SUBSTANCE USE AND SCHOOL CONNECTEDNESS AMONG STREET-INVOLVED YOUTH IN BRITISH COLUMBIA: A MIXED-METHODS STUDY

by

Robert Rivers

B.Sc. (Hons), The University of Toronto, 2006
M.A., L’Université Lumière, 2008

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

(Interdisciplinary Studies)

[Population and Public Health]

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

January, 2018

© Robert Rivers, 2018
Abstract

Street-involved youth face difficulties due to their precarious living situation. Substance use is higher among these youth compared to the general youth population. This study examines the relationship between street-involved youth and school connection on their problem substance use. Problem substance use was defined as using marijuana 20 or more times a month, binge drinking alcohol three or more times a month, and facing consequences from severe substance use.

The study design was a two-step sequential mixed-methods approach, beginning with a quantitative analysis using probability profiling via logistic regression with 762 street-involved youth ages 12 to 18 who responded to the province wide 2006 British Columbia Street-Involved Youth Survey in Canada. The second step used qualitative interviews to collect qualitative data with street-involved youth enrolled in school the previous year and identified using substances. Themes were identified from their experiences with substance use while in school.

The probability profiling analyses uncovered school connectedness influenced problem substance use differently for young women and men. The presence of school connectedness decreased the probability of Problem Alcohol Use from 32% to 17% for young men and provided a 25% overall reduction in probability among known risk factors. The probability of Problem Marijuana Use decreased from 33% to 18% for young women as school connectedness increased; school connectedness reduced risk factors by 18%. Consequences from Substance Use was marginally protected against for young women, but school attendance protected against consequences for young men by 12%, in the presence of known risk factors.

The second step examined qualitative data collected from interviews with four young women and seven young men who were street-involved in Vancouver, Canada at the time of the study. The age for youth participation was 16 to 24; they must been in school for a month over the past year and used substances while attending school. The recruited youth were between ages 16 and 21. They said having
one caring adult in school, participating in extracurricular activities, and attending schools with zero
tolerance policies toward substance use were ineffective in reducing substance use or creating stronger
closures to school.
Lay Summary

This study examined how the level of school connectedness influenced problem substance use among street-involved youth in British Columbia, Canada. Problem substance use included using marijuana 20 or more times a month, binge drinking alcohol three or more times a month, and facing severe substance use consequences. The study used data from the 2006 Street-Involved Youth Survey conducted by the McCreary Centre Society across British Columbia, Canada, and interviews with street-involved youth who had been enrolled in school in the previous year and who self-identified as using substances. The surveyed youth were ages 12 to 18 and those interviewed 16 to 21. The study found that increased school connectedness significantly decreased young men’s probability of problem marijuana use and decreased problem alcohol use for young women. Interviews found having one caring adult in school, participating in extracurricular activities, and attending a school with zero tolerance toward substance use did not reduce substance use or create stronger connections to school for youth.
Preface

This study was approved by the University of British Columbia Research Ethics Board (#H14-01517).

The dissertation used secondary population data from the 2006 British Columbia Street-Youth Survey (BCSYS) collected by the McCreary Centre Society, Vancouver, B.C. The primary qualitative data for this dissertation were collected by the author. Professor Elizabeth Saewyc provided guidance and feedback on the design of the study, data collection and appropriate methods for analysis of quantitative data. Professor James Frankish provided feedback and support on the study design and appropriate theoretical framework. The author was wholly responsible for data analysis and the writing of the dissertation.
# Table of Contents

Abstract .............................................................................................................................. ii

Lay Summary .................................................................................................................. iv

Preface .............................................................................................................................. v

Table of Contents ............................................................................................................ vi

List of Tables .................................................................................................................... xiii

List of Figures ................................................................................................................... xv

List of Equations .............................................................................................................. xvi

Acknowledgments ............................................................................................................ xvii

Dedication ......................................................................................................................... xviii

Chapter 1  Overview/Introduction ..................................................................................... 1

1.1  Background ................................................................................................................. 1

1.2  Purpose of the Study .................................................................................................... 3

1.3  Primary Research Questions ...................................................................................... 4

1.4  Study Significance ...................................................................................................... 5

1.5  Research Design ......................................................................................................... 5

Chapter 2  Literature Review .............................................................................................. 7

2.1  Introduction ............................................................................................................... 7

2.2  Development and the Social Environment .............................................................. 7

2.3  Street-Involved Youth ............................................................................................. 8

2.4  Origins of Street Involvement ................................................................................ 10
### Chapter 2

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4.1</td>
<td>Summary</td>
<td>12</td>
</tr>
<tr>
<td>2.5</td>
<td>Health Risks</td>
<td>13</td>
</tr>
<tr>
<td>2.6</td>
<td>An Overview of Youth Substance Use</td>
<td>14</td>
</tr>
<tr>
<td>2.7</td>
<td>Risks Associated with Substance Use</td>
<td>17</td>
</tr>
<tr>
<td>2.7.1</td>
<td>Physical and Sexual Abuse</td>
<td>17</td>
</tr>
<tr>
<td>2.7.2</td>
<td>Health and Substance Use</td>
<td>19</td>
</tr>
<tr>
<td>2.8</td>
<td>Substance Use and Health Burdens</td>
<td>19</td>
</tr>
<tr>
<td>2.9</td>
<td>A Role for School</td>
<td>21</td>
</tr>
<tr>
<td>2.10</td>
<td>Theoretical Explanations for Youth Substance Use</td>
<td>23</td>
</tr>
<tr>
<td>2.10.1</td>
<td>Introduction</td>
<td>23</td>
</tr>
<tr>
<td>2.10.2</td>
<td>Theories Examined for This Thesis</td>
<td>23</td>
</tr>
<tr>
<td>2.10.3</td>
<td>Ecological System Theory</td>
<td>26</td>
</tr>
<tr>
<td>2.10.4</td>
<td>Summary</td>
<td>33</td>
</tr>
</tbody>
</table>

### Chapter 3

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Mixed Methods for Examining School Connectedness</td>
<td>34</td>
</tr>
<tr>
<td>3.2</td>
<td>Mixed-Method Overview</td>
<td>34</td>
</tr>
<tr>
<td>3.3</td>
<td>Quantitative Methods</td>
<td>35</td>
</tr>
<tr>
<td>3.3.1</td>
<td>Sample</td>
<td>36</td>
</tr>
<tr>
<td>3.3.2</td>
<td>Ethics</td>
<td>36</td>
</tr>
<tr>
<td>3.4</td>
<td>Data Collection</td>
<td>36</td>
</tr>
</tbody>
</table>
3.4.1 Recruitment .............................................................................................................. 36
3.4.2 Data preparation ....................................................................................................... 37
3.5 Dependent Variables .................................................................................................. 37
  3.5.1 Problem Marijuana Use ......................................................................................... 38
  3.5.2 Binge Drinking ...................................................................................................... 38
  3.5.3 Consequences from Substance Use ...................................................................... 38
  3.5.4 Independent variables .......................................................................................... 39
3.6 Risk-factor Variables .................................................................................................. 39
  3.6.1 Mental Health ....................................................................................................... 39
  3.6.2 Sexual Abuse ....................................................................................................... 40
  3.6.3 Physical Abuse ..................................................................................................... 40
  3.6.4 Family Experience with Problem Alcohol Use .................................................... 40
  3.6.5 Family Experience with Problem Substance Use ................................................ 40
3.7 Protective Variables ................................................................................................... 41
  3.7.1 Educational Aspirations ....................................................................................... 41
  3.7.2 School Attendance .............................................................................................. 41
  3.7.3 School Connectedness ......................................................................................... 41
3.8 Methods of Analysis for the Quantitative Data .......................................................... 42
  3.8.1 Step 1: Demographic Analysis ............................................................................ 42
  3.8.2 Step 2: Scale Reliability, Bivariate, and Multivariate Logistic Regression Models .. 43
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3.6</td>
<td>Increased Connectedness</td>
</tr>
<tr>
<td>5.3.7</td>
<td>Less Judgment</td>
</tr>
<tr>
<td>5.3.8</td>
<td>Summary of Protective Factors</td>
</tr>
<tr>
<td>5.4</td>
<td>Risk Factors</td>
</tr>
<tr>
<td>5.4.1</td>
<td>Family Problem Substance Use</td>
</tr>
<tr>
<td>5.4.2</td>
<td>Parental Substance Use Themes</td>
</tr>
<tr>
<td>5.4.3</td>
<td>Mental Health Conditions</td>
</tr>
<tr>
<td>5.4.4</td>
<td>Mental Health Themes</td>
</tr>
<tr>
<td>5.4.5</td>
<td>History of Physical and Sexual Abuse</td>
</tr>
<tr>
<td>5.4.6</td>
<td>Themes on Physical and Sexual Abuse</td>
</tr>
<tr>
<td>5.4.7</td>
<td>Summary of Risk Factors</td>
</tr>
<tr>
<td>5.5</td>
<td>Multivariate Logistic Models and Probability Profiles</td>
</tr>
<tr>
<td>5.5.1</td>
<td>Problem Marijuana Use</td>
</tr>
<tr>
<td>5.5.2</td>
<td>Normalization/Benign Substances</td>
</tr>
<tr>
<td>5.5.3</td>
<td>Recreational Drugs</td>
</tr>
<tr>
<td>5.5.4</td>
<td>Problem Alcohol Use</td>
</tr>
<tr>
<td>5.5.5</td>
<td>Consequences from Substance Use</td>
</tr>
<tr>
<td>5.5.6</td>
<td>Dangerous Drugs</td>
</tr>
<tr>
<td>5.5.7</td>
<td>Summary of Probability Profiles</td>
</tr>
<tr>
<td>5.6</td>
<td>Overarching Themes on Perceptions School</td>
</tr>
</tbody>
</table>
List of Tables

Table 4.1: Missing Variable Percentages .................................................................56
Table 4.2: Summary of School Connectedness Items .............................................57
Table 4.3: Correlation Matrix Pearson r vs. Polychoric .........................................58
Table 4.4: Age Distribution of Survey Participants ................................................58
Table 4.5: Survey Participant Gender Distribution ................................................59
Table 4.6: Survey Participant Age by Gender Distribution ....................................59
Table 4.7: Survey Youth Attending School ............................................................60
Table 4.8: Educational Aspiration of Youth ............................................................61
Table 4.9: Survey Problem Substance Use Distribution .........................................61
Table 5.1: Attending School by Gender & Problem Substance Use Category ..........77
Table 5.2: Bivariate Analysis School Connectedness on Problem Substance Use by Gender ...........81
Table 5.3: Bivariate Analysis Family Problem Substance Use by Gender & Problem Substance Use Category .................................................................89
Table 5.4: Bivariate Family Problem Alcohol Use by Gender & Problem Substance Use Category ........................................................................................................90
Table 5.5: Bivariate 1 to 2 Mental Health Conditions by Problem Substance Use & Gender ......92
Table 5.6: 3 or More Mental Health Conditions by Problem Substance Use Category & Gender 92
Table 5.7: Physical Abuse Experiences by Substance Use Category & Gender ...............93
Table 5.8: Sexual Abuse by Substance Use Category & Gender ................................94
Table 5.9: Percentiles of School Connectedness Score by Gender ..........................97
Table 5.10. Young Women Full Risk and Protective Factors Logistic Models for Problem Marijuana Use ........................................................................................................98
Table 5.11. Young Women Probability Profile for Problem Marijuana Use ..........98
Table 5.12 Young Men Full Logistic Model Problem Alcohol Use........................................... 101
Table 5.13 Young Men Problem Alcohol Use Probability Profile........................................... 102
Table 5.14 Young Men Full Logistic Model Consequences from Substance Use .................... 103
Table 5.15 Young Women Full Logistic Model Consequences from Substance Use ................. 103
Table 5.16 Young Women Consequences from Substance Use Full Probability Profile Model .. 105
Table 5.17 Young Men Consequences from Substance Use Full Probability Profile ................. 106
List of Figures

Figure 2.1 - Ecological Model of Youth Problem Substance Use .............................................. 31

Figure 3.1 - Mixed Methods Research Questions ........................................................................ 35

Figure 5.1 - Young Women Problem Marijuana Use Probability Profile ................................... 99

Figure 5.2 - Young Men Probability Profile Problem Alcohol Use ............................................ 102

Figure 5.3 - Young Women Consequences from Substance Use ............................................. 105
List of Equations

Equation 3.1 - Equation for Calculating Probability Score .................................................. 45

Equation 3.2 - Equation for Calculating the Probability Outcome ...................................... 45
Acknowledgments

I would like to thank my supervisor, Dr. Elizabeth Saewyc, for all her support in learning the subtleties of becoming an effective and thorough health researcher. I would like to thank my other supervisor, Dr. Jim Frankish, for his moral and academic support throughout this time. Another thank you to my committee member Dr. Curren Warf for his thoughtful feedback. It is through everyone’s selfless dedication that this study was possible, and I will always be grateful.

A special thank you to my wife, Dr. Azadeh Arjmandi, for keeping me sane and grounded throughout this gruelling process. This dissertation was a long journey punctuated by meeting one another, falling in love, moving across the country, and getting married. This was possible only with your continued support and motivation for those days I was not interested in working on it.
Dedication

I would like to dedicate this work to the youth out there who face daily difficulty. Keep your head up and never fear reaching out because there are people who want you to succeed. You will become better from having met them.
Chapter 1 Overview/Introduction

1.1 Background

Researchers estimate that between 65,000 to 150,000 young people are precariously or unstably housed in Canada (DeMatteo et al., 1999; Raising the Roof, 2009). A number of terms are used in academic and social discourse to refer to these youth, such as homeless, street involved, street kids, runaways, throw away or lost youth (Busen, Engebretson, Busen, & Engebretson, 2008; Kidd, 2012; Smith et al., 2007). The term used in this study, street-involved youth, includes youth between the ages of 12 and 24 who are in precarious housing situations such as living in a squat, couch surfing, staying at youth shelters, and living on the street (Centers for Disease Control and Prevention, 2009; Bucher, 2008; Kerr, Fast, Small, & Wood, 2009; Public Health Agency of Canada, 2006; Smith et al., 2007).

Youth leave their homes for many reasons. A longitudinal U. S. study that followed a group of youth over six years found that poor family relationships, problems adjusting to school and victimization can be predictors of homelessness (van den Bree et al., 2009). Several other studies report that youth leave home due to disputes with their family, history of physical and/or sexual abuse, or to escape poverty (Ensign & Bell, 2004; Karabanow, 2008; Karabanow, Carson, & Clement, 2011; Kelly & Caputo, 2007).

The prevalence of substance use is persistently high among street-involved youth. For instance, the proportion of Canadian street-involved youth who have tried any drugs over their lifetime has remained around 94% during the past decade (Alberta Public Health, 2011; Ottawa Public Health, 2011; Public Health Agency of Canada, 2007). Associated with the high proportions of substance use, youth mortality rates are estimated to be 11 times higher than among older substance-using populations, with overdose being a leading cause of death (Roy et al., 2004). Youth who binge use were also found to be 60% more likely to experience a non-fatal overdose (Nolan, DeBeck, Nguyen, Kerr, & Wood, 2014).
Overdose and suicide comprise the leading causes of death in this subset of youth (Miller, Kerr, Strathdee, Li, & Wood, 2007; Roy et al., 2004).

Gender differences for some forms of substance use have been found among street-involved youth. Examining substance use habits over a 30-day period, researchers found that young men were more likely to have used alcohol and marijuana than young women (80% and 63%, respectively) (Kirst, Frederick, & Erickson, 2011). In British Columbia (B.C.), more young street-involved men used marijuana than their female counterparts yesterday (68% and 53%, respectively) and in the past month (82%, 73%) (Smith et al., 2007).

However, gender is not a predictor of substance use for injection drugs. This was found in the third wave of the national Enhanced Street-Youth Survey (E-SYS), conducted in 2003, which reported young men (23%) and women (20%) were equally likely to have injected drugs (Public Health Agency of Canada, 2006). Initiation of injection drug use has also been shown to have no significant difference by gender (Feng et al., 2013; Public Health Agency of Canada, 2007). The street environment provides equal opportunity for more severe forms of drugs, use regardless of gender.

Regardless of the challenges surrounding their living situation, most street-involved youth in Canada remain in school for at least some period of time. An Ottawa-based study showed that 42% of street-involved youth ages 15 to 24 had completed age-appropriate education. Age was inversely related to the proportion of youth completing an age-appropriate level of education in this population—only 8% of youth had done so by age 18 (Ottawa Public Health, 2011). Similar results were found in an Edmonton study where approximately 65% of participants between 15 and 16 had completed their age-appropriate education, whereas the proportion dropped to only 27.3% for those by age 18 (Alberta Public Health, 2011). In a sample of 762 street-involved youth aged 14 to 18 in British Columbia, over half (62%) indicated that they were enrolled in school at the time of the survey (Smith et al., 2007).
The literature suggests that several protective factors help reduce risk behaviours. Research shows that for most students, the school environment and positive school-based relationships—as measured by school connectedness—increase well-being and reduce risky health behaviours such as substance use (Centers for Disease Control and Prevention, 2009; Saewyc & Edinburgh, 2010; Saewyc, Wang, Chittenden, Murphy, & McCreary Centre Society, 2006; Shochet, Dadds, Ham, & Montague, 2006; Smith et al., 2008). Adolescence is a period of intense cognitive, physiological, and social development (Catalano, Oesterle, Fleming, & Hawkins, 2004; Oetting & Donnermeyer, 1998). Schools are an important place for socialization, which has many benefits. It can empower youth, enhance their resilience, promote constructive use of time, and provide opportunities to interact with the boundaries and expectations of society through formal and informal interactions with peers and adults (Benson, Leffert, Scales, & Blyth, 1998; Benson, Scales, Hamilton, & Sesma, 2007; Oetting & Donnermeyer, 1998). The social bonds formed in school are associated with the initiation, escalation, maintenance, decrease, or cessation of risk behaviours such as substance use (Catalano & Hawkins, 1996). Schools are, therefore, in a position to guide youth toward forming relationships that foster pro-social behaviours in agreement with their beliefs, values, and norms, which may also be associated with reduction in youth substance use (Catalano & Hawkins, 1996; Catalano et al., 2004).

The protective nature of the school environment has been examined as a protector of substance use among the general youth population, but there is limited research on schools offering protection against substance use for street-involved youth (Bond et al., 2007; Resnick, Harris, & Blum, 1993; Shochet et al., 2006). The gaps in the literature surrounding street-involved youth experiences and participation in schools impede our capacity to address substance use in youths.

1.2 Purpose of the Study

The aim for this sequential mixed-methods study is to understand the relationship between school connectedness and substance use among street-involved youth in British Columbia. The aim is to
broaden the understanding of the influence of school connectedness on problem marijuana and alcohol use in the 2006 British Columbia Street-Involved Youth Survey (2006 BCSYS). This will be accomplished by examining the relationship between school experiences (peer relations, interactions with teachers and staff and school administrative policies) and youth substance use in a sample of street-involved youth interviewed in 2014 throughout Vancouver. Through identifying specific school experiences that build resilience or increase vulnerability to problem substance use, this study will identify specific characteristics of the school experience that may be leveraged to assist with decreasing substance use.

1.3 Primary Research Questions

Three central research questions guided this study:

- How do street-involved young men and women’s experiences with substance use differ in the context of school?
- How do the personal interactions with adults and peers in school influence youth substance use?
- According to street-involved young people, what role do school policies for substance use have on how they interact with school?

This study expects to find that stronger connections to school will lower the probability of behaviours and youth problem substance use.
1.4 Study Significance

Substance use poses many health risks for street-involved youth. This study is the first to examine the influence of school connectedness on street-involved youth using data from both large-scale health surveys and individual interviews. The information generated in this study will provide a starting point for more focused substance use support for street-involved youth in school. It will also allow school administrators, teachers, health care workers, and social policy makers to address the role that the school environment has in exacerbating or de-escalating substance use among street-involved youth.

1.5 Research Design

To achieve these objectives, two methods were used: a sequential mixed-method study, quantitative to qualitative, was conducted using the 2006 BCSYS multi-city survey data, and youth were interviewed in 2014. The 2006 BCSYS survey data was the most recent data available at the time of this study for the health outcomes among street-involved youth throughout B.C. The participants were younger street-involved youth from 12 to 18. The survey included questions about substance use, school attendance, and previous experiences with physical and sexual abuse, mental health diagnosis.

Street-involved youth are more likely to use substances compared to their stably housed peers. In spite of their precarious living situations, the majority of street-involved youth remain connected to school in some form or another. This dissertation will explore the link between school connectedness and street involvement on youth substance use. It is organized into six chapters, including this introductory one. Chapter 2 provides a critical evaluation of the current literature and theories surrounding youth school involvement and substance use. Chapter 3 presents the methods for conducting the sequential mixed-method research to analyze the relationships between substance use and school connectedness. Covariates such as physical and sexual abuse experiences, mental health,
gender and age are examined relative to substance use and school connectedness. An updated
psychometric analysis for ordinal variables is included for the school connectedness scale. The method
for the qualitative semi-structured interviews will outline youth experiences with substance use and
school-based relationships with peers, teachers, administrators, and other adults in their school.
Chapter 4 provides the demographics for the youth involved in the study. Further information collected
from the interviews provides context to their family histories, current living situations, and experiences
with street involvement. Chapter 5 presents the results necessary to answer this study’s research
questions in full detail. The study outcomes are discussed in Chapter 6 along with suggestions on how
the findings inform practice, policy, and next steps. Additional information on the future directions for
research on the role of school are presented in this chapter.
Chapter 2  Literature Review

2.1  Introduction

This chapter provides an overview and critical evaluation of the existing literature concerning substance use, health, and school in the lives of street-involved youth. The first section offers an overview of the influence of youths’ socially learned behaviours during their development. The second section offers a sketch of the literature’s representation of street-involved youth in Canada and the risks they face. The third section examines the public health theories pertaining to youth problem substance use. Further discussion reviews the role of the social environment of schools in youth substance use. The final section presents the social ecological theory in order to understand the interworking among youth problem substance use, school social environment, and the concept of school connectedness.

2.2  Development and the Social Environment

When discussing influences on childhood and youth development, the literature focuses on determining the role of social experiences on youth (Andrew, Maccoby, Steinberg, Mavis, & Bornstein, 2000; Shore, 1997). The socially learned behaviours are the result of cultural beliefs, social interactions, socio-economic situation, family structure, social inequalities of race and gender, and personal experiences with abuse and trauma. Generally, youth benefit from access to resources and positive social interactions within numerous social contexts such as peer groups, family or caring adults, schools, and communities (Bandura, 1986; Saewyc & Tonkin, 2008; Youngblade et al., 2007). Positive development has been associated with children having stable emotional attachments to adults and the ability to interact spontaneously with peers, often through organized activities (Eime, Young, Harvey, Charity, & Payne, 2013; Mahoney, Larson, & Eccles, 2005; Perry, 2002). Organized activities that benefit youth, as defined by Mahoney, Larson, and Eccles (2005), include structure, adult-supervised activities,
with the focus on building skills during out-of-school time, and positive youth development. These include sports, social clubs, and activities that are educational in nature (Mahoney et al., 2005).

Opportunities for youth exposure to positive development helps shapes their perceptions related to substance use (Flay, Graumlich, Segawa, Burns, & Holliday, 2004; Greenberg et al., 2003; Toumbourou et al., 2007). Studies have found that perceptions of peer substance use can alter how youth will use substances (D’Amico & McCarthy, 2006; Flay et al., 2004; Greenberg et al., 2003; Toumbourou et al., 2007). For example, a study of African American youths’ perceptions about the safety, violence levels, and drug activity in their communities showed an association between negative perceptions and increased alcohol and marijuana use (Lambert, Brown, Phillips, & Lalongo, 2004). Perceptions of risks associated with substance use while driving under the influence also alter youth use behaviours, as alcohol was considered more dangerous than marijuana based on ability to drive (Kelly, Darke, & Ross, 2004). Another study found that youth use substances intentionally for functional outcomes such as to relax, become intoxicated, socialize, and self-medicate against a depressive mood (Boys, Marsden, & Strang, 2001).

Not all youth live in stable circumstances that allow access to the specific positive physical and social resources that the literature has outlined as necessary for healthy development. Youth who are street involved face increased difficulties compared to the general youth population, as they struggle to secure the most basic necessities of life while living in social environments fraught with risk. Substance use among these youth is high.

### 2.3 Street-Involved Youth

Numerous terms refer to youth in precarious living situations, such as homeless, street involved, street kids, runaways, and throw-away or lost youth (Busen, & Engebretson, 2008; Kidd, 2012; Smith et al., 2007). *Street-involved youth* is one of the most commonly used terms to describe youth with precarious housing situations such as couch surfing, living in a squat or youth shelters, or on the street.
The term "youth" often refers to persons between 15 and 24 years of age (Public Health Agency of Canada, 2006; UNESCO, 2016), but previous research has found that street-involved youth can be as young as 12 years old. This dissertation uses this broader age range (Smith et al., 2007).

Currently, there are no accurate statistics for the population of street-involved youth in Canada, but according to available estimates, between 65,000 and 150,000 youth are street involved in this country (DeMatteo et al., 1999; Raising the Roof, 2009). Additional attempts to determine the population of street-involved youth come from the 2015 Vancouver Homeless Counts, according to which 17% (n=199) of people staying in shelters and on the street were under 25 years of age (Thomson, 2015). However, researchers have pointed out that street-involved youth tend to be distinctly mobile and resourceful and will not be readily spotted on the streets or in shelters. This leads to underestimating their population size (Eberle, Kraus, & Serge, 2009; Larson & Meehan, 2011).

Many studies have argued that young men are more likely to be considered street involved than young women (Boivin, Roy, Haley, & du Fort, 2005; Ottawa Public Health, 2011; Public Health Agency of Canada, 2006). The perceived differences in gender are an important observation because they demonstrate how study selection bias resulting from sampling by location—for example, street, shelters, or clinics—can obscure our knowledge of the street-involved youth population. Carefully planned population-level studies have found that youth are equally likely to experience life on the street regardless of gender (Brakenhoff, Jang, Slesnick, & Snyder, 2015; Smith et al., 2007; Walsh & Donaldson, 2010).

Research clearly shows that the hidden nature of street-involved youth does not result from conscious choice but from this population’s inherent heterogeneity and diverse living strategies (Ensign & Bell, 2004; Karabanow, 2008; Karabanow et al., 2011; Kelly & Caputo, 2007). Street-involved youths’ heterogeneity is argued to stem from varied individual circumstances, such as a history of family
disputes or abuse, which complicates counting and categorizing them (Kidd, & Patterson, 2010; Kelly & Caputo, 2007).

2.4 Origins of Street Involvement

Research has found no linear pathway to street involvement. The phenomenon is influenced by a complex interaction between individual personal experiences and their social milieu. Some of the individual-level risk factors emphasized in the literature are adversity within the families, mental illness, and substance abuse, while the societal factors most commonly cited are poverty due to the increasing costs of living and inadequate social service supports (Frankish, Hwang, & Quantz, 2005; Guirguis-Younger, 2014; Karabanow, 2004).

Extensive research in Canada and internationally by Korabnow (2003) and others identified three major contributors to youth street involvement: internal family dysfunction, physical/sexual/emotional abuse, and poverty (Guirguis-Younger, 2014; Karabanow, 2004; Shelton, Taylor, Bonner, & van den Bree, 2009). These works found that youth sexual orientation, family tensions, involvement with drug use, and their caregivers’ inability to deal with the youths’ own problematic behaviours can also contribute to street involvement. Running away from—or being kicked out of—home sets up a recurring narrative in many studies.

Several studies offer evidence to reaffirm the role that individual risk factors such as experiences with trauma, violence, and substance use play in youth street involvement (Aratani, 2009; Feng et al., 2013; Karabanow, 2008; Kidd, 2007; Koegel, Melamid, & Burnam, 1995; Roy et al., 2011; Ryan, Kilmer, Cauce, Watanabe, & Hoyt, 2000). Other studies have demonstrated that youth experiences with physical and sexual abuse increase the risk of turning to the street as means to escape (Edinburgh, Saewyc, Thao, & Levitt, 2006; Karabanow, 2004; Thrane, Hoyt, Whitbeck, & Yoder, 2006). The continued exposure to traumatic events and abuse has been associated with increased risk for dissociation as a primary defence mechanism, which leads youth to leave for the street, (Tyler, Cauce, & Whitbeck, 2004).
Moreover, negative interactions with parents and guardians, in a more general sense, have been shown to help spur street involvement: A study of 120 runaway youth and their parents identified lower levels of parental monitoring, support, and warmth in this population compared with families of non-runaway youth (Whitbeck, Hoyt, & Ackley, 1997).

A number of studies have also highlighted the close relationship between street involvement and substance use (Martijn & Sharpe, 2006; Yates, MacKenzie, Pennbridge, & Cohen, 1988). Once youth are on the street, they enter a social environment where access to substances is easier and use is normalized. Some studies show that once youth are on the street, their substance use increases. The increased exposure results in higher probability of problem substance use. Studying a cohort of 422 street-involved youth in Vancouver who never injected at baseline, Feng, et al. (2013) found that 80% of the homeless youth were more likely to inject drugs than their non-homeless counterparts. Increased use of crack cocaine was also observed in another Vancouver-based study among 560 street-involved youth. They were three times more likely to smoke crack and twice as likely to use crystal meth as housed youth (Chettiar, Shannon, Wood, Zhang, & Kerr, 2010; Ottawa Public Health, 2011). Among 419 youth in Montreal, substance use decreased when youth had stable periods of housing where drug injection dropped from 15% to 9%, while poly drug use, excluding marijuana, dropped from 52% to 37% (Roy et al., 2011).

Family poverty has been extensively studied as one of the key risk factors for street involvement (Coates & McKenzie-Mohr, 2010; Jozefowicz-Simbeni & Israel, 2006; Schmitz, Wagner, & Menke, 2001). Widespread economic recessions or downturns influence the availability of support for youth, and an increase in homelessness occurs among youth in school as their families are affected (Duffield & Lovell, 2008). While some families’ inability to cope with economic volatility and rising costs contributes to youth dissociation with home and family environment, society’s response to youth at risk of homelessness, and the resources allocated to their needs, has a key role in their street involvement. In
fact, transitioning to homelessness has been discussed in terms of increased experiences with the criminal justice system, housing services, addiction-related resources and other social services (Cheng et al., 2013; Guirguis-Younger, 2014).

A central example of the role that public services play in the lives of street-involved youth is the relationship between the foster care system and street involvement. In the 2006 BCSYS, nearly 40% of street-involved youth reported having lived in foster care or in a group home at some point while a further 9% reported that this is where they currently lived during the survey (Smith et al., 2007). These findings are not limited to BC, as researchers have found that youth in foster care in the Midwest United States (Illinois and Wisconsin) were more likely to become homeless (29.2%), couch surf (27.7%) or both (39.4%) by age 24 or 25 than youth without foster care experience (Dworky & Courtney, 2010). The challenge for service providers is that youth leave foster care for a variety of reasons; whether they run away or become old enough to transition out, the youth who leave foster care have specific service needs and highlight deficiencies in the system that merit investigation (Fowler, Toro, & Miles, 2009).

2.4.1 Summary

The extent of youth street involvement in Canada is unknown as it is difficult to find reliable estimates. Nevertheless, many studies have been carried out on why youth become street involved. Negative experiences with a dysfunctional family life or with adult guardians, substance use, sexual or physical abuse, and poverty are shown to contribute to street involvement. The lack of social support and public resources to mitigate the impact of these factors also contributes to street involvement. The next section offers an overview of the research done on the health risks commonly faced by the street-involved population.
2.5 Health Risks

Street-involved youth face specific health risks linked to their precarious living situations. Some of the most prevalent health concerns have been categorized under mental and sexual health issues. These problems are exacerbated by a distrust of social support services that could provide assistance, information, and support to mitigate the impact of these health risks.

Street-involved youth are disproportionately exposed to sexual health risks, such as early unwanted pregnancies, sexually transmitted infections (STIs), and trading sex for money, food, shelter and drugs (Alberta Public Health, 2011; Chettiar et al., 2010; Marshall et al., 2009; Ottawa Public Health, 2011). These risks are linked to early age of sexual debut (Alberta Public Health, 2011) and a greater number of sexual partners with increasing housing instability among youth (Marshall et al., 2009). As a result, over half the street-involved young women surveyed in Ottawa and half the youth surveyed in Edmonton indicated having been pregnant once (Alberta Public Health, 2011; Ottawa Public Health, 2011) compared to 2.4% of the national youth population (Government of Canada, 2008). Street-involved youth also report 10 times the rate of chlamydia and 20 to 30 times the rate or gonorrhea infections compared with the general youth population (Public Health Agency of Canada, 2006). Survival sex, or trading sex for basic living necessities such as money, food, shelter, drugs, and clothes, is also more likely among street-involved youth. Greene, Ennet and Ringwalt (1999) found that of 631 youth in shelters, 9.5% participated in survival sex while of the 528 youth on the street, 27.9% reported using survival sex (Greene, Ennett, & Ringwalt, 1999).

Mental health is another concern for street-involved youth, who are more likely to report long-term depression, anxiety, stress, and post-traumatic stress disorder than other youth (Bender, Ferguson, Thompson, Komlo, & Pollio, 2010; Boivin et al., 2005; Kirst et al., 2011; Saewyc & Edinburgh, 2010; Smith et al., 2007). This increased probability of living with mental health conditions is a prominent threat to their individual well-being and makes suicide one of the leading causes of death among this population.
(Miller et al., 2007; Roy et al., 2004). In a Montreal cohort of street-involved youth, suicide was found to be the most common cause of death, accounting for 50% of all deaths, followed by overdose (34%) (Roy et al., 2004). Similar patterns emerge in a cohort study with Vancouver street-involved youth who use injection drugs, where the highest cause of death was suicide (50%) followed by overdose (50%) (Miller et al., 2007). While studies capturing causes of death are relatively rare among street-involved youth, suicide attempt is a key predictor of subsequent suicide, and a greater number of studies have documented a high incidence of suicide attempts among homeless and street-involved youth. In a study of 208 street-involved youth in New York and Toronto, 46% reported attempting suicide with 78% of these youth stating that was not their first try. The most commonly reported method of suicide was overdose (42%) followed by cutting with a sharp object (32%) (Kidd & Carroll, 2007). The general youth population in Canada reports death due to accidents (35%) and suicide (20%) were the top two reasons for death among youth aged 24 and younger (Statistics Canada, 2014).

When homeless or street-involved youth engage the health care system, it is not through regular portals such as family doctors and community clinics but through walk-in clinics and emergency rooms (Ensign & Santelli, 1998). The nature of health risk behaviours could explain their reluctance (or inability) to engage the primary health care system until illness or other complications become too serious to ignore. Yet paradoxically, youth do access services and are fully aware of the services they feel comfortable accessing (Barry, Ensign, & Lippek, 2002; Barry et al., 2002; Ensign & Santelli, 1998; Ensign & Bell, 2004). Numerous health concerns associated with substance use among street-involved youth will be discussed separately and in detail in the following section.

### 2.6 An Overview of Youth Substance Use

Origins of substance use are multifaceted. Barrett and Turner (2006) confirm that among 1,760 youth, representing a wide range of ethnic backgrounds, problematic substance within the family was an independent predictor for youth substance use, but additional variables such as stress and peer
influence also played a role. In another cross-sectional study of 9,346 adults that asked about adverse childhood experiences, participants were more likely to report problem alcoholism if their parents reported problem alcoholism (Anda et al., 2002). Additionally, a longitudinal comparison of 454 youth, (average age of 13 years)—246 with at least one alcoholic parent and 208 with no alcoholic parents—found that family alcohol use was a predictor of heavy drug use and alcohol use (Chassin, Flora, & King, 2004).

Substance use is an important focus for studies concerning Canadian street-involved youth, because records consistently show that about 95% of Canadian street-involved youth have tried an illicit substance in their lifetime (Alberta Public Health, 2011; Ottawa Public Health, 2011; Public Health Agency of Canada, 2007). Substance use is ubiquitous among street-involved youth. In an Edmonton-based study, 80% of youth reported marijuana use in the past three months (Alberta Public Health, 2011). In Saskatoon, 86% used marijuana in the past three months, and 45% binge drank (five or more drinks in one sitting) more than once a month, with 15% having done this two to three times a week (Wright, 2011). Researchers in Ottawa found youth lifetime non-injection drug use has changed little over the decade from 1999 (94%) to 2009 (93%) (Ottawa Public Health, 2011). The outcomes of youth substance use have been little studied in relation to street involvement, connection to school, health risks, and negative health outcomes (Kerr, Fast, et al., 2009; Townsend, Flisher, & King, 2007).

Substances have been studied and categorized based on their potential for negative social and physical consequences. Early work by Kalant and Kalant (1971) identifies two distinct areas where substance use can be problematic: 1) socially, causing conflicts between an individual and societal norms and 2) medically, where continual use is detrimental to personal health (Kalant & Kalant, 1971). In another early paper, Newcomb and Bentler (1989) distinguish between substance use and substance abuse, especially when researching children and adolescents. During their adolescence, youth have been identified as “particularly vulnerable” due to the effects that substances such as alcohol and marijuana
have on their developing brains (Office of the Surgeon General, 2016). Substance abuse begins when the individual faces negative impacts socially and medically (Newcomb & Bentler, 1989).

More recent research has led to further refinement of these concepts. The Diagnostic and Statistical Manual 4th (DSM-IV TR) and 5th (DSM-V) editions contain the current clinical definition of substance abuse. Each edition incorporates the social and medical criteria to rank and categorize the harmful outcomes of substance use. The DSM-IV TR distinguishes between the terms *substance dependence* and *substance abuse*. Substance dependence is diagnosed over a 12-month period when three or more of the following outcomes have occurred: increased drug tolerance, physical withdrawal, prolonged use more than usual, unsuccessful attempts to reduce use, time spent in obtaining the substance, reduction in important social activities due to substance use, and continual use despite recurrent psychological and physical problems. Substance abuse, according to the DSM-IV TR, is when one or more of the following have been identified in the past 12 months: substance use has resulted in failure to fulfill role in school, work or home; recurrent substance use where it would be hazardous (e.g. driving); recurrent legal problems; recurrent social and interpersonal problems; and any symptoms that are not recognized as dependence (American Psychiatric Association, 2000).

The DSM-V further refines the terminology concerning substance use by combining the previous categories of *substance abuse* and *substance dependence* into *substance use disorder*, a comprehensive term that can be adjusted to refer to the use of specific substances, for example, opioid use disorder or alcohol use disorder. In this modified manual, the severity of the disorder is measured on a scale of 11 possible levels; mild (2-3), medium (4-5), and severe (6+) over a 12-month period. (American Psychiatric Association, 2013).

The data collected for this study were informed by the DSM-IV TR, but the expression *substance use* is taken from the DSM-V. Substance use is the preferred term because it captures youths’ general exploration with alcohol, marijuana, and other drugs while acknowledging the uncertainty regarding
whether or not any personal and social harms will last through adulthood (Newcomb & Bentler, 1989; World Health Organization, 2016). An additional term, problem substance use, is synthesised from social harms outlined in DSM-IV TR and the severe amount of substance use identified in DSM-V. Problem substance use for this dissertation incorporates the perspective that three or more negative outcomes must be present in the past 12 months related to their substance use from the DSM-IV TR. Problem substance use in this study also incorporates the severe use of substances over a 12-month period as found in the DSM-V. These distinctions clarify that both patterns of use and a threshold of the number of consequences distinguish general substance use from problem substance use.

2.7 Risks Associated with Substance Use

2.7.1 Physical and Sexual Abuse

Experience with violence in the form of physical and sexual abuse is another risk factor associated with increased substance use. Trauma stemming from physical and sexual abuse has implications in youth substance use later in life (Dube et al., 2003; Huang et al., 2011; Saewyc, 2007). Several studies have found that youth with a childhood history of physical abuse are more likely to use substances (Huang et al., 2011; Kerr, Stoltz, et al., 2009; Kipke, Montgomery, & MacKenzie, 1993). Having been physically abused is widely reported (61%) by the street-involved youth in BC (Smith et al., 2007). In a Vancouver study of 560 street-involved youth, 40% reported having experienced physical abuse during childhood, which was associated with a 92% significant increased risk for injection drug use (Kerr, Stoltz, et al., 2009).

Lifetime experiences with sexual abuse are found among a majority of street-involved youth (Rew, Margaret Taylor-Seehafer, 2001; Roy et al., 2011; Tyler & Cauce, 2002). The association of childhood sexual abuse with youth substance use is evident as youth who report childhood sexual abuse are at an increased risk for substance use problems (Bailey & McCloskey, 2005; James, McField, &
Montgomery, 2013; Ompad et al., 2005; Shin, Hong, & Hazen, 2010). Similar associations have been found for youth with a childhood history of physical abuse (Huang et al., 2011; Kerr, Stoltz, et al., 2009; Kipke et al., 1993).

Youth sexual orientation has been associated with increased overall rate of substance use (Goldbach, Tanner-Smith, Bagwell, & Dunlap, 2013; Marshal et al., 2008). Marshal et al. (2008) meta-analysis of 20 studies on substance use disorders revealed that the relationship between sexual orientation and substance use was greatest among young girls and among youth identifying as bisexual, who were nearly three times more likely to have recently injected drugs, three times more likely to have used cocaine, and four times more likely to be polysubstance users (Marshal et al., 2008). The influence of sexual orientation on substance use was examined in another meta-analysis by Goldbach, Tanner-Smith, Bagwell and Dunlap (2013), who found 12 unique studies of sexual minority youth—those who identify as gay, lesbian, bisexual—and substance use. Personal experiences such as the threat of violence, negative experiences with disclosing sexual orientation, and perceived lack of support from adults in school were strongly associated with youth increased substance use.

Personal relationships have far-reaching effects on substance use among street-involved youth. A study of 145 youth in the Midwest U.S. found youth were more likely to increase substance use if they were interacting with older peers but decrease substance use when family members were present in their lives (Tyler, 2008). However, the role of a family member does not always provide protection against substance use. A separate study of youth who had a family member with problem alcohol or drug use placed youth at increased risks for having similar problems (Biederman, Faraone, Monuteaux, & Feighner, 2000).

Observing youth who were not sedentary but moved frequently from city to city provides insight into how disparate social relationships influence substance use. The travelling youth are a highly mobile subset of street-involved youth. Martino et al. (2011), who interviewed 419 travelling youth between
the ages of 13 and 24, found that this group was at increased risk of disconnection from individuals and social institutions and thus, at increased risk of substance use. Another study on the social networks of street-involved youth, conducted with 349 youth ages 18 to 24, found that youth who met other youth on the street were perceived as most likely to engage in substance use (Wenzel et al., 2011).

2.7.2 Health and Substance Use

Mental health is a state of well-being allowing an individual to work through the stresses of daily living (WHO, 2015). Mental health status is a significant indicator of the probability of substance use among street-involved youth (Edidin, Ganim, Hunter, & Karnik, 2011; Kirst et al., 2011; PHAC, 2006). A meta-analysis of 57 articles on the connection between using marijuana use heavily and developing depression showed a 17% increased likelihood of depression among regular users, and 62% among weekly users and heavy users (Lev-Ran, Roerecke, George, McKenzie, & Rehm, 2013). According to a study by Hadland et al. (2011) of 477 Vancouver youth, weekly depression symptoms were highest among heroin users, followed by crystal methamphetamine users, and finally followed by weekly marijuana users (Hadland et al., 2011). Concurrent mental health and substance use were also identified among 24% of 150 youth, ages 19 to 21, in a Toronto study (Kirst, Frederick, & Erickson, 2011). Mental health concerns have also been shown to coincide with substance use among street-involved youth (Kirst, Frederick, & Erickson, 2011; Smith et al., 2007). For example, in a Toronto study, researchers found that among 150 street-involved youth ages 19 to 21, 24% experienced concurrent mental health and substance use problems (Kirst et al., 2011).

2.8 Substance Use and Health Burdens

Substance use can pose a serious health burden on youth, with its potential for overdosing and acquiring infectious diseases. Overdose is considered a leading health risk. Youth binge drug use leads to an estimated 60% increased risk for non-fatal overdose (Nolan et al., 2014). Accordingly, a cohort study
found the risk of overdose was 11 times higher among street-involved youth compared with the general population (Roy et al., 2004).

Additional health risks occur for youth who inject substances. Youth in an Ottawa study who reported injection drug use were more likely to test positive for Hepatitis C virus (HCV, 24%) and Human Immunodeficiency Virus (HIV, 4%) compared with youth who did not use injection drugs (5% HCV, 2% HIV). The study showed that these rates of HCV and HIV are much higher than those estimated for the general youth population in Canada (0.2% HCV, 0.2% HIV) (Ottawa Public Health, 2011). Similar findings were observed in a Vancouver cohort of 519 youth: 42% of the youth in the study reported injecting drugs, and 13% were HCV antibody positive at baseline. These youth nearly 27 times more likely to have injected drugs than other youth (Miller, Kerr, Fischer, Zhang, & Wood, 2009; Miller, 2011).

The importance of recognizing the connection between impaired mental health and substance use is underlined by higher proportions of overdose and suicide ideation and attempts among street-involved youth compared with the general youth population (Kidd & Carroll, 2007; Miller et al., 2009; Public Health Agency of Canada, 2006; Roy et al., 2004). In 2011, Statistics Canada reported that suicides were the second leading cause of death among child and youth population (1–24 years old) at 20% of deaths (Statistics Canada, 2011). Death by suicide accounted for 30% of all deaths in British Columbia in 2010. Among youth ages 15 to 18 who died by suicide, 76% were men and 24% were women (Coroners Service of British Columbia, 2010). There are no recent nationwide estimates for street-involved youth suicide attempts, but studies from various Canadian cities report an alarming rate of suicide attempts among street-involved youth. For example, researchers studying a Montreal cohort reported that the most common cause of death was suicide, which accounted for 50% of all deaths, followed for overdose, which accounted for 34% (Roy et al., 2004). Similar patterns emerged in a cohort study of Vancouver street-involved youth. The leading cause of death among self-reported injection drug users was suicide (50%), followed by overdose (Miller et al., 2007). In another study involving 208 youth in
New York and Toronto, 46% of participants reported attempting suicide, with 42% overdosing as their method of choice. For 78% of these youth, it was not their first suicide attempt (Kidd & Carroll, 2007).

In Canada, the E-SYS with 1,656 youth ages 15 to 24 revealed that injection drug use occurred more often among youth who disengage from school by being permanently expelled (46%) or dropping out (52%), compared with those who were never expelled (35%) or had not dropped out (38%) (Public Health Agency of Canada, 2007). Researchers in Los Angeles working studying 419 youth ages 13 to 24 observed that youth who socialized with other substance users (e.g., by smoking, drinking alcohol, or smoking or ingesting marijuana) increased their substance-use consumption. Youth who attended school and formed more connection with adults in positions of responsibility consumed fewer substances (Wenzel, Tucker, Golinelli, Green Jr., & Zhou, 2010). Similarly, a study involving 2,146 youth in school showed that lower levels of substance use were associated with increased adult support while increased use was related to truancy (Ferguson & Xie, 2012).

2.9 A Role for School

The school environment, or the relationships and general experiences of youth in school, appears to play an important role in reducing substance use. Schools have been identified as places where youth experiences provide opportunities to build resilience (Zimmerman & Arunkumar, 1994). The lack of school-related studies for street-involved youth is at odds with the evidence that many of them remain connected to school; 62% of 762 B.C. street-involved youth age 12 to 18 indicated that they were enrolled in school at the time the study was conducted (Smith et al., 2007). In Edmonton, 65% of street-involved youth ages 14 and 15 were enrolled in school (Alberta Public Health, 2011). Additionally, 42% of Ottawa street youth, ages 15 to 24, identified completing age-appropriate education (Ottawa Public Health, 2011).

Various explanations are cited for the fact that schools have been overlooked in health literature on street-involved youth. The first could be that the irregularity of school attendance among
street-involved youth, resulting partly from perpetual mobility, masks their living circumstances until severe health or social problems arise (Larson & Meehan, 2011; Public Health Agency of Canada, 2007; Raising the Roof, 2009). Other research suggests street-involved youth in school are invisible because they are highly resourceful and often do not see themselves as homeless when staying with friends or relatives. This leaves school personnel unaware that these youth face a daily struggle to access basic necessities, which leaves little opportunity or drive for scholastic success (Jozefowicz-Simbeni & Israel, 2006; Larson & Meehan, 2011; Walsh & Donaldson, 2010). Fear of discrimination and social stigma, and feelings of self-blame, guilt, social alienation, worthlessness, and entrapment, can also lead youth to conceal their living circumstances (Kidd, 2012; Kidd, 2007).

Another potential explanation for why these youth have been overlooked may be their limited access to everyday resources for living. Since schools demand *a priori* necessities for participation—such as stable living conditions, school supplies, food, and connection to supportive adults—these resources are not readily available to street-involved youth (Gwadz et al., 2009; Smith et al., 2008). The demands on their time to acquire the basics of living may lead to their infrequent attendance and interactions with school.

The interaction between youth and their family, teachers, administrators and school policies has an important role in their development (Jutte et al., 2010). School-related factors, such as meaningful participation and caring relationships within the ecological theory, have been examined relative to street-involved youth substance use (Mayberry, Espelage, & Koenig, 2009; Moon & Ando, 2009; Shekhtmeyster, Sharkey, & Sukkyung, 2011). According to a Ferguson and Xie (2012) study involving 2,146 homeless youth grades 9 to 11, absence from school decreases youth interaction with adults. In their study, increased truancy moderated adult support, resulting in increased substance use (Ferguson & Xie, 2012).
2.10 Theoretical Explanations for Youth Substance Use

2.10.1 Introduction

Theories and models about substance use provide researchers and policy makers with frameworks to understand why youth may begin using substances. Substance use theories in general give different explanatory weight to psychology, genetic predisposition, social environment, or intersection among all these on individual problem substance use (Chein, 1980; European Monitoring Centre for Drugs and Drug Addiction, 2013, 2013; Ogborne, 2004; Peele, 1988; Petraitis, Flay, & Miller, 1995; World Health Organization, 2004). Further distinction is made by the European Monitoring Centre for Drugs and Drug Addiction (2013) for substance dependence theories as either individual level or population level. Individual-level theories focus on the temperaments and environments promoting problem substance use, while the population-level theories involve social environments and socio-economic and social networks (European Monitoring Centre for Drugs and Drug Addiction, 2013).

Each theory provides insight into the weight of various cognitive, social, psychological, and historical perspectives on youth pathways to problem substance use. The key issue when selecting a theoretical framework for this study was to ensure that it was helpful in explaining the hypothetical effects of the wider properties of school relationships and the social and administrative environments influencing youth substance use. This section continues with the identification, brief overview, and critical evaluation of the most relevant theoretical frameworks for this study for health promotion and population health. The chosen frameworks include social cognitive learning, the theory of planned behaviour (TPB), disease model, and ecological model.

2.10.2 Theories Examined for This Thesis

Social learning theories such as Bandura’s (1986) social cognitive theory emphasize that users’ beliefs about substance use are acquired through exposure to the substance use of their immediate
Social networks. These interactions provide the opportunity for youth to learn how to buy and use substances (Bandura, 1986, 2001; Petraitis et al., 1995). Self-efficacy is a central piece to social cognitive theory. Self-efficacy is the perspective a person has about how capable they are of doing something successfully and is central to how motivated they will be to fight potentially negative health outcomes (Bandura, 1989, 2010). This concept has been key to the fields of health promotion and public health because it moves away from fear of ill health into teaching skills to manage health behaviours with appropriate supports (Bandura, 1998). When applied to schools, this theory emphasizes that the most effective approach to prevention of problem substance use is creating norms where use is discouraged, while personal and social skills are fostered to prevent substance use (Botvin, 2000).

Social cognitive theory and self-efficacy continue to serve as important theoretical approaches to changing health behaviours. Self-efficacy around specific behaviours has been shown to be an effective skill that youth can gain, especially through target interventions for substance use (Burleson & Kaminer, 2005; Hyde, Hankins, Deale, & Marteau, 2008; Litt, Kadden, & Stephens, 2005). The difficulty in applying social cognitive theory to this study is that as an observational study, it is not part of health promotion or public health interventions. Another reason this theory was not used to guide this study was that it does not incorporate measures of youth attitudes or beliefs of control over their school environments. These are external to individuals but have immediate influence over their beliefs and behaviours.

A second important theoretical model has been the Theory of Planned Behaviour (TBP). Introduced by Ajzen (1985), TBP is premised on the idea that human behaviours are the result of well-formulated plans necessary for achieving our goals (Ajzen, 1985, 1991). An individual’s decision to use substances can be predicted by measuring their beliefs, normative perceptions, attitudes, and perceived control over substance use, which feeds into their intentions before deciding to use the substance (Bashirian, Hidarnia, Allahverdipour, & Hajizadeh, 2012; Lac, Alvaro, Crano, & Siegel, 2008; Marcoux &
The predictive nature of TPB is important, but would not be useful to the objectives of this study. There are two reasons TPB was not chosen for examining youth substance use in this study. The first is simply the specific measurements for cognitive processes necessary in predicting substance use were not available in the existing data sources. A second reason is the need to understand the role that social context, such as being physically in or out of school, has on substance use. TPB was not conceived to measure the role of social norms in changing social contexts; the nuances for understanding why a youth would use at one place but not another would be difficult to discuss (Ajzen, 2011).

A third theory on youth substance use is the disease model (Alexander, 1987; Miller, Sorensen, Selzer, & Brigham, 2006; Morgenstern & McCrady, 1992). The disease model characterizes the role of substances as hijacking neurological reward circuits in the brain of an individual with a biological vulnerability toward them, resulting in repeated use without regard for physical or social harms (Alexander, 1987; Ogborne, 2004; Volkow & Fowler, 2000). Genetic predisposition is demonstrated as an essential influence on addictions, as genes have been linked to increased probability of problematic alcohol, tobacco, cocaine, and other substance use and addictions (Gelernter & Kranzler, 2009; Li & Burmeister, 2009). The U.S. Surgeon General (2016) reaffirms that many human and animal studies have established a connection between problem substance use and chronic brain disease based on a genetic predisposition. The report further states that the origins of addiction found in the process of addiction are located in three areas of the brain: the basal ganglia responsible for emotion, the extended amygdala associated with feelings of reward/cravings, and the prefrontal cortex, which is the locus for decision making. Genetics play a role in the neurobiology of addiction by regulating the frequency and intensity of an individual’s urges for substance seeking, decreasing feelings of reward, and a heightening feeling of stress. Combined, these serve to reduce the functioning of executive control that regulates actions, emotions, and impulses (Office of the Surgeon General, 2016).
The disease model was inappropriate for this study because it focuses on the origins of addiction as moderated by gene expression of neurobiological functions. Genetic predisposition is limited in the case of this study because it does not address the overarching social contributions such as exposure patterns and feelings of social belonging on problem substances use. This study required a broad model that incorporates the dynamic social experiences of youth that take them in and out of the situation that may protect against or increase their substance use.

2.10.3 Ecological System Theory

The final model examined in this section is the ecological system theory proposed by Bronfenbrenner in 1979 (Bronfenbrenner, 2009). The development of ecological system theory incorporates insight from the role that individual, social, societal, and historical contexts play in the development of individuals over their lifetimes (Bronfenbrenner, 1986, 1994; Smetana, Campione-Barr, & Metzger, 2006). The ecological theory underlies development as a result of progressively more complex reciprocal interaction between evolving “biopsychological human organism” and their immediate environment (Bronfenbrenner, 1994). The theory initially identified four levels including the micr

**system, mesosystem, exosystem, and macrosystem. Microsystems** are the immediate relationships and settings that structure specific roles, activities, and time periods. The mesosystem is the interactions between microsystems such as school, peer group, and many other places linking the youth’s microsystems together. Exosystems form the youth’s external world, including neighbourhoods, government agencies, and informal social networks. Exosystems can influence child development. Macrosystems are systems where information found in society at large—government policies, the economy, cultural values, social roles, and networks—continues to influence child development. An additional system, the chronosystem, was added to the model to acknowledge the impact of life events such as death, victimization, and other forms of trauma have on youth (Bronfenbrenner, 1986, 1994).
The ecological theory has been adapted for understanding how each of the systems operate within the school context. In the school setting, McElroy et al. (1988) advanced this model by introducing specific impacts on individual health behaviours relevant to this study. The first are the *intrapersonal factors*, defined as the individual’s knowledge, attitudes, behaviours, and skills. The second are the *interpersonal processes* and primary groups, which are the informal and formal support networks often comprising family, peer group, etc. The third are the *institutional factors*, the formal and informal rules and regulations operating within an institution. The fourth are the *community factors*, which refer to relationships among different organizations, institutions, and informal youth networks. Finally, the fifth is *public policy* that is enforced by local, provincial, and federal jurisdictions (McLeroy, Bibeau, Steckler, & Glanz, 1988).

Theoretically, the ecological theory provides an optimal framework for examining the role that school plays on problem youth substance use. Before outlining the theoretical concept relative to ecological theory, further information is needed on the roles of vulnerability, resilience and school connectedness. Incorporating these three additional perspectives allows for comprehensive understanding of the subject.

Street-involved youth face weakened social connection to adults or institutions, but researchers have found that the resilience youth build through their experiences can diminish hopelessness, which in turn can help protect them against self-harming behaviours, such as attempted suicide (Cleverley & Kidd, 2011; Edinburgh et al., 2006; Rew, Margaret Taylor-Seehafer, 2001). Resilience is the capacity to cope with stress from social environment. It is not a trait that is present or absent; instead, one learns over time to cope with, or compensate for, the presence of a risk factor in the social environment (Fergus & Zimmerman, 2005; Rutter, 1985; Zimmerman & Arunkumar, 1994; Zolkoski & Bullock, 2012).

Resilience is shown to protect against risky sexual behaviours, alcohol and drug use, and other life-threatening behaviours as it helps decrease the sense of loneliness and hopelessness and increase
connectedness among street-involved youth (Heinze, 2013; Rew, Taylor-Seehafer, Thomas, & Yockey, 2001). Risk and protective factors may provide too limited a framework for understanding resilience. A recent qualitative study by Tozer et al. (2015), examining street-involved youth perceptions about injection drug use, identified key perspectives that contribute to understanding resilience. During their discussions, youth framed their responses to questions through negative experiences, even though some of these experiences, such as family substance use, may have resulted in a positive outcome because it deterred youth from using these drugs (Tozer et al., 2015). Resilience is present in the experiences and social environment even though the youth may not recognize or acknowledge these events as protective.

Another related concept to resilience is youth vulnerability toward substance use. Vulnerability results from a complex interaction among social contexts such as support from adults, past experiences with abuse and trauma, and larger social institutions’ approach to working with these youth (Blum, McNeely, & Nonnemaker, 2001). Vulnerability alone is not applied universally but can be mitigated by youth building resiliency, which can counter the effect of trauma (including reoccurring trauma) and stressors of toxic social environments, which influence initiation, escalation, cessation, or maintenance of substance use (Saewyc, 2007).

Resiliency and vulnerability have an important role for youth school connectedness. As Blum et al (2004) explain, school connectedness is the “belief that adults in school care about their [the youths’] learning as well as about them as individuals” (Blum et al, 2004, p.233). In this study, school connectedness is embedded in an ecological system with the individual located at the centre of a complex organization of family, friends, and teachers that feed upward into their local community and eventually wider society (Bronfenbrenner, 1986b, 1994). In a systematic review of school connectedness, the authors found that many of the studies relied on Bronfenbrenner’s ecological model to discuss the influence of schools (Waters, Cross, & Runions, 2009).
School connectedness is measured by survey items that identify strength of student belonging to the school environment: relationships with teachers and other students, satisfaction, safety, and participants’ interpretation of the fairness of school administrative policies are among the factors that construct this concept (Blum et al, 2004; Blum, 2005; Bond et al., 2007; Libbey, 2004; McNeely, Nonnemaker, & Blum, 2002; McNeely & Falci, 2004; Resnick, Harris, & Blum, 1993; Resnick et al., 1997; Smith et al., 2007, 2008). One of the earliest studies to link school connectedness to health found that youth connection to school acts as a protective factor against quietly disturbed behaviours, such as poor body image, disordered eating, emotional stress, and suicidal involvement, among grades 7 to 12 students in Minnesota (Resnick et al., 1993). Other studies have demonstrated similar findings where higher school connectedness protected against six health-risk behaviours: cigarette smoking, drinking to get drunk, and marijuana use (McNeely, Nonnemaker, & Blum, 2002, Saewyc & Tonkin, 2008). Higher connectedness is associated with increasing age at which smoking, marijuana and alcohol consumption, and truancy begin (Wingspread Declaration on School Connections, 2004; Saewyc & Tonkin, 2008). Lower school connectedness has also been linked to smoking marijuana, smoking cigarettes, drinking, and an overall reduction in school completion for students in grade 8 (Bond et al., 2004).

In a systematic review, Libbey (2004) summarized the different approaches in terms of school bonding, school attachment, school climate, and school connectedness, with each model identifying specific aspects about the school-student interaction (Libbey, 2004). For example school climate is defined as the summation of all school relationships such as the shared beliefs, attitudes, and values that shape the interaction between everyone in the school (Mitchell, Bradshaw, & Leaf, 2010; Safe Schools Action Team, 2006). School bonding is a little different as it concerns the connections between students and the respect and caring they feel from adults in their school, with participation in school activities and alignment with school ideologies as markers (Oelsner, Lippold, & Greenberg, 2011).
School connectedness focuses on the student’s sense of belonging to the school environment—relationships with peers and teachers, feelings of safety, academic achievement, and availability and uptake of extracurricular activities—and affects health outcomes (Blum, 2005; Blum et al, 2004). School connectedness is chosen over other attachment to school models because extensive research has identified a relationship between connectedness scores and youth substance use (Blum et al, 2004; McNeely et al., 2002; Saewyc & Tonkin, 2008). Additional health concerns have been studied in the U.S. where school connectedness was shown to protect against suicide attempts and drug use and yield higher rankings for good or excellent health if youth were from a challenging home environment (Saewyc, Solsvig, & Edinburgh, 2008).

The interaction between separate systems in the ecological theory can be viewed as regulating youth problem substance use (Figure 2.1). This study hypothesizes that positive interactions within the interpersonal factors (microsystems), interpersonal processes (mesosystem), and institutional factors (exosystem) will lower youth substance use. Interpersonal processes include specific vulnerabilities or risk factors outlined in this chapter as mental health conditions, family problem substance use, and past experiences with physical and sexual abuse. The concept of school connectedness is presented as a form of resiliency that can actively or passively affect a youth’s level of substance use.

The interpersonal factors are contributing agents, such as adults, peer relationships, and participation in extracurricular activities, which are believed to mitigate substance use. School-related factors such as meaningful participation and caring relationships within ecological theory have had limited research for substance use of street-involved youth (Mayberry et al., 2009; Moon & Ando, 2009; Shekhtmeyster et al., 2011).
The underlying characteristics of youth resilience are found in their level of school connectedness, and this mitigates known risk factors that contribute to vulnerability and ultimately problem substance use. Studies among the general youth population indicate that school relationships and participation provide an opportunity for youth to build individual resilience against health risks (Benson, Scales, Hamilton, & Sesma, 2007). A study demonstrated that school connectedness could protect against youth transitioning into regular marijuana use from no marijuana use (McNeely & Falci, 2004). In another study, a positive relationship between students and adults in school, indicated by a high level of perceived support and respect within the school environment, was significantly associated with reduction in substance use (LaRusso, Romer, & Selman, 2007). The implications of such findings resulted in broad recommendations that teacher skills extended beyond academic instruction to include building personal relationships that would encourage youth to maintain school connectedness (Bond et
Youth who feel disconnected from school are at increased risk of leaving early and escalating their substance use (Alberta Health Services, 2009).

The relationship between school connectedness and street-involved youth is waiting to be explored and will provide evidence and direction for further investigation of the role schools can play in the health of street-involved youth. A 2006 report from Vancouver, B.C., studied students in general school populations. It found that for youth from challenging home environments, school connectedness was one of the top indicators for protection against drug use and was linked to higher self-reported scores for good or excellent health (Saewyc, Wang, Chittenden, & Murphy, 2006). Similar findings were presented as predictors for reducing mental health problems such as depression and anxiety (Shochet, Dadds, Ham, & Montague, 2006), violence, substance use, under-age sexual activity (McNeely et al., 2002), smoking, drinking, and marijuana use while raising the likelihood of completing school (Bond et al., 2007).

The field of research linking school involvement to street-involved youth issues was limited at the time of this study, as only four studies examined these relationships, with limited discussion on the role of school in their health. An Ottawa-based study, which followed 82 youth who were homeless at baseline and again after they were housed, examined the connection between school and homelessness but provided no information about the interaction between school and health outcomes. The study found that 28% of the youth attended school once housed with the majority 43.2% being female compared with 15.6% males (Hyman, Aubry, & Klodawsky, 2011). A second study—this one in Chicago with a small (n=4) sample size—also provided no information on how school assisted with the health outcomes. In it, participants reported the need for more school involvement in moderating difficult family relationships and preventing homelessness (Aviles de Bradley, 2011).

The two most relevant studies that linked school connectedness with substance use were at the population level. In Minnesota, the Runaway Intervention Program (RIP) focused on young runaway
girls. It used a nursing home visit and support group intervention to bring girls with lowest school connectedness at baseline up to the same level of connectedness as non-runaway youth after 12 months in the program (Saewyc, Solsvig, & Edinburgh, 2008). In an evaluation for the B.C. provincial alternative school program, in which 67% of the 339 youth reported previous street involvement, school connectedness was associated with lower drug use. Those who did not use substances in the past month were 1.5 times more likely to be attending school (Smith et al., 2008).

2.10.4 Summary

Street-involved youth face a unique set of challenges to their health and well-being. Unfortunately, there has been little evidence of the role that school connectedness may play in protecting against problem substance use among street-involved youth. This study offers a starting point for filling the information gap about the influence of personal experiences involving social relationships with adults and peers, participation in organized activities, and administrative policies on school connectedness for these youth. The risk factors contributing to substance use are many, but increased school connectedness may offer a source of resilience against substance use and promote positive development.
Chapter 3  Methods

3.1 Mixed Methods for Examining School Connectedness

Organized into three sections, this chapter provides an overview of the sequential mixed methods employed to address the central questions in this work. The first section provides an overview of the specific mixed methods used for the study. The second section outlines the quantitative analysis, providing details about how each method was used for answering the study questions. The third section provides an overview of the qualitative methods used during collection and analysis of interview data.

3.2 Mixed-Method Overview

Mixed methods involve data triangulation, or data convergence, when two or more methods are used in the data analysis to compensate for the potential weakness provided by any one of the methods (Creswell, 2009). A combination of qualitative and quantitative data was selected because it was considered it to be most appropriate for answering proposed research questions (Johnson, Onwuegbuzie, & Turner, 2007). The result is what Mays and Pope (2000) term “subtle realism”: working to gain a better representation of reality rather than identifying an infallible “truth” (Mays & Pope, 2000).

In some of the earliest studies on the topic, Resnick, Harris and Blum (1993) note the dominance of quantitative data measuring school connectedness, pointing out that this has led to a weakness in the explanatory power of relationship structures between students, teachers, coaches, or others who contribute to students’ feelings of belonging (Resnick et al., 1993). Similarly, McNeely and Falci (2004) observed that the nature of youth relationships in school could provide more nuanced information on the protective factors against health behaviours with negative consequences (McNeely & Falci, 2004).

The sequential mixed-methods approach used in this dissertation provides input from both the quantitative and qualitative data while directing the sequence of analysis. The sequence for sampling
Data in this study was obtained through a number of steps because the quantitative data were collected in 2006 and the qualitative interviews were conducted in 2014 (Ivankova, Creswell, & Stick, 2006; Tashakkori & Teddlie, 2003). The sequential sampling and analysis steps were to 1) analyze available pre-existing quantitative data and 2) collect and analyze qualitative data to gain a fuller understanding of results found in the quantitative analysis. The questions used to fulfill the study objectives for the dissertation using the mixed-method approach are found in Figure 3.1 below. The figure maps the initial and subsequent questions as the study progressed.

**Figure 3.1. Mixed Methods Research Questions**

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How do the personal interactions with adults and peers in school influence youth problem substance use?</td>
<td>1. How do experiences with peers, extracurricular activities, or adults influence youth connections to school?</td>
</tr>
<tr>
<td>2. What role do school policies for substance use have in the way these youth interact with school?</td>
<td>2. How do youth perceive relationships with the adults in their school?</td>
</tr>
<tr>
<td>3. How do homeless young men’s and women’s experiences with substance use differ in the context of school?</td>
<td>3. How do youth identify the role of the school environment in their substance use?</td>
</tr>
<tr>
<td></td>
<td>4. How do youth identify which substances they will use in school?</td>
</tr>
<tr>
<td></td>
<td>5. How do the experiences of street-involved youth regarding school and substance use differ from those described in the current literature?</td>
</tr>
</tbody>
</table>

### 3.3 Quantitative Methods

The data used in this study were from the 2006 B.C. Street Youth Survey, collected by the McCreary Centre Society in communities across British Columbia, Canada (Smith et al., 2007). The self-reported survey provided the opportunity to collaborate with street-involved youth and get feedback from them on the questions asked.
3.3.1 Sample

The youth targeted by the 2006 survey were street involved and precariously housed. The survey comprised 762 youth, ages 12 to 18, from nine communities: Vancouver, Surrey, Abbotsford/Mission, Victoria, Nanaimo, Kamloops, Kelowna, Prince George, and Prince Rupert.

3.3.2 Ethics

Since the data used for this dissertation are anonymous and the original study included ethics approval, the University of British Columbia did not require a subsequent ethics application. The McCreary Centre Society required the author to sign a confidentiality agreement before beginning the analysis. The survey had passed through an ethics review board, which ensured that the identity of participating youth was protected. All survey data were kept on site on an encrypted computer with an internal dedicated database server.

3.4 Data Collection

3.4.1 Recruitment

Community research teams—made up of a youth service worker, such as an outreach worker or a street nurse, paired with a youth with experience of homelessness or street involvement—recruited youth participants. The community research teams reached out to street-involved youth from October to December of 2006. The research teams worked to collect data at different times of the day and evening throughout the nine communities to ensure that a diverse sample of the youth would be obtained; because the total number of homeless or street-involved youth is unknowable, it is not possible to create a truly representative sample. The youth who did not participate in the survey were any combination of those who did not have the ability to speak or understand English, were younger than 12 or older than 18 years, and did not consider themselves to be street involved or homeless, or
were difficult to reach youth (i.e., those who have managed to elude social support or government services). The refusal rate for participation by the youth was low—approximately 3%.

3.4.2 Data Preparation

The data were prepared for analysis by first examining the frequency distributions of each variable to better understand the demographic information of the youth who completed the survey and potential levels of missing data. Next, researchers tested the data for multicollinearity on variables with similar content.

The categorical demographic data were analyzed using chi-squared analysis to determine if age, gender, or sexual orientation were associated with the different problem substance-use variables. Previous studies had determined that these demographic variables have a significant association on youth problem substance (Kirst, Frederick, & Erickson, 2011; Smith et al., 2007). Next, researchers conducted significance testing using Pearson chi-square to compare boys with girls using an alpha criterion of .05. The analysis findings provided the information to determine if these variables would need to be controlled or stratified in the later analysis.

3.5 Dependent Variables

Three dependent problem substance-use variables used in this study were generated by recoding existing BCSYS variables. These recodes either collapsed or amalgamated responses into binary-response variables. The recoding for the three variables, Problem Marijuana Use, Problem Alcohol Use, and Consequences from Substance Use, are defined and outlined below. The purpose for the variable recode was to create a binary variable that allowed for simple comparisons among the respondents. This approach resulted in a minor loss of information as the more nuanced responses were collapsed.
3.5.1 Problem Marijuana Use

The responses from the question *During the past 30 days, on how many days did you use marijuana?* were recoded into a dichotomous variable that identified the proportion of youth using marijuana 20 or more days in a 30-day period. Those using marijuana 20 or more days were considered to be Problem Marijuana Users.

3.5.2 Binge Drinking

Youth are considered to have been binge drinking when they drank five or more alcoholic drinks at one time. The high proportion of youth identified as having had a recent binge-drinking experience led to the creation of a distinction between this behaviour and problem alcohol use. Problem Alcohol Use is defined as three or more episodes of binge drinking in a month as the practice of binge drinking once or twice in a month is quite common among street-involved youth (Public Health Agency of Canada, 2006; LeMar, Lodge, & Rempel, 2008).

3.5.3 Consequences from Substance Use

The severity of substance use is a variable derived from the responses in the BCSYS question *During the past 12 months, have any of the following happened to you because you were drinking or using drugs? (Mark all that apply).* The possible responses included having passed out, been in a car accident, been injured, had trouble at school, argued with family, been involved in a physical fight, damaged property, or lost friends. This approach to coding the variable aligned with the recommended thresholds for identifying a substance-use disorder in the Diagnostic and Statistical Manual V (DSM-V). The DSM-V indicates that substance-use disorder exists on a spectrum based on 11 potential problems related to substance use, ranging from mild (which includes two to three of these problems) to medium (four to five problems) and severe (6+) (American Psychiatric Association, 2013). The youth who
indicated three or more consequences from substance were identified as having a *serious substance-use* problem.

### 3.5.4 Independent Variables

Eight independent variables were chosen for this study. The study examined five risk-factor variables and three protective variables that were included in the dataset. The risk variables included mental health diagnosis, a history of sexual abuse, a history of physical abuse, and family experiences with problem substance and alcohol use. The protective variables included school attendance, educational aspirations, and school connectedness. These independent variables were chosen because they were previously shown to be associated with substance use among Canadian street-involved youth (Alberta Public Health, 2011; Ottawa Public Health, 2011; Public Health Agency of Canada, 2007). The detailed recodes of the variables are provided below.

### 3.6 Risk-factor Variables

#### 3.6.1 Mental Health

Youth mental health diagnoses by a health professional, as self-reported by the youth in the BCSYS, required recoding. The youth could check off multiple (i.e., 0, 1, 2 or more) mental health conditions including Fetal Alcohol Spectrum Disorder (FASD), Attention Deficit/Hyper Activity Disorder (ADHD), schizophrenia, depression, bipolar disorder, chronic anxiety, addiction, anger, post-traumatic stress disorder (PTSD) or other. These were summed and the data were organized by the number of mental health diagnoses.
3.6.2 Sexual Abuse

In the BCSYS, girls were much more likely to report having been sexually abused than boys (55% versus 15%) (Smith et al., 2007). The question included in this analysis was 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. The possible responses were yes and no.

3.6.3 Physical Abuse

This variable was derived from the question Have you ever been physically abused or mistreated by anyone in your family or by anyone else? (Yes/No).

3.6.4 Family Experience with Problem Alcohol Use

Two multiple choice questions were used to identify problem substance use in the participants’ families. The first question, addressing alcohol use, was as follows: Do you think anyone in your family has a problem with alcohol? The possible responses were i) No, ii) Yes, my mother, iii) Yes, my father, iv) Yes, other member(s) of my family and v) don’t know. A count variable was created from the number of responses. The final variable, Family Problem Alcohol, was created by separating the count variable into responses of youth reporting zero family members and those with one or more family members with problem alcohol use.

3.6.5 Family Experience with Problem Substance Use

A similar recode process to the question of alcohol use was conducted for the use of other substances in the family. The questions coded had yes/no responses to the questions to identify if the mother, father, or other family members has drug problem. A count variable was created for the number of family members with drug problems with youth reporting zero family members, one family
member and two family members. This variable was recoded into a general Family Problem Drugs variable which consisted of youth reporting no family members or one or more family members with drug problems.

3.7 Protective Variables

3.7.1 Educational Aspirations

Future educational goals were identified by the question *When do you expect to finish your education?* The potential responses were i) *Before I graduate high school*, ii) *When I graduate high school*, iii) *When I graduate from community college/technical institute* or iv) *When I graduate from university*. Another possible response to the question was *Don’t know*. When youth planned to finish their education also required a variable recode. The responses to this question were recoded into *Before high school*, *When I graduate high school*, *When I graduate from community college/technical institute*, *When I graduate from university*, or *Don’t know*.

3.7.2 School Attendance

School attendance was examined as a potentially protective factor against substance use. This multi-response variable was recoded into a dichotomous variable from the question *Are you currently attending school?* This question had three response categories, *No*, *Yes—Regular School* and *Yes—Alternative School*. The two “Yes” responses were combined and a variable was created that included the responses No and Yes.

3.7.3 School Connectedness

The school connectedness scale in the BCSYS comprises five questions, each measured with a five-point Likert scale:
1) *How much do/did you feel that teachers care/cared about?* (Not at all, Very little,-Somewhat, Quite a bit, Very much). This question was reverse coded to account for the negative directionality.

2) How much do you agree or disagree with the statement *I feel/felt safe at my school?*

3) How much do you agree or disagree with the statement *I feel/felt like I am/was part of my school?*

4) How much do you agree or disagree with the statement *The teachers at my school treat/treated me fairly?*

5) How much do you agree or disagree with the statement *I am/was happy to be at my school.*

Options for responding to the last four questions were *Strongly agree, Agree, Neither agree nor disagree, Disagree,* and *Strongly disagree.* The mean score was calculated from across the five response values. The results were divided by the number of responses leading to indices from 1 to 5 with five being the highest connectedness score. These indices were further standardized by converting the previous indices into a scale from 0 to 1 where 0 indicated weak connectedness and 1 specified the strongest connectedness.

### 3.8 Methods of Analysis for the Quantitative Data

The quantitative data in the BCSYS are complex and required several steps for analysis. The first step was to analyze the demographic information. The second step involved analyzing the reliability scale for internal consistency to understand how the scale functions relative to updated psychometric literature, numerous bivariate logistic regressions, and whole model multivariate regressions. The third and final step was calculating probability profiles for each of the dependent problem substance-use variables. More step-by-step detail is provided below.

#### 3.8.1 Step 1: Demographic Analysis

In this step, the demographic data within the 2006 BCSYS were analyzed to provide a descriptive profile of the street-involved youth enrolled in school in comparison to those who were not. The three
dependent variables related to substance use were examined in a bivariate analysis against the demographic variables of age, gender, and sexual orientation. Depending on the nature of the variable responses, three tests were used to examine the significance of the differences between dependent variables. The first is the Pearson chi-square tests for comparing variables with categorical responses. The second were t-tests for variables with continuous response options that are normally distributed, while the third was the Mann-Whitney U test for non-normally distributed continuous outcomes.

The risk and protective factors were analyzed using Pearson chi-square test and binary logistic models against the three dependent variables. The Pearson chi-square test examined how gender and sexual orientation interacted with the independent variables. The chi-square was also used to determine whether the proposed risk and protective factors were associated with substance use. Following the bivariate analysis, the individual contribution of the risk and protective factors was examined using a binomial logistic regression to identify the most relevant risk factors (risk-factors-only model) and protective factors (protective-factors-only model).

3.8.2 Step 2: Scale Reliability, Bivariate, and Multivariate Logistic Regression Models

3.8.2.1 Internal Consistency of the School Connectedness Scale

The internal consistency of five items measuring school connectedness were analyzed to examine their reliability as a single scale. The alpha scores for the previous psychometric analysis in the literature relied upon the Pearson r correlation, which was designed to determine relationships between two or more continuous variables (Gardermann, Guhn, & Zumbo, 2012; Zumbo, Gardermann, & Zeisser, 2007). The correlation procedure used for this study analysis is not the Pearson r average inter-item correlation, but instead the polychoric correlation, which was intended to be used with ordinal responses (Choi, Peters, & Mueller, 2010; Gardermann et al., 2012; Zumbo, Gardermann, et al., 2007). The central considerations were as follows: when alpha is too large (i.e., close to 1), items become
redundant while items with lower alpha scores (i.e., below .70) are believed to provide weak association within a scale (Bland & Altman, 1997; Cronbach, 1951; Cronbach & Shavelson, 2004).

A psychometric analysis was conducted on the school connectedness scale (SCS) as a response to recent research. According to the analysis by Laye-Gindu (2011), the SCS functioned differently when it was applied to street-involved youth in the BCSYS compared with the general youth population in school. The author pointed out that the five-item SCS loaded strongly into a single scale. There was also a sixth item, Q47 *How often do you have trouble getting along with teachers?* that had a much weaker loading score. The reliability and factor structure were strengthened when this question was removed (Laye-Gindhu, 2011).

### 3.8.2.2 Logistic Regression Models

The logistic regression models were essential for selecting the variables to be included in the calculation of the final probability profile models. Age was controlled, and each model was conducted separately by gender. Since this study used previously collected data with no further quantitative data collection planned, logistic regression was preferred because it is robust against violations of normality and skewness that could be present in the dataset (Hosmer & Lemeshow, 2004; Tabachnick & Fidell, 2013). The variables were individually examined using binary logistic regression to identify if they offered significant risk or protection relative to each of the three problem substance-use variables. Bivariate analyses were conducted separately by gender with each variable to assess their association with substance use. The analysis used the IBM Statistical Package for Social Sciences (SPSS) version 20.

Selection criteria for the probability profiles relied on the results of the bivariate logistic regression outcomes based on criteria provided by Bearinger et al. (2005); risk variables were included in the probability profiles if the odds ratios were 2.0 or higher. All variables that met this criterion were entered into a multivariate logistic regression model at the same time. From this model, a maximum of three variables were selected that had the highest odds ratios equal to or greater than 2.0 and were
statistically significant with a p-value less than or equal to 0.05. If more than three risks fit the inclusion criteria, only the three risk factors with the highest odds ratios were included. The protective factor criteria followed the same procedure; however, these variables were included when the odds ratio for the variables were less than or equal to 0.75 and the p-value was less than or equal to 0.05.

3.8.3 Step 3: Calculating the Probability Profiles

The third step was to run a final multivariate logistic regression model that included the three most prominent risk and protective factors and age as a covariate. The results from the multivariate models were used to calculate the probability profiles for each dependent variable. The analysis required taking the beta weights from the final logistic regression models, along with the 10th and the 90th percentile values of the variables, to calculate the probabilities of the outcomes with various combinations of the risk and protective factors (Bearinger et al., 2005; Homma, 2012; Laye-Gindhu, 2011). Three probability profile models for each gender were generated using this method, for problem alcohol use, problem marijuana use, and consequences from substance use. The equations used for calculating the probability profiles in two steps included calculating the probability score (Equation 3.1) and then calculating the probability outcome (Equation 3.2).

**Equation 3.1: Equation for Calculating Probability Score**
\[ \beta X = \beta_{constant} + (\beta_{age} \times MeanAge) + (\beta_{risk1} \times X_{risk1}) + \cdots (\beta_{protective1} \times protective1) \]

**Equation 3.2: Equation for Calculating the Probability Outcome**
\[ Prob = 1/(1 + Exp(-BX)) \]

3.8.4 Measuring Model Fit

Model fit is important when conducting logistic regression, as it provides evidence of the potential for Type I errors, or for accepting the null hypothesis when it should be rejected (Archer & Lemeshow, 2006; Archer, Lemeshow, & Hosmer, 2007; Tabachnick & Fidell, 2013). The statistical program used for this analysis has several possible goodness-of-fit models to assess if the proposed
logistic regression model is significantly different from the intercept-only model. For my analysis, the chi-square goodness-of-fit test was selected to compare the suggested model with the intercept-only model to ensure there is a significant difference between the two (Tabachnick & Fidell, 2013).

3.8.5 Limitations

There are potential limitations to the quantitative analysis in this study. Unfortunately, stratification hinders the analytical process of detecting statistically significant differences because it decreases the number of participants. The final models were, therefore, separated by gender only. With many of the youth identifying with Aboriginal ancestry, ethnicity was a potentially important variable associated with street involvement in B.C. (Saewyc et al., 2008; Smith et al., 2007). However, it was not possible to examine ethnicity more closely within this study due to a number of restrictions. First, research with Aboriginal peoples requires collaboration and input from the various First Nations bands according to the Ownership, Control, Access and Possession (OCAP) principles in B.C. (First Nations Centre, 2007). Since this study primarily aimed to investigate substance use among the general street-involved youth population, the steps for entering into a collaborative study agreement with B.C. First Nations would require many additional resources. Another consideration is that the sample size in the current study would have been insufficient when stratifying analysis further to include ethnicity. Hence, a subgroup analysis of ethnicity was not carried out as part of this study.

3.9 Qualitative Methods

3.9.1 Setting

The qualitative interviews were conducted during the months of July and August 2014 in various locations in Vancouver, British Columbia, Canada. The Vancouver weather was warm and pleasant with little to no rain. There were three main areas in the city where youth congregated: the Downtown East
Side (DTES), Commercial Drive (The Drive), and Gas Town. All were places where many groups of substance users, street-involved persons, and drug sellers can be found. The youth for this study acknowledged living in this street climate or having close family members who live in these areas. The places vary greatly in the street-involved populations they attract.

In the DTES, the alleyways have large blue garbage bins that provide places to hide behind for intravenous drug users in need of a place to inject away from the eyes of others. Bright yellow plastic biohazard bins secured to lamp posts were visible and contained used needles, but discarded needles could still be found on the ground. The needles remain there until someone from the specialized cleaning crew disposes of them. Creeping gentrification has been driving those in the most need away from the sidewalks, concentrating their open-air drug market to two blocks of derelict empty store fronts and a bottle-return depot. Towering over these streets are old hotels now converted to single occupancy apartments for low-income persons. Street-involved youth are less visible in the DTES, possibly due to the overwhelming level of street homelessness and very severe drug use that they would be exposed to in this area.

Further northwest, adjacent to the DTES is Gas Town, a historic centre lined with heritage brick buildings. Offering a wide range of upscale restaurants, cafes, pubs, and shops, the narrow cobblestone streets of Gas Town have a European appeal. This bustling tourist and nightlife destination is busy at almost all hours. Those living in the DTES can be found wandering up and down Gas Town asking for change, with signs of months and years of substance use visible on their bodies. They often ask for bus change or spare change for a coffee.

Across town, The Drive is a neighbourhood with old buildings from the 1960s and ’70s. Many of the persons on the street are young adults. The street-involved population here is less visible to the untrained eye. But street-involved youth were more visible on The Drive than in other parts of the city, possibly due to the almost novel atmosphere reminiscent of travel books from the post–World War II
Beat Generation. Street-involved persons here have the appearance of travellers, buskers, and vendors selling small trinkets or homemade jewellery. Unlike the DTES, the drug market is less discernible—unless you know the signs, it is difficult to spot the sellers. The busking and panhandling is spread out along several blocks, though the highest concentration is in a park where the Vancouver skyline is visible in the distance.

3.9.2 Gaining Entry into the Field

Rapport was vital to ensuring that the youth were comfortable sharing sensitive information about their lives. I used two approaches to gain entry. I enlisted the help of youth-friendly service organizations that specialize in providing shelter services and act as gatekeepers to the youth they serve. Specific persons in the different organizations were approached and asked if they would help to recruit youth who fit the study criteria and were interested in participating. Some of these persons were familiar with the research group from previous research projects with Dr. Saewyc.

Another strategy involved volunteering to help with meal preparation on Wednesdays and Fridays at the Britannia Community Centre for youth. The target population of this service are youth who are less likely to be able to afford meals elsewhere. Several street-involved youth participated in the community kitchen food preparation and the researcher directly built rapport with them as they worked together. One such youth not only agreed to participate in the interviews, but also offered to introduce the researcher to friends and fellow eligible youth.

3.9.3 Sample

The qualitative aspect of the study required 10 to 15 youth between the ages of 16 and 24 years. Eleven youth participated in the interviews. At the time of the interviews, all youth were independent of their families or an adult guardian. Four youth were approached to participate in the research, and none of them refused to participate; a further three youth approached me to participate.
after one of their friends had participated. The remaining four approached the researcher in response to seeing the flyers outlining opportunity to participate. The desired number of participants was informed by underlying methodological understandings of qualitative research, the study timeframe, and available financial resources. The qualitative part of the study depended less upon representation of the population, as found in the quantitative part, but was intended to gather information about individual experiences to better address the research objectives (Bell, 2005; Clifford & Marcus, 1986; Hammersley, 1990). Further consideration was given to the time needed for data analysis for the number of participants as qualitative analysis requires immersion in the information gathered from both interviews and field notes, increasing the time requirement with each additional participant in an exponential manner (Denzin & Lincoln, 2011).

3.9.4 Recruitment Methods

Participant ranged in age from 16 to 21 years old and identified as having been recently enrolled in school and using substances during their time in school. Due to the difficulty of locating and identifying street-involved youth, this study used snowball and convenience sampling to find participants. The youth-friendly community support services that were approached consisted of Covenant House Vancouver, Frog Hollow Youth Employment Centre, and Britannia Community Centre. Each centre was contacted individually and asked to present eligible youth with the study recruitment poster.

I used snowball sampling because it allowed participants to use their social networks to identify other research participants who would have otherwise been difficult to reach. Snowball sampling allowed for youth to reach out to their own social network of peers to ask if they would like to participate in the study. This approach was essential for working with street-involved youth, who would
have been overlooked by more stringent sampling approaches (Biernacki & Waldorf, 1981; Marshall et al., 2009; Rachlis, Wood, Zhang, Montaner, & Kerr, 2009).

Convenience sampling was also employed in this study to identify youth who were accessing service organizations that support street-involved youth at the time of the study. Convenience sampling proved successful with street-involved youth, as it enabled the researcher to identify harder-to-reach youth (Barbour, 2001; Boivin et al., 2005). This approach also provided access to youth who were recently or previously living precariously because it allowed me to personally ask these youth if they would be interested in participating in the study.

The central data collection methods were qualitative interviews. Embracing the subjective nature of the research data fills the contextual gaps in the quantitative population-level analysis (Morgan, 1983). The researcher became an observing participant in the social environment, engaging others locally, but the data collection process limited the ability of the researcher to make population-level observations about other persons in similar circumstance elsewhere (Bell, 2005; Clifford & Marcus, 1986; Hammersley, 1990).

3.9.5 Ethics

There was minimal risk to the participants in this study. Youth were allowed to skip any questions that made them feel uncomfortable. If the participants disclosed personal information about their further needs, the researcher provided them with a list of youth-friendly services, although the majority of participants were recruited from youth support centres already addressing their needs. The only direct benefit for youth was an honorarium in the form of a $20 voucher to Shoppers Drugs Mart and an optional coffee or lunch. At the time of the meeting interview, the researcher allowed the youth to take as much time as needed to read through, or have the researcher read, the informed consent. The youth were then given the opportunity to sign the consent to participate immediately in the study.
or to decline participation. The youth were given the option to withdraw the consent to use their information at any time following the interview by contacting the researcher even after the completion of the study.

3.9.6 Data Collection

The qualitative portion of this study was gathered through individual recorded interviews, each approximately 20 to 30 minutes in length. The interview questions were chosen relative to the findings from the quantitative analysis to help identify what key pieces of school connectedness contribute to the decision to leave school. The youth were encouraged to further explore their experiences with substance use during the interview as follow-up and probing questions were used on their initial responses. The initial questions were chosen to gather more detailed information about the relationships between specific variable outcomes such as one aspect of the school connectedness scale, that is, how much youth believe teachers care. The questions then focused on asking youth about their experiences and beliefs about interactions with teachers to identify if youth believed they cared. A complete list of interview questions used in this study are found in Appendix A.

Typed transcripts were made of the recordings to ensure rigour in capturing the relevant information provided by the youth. Any information that could identify the youth was made anonymous using alphanumeric initials. The completed transcripts were loaded into the R Qualitative Data Analysis (RQDA), a software package in the open source R research software for analysis.

Field notes were taken on the characteristics of the neighbourhoods where youth chose for the interview. The researcher would spend approximately 20 to 30 minutes walking around the location to collect information before or after the interview. This information was written down in either a paper notebook or electronic note program before or after the interview for later reference.
3.9.7 Data Analysis

Thematic analysis was subsequently conducted with the interview data. A theme is an important observation found in the texts that helps to answer one or more of the questions proposed by the study (Braun & Clarke, 2006). The strength of using this method is that it orders a large and complex mass of information into a useable set of observations.

Thematic analysis required the researcher to encode the qualitative information into themes and identify patterns in the information that described, organized, and interpreted youth experiences with substance use and school connectedness (Boyatzis, 1998). The text generated by the interviews represented the study-specific youth experiences. Similar qualitative analyses have used grounded theory as an approach for examining themes and generating new theories from transcribed data (Schreiber & Stern, 2001; Timlin-Scalera, Ponterotto, Blumberg, & Jackson, 2003). The purpose of qualitative information in this study was not to generate new theories; rather, it aimed to use the participants’ personal feelings, knowledge, and reactions in the school environment as a means of answering the proposed research questions (Guest, MacQueen, & Namey, 2011).

The analytic method was informed by Braun and Clarke’s (2006) six-step approach that included 1) familiarizing oneself with data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes, and 6) producing a report (Braun & Clarke, 2006). Since the interviews, transcripts, and analysis were conducted by a single researcher, these six steps were condensed to steps two to five. Familiarization occurred during the transcription and the report writing and was unnecessary as a separate step. The information was directly incorporated into the dissertation.

The preliminary coding was achieved and examined by identifying basic themes in the youth responses that provided specific answers to the proposed study questions. Saturation of themes began occurring within the analysis of the eleven interviews. According to Guest, Bunce and Johnson (2006) the emergence of central themes relevant to a study occurs as early as six interviews and saturation can
be reached within the first twelve interviews at which point similar patterns of information begin to repeat (Guest, Bunce & Johnson, 2006). In the second step, all the codes were collected together to produce themes. The researcher then reviewed and revised the generated themes to identify any overlap, and recorded any higher level of themes from the initial themes. The final step was to interpret, organize, and report all identified themes relative to the study questions and available literature.

Participant observation data gathered where youth chose to meet assisted the researcher to understand the context where the youth lived. Observations were made about available resources for youth such as employment or continuing education buildings, the types of persons making up the pedestrian traffic, and the availability of public spaces. Further information was gathered by observing the interactions of persons in these neighbourhoods with each other and their surroundings. The researcher referred back to the field notes when a theme was identified to categorize any additional pieces of information that could contribute to the analysis of the theme.

3.9.8 Limitations

The youth who came forward and agreed to participate in the qualitative portion of this study may represent a specific demographic within the population of street-involved youth. This means that those who avoided the study may not be represented. The community and service centres from which the participants were recruited were well known to the youth and the research community, but those youth who avoid these areas and services were not captured by this study. Two of the youth were travellers who had been in Vancouver for less than one month and who had attended school outside British Columbia. Their experiences with school and substance use were similar to other youth who attended school in B.C. Recall bias may have also played a role for some participants as some of the experiences discussed during the interviews had occurred more than one year prior to study participation. Additional constraints included limited access to financial resources; lack of external
funding for the study limited the resources available for recruiting additional participants. Finally, the study was time sensitive, with a time period of approximately one to two months allocated to the process of data collection, from the beginning of July 2014 to the end of August 2014.

3.9.9 Summary

A mixed-methods methodology was employed for the analysis of this dissertation. Data from the 2006 BCSYS were analyzed to generate probability profiles for the risk factors and protective factors involved in substance use by street-involved youth. Results from the population-level data analysis then informed the design of the qualitative arm of the study. Street-involved youth were interviewed on their personal and social experiences. The thematic analysis of these interviews describes the role of school connectedness in substance use based on the nuanced social experiences of study participants.
Chapter 4  Data Characteristics and Demographic Information

4.1  Introduction

This chapter presents the demographic results from the 2006 BCSYS analysis and the interviews conducted in 2014. By offering a sense of the participants’ unique backgrounds, a demographic overview provides context for understanding some of the risks and challenges they face while street involved. The chapter begins with an analysis of missing responses in the data to ensure these youth were not a distinct population completing the survey. Next, an examination of the internal consistency of the school connectedness scale was conducted to understand if the scale properties differed when applied to street-involved youth. The final section summarizes the demographic information about the youth who were interviewed and gives relevant details about their precarious living situations.

4.2  Data Characteristics

Data integrity was analyzed before proceeding with the central analysis necessary for answering the study questions. This initial analysis included examining respondent rates for missing data and a possible effect of location in survey administration. Since similar variables can result in multicollinearity; an additional analysis was conducted to determine correlations among similar variables proposed for the statistical models.

Respondent rates were analyzed to determine if the missing responses belonged to a distinct population of youth. An approximate 10% cut-off was assumed as an acceptable proportion for the missing responses (Table 4.1). The investigation found no significant difference between the missing and completed responses for the majority of variables.

Since the BCSYS was conducted in nine communities throughout the province, further analysis examined the influence of the surveying location on missing responses. Missing responses were not significantly different among the different communities.
Table 4.1: Missing Variable Percentages

<table>
<thead>
<tr>
<th>Variable</th>
<th>Overall Percent missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>10.6%</td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td>10.5%</td>
</tr>
<tr>
<td>Attending School</td>
<td>2.4%</td>
</tr>
<tr>
<td>Number of Marijuana Uses in the Past 30 days</td>
<td>3.8%</td>
</tr>
<tr>
<td>Number of Binge Drinking in Past 30 Days</td>
<td>5.0%</td>
</tr>
<tr>
<td>Consequences from Substance Use</td>
<td>7.9%</td>
</tr>
<tr>
<td><strong>Risk Factors</strong></td>
<td></td>
</tr>
<tr>
<td>Ever Sexually Abused</td>
<td>9.2%</td>
</tr>
<tr>
<td>Ever Physically Abused</td>
<td>8.0%</td>
</tr>
<tr>
<td><strong>Mental Health</strong></td>
<td></td>
</tr>
<tr>
<td>FAS</td>
<td>8.4%</td>
</tr>
<tr>
<td>ADHD</td>
<td>8.4%</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>8.4%</td>
</tr>
<tr>
<td>Depression</td>
<td>8.4%</td>
</tr>
<tr>
<td>Bipolar</td>
<td>8.4%</td>
</tr>
<tr>
<td>Chronic Anxiety</td>
<td>8.4%</td>
</tr>
<tr>
<td>Addiction</td>
<td>8.4%</td>
</tr>
<tr>
<td>Anger</td>
<td>8.4%</td>
</tr>
<tr>
<td><strong>Family Alcohol Problems</strong></td>
<td></td>
</tr>
<tr>
<td>No one in family has alcohol problems</td>
<td>10.5%</td>
</tr>
<tr>
<td>Mother Has Alcohol Problems</td>
<td>10.5%</td>
</tr>
<tr>
<td>Father has alcohol problems</td>
<td>10.5%</td>
</tr>
<tr>
<td>Other family has alcohol problems</td>
<td>10.5%</td>
</tr>
<tr>
<td><strong>Family Drug Problems</strong></td>
<td></td>
</tr>
<tr>
<td>No one in family has drug problems</td>
<td>10.1%</td>
</tr>
<tr>
<td>Mother has drug problems</td>
<td>10.1%</td>
</tr>
<tr>
<td>Father has drug problems</td>
<td>10.1%</td>
</tr>
<tr>
<td>Other family has drug problems</td>
<td>10.1%</td>
</tr>
<tr>
<td><strong>Protective Factors</strong></td>
<td></td>
</tr>
<tr>
<td>Finish Education</td>
<td>38.6%</td>
</tr>
<tr>
<td><strong>School Connectedness Scale Items</strong></td>
<td></td>
</tr>
<tr>
<td>Q45TEACHERSCARE</td>
<td>4.2%</td>
</tr>
<tr>
<td>Q46PARTOFSCCHOOL</td>
<td>6.6%</td>
</tr>
<tr>
<td>Q46HAPPYSCHOOL</td>
<td>6.6%</td>
</tr>
<tr>
<td>Q46FAIRTEACHERS</td>
<td>7.2%</td>
</tr>
<tr>
<td>Q46SAFEATSCHOOL</td>
<td>7.5%</td>
</tr>
<tr>
<td>Q47TROUBLEGETTINGALONGWITHTEACHERS</td>
<td>2.9%</td>
</tr>
<tr>
<td>Q48TROUBLEGETTINGALONGWITHSTUDENTS</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

Variables with similar content were examined to detect if there was any multicollinearity.

Specifically, the differences between Family Problem Drug Use and Family Problem Alcohol Use was
examined. The result confirmed that the two variables were significantly different ($\chi^2 = 188.197(1)$, $p=0.000$). The results from this analysis allowed both variables to remain in the binary logistic regression models whose results will be discussed in detail in Chapter 5.

4.2.1 Internal Consistency of the School Connectedness Scale

The items used in the school connectedness scale are summarized in Table 4.2. The outcome from the analyses of internal consistency found that the Cronbach Alpha Score (.87) was hardly different from previous studies on the school connectedness scale in 2006 BCSYS (Laye-Gindhu, 2011; Saewyc & Homma, 2010). When the scale was examined with the ordinal alpha analysis, the alpha score increased to .89. This increase was minor, but the results are considered to be closer to the true standard alpha for the scale, as the analysis took the ordinal nature of the responses into consideration during calculations (Gardermann et al., 2012; Zumbo, Gardermann, et al., 2007).

The differences between the Cronbach and ordinal alpha analysis are identified in the results of a correlation analysis using the Pearson r versus the polychoric correlation (Table 4.3). The table demonstrates that inter-item correlations using the polychoric method were slightly higher. The factor analysis was not replicated, as previous studies have provided solid evidence that the school connectedness scale is unidimensional (Laye-Gindhu, 2011). The analysis found that the school connectedness scale remained internally consistent among street-involved youth.

**Table 4.2: Summary of School Connectedness Items**

<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers Care</td>
<td>729</td>
<td>3.19</td>
<td>1.26</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Feel Part of School</td>
<td>712</td>
<td>2.85</td>
<td>1.26</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Happy at School</td>
<td>712</td>
<td>2.79</td>
<td>1.28</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Teachers are Fair</td>
<td>705</td>
<td>2.62</td>
<td>1.24</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Feel Safe at School</td>
<td>704</td>
<td>2.54</td>
<td>1.28</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 4.3: Correlation Matrix Pearson r vs. Polychoric

<table>
<thead>
<tr>
<th>Polychoric</th>
<th>Pearson</th>
<th>Q45TC</th>
<th>Q46PA</th>
<th>Q46HA</th>
<th>Q46FA</th>
<th>Q46SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers Care</td>
<td>-</td>
<td>0.46</td>
<td>0.50</td>
<td>0.51</td>
<td>0.47</td>
<td></td>
</tr>
<tr>
<td>Feel Part of School</td>
<td>0.48</td>
<td>-</td>
<td>0.74</td>
<td>0.57</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>Happy at School</td>
<td>0.54</td>
<td>0.80</td>
<td>-</td>
<td>0.59</td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>Teachers are Fair</td>
<td>0.55</td>
<td>0.63</td>
<td>0.66</td>
<td>-</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>Feel Safe at School</td>
<td>0.49</td>
<td>0.65</td>
<td>0.71</td>
<td>0.67</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

4.3 Demographics of Substance Using Youth in the BCSYS

Table 4.4 shows that the number of youth in the study steadily increases from the youngest age of 12 years to the oldest of 18. The age distribution of the data is skewed toward older youth with a mean age of 16.3. However, nearly one-third (28.9%) of participants were 15 years of age and younger. This linear trend demonstrates that youth who participated in the BCSYS were more likely to be older, but some youth experience street involvement before adolescence.

Table 4.4: Age Distribution of Survey Participants

<table>
<thead>
<tr>
<th>Age</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>8</td>
<td>32</td>
<td>79</td>
<td>96</td>
<td>138</td>
<td>152</td>
<td>242</td>
<td>747</td>
</tr>
<tr>
<td>%</td>
<td>1.1</td>
<td>4.3</td>
<td>10.6</td>
<td>12.9</td>
<td>18.5</td>
<td>20.3</td>
<td>32.4</td>
<td>100</td>
</tr>
</tbody>
</table>

The population sample for this study is nearly gender balanced (Table 4.5). The narrow distribution has a small bias when interpreting study findings by gender. Gender distribution has been a concern in previous studies because there has been a bias toward over-representing street-involved young men. This is due to sampling methods that target outwardly visible street-involved youth (O’Grady & Gaetz, 2004).
Table 4.5: Survey Participant Gender Distribution

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>367</td>
<td>48.9</td>
</tr>
<tr>
<td>Female</td>
<td>383</td>
<td>51.1</td>
</tr>
<tr>
<td>Total</td>
<td>750</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The sample gender by age was also balanced (Table 4.6). The 18 year olds formed the largest age group among both young men and women (30.6%–34.3%). Fifteen year olds (15.8%) formed the only age group in which the young men outnumbered young women (9.7%). A chi-square analysis found that the age range of the youth in the survey was not statistically different between young men and women $\chi^2 9.40(6), p >.05$.

Table 4.6: Survey Participant Age by Gender Distribution

<table>
<thead>
<tr>
<th></th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young women</td>
<td>3</td>
<td>12</td>
<td>37</td>
<td>35</td>
<td>72</td>
<td>79</td>
<td>124</td>
<td>362</td>
</tr>
<tr>
<td></td>
<td>.8%</td>
<td>3.3%</td>
<td>10.2%</td>
<td>9.7%</td>
<td>19.9%</td>
<td>21.8%</td>
<td>34.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Young Men</td>
<td>4</td>
<td>20</td>
<td>41</td>
<td>60</td>
<td>65</td>
<td>73</td>
<td>116</td>
<td>379</td>
</tr>
<tr>
<td></td>
<td>1.1%</td>
<td>5.3%</td>
<td>10.8%</td>
<td>15.8%</td>
<td>17.2%</td>
<td>19.3%</td>
<td>30.6%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

4.3.1 Attending School & Educational Aspirations

The variable for measuring youth attending school had three response categories, No (37.9%), Yes—Regular School (28.0%), and Yes—Alternative School (34.1%). The two types of schooling covered by separate “Yes” categories are public schools. One type offers a standardized curriculum to all its students across the province. The alternative schools provide a flexible and self-paced curricula that caters to students with significant difficulties learning or interacting in public schools. These two categories were combined to increase statistical power, and a variable was created that included the “No” (37.9%) and “Yes” (62.1%) responses (Table 4.7). The “Yes” responses were merged because
dividing the sample based on the type of educational institution by gender, age, and problem substance use resulted in a much smaller sample size for analysis. Young women were significantly more likely to respond Yes in School (70.8%) compared with young men (53.3%).

Educational aspirations of the participants were mixed, with the majority of youth reporting they did not know when they would finish their education (Table 4.8). This was measured by the question, “When do you expect to finish your education?” The categories among the youth who intended to finish school were further recoded in the Educational Aspirations variable (n=679) combining post-graduate choices, At Least High School (25.5%), and At Least Post-Grad (28.3%). Two responses to the question that were not included were Before High School (9.9%) and Don’t Know (36.4%). That nearly one-third of youth (28.3%) identified they would like to complete some post-secondary education demonstrated that over half the surveyed youth believed connection to education and educational institutions are important for their future.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not in School</td>
<td>282</td>
<td>37.9%</td>
</tr>
<tr>
<td>Yes in School</td>
<td>462</td>
<td>62.1%</td>
</tr>
<tr>
<td>Total</td>
<td>744</td>
<td>100.0</td>
</tr>
</tbody>
</table>
4.3.2 Problem Substance Use

The proportion of youth in each of the problem substance use variables were evenly distributed with no statistical difference (Table 4.9). The similar distributions among all the problem substance use variables facilitate the comparison of how each is affected by the same risk and protective variables.

Table 4.9: Survey Problem Substance Use Distribution

<table>
<thead>
<tr>
<th>Problem Marijuana Use</th>
<th>N</th>
<th>%</th>
<th>Problem Alcohol Use</th>
<th>N</th>
<th>%</th>
<th>Consequences from Substance Use</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 20 times</td>
<td>433</td>
<td>59.1</td>
<td>Less than 3 times</td>
<td>430</td>
<td>59.6</td>
<td>Less than 3</td>
<td>418</td>
<td>59.5</td>
</tr>
<tr>
<td>20 or More Times</td>
<td>300</td>
<td>40.9</td>
<td>3 or more times</td>
<td>291</td>
<td>40.4</td>
<td>3 or more</td>
<td>284</td>
<td>40.5</td>
</tr>
<tr>
<td>Total</td>
<td>733</td>
<td>100.0</td>
<td>Total</td>
<td>721</td>
<td>100.0</td>
<td>Total</td>
<td>702</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.3.3 Youth Substance Use by Age

Although all problem substance use increased by age, it is only the Consequences of Substance Use that appear statistically significant (Table 4.10). Alcohol use began among the youngest age category of 12 years old while no other problem substance use began this early. Alcohol is one of the first substances youth use due to its availability (Canadian Centre on Substance Abuse, 2007).
influence of age on Problem Marijuana Use and Problem Alcohol Use was not statistically significant. However, as expected, age was a significant factor in Consequences of Substance Use; as youth get older and continue to use substances, there is greater chance they will eventually report negative outcomes from problem substance use.

### Table 4.10: Statistical Significance of Age on Problem Use and Consequences

<table>
<thead>
<tr>
<th>Substance Use Category</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Marijuana Use</td>
<td>(n=294), $X^2$ 11.13(6), $p &gt; .05$</td>
</tr>
<tr>
<td>Problem Alcohol Use</td>
<td>(n=289), $X^2$ 5.79(6), $p &gt; .05$</td>
</tr>
<tr>
<td>Consequences from Substance Use</td>
<td>(n=281), $X^2$ 17.14(6) $p &lt; .05$</td>
</tr>
</tbody>
</table>

### Table 4.11: Problem Substance Use Categories by Age

<table>
<thead>
<tr>
<th></th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Marijuana Use</td>
<td>0</td>
<td>10</td>
<td>31</td>
<td>35</td>
<td>64</td>
<td>52</td>
<td>102</td>
<td>294</td>
</tr>
<tr>
<td></td>
<td>0.00%</td>
<td>3.40%</td>
<td>10.50%</td>
<td>11.90%</td>
<td>21.80%</td>
<td>17.70%</td>
<td>34.70%</td>
<td>100%</td>
</tr>
<tr>
<td>Problem Alcohol Use</td>
<td>3</td>
<td>9</td>
<td>31</td>
<td>43</td>
<td>57</td>
<td>52</td>
<td>94</td>
<td>289</td>
</tr>
<tr>
<td></td>
<td>1.00%</td>
<td>3.10%</td>
<td>10.70%</td>
<td>14.90%</td>
<td>19.70%</td>
<td>18.00%</td>
<td>32.50%</td>
<td>100%</td>
</tr>
<tr>
<td>Consequences from Substance Use</td>
<td>0</td>
<td>3</td>
<td>33</td>
<td>37</td>
<td>49</td>
<td>65</td>
<td>94</td>
<td>281</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>1.10%</td>
<td>11.70%</td>
<td>13.20%</td>
<td>17.40%</td>
<td>23.10%</td>
<td>33.50%</td>
<td>100%</td>
</tr>
</tbody>
</table>

#### 4.3.4 Youth Substance Use by Gender

A comparative analysis was performed to examine the difference in substance use by gender. A significant difference between genders was found for certain substance-use categories. Young men were significantly more likely than young women to be included in the Problem Marijuana Use. In the Problem Alcohol Use category, the difference between genders was insignificant although there were more young women (n=168) compared with the young men. Young women were significantly more likely to be included in the Consequences from Substance Use than young men.

### Table 4.12: Problem Substance Use by Gender

<table>
<thead>
<tr>
<th>Category</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Marijuana Use</td>
<td>(56.6%- 43.4%) (N= 283) 12.76(1), $p &lt; .05$</td>
</tr>
<tr>
<td>Problem Alcohol Use</td>
<td>(n=129) (46.7%- 53.3%) 0.071(1), $p &gt; .05$</td>
</tr>
<tr>
<td>Consequences from Substance Use</td>
<td>(57.2%- 42.8%) (N=421) 5.52(1), $p &lt; .05$</td>
</tr>
</tbody>
</table>
4.3.5 Summary of Quantitative Demographics

The results from the quantitative analysis identified some specific trends of problem substance use relative to gender and age. Age was found as non-significant for Problem Marijuana Use and Problem Alcohol Use, but as youth aged their probability for reporting Consequences from Substance Use increased significantly. Gender was associated with specific problem substance-use behaviours as there were no significant difference in gender for Problem Alcohol Use, but young women were significantly more likely to report Consequences from Substance Use than young men were. Age did not significantly influence problem substance use but the Consequences from Substance Use is found to be significantly more likely as youth age.

4.4 Qualitative Population Demographics and Social Contexts

4.4.1 Interview Demographics

This section provides an overview of the individual and shared personal characteristics of the youth who participated in the study interviews in 2014. The maximum age for potential study participants was 24; the youth who participated in the study ranged from 16 to 24 years old. Locating street-involved youth was difficult. I recruited youth from emergency shelters, youth support centres, community centres, and a community kitchen where I volunteered to help prepare meals. In the end, 11 youth agreed to be interviewed for this study: 4 were young women and 7 were young men. It was difficult getting basic information about ethnicity or sexual orientation unless the youth explicitly stated this during the interviews. One of the young women mentioned that she was bisexual, which caused her some difficulties with bullying when she was dating a girl while in school. Other youth indicated that they had lived on a reserve or were from an Indigenous community. During the interviews, it was
apparent that regardless of youth demographics, they spoke about similar experiences of difficulties with substance use during school.

Four youth contacted the researcher because they saw the poster at the shelter, four youth were recruited at the community centre, one youth was approached at the employment centre, and two youth were panhandling on the street when they agreed to participate. All interviewees were staying in Vancouver during the time of the interview. The majority of interviewees came to Vancouver from another Canadian city, town, or First Nation reserve. There was a zero per cent refusal rate among the youth who participated in the study. The potential explanation for this is that they either approached the researcher or were included because of a peer’s suggestion. This phenomenon of low refusal rate is not unique to this study: it had also been observed in the 2006 BCSYS where approximately 3% refused to participate (Smith et al., 2017). The specific ages for interviewees are included in Table 4.11 below.

**Table 4.13: Age Distribution of Interviewed Youth**

<table>
<thead>
<tr>
<th>Years of Age</th>
<th>Young Men</th>
<th>Young Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>
4.4.2 Youth and Leaving School

During the interviews, the first question asked youth about the last grade they completed in school. A majority of the youth indicated that school ended or was interrupted for the first time around grades 10 or 11 although the reasons for leaving school varied beyond just problems with substance use.

A Young Woman aged 18 stated that substance use had interrupted her schooling: “That was basically in grade 10 when I was going really hard, and I just totally stopped going to school and then I would maybe show up high after a while just to laugh. ... Until I was kicked out again, but not much attention to it at all.”

A Young Man age 18 also indicated he had left school at grade 11 also because of his substance use:

**Researcher:** When you were in school did you change schools a lot?

**Young Man:** Yeah, I went to three different schools, three different high schools.

**Researcher:** Ok, and what was sort of the main reason for that?

**Young Man:** Alcohol and drug use.

Although substance use affected some of the youth remaining in school, other youth noted that moving around often interfered with their participation in school. A Young Woman aged 17 said she left school in grade 11 and that moving around due to family problems also contributed to her staying in school.

**Young Woman:** I did that, like, before this year and last year I switched schools quite a bit. I have been to around fifteen schools in my whole life.

**Researcher:** What was the main reason for that?

**Young Woman:** It was we weren’t really able to stay in one place for a long enough. So, we kind of kept on moving all over the place.

**Researcher:** So, is this a lot of family moving?
Young Woman: Yeah.

Difficulty learning the school curriculum was the reason that another Young Man aged 18 said he changed schools often and eventually left. He said, “I was just having problem with learning the subjects and stuff and I think they felt I wasn’t that good of a fit so I was in alternative school before that and they put me back in alternative school.” Every youth in this study faced different circumstances that impeded their involvement in school. Substance use was a common activity among all of them but it was not always the main reason they left school.

4.4.3 The Street Environment

Recruiting homeless and street-involved youth to participate in a study is no simple task, especially when many of them are indistinguishable from all other youth. I had limited opportunities to cultivate personal relationships with the youth and relied on the connections others cultivated with them. The central adults in their lives were their support workers and social services providers who acted as gatekeepers and facilitators, providing access to the youth I could not have found on my own.

During the time of recruitment, the weather in Vancouver was warm but not hot. The weather was nice enough in the evenings that a person could sleep outdoors. Although the weather was not dangerous, the youth in this study categorized living on the street as having plenty of other hazards. Youth were perceptive enough to know that seemingly normal people can have predatory tendencies toward them. I witnessed one instance of this behaviour. When attempting to recruit a young woman who was panhandling, I saw two cigarettes in her hat instead of change. They had just been thrown there by a man. The incidence is discussed in further detail below.

4.4.4 Making Contact

The youth shared their narratives about struggle and, in some cases, overcoming difficulties they faced with their street involvement. The stories revealed a more holistic picture of who they are,
where they’ve been, and the reasons that brought them to the interview. All youth had used a variety of substances during their time in school. All youth had left or were kicked out of school at some point. Some had returned to school, but few appeared to be completely settled.

Youth recruited from the shelter through study posters were diverse. A young Indigenous man was using the shelter as a home base until he could look for work and get help to address alcoholism. He came from a rural and remote reserve where his immediate family still lived. He said his mother and father were caring and that there were no problems in the family. He commented that living in such a small town where everybody knows everybody’s business was boring. He came to the city by himself, found a girlfriend, got involved in drinking and drugs, broke up with his girlfriend, then dropped out of school because it felt unnecessary. He said he was just getting everything in his life back together.

A couple recruited through the shelter posters was only accessing social services and not the housing supports. The Young Woman was originally from another province. During the phone call the night before the interview, she described herself as hard to miss as she looked like a street kid. I waited outside the coffee shop for her to arrive. She had visible tattoos on her arms, chest, and neck with multiple piercings in her nose, ears, and lip on both sides. She came to the interview wearing a low-cut shirt that appear fashioned from a metal-band t-shirt. A Young Man, her partner, was with her. He carried a guitar. He did not have visible tattoos or piercings. The young women had her General Equivalency Development (GED) and the Young Man was working toward his.

Four other youth were also recruited through the shelter poster. These youth included two young Caucasian women, a young Indigenous man, and a young Caucasian man. The first Young Woman was not accessing the shelter but the accompanying social support services. She self-identified as a difficult youth and said that she was raised by her aunt. She had left school but returned to finish high school and was now applying for college. The young Indigenous man was from a small rural reserve on
the coast, far from Vancouver. He was accessing shelter services and working to get back into school after leaving due to alcohol abuse.

Two couples, each comprising a Young Woman and Young Man, were interviewed together. These unexpected couple interviews were accommodated when two of the Young Women who had expressed interest in the study arrived for the interview accompanied by their male partners. Since street-involved youth face sexual exploitation and predatory situations throughout their street involvement, the Young Women’s decision to bring their partners along appeared to be a precautionary measure to ensure their safety when meeting with an unknown male researcher. The interview format changed when the couples were encountered; since the young men met the study’s participation criteria, they were invited to participate in the interview.

Being interviewed together as a group requires trust from both partners. I explained to the couple that some questions reveal personal information. I was open to interviewing both youth separately, but in each case they did not want to wait. They trusted their partners and were willing to share their private struggles with substance use and school together. I was amazed the youth were willing to share their lives, openly and unflinchingly, with a complete stranger. They wanted their story heard because some of the youth were interested in sharing their experiences to help make a difference in the lives of others in similar situations. In general, the youth felt that this opportunity could contribute to a larger good. Two youth also informed me that participating in the interview was motivated as much by altruism as by the honoraria to help cover some of their basic living needs.

Another couple was recruited from The Drive. I first noticed the Young Woman sitting with a cardboard sign asking for change and a baseball cap set on the floor in front of her. She was wearing a low-cut tank top and shorts. Half of her hair was shaved and the other half was shoulder length. She had visible tattoos and facial piercing. This Young Woman was the youth with two cigarettes in a baseball hat in front of her. Later on, I found out that she did not smoke. Once I approached her, she looked further
up the street to a Young Man half a block away. I introduced myself and said that I was with the university and looking for youth to talk about their substance use and school experiences. She provided information that made her ideal for the study. She then picked up her panhandling equipment and asked if I could include her partner who was just up the street. I said that would be an excellent idea if he agreed to participate. We then walked together up the street to meet the Young Man, who was also panhandling and had a cardboard sign. He was wearing a hat and a denim overall turned into shorts. She introduced me and told him a little about my study. He was excited to help and agreed to participate. We set off up the street in search of a place where the youth felt safe to do the interview and we could eat lunch.

The couple seemed hesitant to enter the first location that we stopped at, so we continued walking up the street until we found a location where they felt safe. The hesitation could have been linked to panhandling just prior to the interview, to noticing someone who donated spare change now in this restaurant, or some other interaction with another pedestrian. As we settled down, the Young Woman thanked me and explained the person who threw the cigarettes in the hat had also propositioned her for sex. She didn’t appear disturbed but mentioned that it made her feel uncomfortable. Her partner appeared undisturbed as well, but the Young Woman said she felt safe because her partner was never too far away.

I was introduced to one youth at an employment centre by a staff member who appeared to know him. He was a friendly 18-year-old man. We decided to head on over to a café to discuss the study. He had no tattoos or piercings, nothing that made him stand out in a crowd. He shared personal information about being involved in the foster-care system and experiencing sexual assault, an experience he said he could never tell his male friends because they would make fun of him. He was looking for work after upgrading his education to a high school diploma.
Many of the youth were recruited at a popular community centre and communal kitchen that served meals for a voluntary fee to the community twice a week during the summer. These youth tended to be younger and identified as Indigenous. Through a health care provider who volunteered at the youth centre, I was introduced to a young Indigenous man who was 18 years old, had visible tattoos, and who liked sports. He actively went out of his way to be helpful to the study. This youth was a gatekeeper. After our interview, he asked if I wanted others to participate too. I was happy that he asked, and explained that I would like to interview as many youth as possible. He walked over to a group of youth who were his friends as I sat on the bench writing notes.

Sometime later another young Indigenous man, aged 21, came over and introduced himself, saying that he was interested in the study. This Young Man told me he had a child and that it was one of the things that keeps him sober. He said that he became independent early and got involved in selling drugs in his school days. He avoided discussion about his parents and family but mentioned that most of his friends were in a similar situation. They had out grown of street involvement but remained close to others who were still struggling with alcoholism.

One of these friends was waiting for the Young Man after the interview. He offered to ask if his friend would like to participate, and his friend soon approached me and expressed interest in participating. This young Indigenous man talked less about his personal life but opened up about his problem substance use and the effect these had on his school experiences. He was kicked out of school for selling drugs on school premises and had a hard time finding a school that would accept him afterwards.

Two other youth were recruited from the community centre. These youth were younger than the others, but they too described similar struggles: difficulties with substances and staying in school. They were more reluctant than the other older youth to open up to the researcher, but they did share information relevant to the study questions.
4.4.5 Youth Co-Constructing Research

The youth who participated in the interviews were not passive in the research process. Youth chose the locations for the interviews and the interviews often turned to wider discussions about the subject with the researcher. The young 18-year-old women was one of the first youth interviewed and provided insight about how I could better uncover the relationship between school and substance when she stated, “You should totally not just ask for a year because in the past year I have been sobering up, like before was the problem.”

The research questions posed to youth were not proscriptive but were used as a form of dialogue that resulted in probes and follow-up questions that increased the depth of information available for the study. An example of these exchanges occurred when I asked for further clarification about a specific program a Young Woman had participated in, and I was not familiar with it.

Young Woman: Umm, I had certain teachers. Like in the SUCCESS program in grade 8

[...]

Researcher: I am not familiar with SUCCESS. Can you tell me about it?

Young Woman: SUCCESS is like a program for kids that are struggling who don’t quite make it to the grade 8 level.

Researcher: Just having a bit of help?

Young Woman: Yeah, so I think being put in that position, those teachers were already geared toward helping kids.

Another example is when speaking to a couple where the Young Woman was age 21 and the Young Man aged 19. These youth educated me about specific substance use behaviour that I did not consider during the drafting of questions about substance use. The dialogue was as follows,

Researcher: That’s amazing; that’s something I didn’t really consider was prescriptions.

Young Woman: Really!
Young Man: Oooh!

Young Woman: Prescriptions, with respect, I know too many kids, especially in university that’s all they do. Dexedrine, Adderall, Dexedrine, Caffeine. My little sister she’s 16 now and she got expelled when she was 14 from her first year in high school. She was there for three weeks and she got expelled because she never received support from the family.

Researcher: So, prescription drugs are a pretty big thing?

Young Woman: Yeah! My little sister she did skittling, skittling is really popular these days since like ’98 where you take a whole bunch of prescription pills from your parents and then you take a handful.

Researcher: What! That’s a thing!

Young Woman: It’s THE thing.

Researcher: Were drugs easy to get in your school?

Young Woman: Yes. Even now the place to go is high school students.

These dialogues are only two of many in which youth helped me better understanding their experiences. The youth were more knowledgeable about different facets of the topic on substance use than I was and their perspective was helpful in shaping how I approached the study.

4.4.6 Lifelong Transience

During the interviews, the theme of lifelong transience provided insight into lives in continuous movement. Youth discussed being on the move for most of their lives, beginning with their families and continuing into their later years. This resulted in the youth having to disconnect and reconnect with school with every move. Lifelong Transience was a theme derived from youth discussions about living in families that did not put in one place for long. As a Young Woman said, “I went to three different schools
in B.C. because we were staying at my cousin’s place, we were staying in this minivan and stuff, and then we were renting this box on a farm. Yeah, oh my goodness so many different schools” (Young Woman, 19).

Another Young Woman age 17 had similar experiences:

Young Woman: I did that, like, before this year and last year I switched schools quite a bit. I have been to around 15 schools in my whole life.

Researcher: What was the main reason for that?

Young Woman: It was we weren’t really able to stay in one place for long enough. So we kind of kept on moving all over the place.

Researcher: So, is this a lot of family moving?

Young Woman: Yeah.

This same Young Woman went on to explain, “We weren’t really able to stay in one place long enough. So, we kind of kept on moving all over the place” (Young Woman, 17). A Young Man explained that he and his parents were constantly moving and this affected his ability to make friends: “I mean I moved way too many times to make any friends” (Young Man, 18). And, according to his account, his later life was not any more stable: “I mean at that time my parents were pretty much non-existent. They were there but they weren’t really there … So, when I left when I was 16 … I was able to get to shelters and stuff and still be able to do school” (Young Man, 18). This movement in early life set a pattern in later life as well for a Young Woman age 18 who explained difficulties at home,

Young Woman: It was trouble at home. I was in staying in group homes and foster homes and I didn’t have, I only had one change of clothes.

Researcher: It was difficult?

Young Woman: Yeah, I guess I would have felt unsafe if I had worried about myself but I don’t. There’s a lot of times that like I was in a lot of pain and it was always brushed off.
Things weren’t really taken seriously, I felt. So, I felt like, maybe that led me to feel like I didn’t take things seriously. I think I feel that way.

A key take-away from the interviews was that regardless of the continual movement, many youth said they had decided to eventually return to school or were in the process of returning to upgrade for their graduate education diploma (GED) in an alternative school or adult education course. Their educational future varied widely. Two of the female youth were working toward acceptance in a community college: one in addictions counselling and the other in nursing. A third young women had entered university but dropped out because she did not like the atmosphere.

One of the oldest young men in the group had graduated high school and went on to take up a trade but left without completing it. Another Young Man was finishing his high school to advance to college or university. The other young men were unsure if school or structured education would have a role in their lives beyond high school. A Young Woman had completed school and was exploring options to become a nurse. The Young Woman who was travelling with her partner across Canada had attended some post-secondary university but dropped out.

Regardless of ethnicity, street-involved youth in this study described the same risks of sexual and physical abuse, difficult family home lives, and disassociation with school. Their stories about early substance use, difficulty in school, and difficult home lives were indistinguishable from other youth. How each youth became street-involved was revealed to be through similar paths that included family dysfunction, difficulty with social authority, problems due to substance use, and poverty.

4.4.7 Summary

The qualitative interviews provided this study with context, affording insight into the personal lives and the experiences of the youth participating in the study. These youth were heterogeneous in personal lives and backgrounds but shared many similarities in their transient lifestyles and experiences.
of being in and out of school. These observations set the scene for understanding how the risk factors associated with substance use and connection to school presented in the following chapter.
Chapter 5  
Study Analysis Results

5.1  Introduction

This chapter presents the study results for the bivariate, multivariate, and probability profile models, as well as the qualitative analyses integrated throughout. The quantitative analysis provides the context of wider population context and trends that are less discernible from smaller discussions that arise during interviews. The probabilistic models identify the degree of substance use, how particular risks or protective factors contribute to the likelihood of using specific substances. The numbers provide a wide view to represent the population but limit context to how risk and protective factors are interacting in the personal lives of the youth. Substance-specific themes and subthemes from the transcript analysis are presented throughout to provide more on these specific experiences youth had with substance use and school. Additional themes arising from the experiences that shape how youth connect to the school environment but that are not directly related to substance use provide an understanding of the important role of school in their lives.

5.2  Bivariate Analysis

The risk variables examined for this study provided evidence of contributing to problem substance use. The results of the bivariate and multivariate logistic regression models revealed a significant relationship with the three problem substance-use variables. Since the models controlled for age, the results from the models are presented as adjusted odds ratio (AOR). Age was included throughout the analysis to track if it was associated with specific outcomes but not with others.
5.3 Protective Factors

5.3.1 Substance Use and School Attendance

The impact of school enrolment on substance use was shown to vary among young men and young women (Table 5.1). Young women Problem Marijuana decreased significantly with school enrolment but no other significant reductions for the remaining substance use variables were found. School attendance was found to be protective against the Consequence of Substance Use only among young men.

Table 5.1: Attending School by Gender & Problem Substance Use Category

<table>
<thead>
<tr>
<th></th>
<th>Young Men</th>
<th></th>
<th>Young Women</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>CI Low</td>
<td>CI High</td>
<td>p-value</td>
</tr>
<tr>
<td>Marijuana use 20+ times last 30 days</td>
<td>.020</td>
<td>645</td>
<td>.613</td>
<td>.020</td>
</tr>
<tr>
<td>Binge drank 3+ times past month</td>
<td>684</td>
<td>425</td>
<td>.307</td>
<td>.307</td>
</tr>
<tr>
<td>Consequences (3+ past year)</td>
<td>506</td>
<td>307</td>
<td>.834</td>
<td>.681</td>
</tr>
</tbody>
</table>

5.3.2 School Attendance Themes

The bivariate logistic regression models showed that just being in school was not enough to protect against problem substance use. Youth identified some aspects of the regular school environment, such as policies and relationships that influenced the way they connected or disconnected. The first theme emerging from the youth interviews was the need to have everyday necessities. However, many young saw school as a place that limits their time to gather necessities for everyday life, such as food, money, and shelter. They then turned this into a financial opportunity by selling substances. The implications of the first theme are important to the second theme, zero
tolerance policies, which outline how youth experienced the schools’ strict policies that are meant to discourage using and selling substances. It is essential to understand the underlying effect of each theme as they provide context for how youth who engage in behaviours contrary to those expected by the school environment influence how youth connect to their schools.

The youth identified two different approaches to overcoming this problem: they either left school to find employment or used the school environment as a lucrative resource for selling drugs. During an interview with one of the couples, a Young Woman and Man Age 19 provided one explanation as to why they sold drugs.

Young Man: Prep school, a lot of my friends, that’s the time where you go live by your own. They had to pay their students loans and they were selling weed. Just small quantities.

Young Woman: Not only that, hash, oil anything.

When asked about the availability of substances, several participants explained that they were capable of accessing many substances because they were selling drugs. “I sold pot in high school for a little bit. Uh, shrooms, I don’t know where I got those from. I know I got them when I was in high school,” said one Young Woman age 19, while a Young Man age 21 responded with, “Yeah, I was actually a drug dealer.” Youth who took on this role of selling drugs were actively mitigating their lack of financial security while continuing to remain in school. The pressure to secure financial resources were not always overcome by trying to stay in school but also led one Young Man to leave school to enter the workforce before he graduated: “I left a month before graduating so I could work full time, I was framing and all that stuff.” (Young Man, 18). Youth who sold substances in school faced increased risks if they were caught, which, depending on school policies could lead to expulsion or other severe consequences.
5.3.3 Zero Tolerance Policies

Since all youth self-identified as using substances in school, zero tolerance policies shaped these youths’ relationships with their school environment. Zero tolerance in schools means immediate reprimand for infringement being caught using substances, being intoxicated, or selling substances while on school property. The consequences for infringing on these policies are often swift but vary depending on the school administration’s capacity to compromise on the youth’s behaviours. If youth were caught selling or using substances, or even suspected of such activities, the penalties ranged from suspension to expulsion. As the Young Man age 19 explained,

Young Man: Well yeah, when you got caught wasted at school right, or you get caught selling on the premises, you get the boot or expelled or they goes as far as they won’t even let you in other schools because of what you did. Like in the previous school, right. That’s what happened with me. I had to go for five or six little interviews for them to accept me into this one school and it was like the worst school for kids in Vancouver. I didn’t care for it.

Researcher: They actually stopped you from going to school because ...

Young Man: because of my alcoholism, my alcohol addiction.

Another participant shared a similar story: "I got kicked out in grade 10, but yeah I shouldn’t have even been kicked out of high school at that age. I think I was under 16 when I got kicked out but yeah, no, I was an addict from the beginning." (Young Woman, 18). These two youth understood that when they were that young, the school had not considered potential underlying substance abuse problems. In such an environment, the consequences of the zero-tolerance approach left youth with a negative sentiment about teachers and other adults in their school. As a Young Man age 19 said, “teachers don’t care if [students] show up drunk or high. They just send them home. They don’t ask why.” A Young Woman age 21 recalled her school’s reaction to substance use: “Oh it was suspension,
they weren’t do anything more than that.” A Young Man aged 19 described this same experience for showing up to class intoxicated from drinking alcohol,

**Researcher:** What happened when you got in trouble for showing up to class [Drunk]?

**Young Man:** [The teacher] kind of just asked me if I was drunk and I said, “yeah” and she said, “get out of my classroom” and that’s it. No one has ever questioned me about being high or anything.

Whether by expelling these students or driving them to absenteeism or drop out, zero tolerance policies defeated one of the key purposes of school—providing sustained developmental support and protection.

### 5.3.4 School Connectedness & Substance Use

The school connectedness scale is the second protective variable included in the bivariate logistic regression models. The results from the analysis indicated increased school connectedness was associated with decreased problem substance use that differed for young men and young women (Table 5.2). Among young women, higher levels of school connectedness resulted in a decrease in the odds of reporting Problem Marijuana Use, but the relationship was not found to be the same for young men. Problem Alcohol Use decreased among young men as school connectedness increased, but this finding was not the same in the case of young women, where no significant relationship was found. Both young men and women who reported higher school connectedness had significant increases in the probability of reporting Consequences from Substance Use. School connectedness was shown to be a statistically significant protective factor against the problem different substance use for both men and women. These results permitted school connectedness to be included in the final probability profile models.
Table 5.2: Bivariate Analysis School Connectedness on Problem Substance Use by Gender

<table>
<thead>
<tr>
<th></th>
<th>Young Men</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Young Women</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AOR</td>
<td>CI Low</td>
<td>CI High</td>
<td>B</td>
<td>p-value</td>
<td>AOR</td>
<td>CI Low</td>
<td>CI High</td>
<td>B</td>
<td>p-value</td>
</tr>
<tr>
<td>Marijuana use 20+</td>
<td>.701</td>
<td>.286</td>
<td>1.719</td>
<td>-.355</td>
<td>.438</td>
<td>.203</td>
<td>.087</td>
<td>.472</td>
<td>-1.593</td>
<td>.000</td>
</tr>
<tr>
<td>times last 30 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Binge drank 3+ times</td>
<td>.231</td>
<td>.090</td>
<td>.594</td>
<td>-1.467</td>
<td>.002</td>
<td>.475</td>
<td>.211</td>
<td>1.071</td>
<td>-.745</td>
<td>.073</td>
</tr>
<tr>
<td>past month</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consequences (3+</td>
<td>.342</td>
<td>.132</td>
<td>.886</td>
<td>-1.072</td>
<td>.027</td>
<td>.421</td>
<td>.187</td>
<td>.948</td>
<td>-.866</td>
<td>.037</td>
</tr>
<tr>
<td>past year)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.3.5 School Connectedness & Disengagement

To grasp how youth understand school connectedness, the study sought to characterize their perception of personal relationships and the social environment at school. Two themes assisted in explaining how youth were influenced by negative school relationships. The first was Disrespect by Adults, which refers to instances of open hostility and disrespect displayed by some adults in school toward the youth. The second theme, Youth Who Disengage, concerns youth who would keep off the radar of authority figures.

5.3.5.1 Disrespect by Adults

The role of adults in the school environment was viewed as important for youth to remain connected to school. As a Young Man age 16 stated, “A lot of teachers are just so harsh with their ways of teaching. It’s one of the main reasons I dropped out. I went back and was put in an alternative program. That’s way better than regular school.” The reaction to a social environment where the youth felt they would be disrespected or judged for their substance use discourages the youth from building relationships with school adults in the first place.

When participants were asked if they ever felt disrespected by an adult in school, most were able to recall one or more instances. One Young Man age 18 noted a teacher who "was judgmental and
rude and made fun of you in front of people. Just one of those teachers that just kicked you out.”

Another Young Man age 19 had a similar experience with a teacher who “... started bringing up stuff. Somebody started talking about prison, and he actually got fired for it, because he said that if I was ever to go to prison that I would be some one’s bitch in prison. Why would he say that?” The disrespect from a teacher was a powerful experience for youth because it shaped how they perceived the school environment relative to their lives and struggles.

The dialogue of a Young Woman age 18 demonstrated youth did identify certain adults in schools as unsafe to approach for help if they needed it.

**Young Woman:** Absolutely, yeah.

**Researcher:** Why wouldn’t you ask that person?

**Young Woman:** I don’t know, it is kind of shocking they even had a teaching degree. I guess some of the teachers there didn’t have the persona that they were a teacher. That they were actually to help you learn. They kind of reminded me of some of the people I grew up with in my family, they kind of just like shut you down. Like what you had to say was not important. Yeah, they kind of make you feel inferior.

These exchanges with adults and the school administration’s policies led to some youth voluntarily disengaging from forming relationships with the adults in the school.

### 5.3.5.2 Youth Who Disengage

There are a multitude of reasons behind youth disengagement from school relationships. In this study, disengagement seemed to be a form of conflict avoidance. A Young Man age 21 explained how he disengaged from others by avoiding asking adults for assistance unless they came to him: “I really didn’t go to people, people just came and saw it in me so they asked me about it.” A similar position was expressed by a Young Woman age 17 who said, “I didn’t really open up to a lot of people unless I felt very comfortable around them ... I wasn’t very talkative and I really didn't do much other than just go to
class and leave.” These accounts were pieces to a more complex set of perceptions youth have about school due to their past and potential future interactions. Avoiding encounters with adults in school diminished youths’ access to positive adult relationships that could facilitate access to social supports and lessen the burden of being street involved.

5.3.6 Increased Connectedness

Increased Connectedness is the overarching theme that refers to the positive experiences of caring adults and opportunity for participation in extracurricular activities. Three positive themes were identified as catalysts for increasing connectedness. The first theme was youth having One Caring Adult; someone who they trusted and felt cared about them. The second theme was Participation in Extracurricular School Activities that outlined evidence that many of the youth were actively involved in school-based activities such as sports, music, art, and drama. The third theme was Mutual Understanding which youth emphasized that adults were empathetic and understanding to their experiences. A final theme Less Judgment was presented by youth as a potential approach for providing youth with opportunity to learn from their own mistakes.

5.3.6.1 One Caring Adult

The participants discussed the importance of having a positive relationship with a caring adult at school. The theme of One Caring Adult was the result of youth describing their own experiences of having an adult figure at school whom they could trust when they needed help. The one caring adult theme included many instances where adults built constructive personal relationships with the youth. These relationships became a valuable resource for physical and emotional support.

The ability to make positive personal relationships with an adult alleviated some of the burdens youth faced in meeting their own needs. As a Young Woman age 19 explained, “I usually did everything on my own except for that one teacher that helped me.” The adults worked as gatekeepers to the basic
necessities outside the youths’ reach: “One of my counsellors helped me get some bus tickets and she put me on the food programs so that I could bring food home every Friday” (Young Woman, 17). A Young Man age 18 explained that, “the native coordinator that was part of the school, he was also a social worker ... really, really good guy, very spiritual, very open, generous, helpful and that sort of stuff. I was drawn to him, I talked to him a lot. ... I was able to get to shelters and stuff and still be able to do school until I dropped out a month before graduating.” A Young Woman age 18 said one of her teachers, “brought me new shoes because my mom and I couldn’t afford them and in [another city] there was a couple times when I had no lunch and another English teacher noticed and starting bringing me lunch. She just noticed, I didn’t ask.” Her partner, the Young Man age 19, shared a similar story: “My history teacher one day came and didn’t talk about history. He brought us a sheet with all the shelters around, food banks and that was high school grade 11. He took time to just talk a little bit about that stuff. I didn’t really need support in that matter but it came to me.”

The support offered by caring adult figures was not limited to physical survival needs; emotional support was also cited as one of the key benefits of forging such relationships. One Young Man age 19 recalled the emotional support he received from a teacher: “My teacher that I went to alternative program with made me comfortable going to that school ... they put themselves out there to let us know they were there for us, I guess. Open and listen to what you had to say to them I guess.” The reliable presence of an adult was often described as comforting: "I had one teacher, who is somebody I could always turn to. Out of like all the teachers I have had through the three years I was there, I only had really identified with two teachers ... They’re really caring and understanding" (Young Woman, 18). The fulfillment of these needs for validation permitted more reliable access to basic prerequisites for maintaining school attendance.

Young Woman (age 19): “I can’t remember if she was the vice principal or principal, but there was a girl that really, really wanted to get me on track and said, “Hey you’ve got a
lot of potential; smarten up, you can do amazing things.” I just wasn’t ready for it at the time and but she was always there for me and hated having to kick me out of school ...I would have had higher grades, but I just didn’t go to class or even apply myself. But yeah, other than that she was, I wouldn’t mind.”

**Interviewer:** So, what made you feel comfortable asking this person for help?

**Young Woman:** Just because she related, she talked to me as a person. I have really bad problem, well I still do, I have a really bad problem with authoritative figures and it was because of the whole like punk-rock thing, it wasn’t about that, ever since I was a kid, I just hate people talking down to me and telling me what to do. I loathe that. Like, who are you to tell me what to do? Doesn’t mean you are better than me. She talked to me like a person and she genuinely cared about my education, and she genuinely cared about me as a person.

5.3.6.2 Participation in Extracurricular School Activities

The trials and tribulations of being street involved did not stop the majority of the youth from participating in extracurricular activities. The youth participated in a wide range of activities including sports, theatre, and music. However, a distinct gender difference emerged in this theme as young men were more likely to report participating in these activities. A Young Man reported that he participated in drama club: "I was in an improvisation troupe, theatre ...” (Young Man, 18) while another noted that, "I am more into dancing and acting.” (Young Man, 16). Yet another Young Man said, "I was in vocal jazz, chamber choir, concert choir, chess club, strength conditioning...” (Young Man, 17).

Problem substance use was linked to the inability to participate in extracurricular activities for a 19-year-old Young Woman. She explained that she did not want to participate because she was too deep into her substance use: “I didn’t do any of the extracurricular activities. I was into drugs and as soon as I got into high school it was drugs, skipping school, drugs, and more drugs. Yeah, I didn’t make it
long in high school." The effects of substance use on the participation in these activities was not readily discussed by the youth of either gender.

Those who had left public school and returned to the alternative schools did not have access to the wide variety of school-affiliated activities available in public schools. A Young Man age 19 who had left the public school system for the alternative one recalled the barriers to participation he faced, but said this barrier was overcome when a teacher intervened and advocated on his behalf. He explained that,

“When I was in the alternative program. They, the main school, said I couldn’t play sports or any games or whatever. So, he [the teacher] went to the school board and told them that, “he deserves to have access to all the same programs that the main school does.” So he helped me out there because they were just going to say, “No you can’t play because you’re in an alternative school.” He went the extra mile.

These relationships may have drawn some youth away from the activities available in the school environment outside of regular school time. Alternative schools’ lack of resources for extracurricular activities could be one of the reasons the study participants were less likely to discuss any details of recent involvement.

5.3.6.3 Mutual Understanding

Youth indicated they were more responsive to positive relationships with adults who shared mutual understanding about their experiences and struggles. One Young Man age 19 explained that common experiences were a good basis for trust because “they come from the ghetto like us, so they understand us where maybe teachers, they don’t have that perspective of the life.” A Young Woman age 21 spoke of the bonding effect of sharing experiences: “Yeah, so when you know your teacher and they’re willing to share, ‘oh this is happening in my life’ and in that classroom in my child where that happened too but in the big schools, nobody really, my counsellor but even then you can’t say things,
you can’t tell them you’re doing drugs or they call somebody.” This theme continued as another Young Man age 16 noted, “Well, he’s been down the same road like most of the kids in our school have gone down. Like he understands us more than anybody at our school because the teacher isn’t that great and the other teacher’s assistant isn’t that great either.” Finally, a Young Man age 21 noted that, “She got where I came from I guess, the struggles.”

Openness to talk to youth about their difficulties was central to generating mutual understanding. As the 19 year old Young Woman stated, “She talked to me like a person and she genuinely cared about my education and she genuinely cared about me as a person.” Another Young Man age 18 provided similar observations about why he trusted one specific teacher: “Well, there was this one teacher at [high school] ... and I trusted her. Me and her we talked. Whenever I had something that was wrong the first thing she would ask is, ‘everything ok?’” Another Young Woman age 17 stressed the need for adults to be approachable: “There was like one counsellor that I actually liked talking to and a few of my teachers ... they were just more friendly than other people.”

5.3.7 Less Judgment

A Young Woman age 19 described in detail that school should be “a place where we don’t judge, don’t look at your background, or how you think because it is a big world out here not in school ... So if there could be a space where there are not boundaries, limitations, or rules and be ok, ‘you used this substance, why? Does it help you?’ because like I said marijuana helped me study sometimes but might be a problem for others.” Another Young Man age 18 stressed the importance of being less judgmental: “This is important, never pass judgment on them and make sure they want to quit ... Like somebody will tell me that something’s bad and I’ll do it anyways just to see, I can find out for myself.” This demonstrates that youth were aware that their actions had consequences, but underscored that it was their mistake to make. Speaking of the need for support and education, as opposed to judgment, the 21-
year-old woman explained, “If [youth] learned how to internalize themselves, how to make themselves a better human being first, then they will not have to take that drug to make themselves better.”

5.3.8 Summary of Protective Factors

The protective variables included attending school at the time of the survey and responses to the school connectedness scale. Themes about school attendance revealed most youth selling marijuana to become more financially stable while continuing to attend school. Zero tolerance policies were effective only in forcing out youth who were using substances instead of serving as a deterrent from substance use.

School connectedness was shown to be instrumental in lowering problem substance use of all categories except Problem Marijuana Use among young men and Problem Alcohol Use among young women. Respect for youth struggling with substance use and difficult living circumstances was viewed as a necessity, while judgment was cited as a factor that discouraged youth from connecting with school. Most youth identified one caring adult in the school who was able to build a relationship with them. Also, the majority of the youth reported having participated in one or more extracurricular activities provided by schools.

5.4 Risk Factors

The risk factors associated with problem substance use occurred outside of school. In the bivariate models, each risk factor was examined in relation to the three problem substance-use variables. The themes for risk factors were a little more difficult to derive as many of the questions did not directly ask about past experiences with mental health or sexual or physical abuse, since the researcher had limited rapport with the youth and was bound by duty to report any disclosed instances of abuse. Instead, many of the youth shared their experiences indirectly during the course of the interview.
5.4.1 Family Problem Substance Use

Family Problem Drug Use variable was reported by 685 youth in the BCSYS, with 50.2% reporting no family drug-use problems and 49.8% reporting one or more family members with drug problems. The Family Alcohol Use variable included responses by 682 youth, 42.0% of whom reported zero family members with problem alcohol use while the other 57.3% reported at least one family member with this problem.

Youth who reported at least one family member with a problem drug use were not significantly more likely to be included in the problem marijuana group (Table 5.3). Young women and men were more likely to report Problem Alcohol Use when one or more family members had problems with drugs. This trend continued with Consequences from Substance Use: young women and men were twice as likely to self-identify this if they reported a family member who had problems with drug use. These findings indicated that the variable for substance use met the thresholds for inclusion in the multivariate models and final probability profiles for Severe Drug Use Consequences. Further chi-squared analysis identified significant overlap of this variables with Family Problem Alcohol Use $\chi^2 188.197 (1) p < .05$. A choice was made to include Family Problem Alcohol Use in the next level of models because, as Table 5.4 indicates, it was significant for more problem substance-use variables.

Table 5.3: Bivariate Analysis Family Problem Substance Use by Gender & Problem Substance Use Category

<table>
<thead>
<tr>
<th>Variables</th>
<th>Young Men</th>
<th></th>
<th></th>
<th>Young Women</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AOR</td>
<td>CI Low</td>
<td>CI High</td>
<td>B</td>
<td>p-value</td>
<td>AOR</td>
<td>CI Low</td>
</tr>
<tr>
<td>Binge Drink 3 or more times in past 30 Days</td>
<td>1.452</td>
<td>.914</td>
<td>2.308</td>
<td>.373</td>
<td>.114</td>
<td>1.440</td>
<td>.930</td>
</tr>
<tr>
<td>Severe Drug Use Consequences</td>
<td>2.292</td>
<td>1.418</td>
<td>3.704</td>
<td>.829</td>
<td>.001</td>
<td>2.001</td>
<td>1.283</td>
</tr>
</tbody>
</table>
The relationship to problem substance use for youth who had at least one family member with Problem Alcohol Use is found in Table 5.4. Young women were twice as likely to be included in the Problem Marijuana Use category when at least one family member had problems with alcohol. The young men reported only a slight increase in Problem Marijuana Use, but the results were not significant. Young men were more than twice as likely to be included in the Problem Alcohol Use category, while young women were 40% more likely. Young women and men were over 2.5 times more likely to report Consequences from Substance Use. The Family Problem Alcohol Use variable was included in the final probability profiles due to the significantly increased likelihoods in two of the three dependent variables for young men and all three variables for young women.

### Table 5.4: Bivariate Family Problem Alcohol Use by Gender & Problem Substance Use Category

<table>
<thead>
<tr>
<th>Variables</th>
<th>Young Men</th>
<th></th>
<th>Young Women</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AOR</td>
<td>CI Low</td>
<td>CI High</td>
<td>B</td>
</tr>
<tr>
<td>Marijuana Use 20+ times in past 30 Days</td>
<td>1.213</td>
<td>.777</td>
<td>1.894</td>
<td>.193</td>
</tr>
<tr>
<td>Binge Drink 3 or more times in past 30 Days</td>
<td>2.520</td>
<td>1.571</td>
<td>4.043</td>
<td>.924</td>
</tr>
<tr>
<td>Severe Drug Use Consequences</td>
<td>2.717</td>
<td>1.666</td>
<td>4.430</td>
<td>.999</td>
</tr>
</tbody>
</table>

#### 5.4.2 Parental Substance Use Themes

*Perceptions of Parental Substance Use* was the single theme dealing with parent substance use from youth interviews. A Young Man age 18 noted, “My dad, biggest meth head. He was modelling/acting, you would not be able to tell he was a major drug addict.” This Young Man later left his family and school but emphasized never wanting to be dependent on the same drugs as his father. Another Young Man age 19 shared experiences of being present when his mother died from a fatal overdose, which led to his decisions about substance use. “Because I watched my Mom die when I was 16. ... She was a drug addict so, I watched her die. So, I decided I wanted to take a different path and do
my own thing.” The issue of the influence of parental substance use came up in only two of the interviews.

5.4.3 Mental Health Conditions

The proportion of youth in the BCSYS who reported no mental health diagnosis was 42.8%; the proportion of those with one mental health diagnosis was 26.1% and those with two or more diagnoses was 31.2% (n=690). An outlier category was identified for the youth who reported having greater than six diagnoses (n=8, or 1.1% of the participants). These youth were removed from the mental health analyses; the final variable included only those youth who reported up to six mental health diagnoses.

The number of mental health conditions reported by youth was significantly associated with Problem Marijuana Use (Table 5.5). Young men reported only a single statistically significant outcome for one or two mental health conditions, but this outcome was incongruous with the initial theory, because it showed a 43.7% lower odds of Problem Marijuana Use for young men who self-identified as having had one or two mental health conditions. The inverse was true for young women who were twice as likely to be included in the Problem Marijuana Use category if they reported one or two mental health conditions. Among young women, problem substance use appears to have increased when they reported living with mental health issues.

Young men with one or more mental health conditions were not more likely to experience Consequences from Substance Use. Young women with one or two mental health conditions were twice as likely to report Consequences from Substance Use while those who reported three or more mental health conditions were three times more likely to report it. Young women with three or more mental health diagnoses (Table 5.6) were significantly more likely to report problem substance use. Among the young men, the likelihood of problem substance use was not significantly affected by having three or more mental health diagnoses. The young women were nearly three times more likely to report
Problem Marijuana Use and more than three times more likely to report Consequences from Substance Use as the number of mental health diagnosis rose to three or more.

### Table 5.5. Bivariate 1 to 2 Mental Health Conditions by Problem Substance Use & Gender

<table>
<thead>
<tr>
<th>Variables</th>
<th>Young Men</th>
<th></th>
<th></th>
<th></th>
<th>Young Women</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AOR</td>
<td>CI Low</td>
<td>CI High</td>
<td>B</td>
<td>p-value</td>
<td>AOR</td>
<td>CI Low</td>
<td>CI High</td>
</tr>
<tr>
<td>Marijuana Use 20 + times in past 30 Days</td>
<td>.563</td>
<td>.330</td>
<td>.960</td>
<td>-.575</td>
<td>.035</td>
<td>2.086</td>
<td>1.138</td>
<td>3.823</td>
</tr>
<tr>
<td>Binge Drink 3 or more times in past 30 Days</td>
<td>.831</td>
<td>.481</td>
<td>1.438</td>
<td>-.185</td>
<td>.509</td>
<td>1.810</td>
<td>1.029</td>
<td>3.186</td>
</tr>
<tr>
<td>Severe Drug Use Consequences</td>
<td>.579</td>
<td>.315</td>
<td>1.062</td>
<td>-.547</td>
<td>.077</td>
<td>2.002</td>
<td>1.123</td>
<td>3.572</td>
</tr>
</tbody>
</table>

### Table 5.6. 3 or More Mental Health Conditions by Problem Substance Use Category & Gender

<table>
<thead>
<tr>
<th>Variables</th>
<th>Young Men</th>
<th></th>
<th></th>
<th></th>
<th>Young Women</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AOR</td>
<td>CI Low</td>
<td>CI High</td>
<td>B</td>
<td>p-value</td>
<td>AOR</td>
<td>CI Low</td>
<td>CI High</td>
</tr>
<tr>
<td>Marijuana Use 20 + times in past 30 Days</td>
<td>1.130</td>
<td>.649</td>
<td>1.968</td>
<td>.122</td>
<td>.666</td>
<td>2.884</td>
<td>1.665</td>
<td>4.996</td>
</tr>
<tr>
<td>Binge Drink 3 or more times in past 30 Days</td>
<td>1.184</td>
<td>.673</td>
<td>2.085</td>
<td>.169</td>
<td>.558</td>
<td>1.405</td>
<td>.833</td>
<td>2.371</td>
</tr>
<tr>
<td>Severe Drug Use Consequences</td>
<td>1.705</td>
<td>.964</td>
<td>3.014</td>
<td>.533</td>
<td>.067</td>
<td>3.014</td>
<td>1.772</td>
<td>5.125</td>
</tr>
</tbody>
</table>

#### 5.4.4 Mental Health Themes

No mental health themes were generated in the course of the study because this was an area not directly discussed with youth during the interviews. After discussions with my supervisor, we decided that I was not qualified to address the repercussions if youth disclosed feelings of depression, hallucinations, self-harming, or thoughts of suicide. I also refrained from asking about mental health because the information shared could have potentially led to a duty to report, which would have violated the right to confidentiality of the interviews.
5.4.5 History of Physical and Sexual Abuse

Physical (Table 5.7) and sexual (Table 5.8) abuse experiences appear to have little relationship with Problem Marijuana Use. Young men were more than twice as likely, and young women 66.9% more likely to report Problem Alcohol Use if they experienced physical abuse. Odds of Consequences from Substance Use increased more than two and half times for young men and almost three times for young women who experienced physical abuse. The significance of experiences with physical abuse met the criteria for inclusion in the full multivariate models.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Physically Abused Ever</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana Use 20 + times in past 30 Days</td>
<td></td>
</tr>
<tr>
<td>AOR</td>
<td>1.175</td>
</tr>
<tr>
<td>Low CI</td>
<td>.755</td>
</tr>
<tr>
<td>High CI</td>
<td>1.828</td>
</tr>
<tr>
<td>B</td>
<td>.161</td>
</tr>
<tr>
<td>p-value</td>
<td>.474</td>
</tr>
<tr>
<td>AOR</td>
<td>1.553</td>
</tr>
<tr>
<td>Low CI</td>
<td>.941</td>
</tr>
<tr>
<td>High CI</td>
<td>2.562</td>
</tr>
<tr>
<td>B</td>
<td>.440</td>
</tr>
<tr>
<td>p-value</td>
<td>.085</td>
</tr>
<tr>
<td>Binge Drink 3 or more times in past 30 Days</td>
<td></td>
</tr>
<tr>
<td>AOR</td>
<td>2.466</td>
</tr>
<tr>
<td>Low CI</td>
<td>1.541</td>
</tr>
<tr>
<td>High CI</td>
<td>3.947</td>
</tr>
<tr>
<td>B</td>
<td>.903</td>
</tr>
<tr>
<td>p-value</td>
<td>.000</td>
</tr>
<tr>
<td>AOR</td>
<td>1.669</td>
</tr>
<tr>
<td>Low CI</td>
<td>1.030</td>
</tr>
<tr>
<td>High CI</td>
<td>2.703</td>
</tr>
<tr>
<td>B</td>
<td>.512</td>
</tr>
<tr>
<td>p-value</td>
<td>.038</td>
</tr>
<tr>
<td>Severe Drug Use Consequences</td>
<td></td>
</tr>
<tr>
<td>AOR</td>
<td>2.780</td>
</tr>
<tr>
<td>Low CI</td>
<td>1.712</td>
</tr>
<tr>
<td>High CI</td>
<td>4.512</td>
</tr>
<tr>
<td>B</td>
<td>1.022</td>
</tr>
<tr>
<td>p-value</td>
<td>.000</td>
</tr>
<tr>
<td>AOR</td>
<td>3.102</td>
</tr>
<tr>
<td>Low CI</td>
<td>1.859</td>
</tr>
<tr>
<td>High CI</td>
<td>5.178</td>
</tr>
<tr>
<td>B</td>
<td>1.132</td>
</tr>
<tr>
<td>p-value</td>
<td>.000</td>
</tr>
</tbody>
</table>

Sexual abuse experiences had a significant impact on young women’s likelihood to report Consequences from Substance Use, but not for young men. However, BCSYS data indicates a weak relationship between problem substance use and sexual abuse experiences; the discrepancy highlights the need for further research. Sexual abuse for this study did not meet the criteria for inclusion in the multivariate models.
Table 5.8. Sexual Abuse by Substance Use Category & Gender

<table>
<thead>
<tr>
<th>Variables</th>
<th>Young Men</th>
<th></th>
<th>Young Women</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AOR</td>
<td>CI Low</td>
<td>CI High</td>
<td>B</td>
</tr>
<tr>
<td>Marijuana Use 20+ times in past 30 Days</td>
<td>1.098</td>
<td>.587</td>
<td>2.055</td>
<td>.094</td>
</tr>
<tr>
<td>Binge Drink 3 or more times in past 30 Days</td>
<td>1.651</td>
<td>.875</td>
<td>3.116</td>
<td>.501</td>
</tr>
<tr>
<td>Severe Drug Use Consequences</td>
<td>.562</td>
<td>.275</td>
<td>1.146</td>
<td>-.577</td>
</tr>
</tbody>
</table>

5.4.6 Themes on Physical and Sexual Abuse

The lives of street-involved youth are precarious but also filled with past experiences of abuse. Similar to the case of mental health, the interviews did not contain any direct questions about abuse experiences, as these could have triggered a duty to report. Instead, youth voluntarily shared information about instances that affected them but had already been dealt with by social support professionals. The theme *High Sexual Abuse Potential* indicates the vulnerability of the youth to sexual abuse or harassment. Another theme was the *Drinking and High Physical Abuse Potential*, which identified the threat or experiences of physical abuse when drinking with friends or in a group.

5.4.6.1 High Sexual Abuse Potential

The theme *High Sexual Abuse Potential* covers past experiences of sexual abuse. For example, one Young Man disclosed his experience of sexual abuse in his early life. A Young Man age 18 shared that, “… because of the kind of abuse that I went through was kind of the abuse that guys would bug other guys about. Like, ‘oh that happened to you, what’s wrong with you?’ kind of things. There are friends I could tell but there are a couple of my buddies who to this day I haven’t told them about it. Just fear of how they would judge me.” This was the only instance where sexual abuse was directly discussed.
During the recruitment process, the researcher was informed by a Young Woman on the street that she had been propositioned for sex just minutes before participating in the study. The Young Woman had stated that an adult man had placed two cigarettes in the hat she was using for panhandling. The youth told the man that she did not smoke, but his response insinuated that if she wanted money she should go with him. She spoke of this outside of the recorded interview in a casual and unsurprised manor that would suggest that it was not her first encounter with this behaviour. Since the young women was 20 years old, the researcher did not have the duty to report the incident.

5.4.6.2 Drinking and Physical Abuse Potential

The potential for physical abuse emerged as a frequent adjunct to reported alcohol use. The quantitative models are the only information available on the relationship between drinking and physical abuse by parents or other family members as this was not discussed by the youth during interviews. The theme Drinking and Physical Abuse Potential presents evidence that the greatest risk for physical abuse was from other youth, friends, and persons with whom the youth drank alcohol. Physical violence during peer-group alcohol use was an unwelcome prospect for most youth. A Young Man age 19 explained that “a lot people acting like idiots when you’re drunk and shit happens … you know one night we’ll all be hanging out, there will be ten of us or something, right. One little fight will happen and six of us won’t have any contact with each other and shit like that.” A Young Woman age 17 noted that the potential for physical violence was the reason she would avoid groups when substances were being used, “because big groups usually get really rowdy and I can’t handle rowdy people.” The potential for perpetrating physical abuse was also discussed by another Young Woman who said, “I am an angry person when I drink. When I am sober, I am really nice [laughs].”
5.4.7 Summary of Risk Factors

Consequences from Substance Use were significantly increased when youth reported one or more family members with a problem drug use. Youth with one or two mental health diagnoses were more likely to report Consequences from Substance Use. The effect of having one or two mental health diagnoses on all three problem substance-use categories was most significant among young women. Three or more mental health diagnoses had no significant influence on young men’s problem substance use but was significant for young women in all three categories.

Experiences with physical abuse significantly increased youth reporting Problem Alcohol Use and Consequences from Substance Use, but not Problem Marijuana Use. Experiences with sexual abuse had little influence over the problem substance use categories except for Consequences from Substance Use for young women. The study of the themes surrounding sexual and physical abuse revealed that it was ubiquitous in the lives of the youth interviewed. Problem Alcohol Use was viewed as a source for physical conflict with peers and friends.

5.5 Multivariate Logistic Models and Probability Profiles

For young men, the lack of significant risk or protective factors affecting Problem Marijuana Use resulted in not calculating a full multivariate logistic regression model and therefore not generating the probability profile. The Problem Alcohol Use multivariate model was calculated but did not meet the criteria for being included in the final probability profile calculations because the results did not meet the threshold for inclusion. The final probability models include Problem Marijuana Use for young women, Problem Alcohol Use for young men and Consequences from Substance Use for both. The school connectedness percentiles necessary for calculating the probability profile for young men and women are found in Table 5.9 below.
Table 5.9. Percentiles of School Connectedness Score by Gender

<table>
<thead>
<tr>
<th>Percentiles for School Connectedness</th>
<th>Young Women</th>
<th>Young Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>90th Percentile</td>
<td>.85</td>
<td>.90</td>
</tr>
<tr>
<td>10th Percentile</td>
<td>.20</td>
<td>.15</td>
</tr>
</tbody>
</table>

Themes generated from the interviews connected well to the outcomes of the multivariate and probability profiles. The interviews revealed that youth had assigned a hierarchy to the different substances. This resulted in the creation of a *Hierarchy of Substances* theme organized by the purpose and perceived dangers of use. Three subthemes emerged within this theme: *Normalized/Benign Substances*, *Recreational/Purposeful Substances*, and *Dangerous Substances*. *Normalization/Benign Substances* include substances, such as alcohol and marijuana, which youth knew were readily available within the school environment and believed to be safe enough for everyday use. *Recreational/Purposeful Substances* were substances considered a little more difficult to access but which were used for the purpose of social or experiential highs: ecstasy and hallucinogens are examples of this category. The *Dangerous Substances* were avoided by the youth and understood to cause irrevocable harm if used any length of time.

5.5.1 Problem Marijuana Use

The outcomes for young men provided little evidence that school connectedness lowered the risk of Problem Marijuana Use. The result was that none of the risk or protective factors demonstrated enough influence to reach the threshold of inclusion in a multivariate analysis, and, therefore, neither the multivariate model nor probability model was generated. For young women, school connectedness provided a strong protective effect on Problem Marijuana Use (Table 5.10). This protective effect persisted to influence the probability profile outcomes when one and two risk factors were offset by an increase in school connectedness (Table 5.11).
Table 5.10. Young Women Full Risk and Protective Factors Logistic Models for Problem Marijuana Use

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>AOR</th>
<th>AOR 95%</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Problem Alcohol Use</td>
<td>-.042</td>
<td>.078</td>
<td>.283</td>
<td>.959</td>
<td>.823</td>
<td>1.118</td>
</tr>
<tr>
<td>Physically Abused Ever</td>
<td>.655</td>
<td>.261</td>
<td>6.301</td>
<td>1.926</td>
<td>1.155</td>
<td>3.213</td>
</tr>
<tr>
<td>Mental &amp; Emotional Diagnosis</td>
<td>.556</td>
<td>.286</td>
<td>3.788</td>
<td>1.744</td>
<td>.996</td>
<td>3.052</td>
</tr>
<tr>
<td>School Connectedness</td>
<td>-1.170</td>
<td>.474</td>
<td>6.110</td>
<td>.310</td>
<td>.123</td>
<td>.785</td>
</tr>
<tr>
<td>Constant</td>
<td>.148</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.11. Young Women Probability Profile for Problem Marijuana Use

<table>
<thead>
<tr>
<th>Number of Risk Factors</th>
<th>Risk Factors</th>
<th>Protective Factor</th>
<th>Probability of Marijuana Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero</td>
<td></td>
<td>School Connectedness</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>.171</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.331</td>
</tr>
<tr>
<td>One</td>
<td>Family Alcohol Problems</td>
<td>Yes</td>
<td>.284</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.488</td>
</tr>
<tr>
<td></td>
<td>Mental Health Condition</td>
<td>Yes</td>
<td>.264</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.488</td>
</tr>
<tr>
<td>Two</td>
<td>Family Alcohol Problems +</td>
<td>No</td>
<td>.409</td>
</tr>
<tr>
<td></td>
<td>Mental Health Condition</td>
<td>Yes</td>
<td>.624</td>
</tr>
</tbody>
</table>

For young women, Problem Alcohol Use without risk factors dropped by 15% when school connectedness was added to the model (Figure 5.1). The probability of problem marijuana use—even when there are high levels of school connectedness and even with Family Alcohol Problems—decreases to 28%. Likewise, it decreases to 26% for youth with high school connectedness but a Mental Health Condition. The protective role of school connectedness decreases risk by 22 percentage points (34%) when included in the model with both risk factors.
5.5.2 Normalization/Benign Substances

A possible explanation for school connectedness providing little to no protection against the problem use of marijuana is that the use of the substance was pervasive among the youth in school. This was apparent during youth interviews and was corroborated by the thematic analysis on the hierarchy of substances. Overall, schools and substances were inseparable for the youth. “Ecstasy was really easy in high school. I remember people just opening their locker, and yeah, weed was so, so, so easy. ... So ya for me getting weed at the age of 14 I didn’t know any drug dealers besides my friends that were doing it. So, I was asking to my friends who were with me in the classes and were with me during the school time breaks.” (Young Woman, 21). A Young Woman aged 18 pointed out that substances were readily available in school.

**Researcher:** Which drugs were the hardest to find?

**Young Woman:** I wasn’t looking for anything hard, like anything over the edge, because I was still in high school and I was kind of in the regular scene of what was going on. I didn’t do much of anything else instead of drinking and smoking weed, shrooms, and acid. I always had places to find it.
Researcher: Shrooms and acid are pretty easy to find?

Young Woman: Yeah.

Marijuana was a normalized drug according to all the youth interviewed. The youth reported that marijuana and alcohol were safe to use habitually. The normalization of marijuana for these youth is best captured by the youths’ account of using it as a default substance. “I try to stick to my weed, I don’t want to go any harder than that” (Young Man, 19). The availability of marijuana made it easy to consume, and the youth had come to know it as a substance with social benefits such as sharing: “Weed pretty much everyone, almost everyone had weed or knew how to get weed or dealt it or had a little bit on them that they were willing to share with you” (Young Woman, 19). Another Young Man noted the view of marijuana as benign as he used “just weed, I really didn’t do anything else, just weed. (Young Man, 21)”. The same observation was made by a Young Woman: “Usually it was just weed and sometimes people would have ecstasy or maybe cocaine, usually just weed” (Young Woman, 17).

5.5.3 Recreational Drugs

Recreational drugs are the substances that youth used for enjoyment or entertainment. These include 3,4-methylenedioxy-methamphetamine (MDMA or ecstasy), and hallucinogens such as lysergic acid diethylamide (LSD), psilocybin mushrooms (magic mushrooms), and cocaine. The youth did not consider these substances dangerous if used in moderation, and they were as readily available in school as marijuana was. A Young Woman age 19 commented on the availability of these substances: “Like, easyish for some people. Party kind of drugs were easyish.” A Young Man age 18 seemed to suggest that choosing between marijuana and recreational drugs was simply a matter of personal preference rather than accessibility: “Well some of them did like ecstasy and some of them did weed”. A young women age 17 drew a similar parallel between these drugs when she recalled that “Usually it was just weed and sometimes people would have ecstasy or maybe cocaine, usually just weed.” Further discussion by a
Young Man age 16 indicated that marijuana was too normal to classify as a drug, “MDMA. I think that was pretty much the main drug that was in school. Didn’t really hear much about any other drugs.” These classifications of substances provide insight into the youths’ willingness to use them, especially while attending school.

5.5.4 Problem Alcohol Use

There was a difference in the variables included for young women with Problem Alcohol Use, as school connectedness was excluded because it was not found to be significant in the bivariate models. Therefore, there was no probability profile generated for Problem Alcohol Use among young women (Table 5.12). This indicates school connectedness offered no perceivable protection in this analysis. However, school connectedness did provide significant protection against Problem Alcohol Use for young men (Table 5.13).

<table>
<thead>
<tr>
<th>Table 5.12 Young Men Full Logistic Model Problem Alcohol Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Young Men</strong></td>
</tr>
<tr>
<td>Risk Factors</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Family Problem Alcohol Use</td>
</tr>
<tr>
<td>Physically Abused Ever</td>
</tr>
<tr>
<td>School Connectedness</td>
</tr>
<tr>
<td>Constant</td>
</tr>
</tbody>
</table>
Table 5.13 Young Men Problem Alcohol Use Probability Profile

<table>
<thead>
<tr>
<th>Number of Risk Factors</th>
<th>Risk Factors</th>
<th>Protective Factor</th>
<th>Probability of Problem Alcohol Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>School Connectedness</td>
<td></td>
</tr>
<tr>
<td>Zero</td>
<td></td>
<td>Yes</td>
<td>.176</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.325</td>
</tr>
<tr>
<td>One</td>
<td>Family Alcohol Problems</td>
<td>Yes</td>
<td>.307</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.500</td>
</tr>
<tr>
<td></td>
<td>Physical Abuse</td>
<td>Yes</td>
<td>.288</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.477</td>
</tr>
<tr>
<td>Two</td>
<td>Family Alcohol Problems</td>
<td>Yes</td>
<td>.457</td>
</tr>
<tr>
<td></td>
<td>Physical Abuse</td>
<td>No</td>
<td>.655</td>
</tr>
</tbody>
</table>

For young men, Problem Alcohol Use was reduced from a baseline probability of 32% to 17% when school connectedness was present (Figure 5.2). This trend continues when family problem alcohol use is included in the model, where the probability of Problem Alcohol Use is 50%, but drops to a probability of 32% when high levels of school connectedness are present. Physical abuse history without any protective factors showed a probability of 47%, but this again was lower (28%) when school connectedness was high. Finally, among youth with both family problem alcohol use and physical abuse, the probability of problem alcohol use was 65%, but this drops to 45% when school connectedness was present.

Figure 5.2 Young Men Probability Profile Problem Alcohol Use
5.5.5 Consequences from Substance Use

The models for Consequences from Problem Substance Use were developed differently for young men and women. The protective factor for the young men was not school connectedness, but rather whether they were attending school (Table 5.14), while the model for young women was calculated with school connectedness (Table 5.15). The reason for this adjustment is that for young men, attending school was found to be significant in the earlier bivariate models compared with school connectedness, which was not significant.

**Table 5.14 Young Men Full Logistic Model Consequences from Substance Use**

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>B</th>
<th>SE</th>
<th>Wals</th>
<th>AOR</th>
<th>AOR 95% CI Low</th>
<th>AOR 95% CI High</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.003</td>
<td>.099</td>
<td>0.001</td>
<td>1.003</td>
<td>.827</td>
<td>1.217</td>
<td>.973</td>
</tr>
<tr>
<td>Family Problem Alcohol Use</td>
<td>.820</td>
<td>.272</td>
<td>9.078</td>
<td>2.271</td>
<td>1.332</td>
<td>3.873</td>
<td>.003</td>
</tr>
<tr>
<td>Physically Abused Ever</td>
<td>.594</td>
<td>.275</td>
<td>4.656</td>
<td>1.810</td>
<td>1.056</td>
<td>3.104</td>
<td>.031</td>
</tr>
<tr>
<td>Anger</td>
<td>.730</td>
<td>.308</td>
<td>5.621</td>
<td>2.075</td>
<td>1.135</td>
<td>3.794</td>
<td>.018</td>
</tr>
<tr>
<td>Attending School</td>
<td>-.573</td>
<td>.283</td>
<td>4.087</td>
<td>.564</td>
<td>.324</td>
<td>.983</td>
<td>.043</td>
</tr>
<tr>
<td>Constant</td>
<td>-.176</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 5.15 Young Women Full Logistic Model Consequences from Substance Use**
As shown in Table 5.16 and Figure 5.3, school connectedness for young women has a minimal impact on the Consequences from Substance Use when there are no risk factors, with a probability of 15% which dropped to 14% with high levels of school connectedness. This same finding is repeated throughout the model, with limited improvement from high levels of school connectedness. This indicates that school connectedness did not have a strong mitigating presence for the Consequences from Substance Use among young women.
### Table 5.16 Young Women Consequences from Substance Use Full Probability Profile Model

<table>
<thead>
<tr>
<th>Number of Risk Factors</th>
<th>Risk Factors</th>
<th>Protective Factor</th>
<th>School Connectedness</th>
<th>Probability Problem Marijuana Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero</td>
<td></td>
<td>Yes</td>
<td>.151</td>
<td>.144</td>
</tr>
<tr>
<td>One</td>
<td>Family Alcohol Problems</td>
<td>Yes</td>
<td>.299</td>
<td>.312</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.286</td>
<td>.298</td>
</tr>
<tr>
<td></td>
<td>Physical Abuse</td>
<td>Yes</td>
<td>.403</td>
<td>.417</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.286</td>
<td>.298</td>
</tr>
<tr>
<td>Two</td>
<td>Family Alcohol Problems</td>
<td>Yes</td>
<td>.505</td>
<td>.519</td>
</tr>
<tr>
<td></td>
<td>Physical Abuse</td>
<td>Yes</td>
<td>.631</td>
<td>.645</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.617</td>
<td>.630</td>
</tr>
<tr>
<td></td>
<td>Family Alcohol Problem</td>
<td>Yes</td>
<td>.803</td>
<td>.812</td>
</tr>
<tr>
<td></td>
<td>Mental Health Condition</td>
<td>Yes</td>
<td>.803</td>
<td>.812</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.803</td>
<td>.812</td>
</tr>
</tbody>
</table>

#### Figure 5.3 Young Women Consequences from Substance Use

[Diagram showing the probability of consequences from substance use for young women, with various risk and protective factors and their associated probabilities.]
In the probability profiles for young men, school attendance was used in place of school connectedness because the latter did not appear as a strong enough protective factor to be included in the final models. Based on results shown in Table 5.17 and Figure 5.4, school attendance mitigated the consequences young men face from substance use. In the presence of all three risk factors, school attendance decreased the probability of Consequence from Substance Use by 12 percentage points, or 17%.

Table 5.17 Young Men Consequences from Substance Use Full Probability Profile

<table>
<thead>
<tr>
<th>Number of Risk Factors</th>
<th>Risk Factors</th>
<th>Protective Factor</th>
<th>Probability of Consequences from Substance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Attending School</td>
<td></td>
</tr>
<tr>
<td>Zero</td>
<td></td>
<td>Yes</td>
<td>.155</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.246</td>
</tr>
<tr>
<td>One</td>
<td>Family Alcohol Problems</td>
<td>Yes</td>
<td>.295</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.426</td>
</tr>
<tr>
<td></td>
<td>Physical Abuse</td>
<td>Yes</td>
<td>.250</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.371</td>
</tr>
<tr>
<td></td>
<td>Anger Issues</td>
<td>Yes</td>
<td>.276</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.404</td>
</tr>
<tr>
<td>Two</td>
<td>Family Alcohol Problems</td>
<td>Yes</td>
<td>.431</td>
</tr>
<tr>
<td></td>
<td>Physical Abuse</td>
<td>No</td>
<td>.573</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>.465</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.606</td>
</tr>
<tr>
<td></td>
<td>Family Alcohol Problem</td>
<td>Yes</td>
<td>.409</td>
</tr>
<tr>
<td></td>
<td>Anger Issues</td>
<td>No</td>
<td>.551</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>.611</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>.736</td>
</tr>
</tbody>
</table>
5.5.5.1 Consequences Themes

During the interviews, youth discussed some of the consequences that arose from their substance use. A central theme was the Regret about Substance Use or about allowing substance use to impinge on connection to school. Some participants directly expressed regret about substance use: “I fucked my life over really badly because of drugs and alcohol. I lost everything. Yeah. I left school and I went to the street” (Young Woman, 19). A Young Man aged 19 explained that alcohol had a role in the social consequences that he and his friends faced from problem use.

**Researcher:** Has drinking alcohol led to any problems with your friends?

**Young Man:** Uhh, quite a bit actually, a lot people acting like idiots when you’re drunk and shit happens.

**Researcher:** Yeah, any sort of violent altercations?
**Young Man:** Oh yeah, you know one night we’ll all be hanging out, there will be ten of us or something, right. One little fight will happen and six of use won’t have any contact with each other and shit like that.

**Researcher:** Does that happen around drugs as well?

**Young Man:** Well not too often with drugs, just the alcohol, that’s the only, that’s when people act. Their fucking second personality comes out, right. [laughs]

The two examples of consequences faced by substance use differ. The Young Man mentions that it was not alcohol itself that was dangerous but the people who took them who could become dangerous, while the Young Woman explained that specifically the substances were to blame for the consequences she faced. These examples point to a specific understanding of potential dangers for substances on their lives.

### 5.5.6 Dangerous Drugs

Dangerous drugs were viewed with some stigma by the youth. There were many reasons these class of drugs were considered dangerous, but most of the youth stated that they had been witness to the psychological, physical, and social consequences from using these substances. Almost every youth avoided this category of substances.

Crack and heroine were viewed as the most dangerous substances as they did not offer a good user experience compared to hallucinogens such as mushrooms, LSD, or ecstasy. When I asked if there were drugs the youth avoided, a 16-year-old Young Man replied, “Heroin, cocaine, crystals.” When I asked why, he answered, “Because I watched my Mom die when I was 16.”

The Young Woman age 19 who was a heavy substance user considered heroin to be more dangerous than crack: “No, no, no I was doing crack at that age. Not heroin, I didn’t want to do heroin because I didn’t want to die.”
Another youth considered crack to be one of the most dangerous. When I asked him what drugs he avoided, he replied, “Crack.” When asked why, he said, “I don’t know, I guess it, well after high school I got a job in the Downtown East Side and I would just see where those people are nowadays and that’s a place I don’t want to be in my lifetime.” (Young Man, 19)

A young women age 21 identified that the dangerous substances were “drugs that are not so related to the fun the students were looking for... like heroin, crack... the things you don’t, the heavier things like you hear about weed all the time and you try weed, you hear about acid. Mushrooms were kind of hard to find in school.”

5.5.7 Summary of Probability Profiles

A general series of important themes were uncovered during the youth interviews. A hierarchy of substances was formed based on their perceived dangers, which was linked to the frequency of reported use. Normalized substances were those most used and included marijuana and alcohol; recreational substances, such as hallucinogens or amphetamines, were less frequently used but still considered safe. The drugs widely considered dangerous included heroin and crystal meth; these were actively avoided.

Problem Marijuana Use among young men in the BCSYS dataset did not have significant influences relative to protective or risk factors. Therefore, they were not included in the final full multivariate or probability models. In the case of young men, the probability of Problem Marijuana Use was not significantly affected by the risk factors added to the model.

Problem Alcohol Use was influenced by school connectedness for young men but not for young women. The risk factors included in the models for young men, such as experience with physical abuse and family problem alcohol use, were reduced with higher school connectedness scores. For young women, school connectedness was not protective during the bivariate modelling and therefore was
excluded from the multivariate model, leading to no probability profile. The Consequences from Substance Use was not effectively reduced with the increased school connectedness for young women. For young men, school connectedness had a notable influence on the probability of Consequences from Substance Use in the presences of all the risk factors. The gender differences for this problem substance use will require further analysis in future studies to better understand the nuances surrounding the different role of school connectedness.

5.6 Overarching Themes on Perceptions School

5.6.1 School Themes

The interviews yielded insight into participants’ perceptions and expectations of school. The youth also offered direct suggestions about what to improve in school policies and social structure to enhance youths’ connection to the school environment. The observations were poignant and clear but appear to run counter to how schools currently interact with the youth.

5.6.2 Acknowledging the Importance of Education

The importance of school in the lives of the street-involved youth interviewed for this study was apparent as most had returned to school or were contemplating returning. Returning to School was a theme that provided insight into the central dilemma that influenced school-connectedness patterns: the youth found education important, but the traditional public school environment where it was offered could not accommodate them. The importance of school is not lost on the youth: "So I was like, ‘fuck I really do need that high school?’ so I finished it the year after, not even that much longer" (Young Man, 18). Most often, the schools they would return to were alternative schools, "Yeah, I am going back to school this year in alternative... I plan on finishing high school and probably going into some kind of
university or something” (Young Woman, 17). Even among the youth who had not returned to complete their general education diploma (GED) discussed the importance of returning to school: “I have been thinking about going back but I keep putting it down. I think there is something stopping me and I think that it is my need to get sober and move out, but I do want to get back to school” (Young Woman, 18).

5.6.3 How Youth Access Services in School

Addressing problem substance use was not a central concern for teachers according to the youth perspective: “[Teachers] didn’t know I was an active addict though, they just thought I was a very angry, angry person but they didn’t know why” (Young Woman, 19). Nothing further was mentioned about being given options to access services such as detox centres or mental health from within school. This lack of engagement could have resulted from the youth not knowing about some of the services offered within their school or their school not having the resources available to assist with problem substance use: “I guess it would have been more helpful if there were more people to talk to. I am trying to even remember if I had a high school counsellor and if that was an important memory that would have stuck out right away. So just having somebody to go and talk to in general” (same Young Woman, 18).

5.6.4 Summary

The risk and protective factors differ depending on gender. School connectedness did have a positive influence on problem substance use categories even in the presence of many risk factors. Interviews with the youth uncovered important influences of adults, policies, and social environment on their lives. Youth identified school as an important place where they could find support through adults and social networks that would enable them to gather basic necessities. Unfortunately, many of the strategies that the youth employed for meeting their financial needs involved activities such as selling substances, which was contrary to many school policies. Protective factors such as having at least one
caring adult in their school and participation in a variety of extracurricular activities were important to
the youth. Most of the youth in this study had been expelled the public school system and found
alternative schools to be more accommodating for their street-involved lifestyles.

Youth provided evidence that school policies surrounding substance use were directly impacting
how they interacted with the school. The participants viewed the consumption of particular substances,
such as alcohol and marijuana, normative activity rather than dangerous or offensive behaviour. The
implications of these findings on the initial research questions will be discussed in the final chapter.
Chapter 6  Discussion and Implications

There has been little discussion about the role of school connectedness in the health of street-involved youth, especially in terms of substance use. The present study analyzed population-level risk and protective factors along with additional information from interviews with youth who were street involved at the time of this study. The data included responses from 762 youth ages 12 to 18 from the McCreary Centre Society 2006 British Columbia Street-Youth Survey (BCSYS) conducted among nine communities throughout the province. The majority of youth who answered the survey were in the 16-to-18-year age category. The survey data was used to calculate probability profiles for youth problem marijuana use, problem alcohol use, and consequences from substance use relative to known protective and risk factors included in the survey. The models were calculated separately by gender and controlled for age throughout. Additionally, 11 street-involved youth—seven Young Men and four Young Women—were interviewed about their family relationships, interaction with adults, extracurricular activities, school experiences, and perspectives about substance use.

The objectives of this study were to achieve a better understanding of 1) young men and women’s experiences with substance use, 2) how personal interactions with adults and peers in school influence youth problem substance use, and 3) how school policies for substance use affect the way these youth interact with school. This chapter begins with a review of the purpose of the study and a general overview of the reported findings of problem substance use among youth. The following sections present the main findings before discussing the study’s strengths and limitations and outlining the implications for future research and practice.

6.1  Gender Differences in Problem Substance Use

This section presents the results of the analysis of problem substance use and risk and protective factors for both genders. Several studies have reported differences between genders in substance use prevalence; specifically, young women were shown to be significantly less likely to use
marijuana and alcohol (Feng et al., 2013; Kirst, Erickson, & Strike, 2013; Leatherdale & Burkhalter, 2012; Public Health Agency of Canada, 2006; Smith et al., 2007). In a B.C. based study, conducted among 30,000 students in grades 7 to 12, young men and an equal proportion of young women reported binge drinking in the past month (Smith et al., 2014). In this study, young men were significantly more likely to be included in the Problem Marijuana Use category than young women (56.6% vs. 43.4%). However, in the case of Problem Alcohol Use, there were no significant differences in prevalence between young women and men (46.7% vs. 53.3%).

According to the BCSYS data, there were significant gender differences in the likelihood of problem substance use, but this finding is at odds with the information from the youth interviews in this study. Three influential social factors could be at play.

First, during the interviews, all youth spoke about being problem substance users at some point in the past year, regardless of gender. Several possible explanations could contribute to this discrepancy, allowing substance use among the young women interviewed in this study to reach the same level as those of their male counterparts. These could include social influences, the influence of peers, or increased access due to selling substances.

Second, the influences of a romantic partner’s alcohol and marijuana consumption on the level of a youth’s substance use are established in the literature (Fleming, White, & Catalano, 2010; Mushquash et al., 2013). This may have been the case in our interviews, where two of the young women in this study showed up to the interview with a male partner, while another was with a group of male friends. Partners adapt to and mirror each other’s behaviour, and it becomes easier for heavy drinking and binging habits to get normalized (Mushquash et al., 2013). The similarities in substance use between the genders could also occur because peers have an influence over youth substance use behaviours (Andrews, Tildesley, Hops, & Li, 2002; Bot, Engels, Knibbe, & Meeus, 2005). A study with 294 youth over three annual follow-ups found that peer substance use predicted an individual’s use habits, such as
binge drinking or problem substance use, regardless of gender (Andrews et al., 2002). In another study, drinking behaviours were adopted by individuals that were most similar to their peers in terms of socio-economic status and personalities (Bot et al., 2005).

A third influential social factor might be that several of the young women and men in this study identified as having sold substances as a means of financial support while in school. Selling substances in school could have an important role, as it provides regular access and exposure to substances. It has been speculated that youth who are selling substances are more likely to use (Hemmings, 2002), and in this study, most of the youth who did sell substances also stated that they used them regularly.

Gender differences emerged from reporting Consequences from Substance Use such as injuries, arguments with family members, physical fights, or loss of friends. Young women were significantly more likely in this study to report these consequences compared with young men (57.2% versus 42.8%). An explanation for this could be a response bias from young men who are under-reporting their experiences. Young men who face abuse have demonstrated in other studies that they avoid reporting consequences due to beliefs that they must be stoic, in control, strong, and self-sufficient (Andersen, 2013; Burcar & Åkerström, 2009; Connell & Messerschmidt, 2005; Durfee, 2011; Kia-Keating, Grossman, Sorsoli, & Epstein, 2005). This barrier may explain young men’s reluctance to report having faced consequences from substance use in comparison to young women.

6.2 Discussion of Contributing Factors to Substance Use

The variables identified as risk factors in this study included problem alcohol use among family members, a mental health diagnosis, and past experiences with physical abuse and sexual abuse. Youth from families with reported one or more family members with drug or alcohol problems face an increased risk of substance use regardless of gender. These findings mirror the literature, where family problem substance use has been associated with youth problem substance use (Anda et al., 2002; Barrett & Turner, 2006; Biederman et al., 2000; Chassin et al., 2004). Unfortunately, during the
interviews youth did not discuss how parental alcohol or marijuana use influenced their own use. Instead, the youth who reported witnessing family members suffer the consequences of using substances such as crack cocaine, crystal meth, and injection drugs described how these experiences dissuaded them from using these substances. Youth reported experiences ranging from watching a parent die of an overdose to the destabilizing effect the substances had on their family. These observations seemed to deter the participants from moving beyond their existing marijuana and alcohol use toward using substances that could potentially place them in immediate danger. Indeed, the suggestion that witnessing certain types of substance use within the family might have had a positive impact on the participants’ resilience against those specific substances is similar to earlier study findings of Tozer et al. (2015). They suggest that the role of this factor may vary with individual life circumstances (Tozer et al., 2015). Since the bulk of the literature links family problem substance use to an increased probability of youth substance use, further research is needed to examine specific circumstances, perspectives, or beliefs whereby family use deters youth use.

Mental health had a significant influence on youth problem substance use. Young women had a probability of 33% of being included in the Problem Marijuana Use category when they had neither risks nor protective factors, and this probability increased to 46% when they reported one or two mental health diagnoses. Young women with one or two mental health conditions were twice as likely to report Consequences from Substance Use, while those who reported three or more mental health conditions were three times more likely. The same trend was observed in the case of Problem Marijuana Use, which was three times more common among women with three or more mental health conditions. Several studies have identified a positive association between mental health conditions and problem substance use (Dishion, Capaldi, & Yoerger, 1999; Goldstein & Public Health Agency of Canada, 2011).

A surprise finding was the lowered probability of marijuana use among young men with one or two mental health issues. The current study found 44% lower odds of Problem Marijuana Use when they
identified as having one or two mental health conditions. In the literature, this effect is attributed to the issue that studies often focus on the number of diagnoses rather than the specific impact of each mental condition. Santosh and Mijovic (2006) conducted a case-control study to assess the substance use likelihood of 1,484 youth ages 12 to 18 seeking treatment for pervasive developmental disorder (PDD) compared with 1,387 youth with a variety of other psychiatric diagnoses. The patients seeking treatment for PDD were less likely to use substances regardless of gender. The authors argue that lack of exposure and access explains the inverse relationship between PDD and the likelihood of substance use; these youth tend to be under close adult supervision, and they cannot interact regularly with peer groups that use and provide substances (Santosh & Mijovic, 2006). Another study found that participants with Asperger syndrome were also at lower risk of drug use, possibly because they were more likely to be normative and rule abiding compared to other youth (Ramos et al., 2013). Conversely, other mental health conditions are associated with a higher risk of problem substance use. In a 10-year follow-up study with 268 youth diagnosed with attention deficit hyper-activity disorder (ADHD) and 229 youth without the diagnosis, participants with ADHD were found to be more likely to develop substance use disorder. In the same study, youth with oppositional defiance disorder were more than twice as likely to develop substance use disorder regardless of gender (Wilens et al., 2011). These findings were similar to other studies that documented the association between ADHD and increased problem substance use (Charach, Yeung, Climans, & Lillie, 2011; Lee, Humphreys, Flory, Liu, & Glass, 2011).

This study did not examine the specific mental health issues that may be linked to lower odds of Problem Marijuana Use, but instead relied on the number of self-reported mental health diagnoses. Mental health was linked to problem substance use among street-involved youth, which could vary according to gender. Follow-up research should examine both the population-level data and interviews with youth who have been diagnosed with a mental health condition to better understand the influences it has over their substance use.
The experience of physical abuse had no significant relationship to Problem Marijuana Use for young women or men in the current study. The substance-use category that had the closest association with physical abuse was Problem Alcohol Use, which was, respectively, 2.4 and 1.6 times more likely to affect young men and young women who reported having been physically abused. Physical abuse experiences also increased the likelihood of Consequences from Substance Use for young men by 2.7 times and 3.1 times for young women. The probability profiles calculated for young men found a 32% chance of Problem Alcohol Use without any risks or protective factors, but a probability of 50% when a youth had a history of physical abuse.

The interviews yielded two potential explanations for the link between physical abuse and substance use, which corresponded with the findings in the literature. The first was substance use as a coping strategy against traumatic events either in the past during childhood or while on the street (Edidin et al., 2011; Hadland et al., 2012; P. A. Harrison, Fulkerson, & Beebe, 1997; Kerr, Stoltz, et al., 2009). In a Vancouver-based study, injection drug use was more likely to occur in street-involved youth who reported childhood trauma and maltreatment (Kerr, Stoltz, et al., 2009).

A second explanation hypothesizes substance use as a consequence of the high risk of violence in life on the street. The social environment that street-involved youth live in puts them at an increased risk of experiencing various forms of abuse. Previous studies made similar observations as this study. Among 432 youth, young men and women were found to be equally exposed to physical violence in the street environment, reporting physical harm and being threatened with physical harm (Kipke, Simon, Montgomery, Unger, & Iversen, 1997). The literature has also identified sexual exploitation as prevalent in the street environment, as sex is traded by youth for shelter, food, drugs, or money (Halcón & Lifson, 2004; Tyler, 2007; Tyler & Johnson, 2006). During the interviews, the potential for physical and sexual abuse was clearly linked to substance use. One Young Woman noted that she had been propositioned for sex just before participating in the study while panhandling on the street.
Each explanation provides an individual pathway to understanding how abuse experiences could influence substance use. It is difficult to generalize from the interviews if there are gendered influences on youth using substances as a coping strategy in reaction to past or recent trauma. The literature in this area was inconclusive. According to a systematic review, childhood physical abuse and sexual abuse increased the probability of substance use problems among young women but not young men (Simpson & Miller, 2002). In another study, cocaine was found to have the strongest links to past sexual abuse experiences as young women were twice as likely to use it compared with non-abused peers (Chen, Tyler, Whitbeck, & Hoyt, 2004). Widespread use of marijuana among the street-involved youth population is a potential confounding effect that would make it difficult to measure its association with specific risk factors.

Single variable models provide a limited view of the contribution of these risk factors on youth substance use. This study found that problem substance use increases in the presence of multiple risks. With no reported risk or protective factors, young men had a 32% probability of reporting Problem Alcohol Use. However, for youth with family problem alcohol use and physical abuse, this probability rose to 65%. The probability of Problem Marijuana Use was 33% for young women with no risk or protective factors; for young women with mental health issues and family alcohol use, the probability rose to 62%. Although there are many studies on the individual influence of the risk factors, few studies have examined the intersection of these risk factors (Moran, Vuchinich, & Hall, 2004; Tyler & Melander, 2015). A study with 2,187 general youth population in grades 10 and 12 found that the combined experiences of sexual and physical abuse had a positive association with alcohol and illicit drug use (Moran et al., 2004). A more recent study identified similar relationships using path analysis, revealing that child sexual abuse, partner violence, and victimization while on the street were more likely to lead to the increased frequency of substance use than any one risk factor alone (Tyler & Melander, 2015).
6.3 Personal Interactions, Substance Use, and School Connectedness

The study established that the majority of the youth in BCSYS data were in school, with more young women enrolled than young men. School enrolment significantly reduced the odds of young men’s Consequences of Substance Use but provided no significant reduction for other problem substance use measures among either young men or women. Therefore, school enrolment alone as a measure was found to offer limited protection against substance use for participants of the BCSYS.

The results from the data analysis identified that higher levels of school connectedness had a significant reduction in probability for young women being included in the Problem Marijuana Use category with no statistically significant relationship for young men. Problem Alcohol Use among young men has a lowered probability as school connectedness increased, but no significant protection was found for young women. Analysis also showed that increased school connectedness offered protection against Problem Marijuana Use for young women and Problem Alcohol Use for young men.

The probability of Problem Marijuana Use for young women with one or more risk factors was also lowered in the presence of school connectedness. At baseline, marijuana use was 33% but dropped to 17% with school connectedness. When Family Problem Alcohol Use was added to the base, probability increased to 48%, which dropped to 28% with school connectedness. When mental health was included, the base increased to 46% and dropped to 26% when school connectedness was present. When both risk factors were present, the probability increased to 62%, which dropped to 40%—an 18% difference overall—when school connectedness was included.

Increased school connectedness has a positive influence on Problem Alcohol Use for young men in the presence of multiple risk factors. The study found that Family Problem Alcohol Use increases young men’s problem alcohol use, but as school connectedness increased, their problem use decreased. The positive role of increasing school connectedness when youth faced multiple risks such as family problem alcohol use and physical abuse was apparent as overall problem alcohol use decreased.
School connectedness has been well established as an essential variable for protecting against substance use and various risk factors for the general youth population in previous studies (Bond et al., 2007; McNeely et al., 2002; Resnick, Harris, & Blum, 1993). Although this study with street-involved youth reconfirmed the observations made by previous researchers, specific relationships between school connectedness and problem substance use were uncovered during the analysis that were absent from previous literature on the subject. First, gender differences in the protective contribution of school connectedness against specific problem substance use types has been seldom discussed. A second issue in need of further examination is the role of various personal relationships for fostering or diminishing school-connectedness and influencing substance use behaviours.

6.4 Gender, Substance Use and School Connectedness

Beginning with the role of gender, the BCSYS analyses found school connectedness protected against Problem Alcohol Use for young men and Problem Marijuana Use for young women. The interviews, however, found no discernible difference between genders in relation to school connectedness and problem substance use, as the youth reported similar experiences with selling drugs and using marijuana, alcohol, and a variety of other substances while in school. Turning to the literature, few studies have examined the intersection between gender, types of substance use, and school connectedness. Instead, studies tended to examine these variables separately. For example, McNeely et al. (2002) established that young women reported lower school connectedness compared with young men, and there was no specific exploration of the role of substance use by gender (McNeely et al., 2002). The opposite was presented in other studies where young women demonstrated higher levels of school connectedness when compared with young men, again without specifically examining gender differences in substance use (Bonny, Britto, Klostermann, Hornung, & Slap, 2000; Thompson, Iachan, Overpeck, Ross, & Gross, 2006).
As mentioned earlier in this chapter, the interviews did not document differences in substance use patterns between genders, possibly because only four young women were interviewed. Regardless, the implications of the findings from this study raised questions for future research. Specifically, it is important to examine the different opportunities that school-based relationships provide for young women and young men to access specific substances.

The findings from this study provided evidence of a possible gender-based difference in means and ease of accessing certain substances, such as marijuana. During the interviews, all the young women and most of the young men admitted to selling drugs. Schools provided a lucrative market where selling drugs to other youth could secure enough financial resources to cover expenses for food, shelter, and other necessities of daily lives. These activities often brought the youth into conflict with the others while in school, especially with adults. Previous studies have found young women were found to be less likely to participate in selling drugs (Harris, Duncan, & Boisjoly, 2002; Steinman, 2005).

6.5 Importance of Relationships with Adults

A limiting factor for studying personal relationships has been the research method used for studying school connectedness. The literature on school connectedness does not yet feature qualitative data about the role of social interactions with adults (Bond et al., 2007; LaRusso, Romer, & Selman, 2007; McNeely & Falci, 2004b; Resnick et al., 1993). The majority of studies on the topic to date have studied relationships at the population level, without exploring the personal experiences within the school environment (Libbey, 2008; McNeely et al., 2002; Resnick et al., 1997; Shochet, Dadds, Ham, & Montague, 2006; Smith et al., 2007; Thompson et al., 2006). The findings from this study reaffirmed previous observations about school connectedness and substance use on the group-level data, but the interviews provided additional information to better understand how youth may be influenced through social relationships with adults in school.
This study found that a caring adult does more than give youth an anchor to remain connected to school. In fact, a positive relationship forged between an adult in school and a street-involved youth did not automatically result in stronger school connectedness or a reduction in substance use. However, all the interviewed youth discussed the need to be able to relate to an adult who experienced similar hardships but overcame them even though these relationships did not appear to lessen their chance for using substances or disconnecting from school. Instead, the role of the adult varied as they provided personal emotional support, access to basic necessities, and resources needed to create stability in the lives of the youth. A sentiment reported by several of the youth was that when the adult emerged as a reliable person to discuss individual hardships but these relationships did not aggregate upward toward strengthening youths’ connection to school.

The importance of youth-teacher relationships for connectedness and substance use in the general youth population has been the subject of a number of studies. These studies offer compelling findings pertaining to the general youth population but caution is needed before extending these assumptions to street-involved youth.

In the course of the interviews for this study, the youth listed the attributes they looked for in a trusted adult, emphasizing previous experience with substance use and precarious living circumstances, along with respectful and receptive attitudes, as essential requirements. This requirement of common life experiences was a point of difference indicating that existing general population research on the role of adults in school connectedness did not fully represent the needs street-involved youth. The youth indicated that an adult’s experiential knowledge of street involvement helped them feel as though their struggles were understood and appreciated. The role of teacher as an academic instructor was secondary to these youth in need of personal connections to maintain their footing in the school environment. The accounts highlighted the need for adults with personal knowledge of, and empathy
for, the specific challenges of street-involved youth to foster and improve this population’s school connectedness.

A sense of mutual respect was also central to generating trust with youth. The interviews provided further evidence that the youths’ primary interactions with adults were not for academic mentorship. This was apparent when numerous youth recalled their relationship with adults who were respectful, receptive, and sensitive to their struggles. The ability to talk with youth about their struggles was emphasized as a fundamental component of a trusting relationship. Not surprisingly, it was made clear that the way these youth navigated their environment was informed by their longing to be accepted and respected.

The importance of these observations is that they differ from those found in the general literature on the role of adult relationships in fostering school connectedness and, therefore, might explain problem substance use behaviours in larger probability studies. A study by Ferguson and Xie (2012), surveying 2,146 youth in grades 9 and 11, identified that there were differences in the role of adults in school in relation to substance use for youth who were street involved. These youth said they were supported by an adult but ultimately did not remain connected to school and used substances (Ferguson & Xie, 2012). These observations were similar to another study where the sense of belonging to school had no significant reduction in youth substance use (LaRusso et al., 2007).

Positive relationships between youth and adults in school may not be a factor that clearly influences school connectedness or substance use, but this was not the case for negative experiences with school adults. Youth who reported having negative relationships with adults in school stated that this strained their connection to school and, for many, justified definitive disconnection. The interviews demonstrated that substance use and the stressors of a precarious living situation put street-involved youth in a uniquely challenging position, and a teacher’s judgmental or disrespectful treatment was an
abrasive challenge that could be overcome through avoidance. This is why such experiences can push these youth away from school.

According to Bernstein-Yamashiro (2004), the nature of relationships between students and teachers for youth living precariously could be classified as teacher-friend and were more similar to those the youth have with family or peers than teacher-student. Interactions with adults on this level provided youth with the opportunity to learn the positive adult relationship skills unavailable to them outside of their school. The author also observed that disrespectful behaviour by a teacher results in youth questioning the purpose of their participation in school or interactions with the adults (Bernstein-Yamashiro, 2004). Schools emerged as places for youth who were street involved to build relationships instead of solely meet education goals. Negative relationships may be more important in shaping their perspective during adolescence and have more of a sustained impact compared with earlier or later periods in life (Shore, 1997).

6.6 Relationship with School Environment and Extracurricular Activities

Youth in this study reported that they were involved in many types of extracurricular activities during or after school. Extracurricular activities, including involvement in sports, music, art, and drama outside the classroom took place before, during, or after school hours and were observed to enhance school connectedness (McNeely et al., 2002; Thompson et al., 2006). Discussions on positive development and protection against anti-social behaviours have been a well-established feature of studies examining the role of youth participation in extracurricular activities (Eime et al., 2013; Janssen & LeBlanc, 2010; Mahoney et al., 2005). The importance of extracurricular activities was due to their role in providing youth the opportunity to express their identity and develop essential social skills such as negotiation and teamwork, characteristics often associated with transition into healthy adulthood (Feldman & Matjasko, 2005; Mahoney et al., 2005; Tiet, Huizinga, & Byrnes, 2009). The role of after-school participation in activities has been essential to working with many youth who have been
considered to be at risk of street involvement, especially in the inner-city (Hellison, 2000; Lever et al., 2004; Tiet et al., 2009). These observations were essential but focused mostly on the general youth population, and observations from this study indicated that street-involved youth may not benefit in a similar fashion from extracurricular activities.

Most of the youth in this study reported having participated in extracurricular activities. It is possible youth gained developmental benefits from involvement in extracurricular activities observed in previous studies (Darling, 2005; Feldman & Matjasko, 2005; Fredricks & Eccles, 2008). It is difficult to know if the developmental benefits provided the youth who participated in extracurricular activities with skills to navigate their social environment compared with those who did not participate. Research by Steinmann (2005) on youth who participated in extracurricular activities found that their involvement did not decrease their likelihood of selling drugs or using substances (Steinman, 2005). Aside from studies with inner-city youth, no studies were found on the impact of extracurricular activities on the lives of street-involved youth. Future research is needed to understand the varied impact of extracurricular activities on the personal development and substance-use patterns of street-involved youth.

Supportive and respectful relationships with adults in school did not link to a lower probability of substance use. On the other hand, disrespect from adults in school was identified by the youth I interviewed as an event that could completely alter their relationship with school and threaten their willingness to attend. Adult relationships were important to the youth interviewed, but further research is required to examine how substance use patterns may influence these relationships among street-involved youth when compared with the general youth population.
6.7 Implications for School Substance Use Policies

The role of school administrative policies (institutional factors) are important for understanding how to strengthen youth school connectedness (intrapersonal factors) through their individual interactions with peers and adults. There were a number of avenues where the substance use of youth came into opposition with school administrative policies. The discussions during interviews on school policies were dominated by youth sharing their experiences of their clashes with zero tolerance toward substance.

The national context toward health policies in school plays an important role in how substances were perceived and how these perceptions shape policies within schools (Faggiano et al., 2005). Canada has shaped schools as centres for health promotion in a variety of domains such as mental health, aggressive behaviour, healthy eating, physical activity, substance use and misuse, as well as driver education (Stewart-Brown, 2004). Health promotion in schools is a pre-emptive approach that reduces risks by preventing behaviours of target groups susceptible to adverse health outcomes by altering social and political policy conditions (WHO, 2017). For example, the guidelines put forward by the Canadian Centre on Substance Abuse for addressing Canadian school standards for substance abuse prevention programs is a national level multi-year prevention programs for the general youth population (Canadian Centre on Substance Abuse, 2010). The report emphasized the importance of positive school experiences on youth who use substances. According to the interview evidence, youth identified having positive experiences but continued to use substances regardless. In the interviews, unlike the goals of health promotion policies, youth did not mention overcoming substance use as their main concern.

School policies that accept substance use as an underlying reality for street-involved youth require further examination. In the literature, schools that expelled youth more often for minor policy
infractions were also shown to lower the overall school connectedness and caused students to feel less safe (McNeely et al., 2002). Disengagement and substance use permitted youth to identify with peer groups that existed in opposition to the academically and athletically inclined students favored by the school system (Fletcher, Bonell, Sorhaindo, & Strange, 2009). In this study school policies that enforced zero tolerance had a negative influence over youth school connectedness and their substance use. A Young Man in this study explained he had been expelled from both his school and the school district for using and selling substances. Another Young Man said that a teacher suspected him of substance use, because he came to class exhausted, and reported him to his probation officer under suspicion of substance use. This resulted in an altercation and negative relationship leading to the youth being expelled from the entire school district.

Furthermore, youth in my study said that strict consequences for selling or using substances were considered a barrier to remain connected to school. The reasoning was that they did these activities to earn enough money to secure the basic necessities of life while continuing to attend school. This behaviour was also observed by Hemmings (2002) who found that youth would risk getting caught selling substances because this activity was much more financially lucrative than conventional employment, even though these activities are counter to their school polices.

When youth were asked what schools could do to help youth who use too often, use too many drugs, or drink too much alcohol, their response was for adults to be less judgmental. Youth identified they were aware that some of their actions had unintended negative consequences but they felt discouraged when judged by adults. Instead, they stated that it was their mistake to make and their opportunity to learn. The unique situation of street-involved youth should prompt school administrators, teachers, and service providers take a step back to reassess their motivations for alienating these youth from remaining connected to school. The social relationships with teachers was important for youth emotional support but it was unclear that there was any association with their
substance use. This may be because teachers have an important role as agents who determine when and how substance use polices are enforced, through warnings, detentions, out of school suspensions, or even expelling youth (Savin-Williams & Vrangalova, 2013).

6.8 Strengths and Limitations of the Study

The findings from this study have provided new evidence as well as critical examination of current literature on the contribution of school connectedness in reducing street-involved youth's problem substance use. The results of this study demonstrated many strengths: this is one of the first studies to focus on the influence of school connectedness and problem substance use of street-involved youth, it evaluated school connectedness measures using the appropriate new psychometric methods necessary for ordinal-level data, and it employed a mixed-methods approach to triangulate gaps between population level surveys and the individual youth experiences.

This study provided an updated analysis of the psychometric properties of the school connectedness scale. The analysis provided stronger evidence that the scale did function as theorized in previous studies (Laye-Gindhu, 2011; Saewyc & Homma, 2010). Ordinal-level data were examined for scale reliability providing an alpha score that is computationally closer to the true alpha score for school connectedness (Gadermann, Guhn, & Zumbo, 2012; Zumbo, Gadermann, & Zeisser, 2007). Sequential mixed methods allowed for the triangulation between population-level and interview data that fulfilled what previous studies on school connectedness identified as a need for more thorough investigation about the personal nature of youth and adult relationships (Libbey, 2008; McNeely et al., 2002; Resnick et al., 1997; Shochet et al., 2006; Smith et al., 2007; Thompson et al., 2006).

The limitations of this study require examination. First, youth interviewed in this study were asked to recall experiences about relationships with adults and their substance use. Recall bias may be of some concern, as some of the youth referred to events in school that had occurred more than a year before the interview. Another limitation was that all but two youth interviewed in this study were approached
through the community services they were accessing. These services provided resources, which may have granted the youth in this study greater stability than those without access to such assistance. This meant that the youth interviewed for this study may be from a specific population of street-involved youth who have different experiences than youth who were not accessing the services.

The 2006 BCSYS data were ten years old by the time of this study. As well, the cross-sectional nature of the information did not allow for follow-up on youth trajectories relative to their substance use or school connectedness. The researcher had no control over the original collection or the measures in the 2006 BCSYS health data that were used in conducting this secondary analysis. This meant there was no possibility of collecting specific data that may have helped to further clarify relationship between risk and protective variables.

A final limitation was the number youth who were interviewed for the study. The limited number of youth was justified methodologically but did constrain the extension of some of the observations to the study’s population of interest. Related to this was the limited number of young women in the study: only four young women were interviewed, and two of these were interviewed with young men partners present. Further research should seek to balance out the representation of young women and men participation in the interviews.

6.9 Implications for Future Research

Interaction among personal relationships, school policies, life on the street, and societal gender roles each appear to play a role in the findings of this study. Further research is needed to examine the connection between school connectedness and substance use among street-involved youth. The literature allows for speculation in characterizing factors such as norms of the peer groups, or compensation for trauma, but their clear influence on street-involved youth requires further clarification.
Relationships with adults in schools appeared to have different roles and levels of importance for street-involved youth in this study. The positive outcomes featured in many studies on healthy adult relationships reducing problem substance use and increasing school connectedness were not supported in this study. Further examination is required to understand the role of positive and negative relationships with adults in schools for this specific population.

The results of this study suggested that the interaction between extracurricular activities and problem substance use were different from those in other studies among the general youth population. It is possible that the youth in this study were benefitting from extracurricular activities, but these appeared to have no effect on their substance use. It is possible the youth are learning the positive skills associated with participating in these activities, but further research is needed to uncover why there was no apparent decrease in problem substance use when compared with the general youth population. The focus could be on investigating how specific activities, such as sports versus non-sports activities, could influence potential involvement in behaviours such as violence and substance use.

School connectedness emerged as an important protective factor in reducing the probability of problem substance use among street-involved youth. Vulnerability has been the focus of the majority of studies examining the health and well-being of street-involved youth, but an emerging body of research is moving beyond risk to focus on resiliency (Bender, Thompson, McManus, Lantry, & Flynn, 2007; Tozer et al., 2015). The role of resilience for many youth in this study is observed when youth avoid substances such as crack or heroin due to negative consequences by family members or the youth themselves. Another resilient behaviour appeared when youth discussed the resourceful behaviours of generating financial resources through selling substances.

Future research should expand upon our understanding about the different facets of school connectedness on street-involved youth involvement in school and problem substance use. An in-depth understanding could be achieved on the nature of different types of schools such as public, private, or
alternative schools in addition to how being located in rural or urban settings shape youth connectedness experiences. Youth being removed from school for substance use requires further research with more emphasis on collecting data on which youth are being removed for the misconducts (Biag, 2016).

6.10 Implications for Practice

Adult relationships with students are a key area to foster positive connection to school given the precarious living situations of these youth. Greater emphasis needs to be placed on ecological systems approach when addressing youth substance use in schools. Evidence has shown that when training school staff, social workers, and nurses to identify and support youth in accessing services, this results in lower school mobility and positive outcomes (Larson & Meehan, 2011). Teaching is important for academic knowledge but learning to build personal relationships to maintain connectedness is an essential tool for ensuring youth remain connected (Bond et al., 2007).

Focusing specifically on improving school connectedness for street-involved youth will result in addressing the specific challenges they face while in school. Improving school connectedness as this study found could have a positive impact on youth substance use behaviours but potentially their educational outcomes as well (Centers for Disease Control and Prevention, 2009). An initial step is to provide opportunities for youth, families, administrators and teachers to engage in the decision making processes surrounding school based policies or programs (Centers for Disease Control and Prevention, 2009). Through encouraging engagement the perspectives, challenges and positive experiences of the youth will be brought forward into the considerations surrounding decisions that may influence their connection to school and possibly behaviours towards substance use.

Service providers influence which youth will access their programs, and more evaluations are needed to provide information that matches youth and services with sufficient understanding of specific needs. Specific interventions have been in place to bring back, or retain, youth in the school
environment through programs such as adult education and alternative school models. This study presented recommendations on how to strengthen the role school can have in providing possible health services and measuring their effect on youth health outcomes.

6.11 Conclusion

In conclusion, this study found that the increasing levels of school connectedness influenced problem substance use differently for young women and men when accounting for known risk factors. As school connectedness increased, Problem Marijuana Use for young women decreased but this was not shared by the young men in this study. Likewise, as school connectedness increased, a decrease in Problem Alcohol Use was measured for young men but not for young women. Consequences from Substance Use were mitigated for young men by attending school in place of school connectedness, but school connectedness did not have a significant impact on these consequences for young women. For young women, only a slight decrease in their Consequences from Substance Use was measured as school connectedness increased. Future studies should examine the nature of street-involved youth involvement in school and specific relationships with adults as most of the youth interviewed noted they were connected to school in ways that would have protected them. According to the youth interviewed, these connections to school through extracurricular activities or positive relationships with adults in school appeared to have little influence on youth decisions to begin or continue to use substances.

Application of the findings from this study focuses on a role for school policies. Policies to address youth substance use must be implanted in a manner that is mindful to reality they could negatively affect street-involved youth school connectedness because substance use appears normalized among this population. Youth noted that judgment from adults in school had negative consequences on their decisions to stay connected to school and future applications of polices that wish to keep youth in school may also consider better alignment with their concurrent substance use.
References


Canadian Centre on Substance Abuse. (2007). Substance Abuse in Canada: Youth in Focus. Ottawa, ON.

Canadian Centre on Substance Abuse. (2010). Building on Our Strengths: Canadian Standards for School-Based Youth Substance Abuse Prevention. Ottawa, ON.


Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). The SAGE Handbook of Qualitative Research. SAGE.


Stewart-Brown, S. (2004). What is the Evidence on School Health Promotion in Improving Health or Preventing Disease and, Specifically, What is the Effectiveness of the Health Promoting Schools Approach? World Health Organization.


Appendices

Appendix A: Study Introduction Script and Questions for Youth

a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

Substance Use and School Connectedness among Street-Involved Youth in British Columbia
Semi-structured Interview Guide & Introductory Script;
Youth Participants (Ages 16-24 years old)

Hi there, my name is _______________ and I’m a student at the University to chat with you today about your experiences at school. How’s your day going so far?

So, it sounds like you saw a poster talking about the project we’re doing and you got in touch with me to let me know you’d be comfortable talking to us?

That’s great! Have you had the chance to look over the consent form at all that tells you a bit about the project and what it will mean for you to be part of it? Okay, I have a copy here that we can go over together and then I can answer any questions you may have. Before we even get to the consent form though, do you have any questions for me right now?

[Review the consent form & invite the participant to sign the bottom.]

As the consent form said, I’m going to be recording our conversation using this [motion to audio recorder.] I’m just going to double check to make sure it’s on. Also – I know that sometimes people can feel a bit uncomfortable knowing their voice is being recorded. I just want you to know that the only people who will listen to the recording will be me. I am interviewing a few people just like you but all of your answers will be kept really private. When I do mention the interviews in my final project, I’ll be talking about topics we heard people talk about or, if we do use any direct quotes, we’ll make sure we take out any information that might mean someone could identify who said what. Does that make sense? Any questions about that?
Also, because your answers will be kept very private, I hope you’ll feel comfortable answering honestly. I’m interviewing a number of people just like you and I don’t work directly with any of the organizations or people who are currently helping you. My hope is just to understand more about what your experience was like and to understand, from your perspective, the role school has had in your use of alcohol and drugs. So, please feel free to be honest with your answers and if anything is unclear or if you want to skip any questions or come back to any questions, just let me know and that’s totally okay.

Also, if you want to end the interview at any point or to take a break, just let me know and that’s totally okay. Depending on how detailed your answers are and things like that, I’m expecting the interview to take anywhere from a few minutes up to 45 minutes. Does that sound good?

Any questions before we begin?

**Most Recent School Involvement**

1. When was the last time you were in school?
2. Have you changed schools at all over the past year?
   a. What was the main reason for changing schools?
      i. E.g. disputes with teachers, other students, suspension, moved, because closer to friends.
3. What are some of the activities that you do at school that are not possible elsewhere?
   a. E.g. Do you belong to a ... sports, music, drama club?
4. At what grade do you expect to finish going to school?
   a. Why do you want to finish at this grade?
5. Are your most trusted friends also are your school or a school nearby?
   a. If not, where do you meet the majority of your friends?
6. Are there times when you feel unsafe?
   a. What about school that makes you feel unsafe?

**School Support**

1. Everyone has different experiences with the teachers, administrators, coaches and other adults in their school. Who are the adults in your school that you feel comfortable asking for help when you need it?
   a. What makes you feel comfortable asking a person at school for help?
b. Can you provide an example when someone at the school helped you access shelter, food or substance use treatment?

2. Some people are not comfortable approaching others when they need help. Who in your school do you feel least comfortable asking for help when you needed?
   a. What makes you uncomfortable asking this person for help?

3. Is there a teacher or other adult in the school who you feel is unfair or treats you with disrespect?
   a. Without providing their name can give me an example when they were being unfair or disrespecting you?

Substance Use in School

The next set of questions is about alcohol and drug use, including marijuana use, while at school.

1. Have you ever gone to school having smoked weed, drunk or high on drugs?
   a. Do you go to school having used drugs or alcohol?
   b. Why do you go to school on drugs or drunk? E.g. because friends do it, it is exciting, school is boring.

2. Are drugs easy to get in your school?
   i. Which drugs are easiest to find at school?
   ii. Which drugs are the hardest to find at school?
   iii. Which drugs do you use to get high the most often?
   iv. What are the drugs you avoid doing?

3. Have you ever gotten in trouble from the school because of drugs or alcohol use?
a. What happened when you got in trouble? E.g. suspension, visit counsellor?

4. Is there anyone at the school you feel comfortable talking to if you needed help with your alcohol or drug use?
   a. What makes this person helpful?

5. How would you know if any of your friends had a drug or alcohol problem?
   a. E.g. they use too much, they get in trouble while using, they use specific hard drugs too often

Friends
1. How many close friends do you have at your school?
2. Are you usually with friends when you do drugs or get drunk?
   b. Do you and your friends drink or do drugs often while at school?
   c. What kinds of drugs have you and your friends taken while at school?
   d. Has using drugs led to any problems with your friends?
   e. Has drinking alcohol led to any problems with your friends?

What Schools Can Provide
1. What do you believe schools can do to help youth who are using drugs or alcohol too much or too often?
   c. E.g. provide access to treatment services, weaker penalties for using drugs or alcohol,
   d. What do schools need to do to make you like going more often?