by any illness, physical problems, pains or fears about your health?
- All the time
- Most of the time
- Some of the time
- A little of the time
- None of the time

During the past 30 days, have you been bothered by nervousness or "nerves"?
- Extremely so, to the point I couldn't do my work or deal with things
- Quite a bit
- Some, enough to bother me
- A little
- Not at all

During the past 30 days, have you felt so sad, discouraged, hopeless or had so many problems that you wondered if anything was worthwhile?
- Extremely so, to the point I couldn't do my work or deal with things
- Quite a bit
- Some, enough to bother me
- A little
- Not at all
During the past 6 months, how often have you had or felt the following:

<table>
<thead>
<tr>
<th>Feeling low (depressed)</th>
<th>Most days</th>
<th>More than once a week</th>
<th>About once every week</th>
<th>About once every month</th>
<th>Seldom or never</th>
</tr>
</thead>
</table>

<table>
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<tr>
<th>A bad mood (irritable)</th>
<th>Most days</th>
<th>More than once a week</th>
<th>About once every week</th>
<th>About once every month</th>
<th>Seldom or never</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Feeling nervous (uneasy)</th>
<th>Most days</th>
<th>More than once a week</th>
<th>About once every week</th>
<th>About once every month</th>
<th>Seldom or never</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Difficulties in getting to sleep</th>
<th>Most days</th>
<th>More than once a week</th>
<th>About once every week</th>
<th>About once every month</th>
<th>Seldom or never</th>
</tr>
</thead>
</table>

During the past 12 months, did you ever seriously consider attempting suicide (killing yourself)?

Yes
No

During the past 12 months, how many times did you actually attempt suicide?

0 times
1 time
2 or 3 times
4 or 5 times
6 or more times

Abuse and Victimization

Have you ever been forced or coerced to have sexual intercourse against your will?

Yes
No

Have you ever been physically abused or mistreated by anyone in your family or by anyone else?

Yes
No

Have you ever been sexually abused? Sexual abuse is when anyone (including a family member) touches you in a place you did not want to be touched, or does something to you sexually which you did not want?

Yes
No

Sexual Behavior

How old were you when you had sexual intercourse for the first time?

I have never had sexual intercourse
Less than 12 years old
12 years old
13 years old
14 years old
15 years old
Male young offenders versus males in school 65

16 years old
17 or more years old

During your life, with how many people have you had sexual intercourse?
  I have never had sexual intercourse
  1 person
  2 people
  3 people
  4 people
  5 people
  6 or more people

**Religiosity**

Do you think of yourself as a religious or spiritual person?
  Very much so
  Quite a bit
  Some
  A little
  Not at all

**Family Context**

What is the highest level of education completed by your father? (Mark one answer only)
  Did not finish high school
  Finished high school
  Had vocational training (trade school)
  Took some college or university courses
  Finished college or university
  Don't know

What is the highest level of education completed by your mother? (Mark one answer only)
  Did not finish high school
  Finished high school
  Had vocational training (trade school)
  Took some college or university courses
  Finished college or university
  Don't know

What is your father's employment status?
  Working full-time (for himself or someone else)
  Working part-time
  Not in the labour force (unemployed, retired or disabled)
  Works seasonally (for example in the summer but not winter)
Male young offenders versus males in school 66

Full-time student, not working for money
Full-time homemaker, not working for money
Do not know or no longer living

What is your mother’s employment status?
Working full-time (for himself or someone else)
Working part-time
Not in the labour force (unemployed, retired or disabled)
Works seasonally (for example in the summer but not winter)
Full-time student, not working for money
Full-time homemaker, not working for money
Do not know or no longer living

Items included in the Family Connectedness Scale:
How close do you feel to your mother?
Not at all
Very little
Somewhat
Quite a bit
Very much
Don’t know or does not apply

How much do you think your mother cares about you?
Not at all
Very little
Somewhat
Quite a bit
Very much
Don’t know or does not apply

How close do you feel to your father?
Not at all
Very little
Somewhat
Quite a bit
Very much
Don’t know or does not apply

How much do you think your father cares about you?
Not at all
Very little
Somewhat
Quite a bit
Very much
Don’t know or does not apply

How much do you agree or disagree with the following statements?
<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Don't know/Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of the time, my mother is warm and loving towards me. Overall, I am satisfied with my relationship with my mother. Most of the time, my father is warm and loving towards me. Overall, I am satisfied with my relationship with my father.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How much do you feel that people in your family understand you?
- Not at all
- Very little
- Somewhat
- Quite a bit
- Very much

How much fun do you feel that you and your family have fun together?
- Not at all
- Very little
- Somewhat
- Quite a bit
- Very much

How much do you feel that your family pays attention to you?
- Not at all
- Very little
- Somewhat
- Quite a bit
- Very much

**School and Community**

What grade are you in? (Mark one answer only)
- Grade 7
- Grade 8
- Grade 9
- Grade 10
- Grade 11
Male young offenders versus males in school 68

Grade 12
I've graduated from high school
I dropped out in grade _________ (this option was only included in the survey for youth in custody)

Items included in the School Connectedness Scale:
How much do you feel that your teachers care about you?
   Not at all
   Very little
   Somewhat
   Quite a bit
   Very much

How often do you have trouble getting along with your teachers?
   Never
   Just a few times
   About once a week
   Almost every day
   Every day

How often did you have trouble getting along with other students?
   Never
   Just a few times
   About once a week
   Almost every day
   Every day

How much do you agree or disagree with the following statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel like I am a part of my school.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am happy to be at my school.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The teachers at my school treat students fairly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel safe at my school.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In the past 12 months, how often have you... (youth in custody were asked: “In the 12 months before being detained in the custody centre, how often did you...”)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>Less than once a week</th>
<th>1 to 3 times a week</th>
<th>4 or more times a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play sports WITH a coach or instructor, other than in gym class (school teams, swimming lessons, etc.)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take part in dance or aerobic classes or lessons, other than in gym class?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take part in art, drama, singing or music (groups, clubs or lessons), outside of class?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take part in clubs or groups such as Guides or Scouts, 4-H club, community, church or other religious groups?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>