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Research Article

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Delinquent and Risk Behaviour among High School Students in a Canadian Prairie City: A Multivariate Analysis

Kanada Prairie Şehrindeki Lise Öğrencileri Arasında Suçlu ve Riskli Davranış: Çok Değişkenli Bir Analiz

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ABSTRACT

Drawing primarily on the concepts of self-control, differential association, and social bond, this paper explores delinquent and risk behaviour among high school students in a Canadian prairie city. A total of 262 students attending 14 high schools participated in a self-administered questionnaire survey. The results demonstrated that a notable number of students engaged in various risk (e.g., drinking, unprotected sex, and smoking) and delinquent (e.g., use of illegal substance, theft, and vandalism) behaviour. Multiple ordinary least-squares regression analysis revealed that males, older students, and those who had parents with a lower level of education, considered religion to be less important, scored lower on the self-control scale, indicated having more close friends who used illegal drugs, and reported having been a victim of violent or property crime were shown to have a greater likelihood of risk behaviour involvement. On the other hand, male respondents and those who scored lower on the self-control scale, associated with individuals who used illegal drugs, and reported having been a victim of violent or property crime were found to be significantly more likely to engage in delinquent behaviour. Policy implications of these results for institutional interventions are briefly discussed.

Keywords: Risk and delinquent behaviour, high school students, Canadian prairie city

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EXTENDED ABSTRACT

Drawing primarily on the concepts of self-control, differential association, and social bond, this paper explores delinquent and risk behaviour among high school students in a Canadian prairie city.

Data for this research were collected as part of a larger survey that was undertaken to explore adolescents' criminal victimization, risk and delinquent behaviour, and attitudes toward the police among high school students in Regina, Saskatchewan. Using a snowball sampling method, a total of 262 students attending 14 high schools participated in a self-administered questionnaire survey. All procedures were adhered to standards set forth by the Research Ethics Board of the University of Regina. Each participant was provided with a copy of an introductory letter outlining the objectives of the study and how the information gathered would be used. It also emphasized that participation was voluntary and that all information obtained would remain confidential and anonymous.

The results demonstrated that a notable number of students engaged in various risk and delinquent behaviour. Specifically, an overwhelming majority of the respondents (n = 222, 84.7%) reported having consumed alcohol. Three in ten (n = 78, 29.8%) indicated that they had engaged in unprotected sex and about a quarter reported having gambled (n = 63, 24.0%) or smoked (n = 67, 25.7%). Only a relatively small number of respondents had purchased a lottery ticket (n = 44, 16.7%) or taken part in a physical fight (n = 44, 16.8%). Concerning delinquent behaviour, two-fifths of the respondents (n = 110, 41.8%) indicated that they had used marijuana (n = 110, 41.8%). Nearly one in three admitted to having vandalized (i.e., having banged up or damaged something on purpose that did not belong to them) (n = 80, 30.8%). About a quarter indicated that they had committed a theft (i.e., having taken things worth $50 or less that did not belong to them) (n = 73, 28.1%) or operated a vehicle while under the influence of alcohol (n = 61, 23.3%) or drugs (n = 54, 20.6%). Approximately one-fifth reported having taken a car for a ride without the owner's permission (n = 59, 22.5%) or beaten up another person or hurt another person on purpose (n = 51, 19.5%). Relatively few respondents have committed breaking and entering (i.e., having broken into a locked building other than their homes) (n = 34, 13.0%), sold drugs (n = 26, 10.0%), carried a weapon on school property (n = 25, 9.6%), or taken part in a gang fight (n = 19, 7.3%).

Multiple ordinary least-squares regression analysis revealed that males, older students, and those who had parents with a lower level of education, considered religion

to be less important, scored lower on the self-control scale, indicated having more close friends who used illegal drugs, and reported having been a victim of violent or property crime were shown to have a greater likelihood of risk behaviour involvement. On the other hand, male respondents and those who scored lower on the self-control scale, associated with individuals who used illegal drugs, and reported having been a victim of violent or property crime were found to be more likely to engage in delinquent behaviour.

Using a multivariate approach, this study explores the prevalence of adolescent risk and delinquent behaviour in a sample of high school students. It fills a lacuna in the literature on youth problem behaviour in Canada, and provides important insight into the major determinants of adolescents' risk and delinquent involvement. The findings have significant policy and practical implications for individuals (e.g., school administrators, teachers, counsellors, social workers, and law enforcement officers) and agencies (e.g., boards of education, educational institutions, community organizations, governmental agencies) working with young people in various capacities. The results may be used to develop prevention and intervention strategies for delinquent and related behaviour. Given the strong link between delinquent peer association and likelihood of delinquent activity involvement, it is essential to develop pertinent policies and procedures to effectively screen and monitor adolescents for close ties with peers who engage in unlawful and analogous behaviour. The substantial impact of self-control on both risk and delinquent behaviour underscores the importance of strengthening adolescents' self-regulation skills. In view of the close connection between criminal victimization experiences and likelihood of problem behaviour engagement, criminal justice agencies must make a concerted effort to reduce the criminal victimization risks among young people. As well, since criminal victimizations may have serious emotional, physical, psychological, and financial consequences, victim service organizations and schools should provide practical help and support to youth crime victims and to assist them in their recovery.

The findings of the present investigation should be considered in light of several methodological limitations. As this study reports data based on a non-random sample of high school students in a Canadian prairie city, caution must be exercised in interpreting the results. The reliance on cross-sectional data precludes interpretation of causality. Although respondents were assured complete confidentiality and anonymity, bias stemming from self-report and social desirability might have influenced the results.

Further exploration of variation across types of both institutions (e.g., private vs. public and religious vs. non-religious schools), students (e.g., majority vs. racial, ethnic, and minority groups), and geographic locations (e.g., rural vs. urban) would be informative. The use of a longitudinal design to ascertain the causality of the study variables would also be warranted.

1. Introduction

The issue of youth crime is a major concern for many communities across Canada. Statistics Canada (2016) revealed that Canadian youth aged 12 to 17 were more than twice as likely to be accused of a police-reported crime in 2014 than people aged 25 years and older. While youth aged 12 to 17 made up 7% of the Canadian population, they accounted for 13% of individuals accused of crime by police.

Doubtlessly, it is critically important to prevent adolescent risk (i.e., potentially harmful or dangerous) and delinquent (i.e., law-violating) behaviour. Adolescent risk behaviour may set the trajectory for a wide array of future negative outcomes. More specifically, the onset of multiple risk behaviour such as smoking, drinking, and unprotected sex are related to increased risk of lower level of educational attainment, depression, self-harm, future morbidity, and premature mortality (Huang et al., 2012; Kipping et al., 2012). Research has also linked anti-social behaviour, illicit drug and alcohol use, and smoking to suicide risk among adolescents (Bearman & Moody 2004; Brent 1995; Evans et al., 2001; Hallfors et al., 2004; Heerde et al., 2015; Kokkevi et al., 2011).

As well, there is an increased risk of adult criminality and tendency of negative personal outcomes for delinquent adolescents (Moffitt et al., 2002; Jolliffe et al., 2017). Studies have shown that engagement in delinquent behaviour such as drug dealing, physical fighting, gang involvement was linked to poor academic performance (Hirschfield & Gasper, 2011; Li & Lerner, 2011; Maguin & Loeber, 1996; Metzger et al., 2009) and negative outcomes later in adulthood, especially in terms of occupational attainment (Carter, 2019; Colman et al., 2009; Gilman, et al., 2014; Lanctôt et al., 2007; Tomlinson & Walker, 2010) and would result in further criminal offending (Dornbusch et al., 2001; Haynie, 2001; Loeber & Farrington, 2000; Patterson et al., 1989; Simons et al., 2002). There is also compelling evidence that delinquents who went through criminal processing would be more likely to re-offend (i.e., most juvenile offenders become young adult offenders) (Benda et al., 2001; Lussier et al., 2015).

2. Theoretical Framework

Engagement in risk and delinquent behaviour is determined by a myriad of personal, family, and societal factors. Understanding these two types of problem behaviour requires the use of an integrated framework. The theories of self-control (also known as the general theory of crime), differential association (i.e., association with delinquent peers), and social bond (i.e., meaningful attachment and participation in convention

activities), which are among the most influential and empirically tested theoretical perspectives for the explanation of youth risk and delinquent behaviour (McCuddy, 2021; Meldrum et al., 2009; Peterson et al., 2016; Vera & Moon, 2013), are particularly useful. These theories point primarily to the vitality of familial (i.e., parents) and non-familial (i.e., peers) relationships in the prohibition or development of problem behaviour. Early interventions to enhance parenting skills for more effective socialization of young children, to help children develop self-control, and to reduce adolescents' exposure to negative social influences (e.g., delinquent peer groups) are implied in these theories. Notably, there is compelling empirical evidence demonstrating that the implementation of early family or parent training programs aimed at improving socialization and child-rearing practices provide significant benefits for improving self-control and reducing anti-social and delinquent behaviour (Piquero et al., 2016, 2009) and that positive social influences increase self-control and reduce the likelihood of delinquency (Huijsmans et al., 2021; Walter, 2018).

According to the self-control theory proposed by Gottfredson and Hirschi (1990), low self-control is the main source of criminal behaviour and behaviour analogous to crime, and parental socialization significantly influences the development of self-control. Individuals with low self-control tend not only be impulsive, but also insensitive, physical (as opposed to mental), risk-taking, short-sighted, and non-verbal. They have a higher propensity to commit crimes and to engage in other risk behaviour. An impressive body of research demonstrates that low self-control is related to variety of deviant and criminal behaviour (Cheung & Cheung, 2008; Cretacci, 2008; de Ridder et al., 2012; Hagger et al., 2010; Jiang et al., 2020; Hope et al., 2003; Meldrum et al., 2015; McGloin et al., 2004; Moffitt et al., 2011; Pratt & Cullen, 2000; Wills et al., 2006).

The basic postulate of the social bond theory is that attachment (i.e., affective ties to significant others such as family members and peers), commitment (i.e., investment in conventional activities such as the pursuit of educational goals), involvement (i.e., time and energy devoted to participation in conventional activities such as school or religious events), and belief (i.e., adherence to societal values and rules) are four vital elements that will prevent individuals from engaging in crime (Hirschi, 1969). There is considerable empirical evidence showing support for the social bond theory in explaining the onset and persistence of criminal pathways (Cernkovich & Giordano, 1992; Chan & Chiu, 2015; Chapple et al., 2005; Cusick et al., 2012; Felson & Staff, 2006; Hart & Mueller, 2013; Peterson et al., 2016; Liu & Kaplan, 1999; Sabatine et al., 2017).

The differential association theory, which was first proposed by Sutherland (1947) as a social theory, contends that deviant behavior is learned through interaction with others in intimate personal groups. Motives, drives, rationalization, and attitudes are formed through social and cultural transmission. Individuals will break the law when they develop more law-breaking than law-abiding attitudes. As pointed out by Kaplan, Johnson, & Bailey (1987), social relationships with delinquent peers would facilitate involvement in problem behaviour and serve as a vital source of gratification by offering adolescents both personal and interpersonal rewards for engaging in delinquent behaviour. In fact, empirical studies have identified association with delinquent peers to be a consistent predictor of delinquent behavior (Evans et al., 2016; Fletcher et al., 1995; Holt et al., 2012; Pratt, et al., 2009; Thornberry et al., 1994; Warr & Stafford, 1991).

Drawing primarily on the concepts of self-control, differential association, and social bond, this paper explores delinquent and risk behaviour using a sample of high school students in Regina, Saskatchewan. This study was imperative as the province of Saskatchewan reported the highest police-reported crime severity index (i.e., the crime rate taking into account both the volume and the seriousness of offences) in the nation and the City of Regina was among the top 10 Canadian cities with the highest youth crime rate in 2019 (Moreau et al., 2020).

3. Methodology

3.1. Sample

Data for this research were collected as part of a larger survey that was undertaken to explore adolescents' criminal victimization, risk and delinquent behaviour, and attitudes toward the police among high school students in Regina (see Chow, 2021, 2014, 2011, 2008). Using a snowball sampling method, a total of 262 students attending 14 different high schools participated in a self-administered questionnaire survey. All procedures were adhered to standards set forth by the Research Ethics Board of the University of Regina. Each participant was provided with a copy of an introductory letter outlining the objectives of the study and how the information gathered would be used. It also emphasized that participation was voluntary and that all information obtained would remain confidential and anonymous.

The sample consisted of 102 (38.9%) male and 160 (61.1%) female students. Respondents ranged in age between 14 and 19, with a mean age of 15.92 years ($SD = 1.15$). Caucasian

students (n = 228, 87.4%) made up an overwhelming majority of the sample. Nearly all respondents (n = 258, 99.2%) were Canadian citizens. Over half of the sample (n = 128, 52.5%) indicated Catholicism as their religious affiliation. With respect to parents' education, nearly three-fifths of the respondents' fathers had received some post-secondary education (n = 54, 21.3%) or completed college or university (n = 97, 38.2%). Over two-thirds of their mothers had received some post-secondary education (n = 77, 29.5%) or graduated from college or university (n = 101, 38.7%). Regarding socio-economic status, slightly more than half of the sample (n = 133, 51.0%) indicated that they belonged to a middle-income family.

3.2. Measures of Key Variables

Risk behavior was an additive scale based on respondents' frequency of engagement in various risk-taking behaviour on a five-point scale ranging from 1 (0 times) to 5 (10 times or more) in the past twelve months preceding the survey, including (1) lottery ticket purchase; (2) gambling; (3) smoking; (4) drinking; (5) physical fight; and (6) unprotected sex.

Delinquent behaviour was an additive scale assessed on respondents' frequency of participation in various unlawful activities in the past twelve months on a five-point scale (1 = 0 times to 5 = 10 times or more), including having (1) taken a car for ride without the owner's permission; (2) banged up or damaged something on purpose that did not belong to you; (3) sold drugs such as marijuana or hashish (4) taken things worth $50 or less that did not belong to you; (5) beaten up anyone or hurt anyone on purpose, not counting fights you may have had with a brother or a sister; (6) broken into a locked building, other than your home; (7) taken part in a gang fight; (8) driven a car or other vehicle while under the influence of alcohol; (9) driven a car or other vehicle while under the influence of drugs; (10) used marijuana; and (11) carried a weapon such as a gun, knife, or club on school property.

3.3. Analytic Strategy

Descriptive and inferential analyses were conducted using the Statistical Package for the Social Sciences (IBM SPSS Statistics 26). The internal consistency of all scales used was assessed by Cronbach's alpha reliability test. Two multiple ordinary least-squares (OLS) regression models were constructed to identify the major determinants of respondents' engagement in risk and delinquent behaviour.

4. Major Findings

4.1. Engagement in Risk and Delinquent Behaviour

Respondents were asked to report the frequency of engaging in various risk behaviour in the past twelve months. As shown in Table 1, an overwhelming majority of the respondents (n = 222, 84.7%) reported having consumed alcohol. Three in ten (n = 78, 29.8%) indicated that they had engaged in unprotected sex and about a quarter reported having gambled (n = 63, 24.0%) or smoked (n = 67, 25.7%). Only a relatively small number of respondents had purchased a lottery ticket (n = 44, 16.7%) or taken part in a physical fight (n = 44, 16.8%).

Table 1. Risk Behaviour

	Yes	No
	n (%)	n (%)
Lottery ticket	44 (16.7)	219 (83.3)
Gambling	63 (24.0)	200 (76.0)
Smoking	67 (25.7)	194 (74.3)
Drinking	222 (84.7)	40 (15.3)
Physical fight	44 (16.8)	218 (83.2)
Unprotected sex	78 (29.8)	184 (70.2)

Concerning delinquent behaviour, respondents' frequency of engaging in different illegal activities during the twelve-month period preceding the survey is displayed in Table 2. Specifically, two-fifths (n = 110, 41.8%) indicated that they had used marijuana (n = 110, 41.8%). Nearly one in three admitted to having vandalized (i.e., having banged up or damaged something on purpose that did not belong to them) (n = 80, 30.8%). About a quarter indicated that they had committed a theft (i.e., having taken things worth $50 or less that did not belong to them) (n = 73, 28.1%) or operated a vehicle while under the influence of alcohol (n = 61, 23.3%) or drugs (n = 54, 20.6%). Approximately one-fifth reported having taken a car for a ride without the owner's permission (n = 59, 22.5%) or beaten up another person or hurt another person on purpose (n = 51, 19.5%). Relatively few respondents have committed breaking and entering (i.e., having broken into a locked building other than their homes) (n = 34, 13.0%), sold drugs (n = 26, 10.0%), carried a weapon on school property (n = 25, 9.6%), or taken part in a gang fight (n = 19, 7.3%).

Table 2. Delinquent Behaviour

	0 times	1 time	2-3 times	4-9 times	≥10 times	M (SD)
	n (%)	n (%)	n (%)	n (%)	n (%)	
Taken a car for a ride without the owner's permission	203 (77.5)	22 (8.4)	26 (9.9)	8 (3.1)	3 (1.1)	1.42 (.87)
Banged up or damaged something on purpose that did not belong to you	180 (69.2)	39 (15.0)	23 (8.8)	7 (2.7)	11 (4.2)	1.58 (1.05)
Sold drugs (such as marijuana or hashish)	235 (90.0)	7 (2.7)	8 (3.1)	5 (1.9)	6 (2.3)	1.24 (.80)
Taken things worth $50 or less that did not belong to you	187 (71.9)	23 (8.8)	21 (8.1)	7 (2.7)	22 (8.5)	1.67 (1.25)
Beat up anyone or hurt anyone on purpose, not counting fights you may have had with a brother or a sister	210 (80.5)	19 (7.3)	18 (6.9)	5 (1.9)	9 (3.4)	1.41 (.95)
Broken into a locked building, other than your home	228 (87.0)	13 (5.0)	14 (5.3)	3 (1.1)	4 (1.5)	1.25 (.74)
Taken part in a gang fight	242 (92.7)	7 (2.7)	6 (2.3)	2 (.8)	4 (1.5)	1.16 (.64)
Driven a car or other vehicle while under the influence of alcohol	201 (76.7)	37 (14.1)	12 (4.6)	4 (1.5)	8 (3.1)	1.40 (.89)
Driven a car or other vehicle while under the influence of drugs	208 (79.4)	26 (9.9)	7 (2.7)	3 (1.1)	18 (6.9)	1.46 (1.09)
Used marijuana (also known as cannabis, "Grass", "Pot", "Hashish, "Hash", Hash oil).	153 (58.2)	31 (11.8)	16 (6.1)	12 (4.6)	51 (19.4)	2.15 (1.60)
Carried a weapon such as a gun, knife, or club on school property	236 (90.4)	9 (3.4)	7 (2.7)	2 (0.8)	7 (2.7)	1.22 (.77)

4.2. Multivariate Analysis

To explore the major determinants of respondents' engagement in risk and delinquent behaviour, two multiple OLS regression models were constructed. The operational definitions of the predictor variables included in the models are presented in the Appendix.

As displayed in Table 3, the overall multiple OLS regression model for engagement in risk behaviour was significant (F (15, 247) = 15.227, p < .001) and explained 44.8% of the variance. Sex (b = .105, p < .05), age (b = .123, p < .05), parents' education (b = -.141, p < .01), vitality of religion (b = -.140, p < .01), differential association (b = .183, p < .001), self-control (b = -.175, p < .01), property crime victimization (b =

.107, $p < .05$), and violent crime victimization ($b = .235$, $p < .001$) were associated with engagement in risk behaviour significantly. More specifically, males, older students, and those who had parents with a lower level of education, considered religion to be less important, scored lower on self-control, reported more close friends who used illegal drugs, and indicated having been a victim of a property or violent crime were found to have a greater likelihood of risk behaviour involvement.

With respect to engagement in delinquent behaviour, the overall multiple OLS regression model was significant (F (15, 247) = 13.765, $p < .001$) and explained 42.2% of the variance. Sex ($b = .143$, $p < .01$), differential association ($b = .169$, $p < .01$), self-control ($b = -.351$, $p < .001$), property crime victimization ($b = .131$, $p < .01$), and violent crime victimization ($b = .192$, $p < .001$) were found to be significantly related to engagement in unlawful activities. In particular, male students and those who scored lower on the self-control scale, indicated having more close friends who used illegal drugs, and reported having been a victim of a violent or property crime were found to be more likely to engage in delinquent behaviour.

Table 3. Multiple OLS regression models predicting risk and delinquent behaviour

	Risk Behaviour		**Delinquent Behaviour**	
	b	**ß**	**b**	**ß**
Sex	.291	.105 *	.726	.143 **
Age	.341	.123 *	-.105	-.021
Religious affiliation	.038	.014	-.425	-.084 +
Vitality of religion	-.146	-.140 **	-.094	-.049
Socio-economic status	.160	.093 +	-.139	-.044
Employment status	.073	.027	.061	.012
Parents' education	-.113	-.141 **	-.103	-.070
Attitude toward school	-.055	-.086	-.032	-.027
Academic performance	-.240	-.074	.139	.023
Familial support and relationships	-.015	-.039	-.007	-.010
Participation in conventional activities	-.005	-.028	-.017	-.050
Differential association	.540	.183 ***	.913	.169 **
Self-control	-.015	-.175 **	-.056	-.351 ***
Property crime victimization	.294	.107 *	.660	.131 **
Violent crime victimization	.856	.235 ***	1.283	.192 ***
(Constant)	3.782 ***		7.296 ***	
F	(15, 247) = 15.227 ***		(15, 247) = 13.765 ***	
R^2	.479		.455	
Adjusted R^2	.448		.422	
N	262		262	

*+ p < .10; * p < .05; ** p < .01; *** p < . 001*

5. Discussion

Using data collected from a survey of high school students in a Canadian prairie city, this paper explores the respondents' engagement in various risk and delinquent behaviour. The investigation incorporated a broad range of explanatory variables to account for their behaviour, including violent and property crime victimization experiences, attitudes toward school, academic performance, familial support and relationships, self-control, participation in conventional activities, and differential association. The results have revealed that respondents engaged in a wide range of risk and delinquent behaviour and that a number of socio-demographic and contextual variables were shown to be related to respondents' different levels of risk and delinquent involvement.

Among the various socio-demographic variables, age emerged to be a significant predictor of risk behaviour in this analysis. Younger respondents were revealed to be associated with an increased likelihood of engaging in such behaviour. Indeed, age has long been regarded as a strong correlate of risk and delinquent behaviour. Following the age-crime curve, the prevalence of offending increases during early adolescence, peaks in middle adolescence, and declines steadily thereafter (Duell et al., 2018; McCord et al., 2001).

Sex was found to be a significant predictor of both risk and delinquent behaviour. This is unsurprising as sex has been regarded as the strongest predictor of criminal behaviour, with males exhibiting both a higher prevalence and frequency of offending than females (Broidy et al., 2003; Liljeberg et al., 2010; Gutierrez & Shoemaker, 2008; Kempf-Leonard et al., 2001; Rebellon et al., 2016; Moffitt & Caspi, 2001; Moore & Hagedorn 2001; Steffensmeier & Schwartz, 2009; Titzmann et al., 2014). Notably, Gottfredson and Hirschi (1990) have even asserted that sex differences appeared to be invariant across time and space.

Furthermore, vitality of religion was found to be reciprocally associated with risk behaviour. Adolescents who considered religion to be important in their lives were less likely to engage in risk behaviour. This finding is congruent with earlier studies which have demonstrated that religious participation and perceived importance of religion were significantly related to a reduced likelihood of delinquent behaviour engagement and illicit drug use (Bartkowski et al., 2008; Benda & Corwyn, 1997; Jang et al., 2008; Kelly et al., 2015; Miller, & Vuolo, 2018; Regnerus & Elder, 2003; Smith, 2003).

Regarding parents' education, respondents whose parents had higher levels of education were shown to be less likely to engage in risk behaviour. This may be attributed to better parenting practices as studies have revealed the strong relationship between parents' educational attainment and their knowledge, values, beliefs, and goals about childrearing and child development (Dubow et al., 2009; Morawska et al., 2009; Waylen & Stewart-Brown 2010). In fact, a substantial body of research has ascertained the strong association between effective parenting practices (e.g., parental supervision and recognition of deviant behaviour) and anti-social and problem behavior in children and adolescents (Hoeve et al., 2009; Sentse et al., 2009).

In addition to the socio-demographic variables, criminal victimization emerged as a significant contributing factor. Both property and violent crime victimization experiences were found to be predictive of risk and delinquent behaviour (Cooley et al., 2015; Cullen et al., 2008; Elrod & Soderstrom, 2008; Hong et al., 2017; Jackson et al., 2013; Vogel & Keith, 2015; Ousey et al., 2015; Schreck et al., 2017; Turanovic & Pratt, 2013; Wong & Schonlau, 2013; Zeman & Bressan, 2008). Previous studies have linked direct and indirect criminal victimization to a variety of negative psychological and physical outcomes, such as ailing mental health, substance use, decreased academic performance, and lower expectations for future success (Hinton et al., 2020; Pinchevsky et al., 2014). Indeed, victims' delinquent behaviour may be related to their attempt to prevent further harm, to seek revenge against individuals who they believe are accountable for the harm, or to alleviate their negative feelings (Agnew, 2002).

Consonant with the self-control theory, this research corroborates findings from earlier studies that adolescents who scored lower on the self-control scale were significantly associated with higher levels of involvement in risk and law-violating behaviour (Chan & Chui, 2015; Hay, 2001; Leas & Mellor, 2000). It is noteworthy that Pratt and Cullen's (2000) meta-analysis of the research literature on self-control and crime has demonstrated the vitality of self-control regardless of how this concept was measured (i.e., attitudinal vs. behavioural measures), what type of sample was used (e.g., community vs. offender populations and racially homogeneous vs. racially integrated groups), how the study was designed (i.e., longitudinal vs cross-sectional), what variables were included (i.e., whether variables from other competing theories were used), or how the outcome variable (i.e., crime or other forms of analogous behaviour) was conceptualized.

Finally, this analysis lends credence to the vitality of differential association on both risk and delinquent behaviour. This finding, which has been well-documented in the

literature (Bowman et al., 2007; Kim & Goto, 2000; Lipsey & Derzon, 1998; Liu & Liu, 2016; Matsueda & Anderson, 1998), underscores the negative impacts of having direct and indirect interaction with individuals who engage in unlawful activities.

6. Conclusion

Using a multivariate approach, this study explores the prevalence of adolescent risk and delinquent behaviour in a sample of high school students. It fills a lacuna in the present literature on youth problem behaviour in Canada, and provides important insight into the major determinants of adolescents' risk and delinquent involvement in Regina.

The findings have significant policy and practical implications for individuals (e.g., school administrators, teachers, counsellors, social workers, and law enforcement officers) and agencies (e.g., boards of education, educational institutions, community organizations, and govermental agencies) working with young people in various capacities. The results may be used to develop prevention and intervention strategies for delinquent and related behaviour. Given the strong link between delinquent peer association and likelihood of delinquent activity involvement, it is essential to develop pertinent policies and procedures to effectively screen and monitor adolescents for close ties with peers who engage in unlawful and analogous behaviour. The substantial impact of self-control on both risk and delinquent behaviour underscores the importance of strengthening adolescents' self-regulation skills. In view of the close connection between criminal victimization experiences and likelihood of problem behaviour engagement, criminal justice agencies must make a concerted effort to reduce the criminal victimization risks among young people. As well, since criminal victimizations may have serious emotional, physical, psychological, and financial consequences, victim service organizations and schools should provide practical help and support to youth crime victims and to assist them in their recovery.

The results of the present investigation should be considered in light of several methodological limitations. As this study reports data based on a non-random sample of high school students in a Canadian prairie city, caution must be exercised in interpreting the findings. The reliance on cross-sectional data precludes interpretation of causality. Although respondents were assured complete confidentiality and anonymity, bias stemming from self-report and social desirability might have influenced the results. Further exploration of variation across types of both institutions (e.g., private vs. public and religious vs. non-religious schools), students (e.g., majority vs. racial, ethnic, and minority groups), and geographic locations (e.g., rural vs. urban) would be informative. The use of a longitudinal design to ascertain the causality of the study variables would also be warranted.

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Appendix: Predictable Variables Used in Regression Models

The same set of predictor variables was used in both multiple OLS regression models, including sex, age, religious affiliation, vitality of religion, socio-economic status, employment status, parents' education, academic performance, self-control, social bond (measured using familial support and relationships, participation in conventional activities, and attitudes toward school), differential association (i.e., close friends' use of illegal drugs), and criminal victimization experiences (property and violent crimes).

Self-control was composite score ($M = 75.65$, $SD = 15.89$) based on respondents' degree of agreement or disagreement with twenty-five items measured using a five-point scale (1 = strongly disagree to 5 = strongly agree), including (a) The things I like to do best are dangerous ($M = 2.59$, $SD = 1.16$); (b) I will try almost anything regardless of the consequences ($M = 2.30$, $SD = 1.08$); (c) I often behave in a reckless (careless) manner ($M = 2.26$, $SD = 1.17$); (d) Excitement and adventure are more important to me than security ($M = 2.73$, $SD = 1.08$); (e)I often take risks without stopping to think about the results ($M = 2.63$, $SD = 1.22$); (f) I can easily lose my temper ($M = 2.75$, $SD = 1.29$); (g) Often when I am angry at people, I feel more like hurting them than explaining to them about why I am angry ($M = 2.35$, $SD = 1.31$); (h) When I have a serious disagreement with someone, it's usually hard for me to talk about it without getting upset ($M = 3.00$, $SD = 1.29$); (i) I generally make careful plans ($M = 3.25$, $SD = .97$); (j) A well thought-out reason for almost everything I undertake ($M = 3.11$, $SD = .93$); (k) I am careful in almost everything I do ($M = 3.17$, $SD = 1.00$); (l)I can work for a long period of time without becoming bored ($M = 2.85$, $SD = 1.17$); (m) Sometimes I will take a risk just for the fun of it ($M = 3.58$, $SD = 1.04$); (n) Test myself every now and then by doing something a little risky ($M = 3.37$, $SD = 1.03$); (o) I might do something foolish for the fun of it ($M = 3.53$, $SD = 1.04$); (p) I sometimes find it exciting to do things for which I might get caught ($M = 3.10$, $SD = 1.19$); (q) I sometimes take unnecessary chances ($M = 3.11$, $SD = 1.10$); (r) I finding it exciting to ride in or drive a fast car ($M = 3.80$, $SD = 1.13$); (s) At times, I am rather careless (sloppy) ($M = 3.11$, $SD = 1.12$); (t) I am the type to be bored one minute and excited about something the next ($M = 3.33$, $SD = 1.03$); (u) I often leave jobs unfinished ($M = 2.44$, $SD = 1.15$); (v) I am often somewhat restless ($M = 3.01$, $SD = 1.08$); (w) I usually say the first things that come into my mind ($M = 3.19$, $SD = 1.10$); (x) I sometimes do silly things without thinking ($M = 3.48$, $SD = 1.08$); and (y) Many times I act without thinking ($M = 3.12$, $SD = 1.17$). This twenty-five-item scale has a Cronbach's reliability coefficient of .911.

Differential association was a dichotomous variable based on whether or not respondents had close friends who used illegal drugs (1 = yes; 0 = no).

Participation in conventional activities was a composite score (M = 12.99, SD = 0.99) based on the total number of hours respondents spent on the following activities each week: (1) school activities (M = 4.56, SD = 5.54); (2) voluntary work (M = 1.03, SD = 2.83); and (3) religious activities (M = .88, SD = 1.90); and (4) studying and doing homework (M = 6.04; SD = 5.45).

Familial support and relationships was a composite score (M = 13.56, SD = 3.46) based on respondents' degree of agreement or disagreement with the following four statements using a five-point scale (1 = strongly disagree to 5 = strongly agree): (1) I am getting along well with my father (M = 3.68, SD = 1.22); (2) I am getting along well with my mother (M = 4.02, SD = 1.03); (3) If I need advice on something other than school, I often go to my father for advice (M = 2.49, SD = 1.29); and (4) If I need advice on something other than school, I often go to my mother for advice (M = 3.37, SD = 1.30). This four-item scale has a Cronbach's reliability coefficient of .675.

Academic performance was based on respondents' self-reported grade point average (M = 4.2, SD = .97) on a five-point scale (1 = Grade "E" or below 50%; 2 = Grade D or 50-59%; 3 = Grade C or 60-69%; 4 = Grade B or 70-79%; 5 = Grade A or 80-100%).

Attitudes toward school was a composite score (M = 5.08, SD = 2.12) based on respondents' degree of agreement ort disagreement with the following statements on a five-point scale (1 = strongly disagree to 5 = strongly agree): (1) I like school very much (M = 2.66, SD = 1.16) and (2) School is boring (M = 2.43, SD = 1.26). The coding for the second item was reversed to create a scale that higher scores reflect more favourable attitudes toward school. This two-item scale was found to be internally consistent, with a Cronbach's reliability coefficient of .703.

Property crime victimization was based on whether or not respondents had been a victim of a property crime (e.g., theft, vandalism) in the past two years prior to the survey (1 = yes; 0 = no).

Violent crime victimization was based on whether or not respondents had been a victim of a violent crime (e.g., physical assault) in the past two years prior to the survey (1 = yes; 0 = no).

Vitality of religion was based on the question "How important a role does religion play in your life" (M = 2.67, SD = 1.30) measured on a five-point scale ranging from 1 = very unimportant to 5 = very important.

Regarding socio-demographic variables, *sex* (1 = male; 0 = female), *age* (1 = 16 to 19; 0 = 14 to 15), and *religious affiliation* (1 = Protestant or Catholic; 0 = other) were dummy coded. *SES* (M = 3.37, SD = .79) was an ordinal scale ranging from 1 (low income family) to 5 (high-income family). *Employment status* was measured by number of hours spent on paid employment per week (M = 8.61, SD = 11.35). *Parents' education* was a composite score (M = 9.97, SD = 1.78) based on the educational attainment of respondents' father (M = 4.91, SD = 1.13) and mother (M = 5.24, SD = 1.29) using a six-point scale (1 = some primary school to 6 = graduated from college or university).