

*Adolescence
without Shelter:
A Comprehensive Description of Issues
Faced by Street Youth in Winnipeg*

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April 2006

Addictions Foundation of Manitoba

The Addictions Foundation of Manitoba is responsible for providing rehabilitation and prevention services for Manitoba citizens relating to substance use and problem gambling. *The aim of our research is to better inform rehabilitation practice, public education, and health policy.* Research fostered by the Foundation contributes to a better understanding of how individuals, families, and communities can most effectively respond to harm associated with substance use and problem gambling.

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We believe our greatest asset is our staff, and acknowledge their contribution and passion in supporting the following organizational values:

- *the dignity and diversity of each individual;*
- *The client's and communities capacities for change;*
- *Collaborative relationships with stakeholders, partners and the self-help community;*
- *Continuous improvement and best practices;*
- *A continuum of services and programs: and*
- *A safe and respectful work environment.*

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This report is dedicated to the youth who live on the streets of Winnipeg. They both need and deserve our support in order to access services and to live in safe and supportive environments that can encourage them to achieve their full potential.

EXECUTIVE SUMMARY

The goal of the current report was to inform Addictions Foundation of Manitoba (AFM) employees and interested others about the characteristics, current situations, and needs of street youth in Winnipeg. The AFM recognized the need to understand this high-risk group of individuals who have significant drug-related issues. This report will help AFM programs to better engage some of their potential clients by understanding the issues they face.

The survey of street youth in Winnipeg was undertaken by the AFM in the summer of 2005. A total of 167 youth were initially recruited; however, some respondents' data were excluded from analysis due to uncertainty about the truthfulness of the answers. Respondents provided detailed information about their education, mental health status, criminal involvement, substance use, and family and home environments. The respondents were also interviewed using a standardized mental health evaluation tool.

Results

The results generally indicated that street youth face a wide range of problems, which are summarized below.

Education and Employment

- Almost all respondents reported at least one problem in school.
- Approximately three-quarters of the sample had not graduated from high school.
- Regular work and welfare, EI, or other government support were the main sources of income for many street youth. Panhandling, getting money from family and friends, and doing drug runs were also income sources.

Mental Health Status

- Almost all respondents had symptoms of at least one mental illness; a high percentage had symptoms of two or more mental illnesses.
- About two-thirds of the sample met criteria for lifetime psychosis and about half met criteria for major depression or lifetime antisocial personality disorder.
- Many respondents were suicidal, with almost half of suicidal youth being at *high risk* for suicide.

Criminal Involvement

- Criminal activity was quite common, with both males and females reporting a wide range of involvement, including theft, assault and vandalism.

Substance Use

- A vast majority of respondents reported that they and their friends used alcohol and other drugs.
- Almost all of the respondents had used cannabis at least once in the past year, with over half smoking it daily.
- About one-quarter of the sample had injected drugs in the past year.
- After cannabis, methamphetamine was the second most used drug: about one-fifth of respondents reported using it daily, and it was the most frequently injected drug, especially by female injection drug users.
- Significant percentages of the injection drug users did not use safe injection practices, and rates of unsafe injection practices were notably higher for females.

Family and Home Environments

- About one-third of respondents reported that their parents or guardians used alcohol two or more times a week.
- Many street youth had been physically and sexually abused during their childhood. For all of the sexually abused males and most of the sexually abused females, the abuse had started by 11 years of age.

Exploitation by the Sex Trade

- Females were significantly more likely than males to be exploited by the sex trade.
- Respondents exploited by the sex trade had higher rates of drug use compared to those who were not exploited.

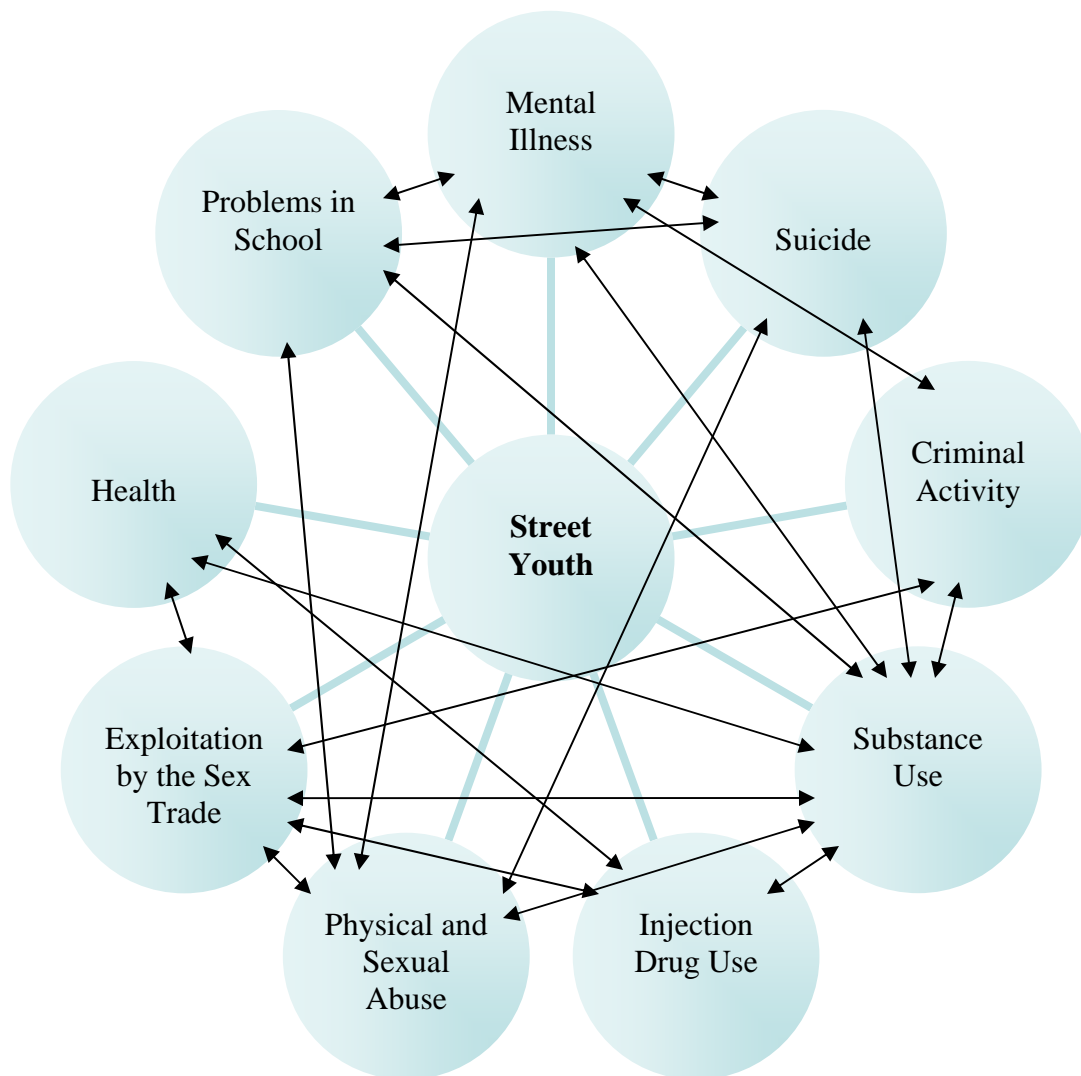
Conclusions

Street youth experience some of the most difficult circumstances that any of us can imagine. They face a wide range of problems, including family and home environments that suggest they were not well cared for at an early age, mental illnesses that have likely gone untreated and have potentially been exacerbated by other circumstances, high levels of alcohol and other drug use, and increased potential for involvement with the justice system due to their survival activities.

Because we did not follow these youth over time, but rather relied on their current reports of past and present problems, we cannot provide evidence regarding which of these issues may have *caused* other difficulties. However, we can discuss how these issues may be related to each other in the youths' current situations. The diagram presented here¹ visually represents connections between the major issues that we discuss in this report. The two-ended black arrows in the diagram show that the issues are related, but do not

¹ This diagram is presented twice more throughout this report.

represent a causal direction between the issues. We acknowledge that this diagram is **not** a *complete* representation of the issues faced by street youth, but rather a summary of the main points from this report.



Unfortunately, there are no simple solutions to the problems faced by street youth. These youths are not well connected to the usual social networks and may have difficulty accessing services typically accessible to others. Further, they are not a group who characteristically engages in available services. Engagement of these youth will only be successful by reaching out to them, and meeting them in their own environment: for this reason outreach services are one method of service delivery that may be successful.

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As represented by the diagram, the issues facing these youth are highly interrelated, and changing the situations of these youth will require a wide range of support services. Further, resources must come from a variety of agencies and organizations, including justice, education, family services, housing, mental health, addictions, and the community. Through coordinated efforts of these agencies and organizations, as well as the street youth themselves, the youth will be able to achieve their potential within safe and supportive living environments.

1. INTRODUCTION

“Street youth” is a term often used to refer to people, usually adolescents, who have run away from home, or have been “kicked out” of their homes for a variety of reasons. Street youth, while not necessarily a homogeneous group, are younger individuals who commonly do not have a permanent residence and spend a significant amount of time without physical shelter. In the literature on homelessness, the term “youth” has not been standardized, but often includes youth and young adults between the ages of 14 and 25.

Estimates of the numbers of street youth in Canada vary, ranging from 50,000 to 200,000 (McCormick, 2004). According to Ayerst (1999), street youth have become the fastest growing segment of the Canadian homeless population. Yet our knowledge of them and their situations is relatively sparse (Cauce et al., 2000). Recently, interest has emerged in trying to understand these youth, with the hope of helping them to leave their risky and unhealthy lifestyles in exchange for more healthy and productive ones. Such transitions may be difficult for street youth because they are not well connected to the usual social networks and may have difficulty finding the types of services typically available to Canadians (Higgitt et al., 2003). Thus, services to help these youth, including programs at the AFM, must make an effort to reach out to these youth if we want to impact positively on their lifestyle.

1.1 Street Youth in Winnipeg

The first step to a research agenda regarding street youth is to conduct background research of the youth in a particular area: in our case, the city of Winnipeg. For this first step, it is important to learn about the street youths’ demographics, the prevalence of risk behaviors in which they engage, their use of substances, and their health (Kelly, Grajcer, & Rigato, 2003). The intent of the present study was to gather this and other information to gain greater insight into the lives of street youth in Winnipeg, with the ultimate goal of identifying ways to improve service delivery from both the AFM and other agencies and organizations.

This is not the first study of street youth in Winnipeg; however, this study does have different strengths than past studies. Higgitt and colleagues (2003) interviewed a small sample of Winnipeg street youth and provided them the opportunity to tell their stories so that others might better understand their situations. The study provided a rich description of the experiences of some street youth, but because of the small sample, it was likely not representative of all street youth in Winnipeg. The present report adds to our understanding of street youth by presenting information from a much larger sample that was surveyed using standardized measures of substance use and dependence, social background and mental health status.

Street youth have been included in two other quantitative studies conducted in Winnipeg in the past few years. Both of these studies focused on specific topics: one was on social networks of injection drug users and included information on Human Immunodeficiency Virus (HIV) and Hepatitis C (Hep C) prevalence rates (Wylie, 2005); the other focused

on the epidemiology of sexually transmitted infections (STIs) and unsafe sexual practices (Beaudoin, Larsen, & Wood, 2005).

Wylie (2005) analyzed quantitative information and blood samples from 435 individuals. Although all of these individuals were injection drug users, many of them were not homeless, and many were older than the youth in our report. Nevertheless, that study provided some comparison rates for HIV and Hep C for the present study: the prevalence of HIV in the 2004 study was 7% and the prevalence of Hep C was 54% (Wylie, 2005).

Beaudoin and colleagues' (2005) study included many of the same individuals as the Wylie (2005) study. About 320 street youth were interviewed as part of the National Street Youth Enhanced Surveillance Study, and the focus of Beaudoin et al.'s (2005) study was to understand a variety of risk factors related to STIs. The study found that 12% of street youth were infected with Chlamydia. Further, the study showed that about 20% of female street youth were exploited by the sex trade,² and many of these females did not consistently use condoms.

While these two studies provided useful information about selected health issues, street youth face a number of other significant issues as a result of their life experiences. Studying these issues is not simple because many of them are highly interrelated, and it is difficult to determine where to start in helping these youth toward a healthier lifestyle. The current study assessed several issues and shows where relations exist among the issues in an attempt to learn more about this population of youth. The goal is to use this information to improve programs and services to help these youth.

This section presented the limited research specific to the street youth population in Winnipeg. The following sections of the Introduction present research done in many other jurisdictions regarding several of the issues explored in the current study. Further, these sections introduce some of the connections among the issues studied in this report.

1.2 Mental Health Status

A number of surveys of street youth have identified high rates of mental illness in these populations (e.g., Adlaf & Zdanowicz, 1999; Cauce et al., 2000; Slesnick & Prestopnik, 2005). Some studies have linked heavy drug use to the development of mental illnesses such as psychosis, and other studies have suggested that individuals who have mental illnesses may be attracted to the effects of drugs, as a form of self-medication or for other reasons. However, whether psychosis or other mental illnesses are a consequence of an extended period of heavy drug use, or drug use is an effort to cope with some of the symptoms of mental illness is difficult to determine without longitudinal information.

² Throughout this report we use "sexual exploitation" and related terms to refer to street youth involved in the sex trade. This choice of terms is based on the *Manitoba Strategy Responding to Children and Youth at Risk of, or Survivors of, Sexual Exploitation* (for more information on the Manitoba Strategy, see: http://www.gov.mb.ca/fs/childfam/strategy_on_sexual_exploitation.html).

Tyler, Cauce and Whitbeck (2004) found that dissociative disorders were quite widespread in street youth populations: over 60% of street youth had signs of dissociative disorders, and the signs were correlated with both physical and sexual abuse. The high rate of dissociative disorders in the street youth population is about 10 times the rate found in the general population. Many street youth also show signs typically associated with multiple personality disorder³ or posttraumatic stress disorder (PTSD; Ross, Norton, & Anderson, 1988). These illnesses tend to be more prevalent in youth who have experienced either physical or sexual abuse. As well, the high rates of depression and suicide that are reported in street youth populations have been linked to physical, sexual, and emotional abuse and neglect (e.g., Rew, Taylor-Seehafar, & Fitzgerald, 2001).

1.3 Criminal Involvement

One of the oft-expressed concerns about the presence of street youth is the increased level of criminal activity in this population (e.g., Janus, McCormick, Burgess, & Hartman, 1987; Baron & Hartugal, 1998). The high rates of criminal activity likely have multiple causes. Some crimes may be committed to gain money or other necessities such as food and temporary shelter. The youth often have difficulty gaining these resources through the usual means. For example, street youth may lack regular employment due to mental illness, lack of education, lack of a fixed address, or other reasons (Dachner & Tarasuk, 2002). Thus, these youth may resort to earning money through transport of drugs or prostitution. Other street youth without employment may resort to crimes such as petty theft or fraud to gain the necessities of daily life. Criminal involvement also occurs as a result of the street youths' drug use, both because possession of drugs itself is illegal and because a proportion of crimes occur while the youth are high or intoxicated (Chen, Tyler, Whitbeck, & Hoyt, 2004).

1.4 Substance Use

Although the present study is more than just a report on substance use in the street youth population, part of the impetus for this study was the need for the AFM to understand what types of drugs the street youth are using. Data from the U.S. National Longitudinal Survey of Youth show that runaways are about 10 times more likely to have a history of substance abuse than non-runaways (van Leeuwen et al., 2004). Certainly one of the concerns is that using highly addictive substances such as methamphetamine and opiates, and using them in a dangerous manner (i.e., sharing needles, not cleaning equipment properly), will increase the likelihood of acquiring diseases such as Hep C and HIV.

One drug that has become a concern of late is methamphetamine. Methamphetamine acts on the central nervous system by influencing dopamine levels, which affect the experience of pleasure. Methamphetamine can be smoked or injected to produce feelings of intense euphoria in the short term; alertness and general well-being can last up to 12 hours. Unfortunately, the drug has become relatively easy to produce, and anecdotally, we hear that methamphetamine use among street youth in Winnipeg is increasing.

³ In 1994, the American Psychiatric Association changed the name of Multiple Personality Disorder to Dissociative Identity Disorder.

However, until now, no data have been available regarding the prevalence of methamphetamine use in this population. Thus, to know whether the use is increasing (or decreasing) cannot be supported with evidence. We did suspect (and supported with the current study) that methamphetamine use was more common in the street youth population than in the population of youth not living on the streets. From an earlier AFM report, we know that adolescents in Manitoba schools have relatively low rates of methamphetamine use (3%; Patton, MacKay, & Broszeit, 2005). In contrast, studies of methamphetamine use in other street youth populations show high rates of use: 71% of street youth in a recent Vancouver study reported using methamphetamine (Buxton, 2003), and 37% of a small sample of homeless youth in Toronto reported using it at least once a month (Bernstein, Adlaf, & Paglia, 2004).

The high levels of substance abuse by many street youth may reflect an effort at self-medication to deal with negative aspects of their lives. The drug use may provide a temporary escape from the harsh reality of the daily stresses with which these youth cope. As well, some street youth likely increase their drug use because they see such use as part of “normal” life on the street. Fitting in and belonging to the peer “family” on the street is likely important. The street peers may provide support that was lacking so far in the youths’ lives, and the strong desire to fit in may lead to increased frequency of risky behaviours, including drug use (Chen et al., 2003; Higgitt et al., 2003).

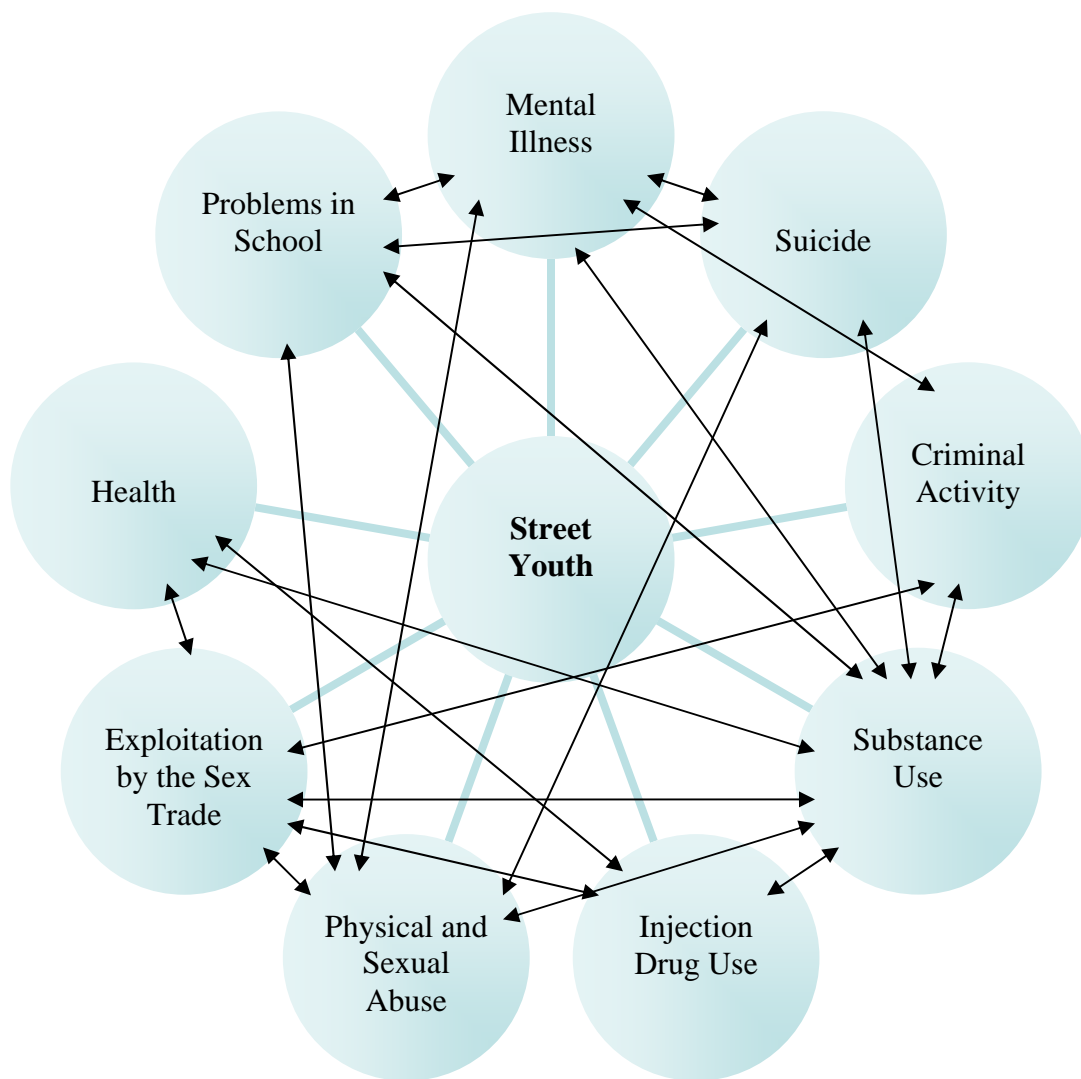
1.5 Reasons for Leaving Home

Many street youth find themselves without shelter not by their own choice. While some youth leave home in an effort to establish their own identity and define their autonomy from their parents, others are forced to leave by guardians unable or unwilling to provide care. Many young adults who become homeless have left conflict-laden, often violent, abusive, or dysfunctional home situations (e.g., Higgitt et al., 2003; Whitbeck & Hoyt, 1999). In fact, abuse, either physical or sexual, has been identified as one of the most important reasons for running away from home, and sexually abused youth tend to run away at an earlier age compared to street youth who were not sexually abused. It is important to note that the sexual abuse has not always occurred at the hand of a parent; adult relatives or other adults responsible for care may have perpetrated the abuse (Chen et al., 2003).

It has been well documented that homeless youth have higher rates of childhood sexual abuse than youth in the general population, and both physical and sexual abuse have consequences on a range of emotional, mental, and behavioral problems (Chen et al., 2004; Farrow, Deisher, Brown, Kulig, & Kipke, 1992; Rew et al., 2001). The abuse can easily be considered a traumatic precursor to PTSD, which in turn is quite closely associated with substance use and abuse. Further, street youth who report early sexual abuse are more likely to be exploited by the sex trade, which is dangerous in many ways. Exploitation by the sex trade often includes high-risk sexual practices (multiple partners and inconsistent condom use), as well as unsafe intravenous drug use habits (sharing needles and other equipment). These practices lead to increased likelihood of acquiring and spreading diseases such as HIV and Hep C.

1.6 Summary

As presented in the above sections, past research has shown that street youth face many issues. To study one issue almost necessitates studying several because of the relations between the issues. Thus, we not only inquired about substance use, but also about the family background of these street youth, their physical and mental health, their use of health care resources and other risk factors that may exacerbate their current difficulties. Further, in several sections throughout the report, we describe relations among the issues, which are summarized visually in the diagram below.⁴ It is important to note that this diagram is **not** a *complete* representation of the issues faced by street youth, but rather a summary of the main points from this report.



⁴ This diagram is presented again in the Summary section of the report.

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2. METHOD

2.1 Sample

Recruitment occurred at three different Winnipeg youth centres, and a total of 167 street youth participated. Street youth were broadly defined as individuals who were 14 to 25 years of age with no stable residence (e.g., currently staying with friends temporarily or on the streets) **and** who utilized the resources of at least one of the youth centres.

The recruitment and screening of the youth relied heavily on the youth centres' staff. The staff members were individuals who were very familiar to, and trusted by the youth who utilized the respective centres. Further recruitment relied on the "snowball" recruitment technique. That is, upon completion of the interview, participants were asked to pass on information about the study to their friends who met the criteria for participation. Each respondent received \$25 for completing both the questionnaire and the interview.

2.2 Procedure

The youth were given a self-report questionnaire and a diagnostic interview. The questionnaire and interview were both administered on-site at the resource centres. Prior to completing the questionnaire and/or interview, participants were asked to sign a consent form. They were given the option to complete the questionnaire and interview at separate times (as outlined in the consent form), but only one participant did so.

2.2.1 Questionnaire

Administration of the questionnaire was done in groups consisting of an average of eight participants. Completion of the questionnaire lasted on average 1 hour and 30 minutes. The questionnaire was comprised of various sets of standardized questions (described below), mainly related to social and behavioural functioning and consisting of forced-choice answer options.

2.2.1.1 Alcohol Use Disorders Identification Test (AUDIT). The AUDIT is a brief measure of alcohol dependence that was developed by the World Health Organization. The core questions are ten items that have been shown to be a sensitive indicator of hazardous alcohol consumption. Questions refer to alcohol intake, signs of alcohol dependence, adverse reactions to alcohol, and alcohol-related problems. Overall, the AUDIT has been shown to be both reliable and valid as an indicator of alcohol abuse or dependence. A cut-off score of 8 or greater suggests problematic drinking levels.

2.2.1.2 CAGE – Adapted to Include Drugs (CAGE-AID). The CAGE-AID is a modified version of the CAGE. The CAGE questionnaire is designed as a relatively brief (i.e., four-item) questionnaire for the detection of addiction. In the present study the CAGE was adapted to measure cannabis dependence specifically.

2.2.1.3 Drug Use Screening Inventory – Revised (DUSI). The DUSI is a multi-dimensional self-report instrument that provides a profile for an adolescent’s involvement with drugs and alcohol, in addition to the associated health, psychiatric and psychosocial problems (Tarter, Laird, Bukstein, & Kaminer, 1992). It measures problems in 10 domains:

- Substance Use – the degree of involvement and severity of consequences related to substance use;
- Behavior Pattern – the severity of disturbances related to social isolation, anger, acting out and self-control;
- Health Status – health related concerns such as accidents, illnesses and injuries;
- Psychiatric Disorder – the severity of disturbances related to anxiety, depression, anti-social behavior and psychotic symptoms;
- Social Competence – problems related to social interactions, social skills and refusal skills;
- Family System – issues related to family dysfunction, conflict, parental supervision and marital quality;
- School Adjustment – concerns related to academic performance and school adjustment;
- Work Adjustment – for those who are employed, this measure addresses work competency and motivation;
- Peer Relationships – quantifies the disturbance related to a youth’s social network and quality of friendships; and
- Leisure/Recreation – the quality of leisure activities.

The DUSI also includes a “Lie” domain which can indicate whether a person may be providing false information purposely. Scores above 4 suggest that the individual may be fabricating responses, or deliberately trying to mislead.

The DUSI consists of 149 yes/no items. An individual’s involvement with drugs and the associated problems in each of the 10 domains are quantified by two scores for each domain. First, the “absolute” problem density indexes are calculated by tabulating the percentage of problems endorsed within each domain. The absolute problem density indexes show the severity of problems within each domain. Second, the “relative” problem density indexes are calculated by determining the percentage of the total “yes” answers that fall within each problem domain. Relative problem density indexes identify which domains are most responsible for the overall level of distress experienced by the youth. Information is then combined from the absolute and relative problem density indexes to summarize problem domains for an individual, or in this report, the whole sample.

2.2.1.4 Leeds Dependence Questionnaire. The Leeds Dependence measure is a ten-item scale designed to measure dependence on alcohol or drugs. It is not specific to any substance, and is used here to supplement the other measures.

2.2.1.5 Other questions. Additional questions were included on the questionnaire regarding: the youths' experiences growing up, their demographic characteristics (e.g., age, gender, level of education, and employment status), their own and their friends' drug use and criminal involvement, and their current health status.

2.2.2 Interview: *The Mini International Neuropsychiatric Interview (MINI)*

The MINI is a brief psychiatric interview based on the symptoms of mental illness identified in the Diagnostic and Statistical Manual (4th edition) of the American Psychiatric Association (Sheehan et al., 1998). Although the MINI is brief, it enables classification of a respondent based on meeting and exceeding various criteria that suggest increased likelihood of mental illness.

The MINI was conducted by two interviewers (1 male, 1 female) who were trained in its use and had previous youth work experience. The interviews were conducted in a private or semi-private (e.g., partially enclosed area) environment while other participants completed the questionnaire portion of the study. Participants were interviewed face-to-face and usually by a person of the same gender to increase the respondents' comfort with the interview. Interviews lasted about 20 minutes on average.

The interview consisted of general questions about the presence of symptoms of the major (i.e., most common) mental illnesses. Decision trees were followed, such that the report of specific symptoms led to further questions about a given disorder. This strategy was designed to lead to reliable assessments of the presence of specific illnesses. Because there was specific interest in this study to understand methamphetamine use in this population, the substance dependence section focused specifically on this drug. Thus, we were able to get an accurate estimate of the prevalence of methamphetamine dependence in this sample.

2.2.3 Data Analysis

All analyses in this report were conducted using the Statistical Package for the Social Sciences (SPSS) version 12.0 for Windows. All significance tests were evaluated at the alpha level of .05. More information regarding analyses can be obtained from the authors.

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3. RESULTS

3.1 Preliminary Analyses

3.1.1 Exclusions

In total, 167 persons completed the questionnaire and interview. As a first step in the analysis, we checked two measures that indicated provision of false information and excluded persons who provided invalid information. First, five males were excluded from the results presented here because they reported using the fictitious drug “Quabaline” (“quabs”, “zappers”). Second, 12 additional males and 6 females were excluded because their DUSI Lie Score was at or above the threshold for possible deliberate deception. Additionally, gender was not reported by two persons, and because a majority of the analyses in this report compared males and females, these two respondents were also excluded from all analyses. Gender analyses are important to better understand where differences exist between males and females and where specialized services may be beneficial (Poole & Dell, 2005). After excluding the 25 respondents with potentially invalid or incomplete data, we were confident that the data provided by the remaining 142 respondents would be representative of the situation of street youth in Winnipeg.

3.1.2 Demographic Description of the Sample

Males (56%) had a median age of 21.0 years and females (44%) had a median age of 19.5 years. Approximately three-quarters of the sample (80% of males, 71% of females) did not graduate from high school or earn an equivalent certificate. When analyzed only for respondents aged 18 years of age or older, who would typically be old enough to have graduated from high school, 75% of males and 62% of females reported not graduating from high school or earning an equivalent certificate.

Seventy percent of males and 58% of females reported holding a job within the past 12 months. Of those who had a job, 51% of males and 24% of females reported a full-time position, and 22% of males and 55% of females reported a part-time position. The remaining employed respondents (28% of males, 21% of females) reported casual work. The durations of the positions covered a wide range, from 1 week to over a year.

While most of the sample had held a job at some point in the past year, regular work was the main source of income for only 34% of males and 22% of females. This may be partly due to the short durations of some of the jobs. For another 34% of males and 33% of females, welfare, EI, or other government support was the main source of income. Ranking third for males was panhandling (17%) and third for females was getting money from family and friends (16%). Other common sources of past year income were: dealing or doing drug runs for males (9%) and panhandling for females (10%).

The largest percentage of respondents were Caucasian (56% of males, 51% of females), followed by Métis (16% of males, 20% of females), and First Nations (16% of males,

16% of females). The remaining 12% of males were African-American, Asian, Hispanic, and Other, and the remaining 13% of females identified themselves as Other.

3.1.3 Overview of Issues Faced by Street Youth

As identified in the Introduction, street youth face multiple challenges. This was summarized quantitatively in the current study by the fact that *all but one* of the survey respondents scored in the significant range of the DUSI, meaning that all but one of the respondents had problems in one or more domains. The domains are listed in Table 1, which shows the average relative and absolute problem densities for each domain.

Relative problem densities show how problems in one domain rank in relation to problems in other domains. The relative problem density percentages add up to 100%, and domains with more severe problems are represented by higher percentages of the total. The domains of school performance/adjustment, psychiatric disorder, behaviour pattern, and peer relationships accounted for over 50% of the total problems experienced by the survey respondents. However, these four problem domains did not represent *notably* larger percentages of the total problems than did the domains of substance abuse, family system, leisure/recreation, and others. Thus, no one specific domain contributed much more to the overall high scores compared to other domains.

Table 1
Average Relative and Absolute Problem Densities from the DUSI

Domain	Average relative problem density	Average absolute problem density
School performance/adjustment	15%	66%
Psychiatric disorder	13%	60%
Behaviour pattern	13%	58%
Peer relationships	11%	71%
Substance abuse	10%	63%
Family system	10%	64%
Leisure/recreation	9%	64%
Social competence	7%	49%
Health status	6%	54%
Work adjustment	6%	52%

The absolute problem densities show the severity of the problems within each domain. The severity is represented by the average absolute problem density percentages, which show the percentage of questions in each domain for which the respondents answered “yes” (Table 1). Each question on the DUSI asks about one specific problem (e.g., for the peer relationships domain, one question asks “Did any of your friends cheat on school tests?”). The average of 71% for the peer relationships domain means that 71% of the questions regarding problems in the peer relationships domain were affirmed by respondents.

As seen in Table 1, higher relative problem densities were generally related to higher absolute problem densities. However, neither the relative nor the absolute problem densities had a wide range: relative problem density scores ranged from 6% to 15% and absolute problem density scores ranged from 49% for social competence to 71% for peer relationships. In other words, no single domain caused the majority of difficulties for

street youth; rather, there was a wide range of difficulties and consequences that these individuals faced. Thus, the best interpretation of the DUSI results in Table 1 is that the respondents experienced severe problems in multiple domains.

Although the DUSI provided a summary and overview of some important dimensions relevant to individual functioning, it had a limited number of questions in each domain. Thus, we gathered additional information on several domains by using other measures (discussed in the Method section). This allowed us to present a more complete picture of the lives of the street youth in Winnipeg.

3.2 Problems in School

As presented earlier, 80% of males and 71% of females did not graduate from high school or earn an equivalent certificate. This high rate of leaving school was also reported in a previous Winnipeg street youth report (Higgitt et al., 2003), where 11 of the 12 youth interviewed had dropped out or been expelled from school. It was not clear in the present survey how recently these youths had been in school, but almost all of them (97%) reported at least one problem in school. The number of problems reported by each respondent ranged from 0 to 20, and the average number of problems reported was 13. Table 2 shows the percentage of respondents who reported each of the 20 school problems. For every problem except feeling in danger at school, more than half of all respondents reported experiencing the problem. Overall, males and females reported problems at similar (fairly high) rates, but they differed significantly on two problems: being suspended from school (83% of males, 55% of females) and having different friends this year as compared to last year (48% of males, 67% of females).

Over 80% of both males and females showed significant lack of interest in school activities. They were often absent, skipped class or were late. When in class they reported being bored, often sleepy and had difficulty concentrating. Most of them disliked school and did not like doing the work. Many reported that alcohol or other drugs interfered with their ability to complete their schoolwork. This is consistent with the high number (59%) who reported failing a grade.

Although many of these problems are relatively minor by themselves (e.g., many students skip a class here or there, or are late for school), these youth are telling us that they had a number of problems at school. Many of the items that they routinely endorsed were not common, such as being suspended, failing a grade or falling asleep in class. It is likely that these findings are related to the wide range of other problems that these individuals reported (data to be presented shortly), including the early age at which they began to use alcohol and other drugs, their mental health issues, and abuse that may have happened at an early age.

Table 2
Percentage of Respondents Who Reported School Problems, by Gender

Problem in school	Males	Females	Total
Cut school more than two days	83	87	85
Late for class	87	82	85
Bored in school	82	85	83
Had trouble concentrating in school or when studying	85	80	83
Absent from school	78	85	81
Felt sleepy in class	81	79	80
Did not do school assignments	73	80	76
Disliked school	78	69	75
Missed or been late to school because of alcohol or drugs	71	75	73
Suspended from school	83	55 *	71
Thought seriously about quitting school	72	69	71
Alcohol or drugs interfered with homework or school assignments	64	61	62
Felt unwelcome in school clubs or extracurricular activities	62	57	60
Failed a grade in school	60	58	59
Grades in school were worse than they used to be	58	57	58
Grades were below average	59	54	57
Had trouble at school because of alcohol or drugs	63	48	57
Had different friends at school this year than you did last year	48	67 *	56
Felt irritable and upset when in school	57	55	56
Felt in danger at school	32	23	28

*Male and female percentages significantly different.

3.3 Mental Health Status

In the present study, mental health status was evaluated in the interview using the MINI. The MINI asked about various diagnostic criteria related to a wide range of mental illnesses. We do not assume that a psychiatrist would necessarily agree with a diagnosis based on the MINI results in every case, but the results do provide good evidence, based on known diagnostic criteria, of the presence of a mental illness.

In addition to the mental health status information from the interview, the questionnaire included questions on topics related to mental illness, such as family history of mental illness and the effect of mental illness on daily activities.

3.3.1 Mental Illness Diagnoses and Symptoms

At the beginning of the interview, the respondents were asked a series of questions, including whether they had ever been *diagnosed* with an emotional or mental illness. In this self-report of diagnoses, 51% of the males and 44% of the females reported a mental illness diagnosis. Table 3 shows the specific diagnoses that were reported by these individuals. The most common diagnosis was for major depression, with over 1 in 5 respondents reporting this. Attention Deficit Hyperactivity Disorder (ADHD) and anxiety disorders were the next most frequent diagnoses, with 14% and 9% of total respondents reporting each of these, respectively.

Table 3
Percentage of Respondents Who Self-Reported Mental Illness Diagnoses, by Gender

Mental illness	Males	Females	Total
Major depression	19	26	22
Attention deficit/hyperactivity disorder	18	10	14
Anxiety disorders	8	11	9
Manic depression	9	5	7
Psychosis	4	3	4
Posttraumatic stress disorder	3	2	2
Schizophrenia	3	2	2
Multiple/split personality disorder ^a	3	2	2
Oppositional defiance disorder	0	3	1
Dysthymic disorder	1	2	1
Obsessive-compulsive disorder	0	3	1
Other	15	5	11

^aThis was the name given by the respondents; however, in 1994, the American Psychiatric Association officially changed the name of Multiple Personality Disorder to Dissociative Identity Disorder.

During the interview, the respondents were asked several questions via the MINI about the *symptoms* of mental illnesses. Responses that met the diagnostic criteria for various illnesses were tracked. Almost all of the males (99%) and most of the females (94%)

reported symptoms indicative of at least one mental illness. Table 4 shows the percentages of respondents reporting symptoms of 18 different mental illnesses.

Table 4
Percentage of Respondents Who Self-Reported Mental Illness Symptoms, by Gender

Mental illness	Males	Females	Total
Suicidality	58	77 *	66
Psychotic disorders, lifetime	73	58	66
Major depressive episode	44	56	49
Antisocial personality disorder, lifetime	51	44	48
Alcohol dependence	40	52	45
Methamphetamine dependence	46	37	42
Psychotic disorders, current	43	27	36
Manic episode	29	42	35
Generalized anxiety disorder, current	33	31	32
Hypomanic episode	40	19 *	31
Agoraphobia (without panic disorder)	40	16 *	30
Obsessive-compulsive disorder	15	16	15
Posttraumatic stress disorder	10	21	15
Social phobia	15	13	14
Mood disorder with psychotic features	9	10	9
Panic disorder	3	15 *	8
Bulimia nervosa	4	6	5
Anorexia nervosa	0	0	0

*Male and female percentages significantly different.

When compared to Table 3, the rates in Table 4 are higher in every corresponding category. For example, the total percentage of respondents with major depression more than doubled, from 22% self-reporting a diagnosis, to 49% reporting symptoms that would likely result in a clinical assessment of major depression. Likewise, the percentage reporting a diagnosis of manic depression was 7%, while the percentage reporting symptoms consistent with a manic episode was five times higher, at 35%. PTSD jumped from 2% (self-reported diagnosis) to 15% (DSM-IV based diagnosis), and obsessive-compulsive disorder jumped from 1% to 16%.

Overall, the high rates of mental illness symptoms reported in Table 4 indicate the severity and commonality of mental illness issues for street youth. There is a need for psychiatric services to be available and accessible to this population—a need that may or may not be evident to the youth themselves. The youth may be unable to access current

services for one reason or another, or they may be unaware or lack knowledge of their mental illnesses, which may prevent them from seeking a mental health professional for a diagnosis. This may be part of the reason for the notable increases from the self-report of diagnoses (Table 3) to the self-report of symptoms related to various mental illnesses (Table 4). That is, the youth may have been aware of their symptoms, but had not visited a mental health professional in order to have a “label” attached to those symptoms. Another reason for the differences between the two tables may be that the respondents were reluctant to provide information to the interviewers regarding mental illness diagnoses. The respondents may have been more willing or able to admit symptoms that were not identified with a particular diagnostic label.

Table 4 also identifies some gender differences: females were more likely to report feeling suicidal and to meet the criteria for panic disorder. Males were more likely to have experienced hypomanic episodes⁵ and to meet the criteria for agoraphobia.

3.3.2 Suicide

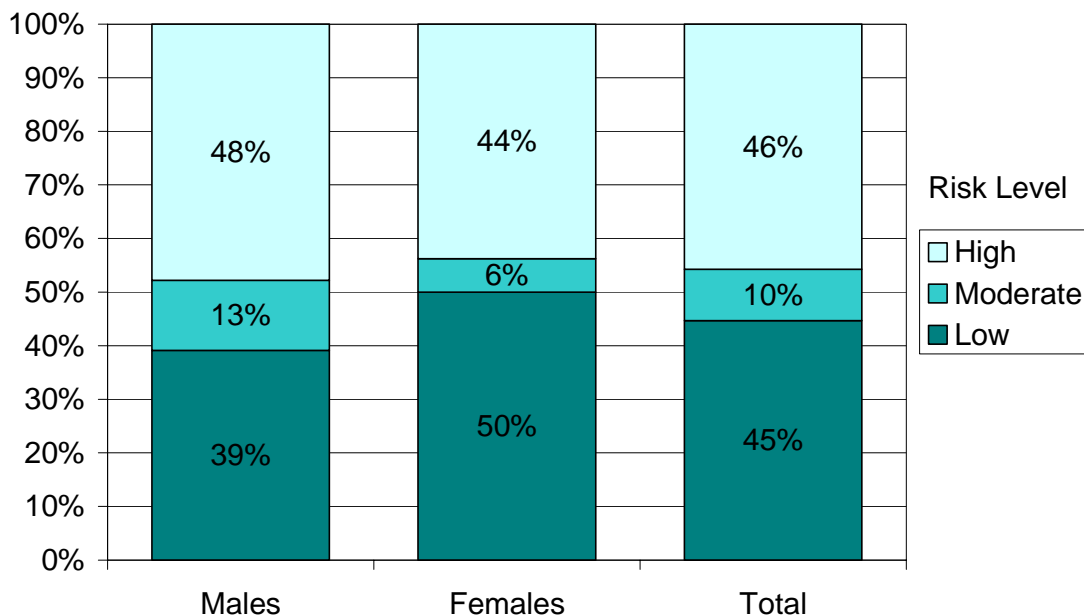
Suicide was the leading cause of death in a recent study of Montreal street youth (Roy et al., 2004), and suicidality is an issue that affects an extremely high number of Winnipeg street youth (*see* Table 4). Although not a mental illness in and of itself, suicide is a serious potential consequence of having a mental illness, as well as a likely consequence of many of the other difficulties faced by street youth. For example, suicidal behaviour is related to depression, low self-esteem, anxiety disorders, substance use, antisocial behaviours, physical and sexual abuse, family discord, and poor academic achievement (Evans, Hawton, & Rodham, 2004). All of these issues were reported by many of the respondents in our study.

As shown earlier in Table 4, 58% of males and 77% of females in our study have had an impulse toward suicide at some time in their lives. Thirty-nine percent of males and 52% of the females had these suicidal impulses *in the month prior to the survey*. Significantly more females had *attempted* suicide in the past month: 1% of males and 10% of females had attempted suicide during that time. Overall, 49% of male and 65% of female street youth had attempted suicide at some point in their lives. Of course we do not have information on the percentages of street youth who *completed* suicide in the past month or in the past years. We do know, as mentioned above, that suicide was the most common cause of death in the longitudinal study of street youth in Montreal (Roy et al., 2004). Further, the rates presented here for attempting suicide are extremely high compared to rates for similar-aged peers in the general population of Manitoba. In Manitoba between the years 1997 and 2001, less than 0.1% of males and less than 0.2% of females aged 15-24 years attempted suicide *each year* (with even lower suicide completion rates: 0.02% of males and less than 0.01% of females in this age range completed suicide each year; Martens et al., 2004). Thus, street youth as a group are at much higher risk for suicide than are similar aged youth not living on the streets. In fact, 48% of the male street youth and 44% of the female street youth at risk for suicide reached a level of *high* risk for

⁵ A hypomanic episode is not a disorder in itself, but is a description of part of bipolar disorder that is characterized by a period of elevated, expansive or irritable mood.

suicide (Figure 1). High risk included (a) having a suicide plan, (b) attempting suicide in the past month, or (c) thinking about suicide, along with a lifetime suicide attempt.⁶

Figure 1. Risk Level of Respondents at Risk for Suicide, by Gender



3.3.3 Depression

Major depression was the number one diagnosis self-identified by survey respondents, with 19% of males and 26% of females reporting the diagnosis (*see* Table 3). Further, based on self-identified symptoms, a major depressive episode was the third most common mental illness, after suicidality and lifetime psychotic disorders; 44% of males and 56% of females reported symptoms of major depression (*see* Table 4). These rates reported by street youth are higher than the rates for similar aged peers not living on the streets. For the population of Manitoba, roughly 9% of males and 20% of females aged 15 to 24 years had been treated for depression between the fiscal years 1997/98 and 2001/02 (Martens et al., 2004). Of course, many individuals with symptoms of depression likely have never received treatment, so these population rates may be an underestimate.

Of the respondents with a current major depressive episode, 40% of males and 49% of females reported symptoms consistent with recurrent episodes of major depression, and 57% of males and 71% of females reported symptoms consistent with melancholic

⁶ Respondents who were at high risk for suicide were identified to the staff at the resource centers and appropriate steps were taken to ensure their safety.

features of the major depressive episode. Melancholic features include the loss of interest in pleasure and experiencing worse depression in the morning. Of the respondents who did *not* have a current major depressive episode, 7% of males and 11% of females reported symptoms of dysthymia. Dysthymia is a chronic sadness or general depressed feeling lasting two consecutive years or more. Thus, for some respondents, the depressive symptoms are not transitory, but rather reflect the enduring nature of the situations they face.

On all of the depression measures, there was a consistent pattern in the results: females reported higher rates than males. This is consistent with depression findings in several other reports (e.g., Martens et al., 2004).

3.3.4 Psychoses and Personality Disorders

As mentioned, one of the most common mental illnesses was lifetime psychotic disorders. Two-thirds (66%; *see* Table 4) of respondents reported the symptoms of such disorders, and about one-third (36%) met diagnostic criteria for a *current* psychotic disorder. These are not minor illnesses. Psychotic disorders limit the ability of individuals to get along easily in the world; behavior and speech are disorganized, which creates difficulty in maintaining relationships, keeping gainful employment and participating productively in society. Individuals with psychotic symptoms will hear voices that do not exist, see things that are not visible to others and have intrusive thoughts that interfere with their daily lives.

In addition to symptoms of psychotic disorders, many respondents reported symptoms of personality disorders, which are also severe illnesses that make daily life difficult. The specific disorder that was most frequently identified was anti-social personality disorder, with just over half (51%) of males and 44% of females meeting diagnostic criteria for this illness (*see* Table 4). People with anti-social personality disorder tend not to trust others, and in turn, deceive, manipulate, or exploit others. As well, anti-social personality disorder causes individuals to have difficulty feeling empathy; rarely show remorse; and be irritable, aggressive, impulsive, and irresponsible. Thus, these individuals do not relate well with others. Anti-social persons are often contemptuous of traditional values and social norms; they frequently get into trouble because of repeated fights and assaults, have substance abuse problems and are involved in criminal activity. The family backgrounds of these individuals are usually very troubled, including sexual abuse and parental neglect (Hare, 1998).

3.3.5 Comorbidity

Not only were there high rates of symptoms of individual mental illnesses, the vast majority of respondents reported symptoms of more than one diagnosable mental illness: 91% of male street youth and 87% of female street youth had symptoms of two or more different mental illnesses. This is many times the rate found in the general population: 10.7% of the Manitoba population was treated for more than one mental illness during the fiscal years from 1997/98 to 2001/02 (Martens et al., 2004). Again, because this rate

is based on treatment occurrences, the rate of illness in the population is likely higher, as not all persons will seek treatment for their mental illnesses.

Male street youth reported symptoms linked to 4.6 different mental illnesses on average, and female street youth reported symptoms linked to 4.8 different mental illnesses on average. Respondents with symptoms of the most common mental illnesses (e.g., suicidality; psychotic disorders, lifetime; and major depressive episode; *see* Table 4) tended to report symptoms of fewer mental illnesses on average. At the same time, respondents with symptoms of some of the less common mental illnesses (e.g., social phobia, mood disorder with psychotic features, and panic disorder) tended to report symptoms related to the highest numbers of other illnesses (results not shown elsewhere).

3.3.6 Family History of Mental Illness

In addition to signs and symptoms of their own mental illnesses, we asked the respondents about the presence of mental illness in their families. Thirty-four percent of males and 48% of females reported a familial history of mental illness. We also asked if the respondents knew of family members with prescriptions for medications to treat common forms of mental illness. Fifty-six percent of males and significantly more females (75%) knew of family members who had been prescribed anti-depressants, and 45% of males and 56% of females knew of anti-anxiety prescriptions. Clearly, respondents' perceptions of their families include the view that many of their close relatives are dealing with mental health issues.

3.3.7 Mental Illness and Daily Activities

Given the high rates and severity of mental illness symptoms reported by the street youth in this report, it may not be surprising that these mental health issues interfered with their daily lives: 62% of males and 57% of females reported accomplishing less than they would have liked in the past 4 weeks as a result of emotional problems. Likewise, 59% of males and 51% of females reported not doing work or other activities as carefully as usual in the past 4 weeks as a result of emotional problems.

3.4 Peer Influence

In addition to problems in school and mental health issues, many of the respondents told us about peers' problems, which were identified from responses to the DUSI (*see* Table 1). The problems assessed as part of the peer relationships domain included whether the respondents' friends committed crimes (e.g., "Have your friends stolen anything from a store or damaged property on purpose?") and whether the friends were involved with alcohol and other drugs (e.g., "Did any of your friends regularly use alcohol or drugs?"). Because the friends of the street youth respondents were most likely other street youth, it should not be surprising that both the respondents and their friends tended to deal with the same issues.

3.4.1 Criminal Activity

As identified in the Introduction, one type of activity that is common among street youth is criminal activity. We asked the respondents about the types of crimes that they and their friends had been involved in during the previous year and found heavy involvement in several types of crimes (Table 5). The rates ranged from a high of over 80% of friends involved in theft to a low of 41% of friends exploited by the sex trade. All of the rates reported for *friends* were roughly 20% higher than the rates that the respondents reported for themselves. We would expect these higher rates for friends, as the responses likely reflect the activities of friends who were most likely to be involved in criminal activities. Further, respondents may have had many of the same friends and the criminal activity of one friend who was most likely to be involved in crime may have been reported by more than one respondent.

Table 5
Respondents' Reports of Their Friends' and Their Own Criminal Involvement, by Gender (%)

Crime	Friends			Respondents		
	Males	Females	Total	Males	Females	Total
Theft	81	82	81	68	61	65
Drug trafficking	79	76	78	55	49	53
Assault	74	68	71	54	51	53
Vandalism	69	68	69	46	53	49
Fraud	53	52	52	33	25	30
Identity theft	42	51	46	20	22	21
Sex trade	46	33	41	5	19 *	11

*Male and female percentages significantly different.

In general, the percentages of males involved in crime were slightly higher than the percentages of females. One exception was for identity theft, where females had slightly higher rates in the “Friends” category. A second exception was the statistically significant difference between male and female respondents regarding sex trade exploitation: female respondents (19%) were more likely to be exploited by the sex trade than were male respondents (5%). These results for females are very similar to those reported in an earlier Winnipeg study, which showed that 20% of female street youth faced sexual exploitation (Beaudoin et al., 2005). Sex trade exploitation will be discussed further in an upcoming section.

3.4.2 Substance Use

Substance use among street youth is extremely common (e.g., Kelly et al., 2003), and our survey results reinforce this fact. Overall, 96% of males' friends and 97% of females' friends had used drugs in the past month. Likewise, 97% of male respondents and 97% of female respondents reported using drugs recently themselves. Not only are street youth using drugs, but they are also using them quite frequently. Table 6 shows that 83% of males' friends and 84% of females' friends used drugs two or more times a week. Sixty-nine percent of males and 60% of females reported using drugs this often themselves.

Table 6
Percentage of Respondents and Their Friends Who Used Substances Two or More Times a Week, by Gender

Substance	Friends			Respondents		
	Males	Females	Total	Males	Females	Total
Drugs	83	84	83	69	60	65
Alcohol	57	62	59	33	31	32

Overall, 96% of the male respondents' friends and 98% of the female respondents' friends had used alcohol in the past month. Recent alcohol use was also common among the respondents themselves: 91% of males and 98% of females reported using alcohol in the past year. However, as seen in Table 6, respondents reported less frequent alcohol use for themselves than for their friends.

The differences between respondents and their friends shown in Table 6 were most likely due to respondents reporting the activities of friends who displayed the most frequent use of alcohol and other drugs. As well, respondents may have had mutual friends who were frequent drug users, and several respondents may have reported the activities of the same mutual friends.

3.5 Substance Use

As briefly introduced in the previous section, substance use is extremely common among street youth. Previous literature has identified that street youth will use a variety of substances to escape from the difficulties of their current situations. Ironically, substance use may also contribute to many of the difficulties, for example, through conflict at home, resulting in expulsion or a mutual decision to leave, through conflict with the legal system, or through potential exacerbation of a mental illness. As well, frequent use of drugs during early adolescence may affect the ability to pay attention and learn in school,

which may make it difficult to do well in school; earlier sections showed the respondents' school difficulties (*see* Table 2) and their low levels of education.

3.5.1 Alcohol and Tobacco Use

Information regarding respondents' alcohol use was presented in the previous section on peer substance use. That section showed that almost all respondents (91% of males, 98% of females) had used alcohol and approximately one-third (33% of males, 31% of females) used it as often as twice a week or more.

Tobacco also ranked as one of the most frequently used drugs: 83% of males and 87% of females considered themselves regular smokers. These rates are about three to four times the rate for similar-aged youth not living on the street: 24% of both male and female Manitobans aged 15 to 24 years of age reported being current smokers in a recent Health Canada survey (Health Canada, 2005). The male respondents in our study were quite heavy smokers: 47% smoked a pack a day or more. Only 15% of the female street youth smoked this heavily. Further, three-quarters (75%) of non-smoking male street youth were previous smokers, and almost half (43%) of the non-smoking female street youth were previous smokers.

3.5.2 Frequency and Variety of Drug Use

Ninety-seven percent of street youth reported using at least one drug other than alcohol or tobacco in the past year. Table 7 provides information on both the frequency and variety of drug use by street youth in the past year. The first column shows the percentage of respondents who reported never using the drug listed. Lower percentages in this column mean higher percentages of respondents had used these drugs at some time in the past 12 months. For example, overall, 95% of males and 93% of females had used cannabis in the past year. The last column shows the percentage of respondents who used the listed drugs daily or almost daily. For example, 61% of males and 51% of females had used cannabis daily or almost daily.

The three illicit drugs that the highest percentage of both male and female respondents reported using in the past year were cannabis, magic mushrooms, and methamphetamine. The three illicit drugs most likely to be used *daily* were cannabis, methamphetamine, and stimulants for both males and females. As mentioned earlier, almost all of the respondents used cannabis, with over half using it daily or almost daily. If we define "regular use" as once a week or more, methamphetamine and stimulants were used regularly by about 30% and 20% of the respondents, respectively. Males and females used all the drugs except hallucinogens (LSD/Acid) at the same rate; males used hallucinogens more often than females did.

3.5.3 Age at First Alcohol and Cannabis Use

Early onset of alcohol and cannabis use is a strong predictor of problems with drugs later in life. Nationally, 76.8% of youth had used alcohol by the time they were 17 years old

Table 7
Frequency of Drug Use, by Gender and Drug (%)

Drug	Frequency of use				
	Never	Less than once a month	About once a month	About once a week	Daily or almost daily
Males					
All drugs	3	8	8	14	69
Cannabis (weed, hash, oil)	5	11	9	14	61
Magic mushrooms	36	45	16	0	3
Methamphetamine (ice, crystal meth)	45	14	7	16	18
Hallucinogens (LSD/acid)	53	32	11	0	4 *
Stimulants (speed, amphetamine)	59	13	0	16	12
Cocaine	61	26	9	3	1
Crack	61	28	8	3	1
Ecstasy	64	28	5	0	3
Other people's prescriptions	69	19	5	4	3
OxyContin	82	11	4	4	0
Other club drugs (GHB, ketamine)	84	10	5	0	1
Heroin	85	12	1	0	1
Salvia	88	5	4	1	1
Inhalants	92	7	0	1	0
Females					
All drugs	3	13	8	16	60
Cannabis (weed, hash, oil)	7	13	13	16	51
Methamphetamine (ice, crystal meth)	48	19	5	7	21
Magic mushrooms	50	33	17	0	0
Crack	57	25	8	8	2
Cocaine	62	27	12	0	0
Stimulants (speed, amphetamine)	65	15	5	3	12
Other people's prescriptions	66	17	7	9	2
Ecstasy	71	20	7	2	0
OxyContin	81	12	2	5	0
Hallucinogens (LSD/acid)	82	9	7	2	0 *
Other club drugs (GHB, ketamine)	83	14	2	2	0
Heroin	90	2	2	5	2
Salvia	95	5	0	0	0
Inhalants	98	2	0	0	0

*Male and female percentages significantly different.

(Adlaf, Begin, & Sawka, 2005). In our street youth sample, 96% of males and 97% of females had used alcohol by the time they were 17 years old. For cannabis, national statistics show that 39.3% of youth had used cannabis by the time they were 17 years old (Adlaf et al., 2005). For street youth, the percentages were similar to alcohol use: 96% of males and 97% of females had used cannabis by the time they were 17 years old.

As the previous statistics show, street youth tend to start using alcohol and other drugs at younger ages than youth who do not live on the streets. In fact, half (52%) of all respondents in our study started using either alcohol or cannabis by 13 years of age, with 31% of respondents using *both* alcohol and cannabis before 13 years. In some of the analyses that follow, we separate the results for those respondents who started using either drug before 13 years of age from those who started using both drugs at 13 years of age or later.

3.5.4 Substance Dependence

The questionnaire contained three sets of questions that measured substance dependency: the Leeds Dependence Questionnaire measured dependence on alcohol and other drugs generally, the AUDIT measured dependence on alcohol, and the CAGE measured dependence on cannabis. Table 8 shows the average scores obtained on each of these measures for street youth who started using alcohol or cannabis before 13 years of age and those who started using both drugs at 13 years or later. Notice that in every case, street youth who started using alcohol or cannabis before 13 years of age had higher average scores on the three dependency measures than street youth who started using at 13 years of age or later. The difference reached statistical significance for the total scores on the AUDIT. In general, these results support the idea that earlier initiation of use is linked to higher rates of dependency.

Table 8
**Average Score for Dependency, by Gender and Age at First Alcohol/
Cannabis Use**

Dependency	Age at First Alcohol/Cannabis Use					
	Before 13 Years			13 Years or Later		
	Males	Females	Total	Males	Females	Total
Alcohol and Other Drugs (Leeds, Range: 0-30)	13.4	11.0	12.5	11.1	9.2	10.1
Alcohol (AUDIT, Range: 0-40)	15.2	18.3	16.4 *	11.8	11.4	11.6 *
Cannabis (CAGE, Range: 0-12)	5.6	4.8	5.3	4.4	4.6	4.5

*Total percentages significantly different.

For the alcohol dependency measure (the AUDIT), any scores of 8 or more indicated hazardous alcohol use. Because the average scores shown in Table 8 were higher than 8, this suggested that a high percentage of street youth in our study were participating in hazardous alcohol use. Table 9 shows that this was indeed the case. For example, 87% of 15- to 17-year-old street youth who started using alcohol before 13 years of age scored in the range of hazardous alcohol use. Table 9 also shows that the rates found for street youth are much higher than rates for same-age peers from all of Canada. In Canada, the highest rates of hazardous alcohol use occurred for persons between the ages of 15 and 24 (Adlaf et al., 2005). Street youth in these age categories, likely excluded from the national study, have even higher rates.

Table 9
Percentage of Respondents Who Scored Above the Cut-off for Hazardous Alcohol Use, by Age Group and Age at First Alcohol Use, with National Comparison

Age Group	Street Youth		Total	Canada
	Age at First Alcohol Use (Years)			
	<13	13+		
15-17 Years	87	64	77	31
18-19 Years	82	67	72	45
20-24 Years ^a	76	56	64	34

^aThis group consists of street youth aged 20-25 years and Canadians aged 20-24 years.

For the cannabis dependency measure used in the current study (the CAGE), any scores of 2 or more indicated potential dependency. Because the average scores shown in Table 8 were higher than 2, this suggested that a high percentage of street youth were dependent on cannabis. Indeed, 93% of the street youth who started using cannabis before age 13 had CAGE scores of 2 or greater, and 84% of those who began using cannabis at 13 years or later had CAGE scores of 2 or greater, meaning that they were likely cannabis dependent.

3.5.5 Injection Drug Use

Previous studies have suggested that injection drug use is prevalent in street youth. In the present study just over one-third of respondents had injected drugs in their lifetime: 37% of males and 35% of females. Roughly one-quarter of survey respondents had injected drugs in the past year: 20% of males and 28% of females. Of these past-year users, 33% of males and 29% of females had not injected drugs in the past month, while 20% of male and 24% of female past-year users had injected every day in the past month.

Overall rates and frequency of injection were similar between males and females, as was the age range at first injection for injection drug users: from 13 years or younger to 21 years or older. Half of both male and female injection drug users had first injected by the age of 17.5 years.

Differences existed between lifetime male and female injection drug users in terms of harmful injection practices. As shown in Table 10, females were more likely to reuse needles used by themselves or by others, to reuse equipment used by others, and to give their own used needles to others. Although females tended to engage in more harmful behaviours, the survey used in the current study did not help to explain why this was the case.

Table 10
Percentage of Injection Drug Users Who Reported Harmful Injection Practices, by Gender

Harmful practice	Males	Females	Total
Reused own needles	27	47	36
Reused someone else's needle	15	42 *	26
Reused someone else's cooker, rinse water, or cotton	8	32 *	18
Gave away own used needle	4	16	9

*Male and female percentages significantly different.

Table 11
People With Whom, and Places Where Injection Drug Users Injected Drugs, by Gender (%)

People and places	Males	Females	Total
People			
Close friends	61	63	62
People not known well	26	13	21
No one	9	13	10
Others	4	13	8
Places			
Friend's place	32	55	42
On the street	32	55	42
Own house/apartment	25	35	29
Empty house	14	25	19
Rooming/boarding house	14	25	19
Vehicle	4	25 *	13
Family member's place	4	20	10
Hotel	4	15	8
Shooting gallery	7	5	6
Hostel/shelter	0	10	4
Recovery house/ treatment centre	0	10	4
Other	21	20	21

*Male and female percentages significantly different.

Table 11 describes the people with whom and the places where injection drug users injected drugs. As can be seen, close friends were the most likely companions for both males and females when injecting drugs. Friends' houses or apartments ranked first, along with the street, for the most common location. The street may be one of the locations in which the injection drug users injected drugs while with people they did not know very well (second most common companions). The only significant difference between males and females was that females were more likely to inject drugs while in a vehicle than were males. One quarter (25%) of

female injection drug users injected in vehicles, compared with only 4% of males injection drug users. Although the numbers are small, females exploited by the sex trade tended to be more likely to inject in vehicles.

Respondents who reported ever injecting drugs injected a wide variety of drugs. Table 12 shows that methamphetamine was the drug injected “most frequently” by 24% of male injection drug users and a significantly higher percentage (63%) of the female injection drug users. As well, it was the drug injected by the highest percentage of both genders: 36% of male and 45% of female injection drug users reported using it in the past 6 months. Other preferred injection drugs were cocaine and heroin for both genders. Thirty percent of female injection drug users also used morphine in the past 6 months, which was significantly higher than the percentage of male injection drug users who used this drug. Female injection drug users also tended to inject more different drugs than male injection drug users: males injected 1.5 different drugs on average and females injected 2.2 different drugs on average in the past 6 months.

Table 12 reminds us that methamphetamine is one of the most preferred drugs among street youth: methamphetamine was the most frequently injected drug by both males and females. Earlier in the report, Table 7 showed that methamphetamine was second only to cannabis when considering the percentage of street youth using in the past year and the percentage using daily. Thus, we will explore use of this drug in more detail.

Table 12
Drugs Injected Most Frequently and Injected in the Past 6 Months by Injection Drug Users, by Gender (%)

Drug	Drug injected most frequently			Drugs injected in past 6 months ^a		
	Males	Females	Total	Males	Females	Total
Methamphetamine (crystal meth)	24	63 *	41	36	45	40
Cocaine (uptown)	24	13	19	18	35	25
Heroin (horse, junk, smack)	19	19	19	18	20	19
Morphine	14	6	11	7	30 *	17
Other	10	0	5	14	5	10
Amphetamines (speed, uppers)	10	0	5	11	5	8
Crack/rock cocaine				7	20	13
OxyContin				7	20	13
Heroin and cocaine (speedball)				7	10	8
Dilaudid				11	5	8
Heroin mixed with another drug				4	5	4
PCP (angel dust)				7	0	4
Methadone				0	5	2
Barbiturates (downers)				0	5	2
Ritalin alone				0	5	2

*Male and female percentages significantly different.

^aThe percentages in these columns do not add to 100% because respondents were allowed to choose more than one drug.

3.6 Methamphetamine Use

This section presents findings that are linked to methamphetamine use, as there is a desire to determine whether methamphetamine use is associated with other specific risk factors. One recent concern expressed by individuals working with street youth in Winnipeg is the potential for problems associated with increasing methamphetamine use. As mentioned in the Introduction, this is a highly addictive substance that has a number of effects that may be highly attractive to street youth (e.g., reduced need for sleep and suppression of appetite). In addition to its functional properties, methamphetamine is relatively inexpensive and the effects are quite long-lasting.

Fifty-four percent of our survey respondents reported using methamphetamine in the past 12 months, and this group was divided into “occasional” and “regular” users for the purposes of this study. Occasional users (22% of total respondents) reported using methamphetamine once a month or less often. Regular users (31% of total respondents) reported using methamphetamine once a week or more often. A third group consisted of street youth who reported never using methamphetamine. In terms of general characteristics, these three groups looked quite similar as there were no statistical differences in gender, age, education, employment, or family background (Table 13).

Table 13
Demographic Characteristics, by Methamphetamine Group (%)

Demographic characteristic	Methamphetamine use			Total
	Never	Occasional	Regular	
Male	55	53	62	57
Under 20 years of age	48	41	38	44
Less than high school education	73	73	83	76
Held job with past year	63	70	64	65
Family background				
Caucasian	55	53	57	55
Metis	19	13	17	17
First Nations	15	23	14	16
Other	11	11	12	12

3.6.1 Mental Health Status of Methamphetamine Users

As presented in the Mental Health Status section earlier, the respondents in this study showed relatively high rates of symptoms of mental illnesses. When we looked at the rates of these symptoms for the three methamphetamine groups, there were no significant differences except for methamphetamine dependence (Table 14). Although no other differences were significant, for more than half of all the mental illnesses examined, the lowest rates belonged to the group of survey respondents who reported *never* using methamphetamine. Further, for only three disorders did the non-user group have the highest rates: suicidality, alcohol dependence, and mood disorders with psychotic features.

Table 14
Percentage of Respondents Who Self-Reported Mental Illness Symptoms, by Methamphetamine Group

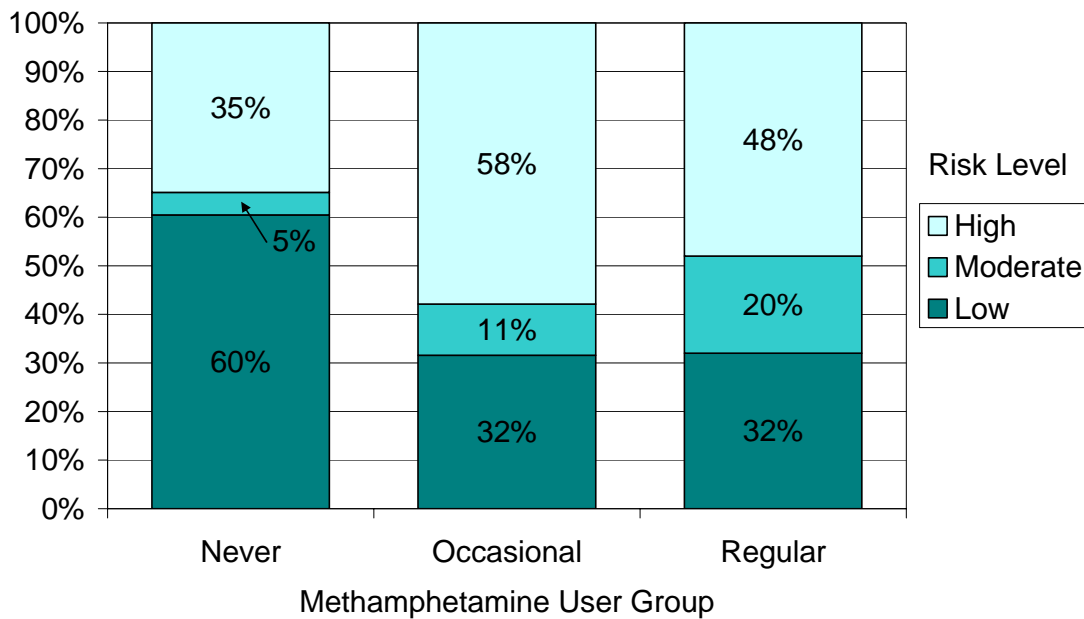
Mental illness	Methamphetamine use			Total ^a
	Never	Occasional	Regular	
Psychotic disorders, lifetime	61	83	60	66
Suicidality	69	63	60	65
Major depressive episode	44	50	52	48
Antisocial personality disorder, lifetime	45	37	55	46
Alcohol dependence	50	40	40	45
Methamphetamine dependence	5	50	93 *	43
Psychotic disorders, current	31	37	43	36
Manic episode	29	33	43	34
Generalized anxiety disorder, current	26	40	33	31
Hypomanic episode	26	37	33	31
Agoraphobia (without panic disorder)	24	40	29	29
Social phobia	13	20	14	15
Obsessive-compulsive disorder	15	7	21	15
Posttraumatic stress disorder	10	27	14	15
Mood disorder with psychotic features	13	3	5	8
Panic disorder	6	10	7	8
Bulimia nervosa	5	3	7	5
Anorexia nervosa	0	0	0	0

*Methamphetamine group percentages significantly different.

^aThe total percentages in this table differ slightly from the total percentages in Table 4 because not all respondents answered every question, creating slight differences in the percentages that were estimated by gender versus by methamphetamine group.

As discussed in the Mental Health Status section earlier, current suicide risk was extremely high in this street youth population, and Table 14 shows that although the non-users of methamphetamine had the highest rate, the risk was high across all three groups. There were no significant differences among these rates, but when we analyzed the *level of risk* for those respondents who were at risk, we did find significant differences: almost twice as many non-users were at low risk for suicide (60%) compared with occasional (32%) and regular (32%) methamphetamine users (Figure 2). For those at risk of suicide, about half of both occasional (58%) and regular (48%) users were at high risk of suicide.

Figure 2. Risk Level of Respondents at Risk for Suicide, by Methamphetamine User Group



One mental illness related to suicide is depression, and depression was one of the mental illnesses experienced most commonly by the street youth in Winnipeg, with 44% of non-users of methamphetamine, 50% of occasional users, and 52% of regular users self-reporting symptoms consistent with a current major depressive episode (*see* Table 14). Of respondents with a current depressive episode, 37% of non-users, 50% of occasional users, and 55% of regular users also reported symptoms consistent with recurrent episodes of major depression, and 56%, 67%, and 68% of non-users, occasional users, and regular users, respectively, reported symptoms consistent with melancholic features of the major depressive episode. Melancholic features include the loss of interest in pleasure and experiencing worse depression in the morning. Of the respondents who did *not* have a current major depressive episode, 3% of non-users, 7% occasional users, and 21% of regular users reported symptoms of dysthymia. Dysthymia is a chronic sadness or general depressed feeling lasting two consecutive years or more.

In all of the depression measures, there was a consistent pattern in the results: the non-users of methamphetamine reported the lowest frequencies of problems, and the occasional and regular users reported similar rates, with the regular users reporting the highest frequencies. This consistency suggests that either street youth who are methamphetamine users are more likely to be depressed, or that depressed street youth are more likely to use methamphetamine. From these data, we cannot determine if methamphetamine use or the depression happened first, or if they were both caused by another event in the youth’s life, such as abuse while growing up.

3.6.2 Substance Use and Dependence in Methamphetamine Users

Use of some drugs can be related to the use of other drugs; thus, we looked at what types of other drugs the methamphetamine users had used in the past 12 months. The three groups of methamphetamine users had statistically similar rates of use for cannabis (weed, hash, oil), magic mushrooms, hallucinogens (LSD/acid), heroin, salvia, and inhalants (Table 15). However, differences in rates for magic mushrooms and hallucinogens did approach the level of statistical significance.

Table 15
Percentage of Respondents Who Used Drugs, by Methamphetamine Group

Drug	Methamphetamine use			Total
	Never	Occasional	Regular	
Cannabis (weed, hash, oil)	92	97	95	94
Magic mushrooms	47	69	66	58
Crack	23	60	54 *	41
Cocaine	23	50	54 *	39
Stimulants (speed, amphetamines)	19	45	61 *	38
Hallucinogens (LSD/acid)	25	41	44	34
Other people's prescriptions	23	48	37 *	33
Ecstasy	8	31	68 *	32
OxyContin	13	13	32 *	19
Other club drugs (GHB, ketamine)	3	17	37 *	17
Heroin	11	14	15	13
Salvia	10	14	5	9
Inhalants	2	10	7	5

*Methamphetamine group percentages significantly different.

Occasional and/or regular methamphetamine users were more likely than non-methamphetamine users to use crack, cocaine, stimulants (speed, amphetamines), other people's prescriptions, ecstasy, OxyContin, and other club drugs (GHB, ketamine). Use of stimulants, ecstasy, OxyContin, and other club drugs was notably higher for regular methamphetamine users compared to occasional users.

We also looked at how many *different* drugs the three methamphetamine groups had used in the past year. Occasional and regular methamphetamine users used significantly more different drugs compared to non-users of methamphetamine: non-users reported using 3.0 drugs on average, occasional users reported using 5.0 drugs on average (not including the methamphetamine), and regular methamphetamine users reported using about 5.5 drugs on average (again, not including the methamphetamine).

A vast majority of survey respondents in all three methamphetamine use categories smoked cannabis in the past 12 months, and a vast majority of respondents screened positive for cannabis abuse or dependence: 85% of non-users of methamphetamine, 93% of occasional users, and 88% of regular users may be abusing or be dependent on cannabis. Further, 62% of non-users of methamphetamine, 70% of occasional methamphetamine users, and 57% of regular methamphetamine users started using cannabis by 13 years of age. These small and non-significant differences among the three groups of methamphetamine users suggest that higher rates of cannabis use are not related to higher rates of methamphetamine use, and vice versa. Rather, all three groups of methamphetamine users had high rates of cannabis use.

Like cannabis, use of alcohol and tobacco is extremely common in all three groups of methamphetamine users. Table 16 shows the similar rates of alcohol use across all three groups: 97% of both methamphetamine non-users and occasional users, and 88% of regular methamphetamine users reported drinking alcohol. Further, rates of hazardous or harmful use, age at first alcohol use, and frequency of heavy drinking did not differ significantly among the three groups. For tobacco use, 80% of methamphetamine non-users, 89% of occasional users, and 90% of regular users considered themselves to be regular smokers.

Table 16
Alcohol Use and Problems, by Methamphetamine Group (%)

Alcohol use and problems	Methamphetamine use			Total
	Never	Occasional	Regular	
Alcohol use	97	97	88	94
Hazardous or harmful alcohol use	68	77	62	68
Alcohol use started by 13 years of age	66	67	64	65
5 or more drinks at least once a week	26	40	20	27
8 or more drinks at least once a week	20	23	12	18

Finally, we present problems specifically related to methamphetamine use. These problems were identified in the structured interviews, which focused on mental health issues and included a section on methamphetamine dependence. Table 17 shows that of the street youth who reported in the interview that they used methamphetamine in the past year, more than half reported each symptom of dependence. The most frequently cited symptom was spending more than 2 hours a day obtaining, using, recovering from, or thinking about methamphetamine. Thus, methamphetamine use is a prominent part of many street youth's lives.

Table 17
Percentage of Methamphetamine Users Who Reported Symptoms of Methamphetamine Dependence, By Gender

Symptom of dependence	Males	Females	Total
Spent more than 2 hours in one day obtaining, using, recovering from, or thinking about Meth	73	59	67
Spent less time working, enjoying hobbies, being with family/friends because of Meth use	66	69	67
Experience withdrawal or used more drugs to prevent withdrawal	57	72	63
Took more Meth than you thought you would	68	56	63
Continued to use Meth even though it caused health or mental problems	59	59	59
Needed to use more Meth to get the same effect	55	47	51
Tried to reduce or stop taking Meth, but failed	55	47	51

To reach the criterion for current methamphetamine dependence as measured by the MINI, respondents needed to report three or more symptoms, and 46% of male methamphetamine users and 37% of female methamphetamine users did so. Thus, for a notable percentage of the street youth surveyed, involvement with methamphetamine appeared to have reached dependent involvement levels with significant negative consequences.

3.6.3 Family and Home Issues of Methamphetamine Users

As will be explored in the next section, Family and Home Environments, one family issue faced by many street youth was that of substance use by parents and guardians. Here, we compare parental substance use in the three groups of methamphetamine users: thirty-two percent of non-users of methamphetamine, 28% of occasional users, and 26% of regular users reported that their parents/guardians had used alcohol two or more times a week (Table 18). Further, 25% of non-users, 31% of occasional users, and 36% of regular users considered their parents or guardians to be *heavy drinkers*. For other drug use, the percentages were lower: 19% of non-users, 17% of occasional users, and 14% of regular users reported that their parents/guardians used other drugs two or more times a week.

In general, there were no large differences in parental substance use between the methamphetamine groups. However, higher percentages of occasional and regular methamphetamine users compared to non-users reported that they did not know how often their parents or guardians used alcohol or other drugs. It is not clear from the study whether this lack of knowledge was due more to the parents being absent or to the methamphetamine-using youth being unaware of their parents'/guardians' behaviours.

Table 18
Frequency of Substance Use by Parents and Guardians of Survey Respondents, by Methamphetamine Group (%)

Frequency	Methamphetamine Use			Total
	Never	Occasional	Regular	
	Alcohol			
Never	19	17	14	17
1-4 times a month	47	34	43	43
2 or more times a week	32	28	26	29
Don't know	2	21	17 *	11
	Other Drugs			
Never	65	47	52	57
1-4 times a month	11	17	10	12
2 or more times a week	19	17	14	17
Don't know	5	20	24 *	14

*Methamphetamine group percentages significantly different.

Another familial issue faced by street youth is that of abuse (which will also be discussed further in the Family and Home Environments section). Many street youth have experienced physical or sexual abuse. Figures 3 and 4 show the percentages of respondents in each methamphetamine group who reported physical and sexual abuse, respectively. The group with the highest percentage of respondents experiencing physical abuse was the occasional use group, and the group with the highest percentage of respondents experiencing sexual abuse was the regular use group. However, the differences were not statistically significant.

Previous studies of street youth have suggested that physical and sexual abuse increase the likelihood of later being exploited by the sex trade. Even though there were no statistically significant differences in abuse for the three methamphetamine user groups, there were differences in sex trade exploitation: in the past year, 5% of non-users, 24% of occasional users, and 12% of regular users reported being exploited by the sex trade. Further analyses regarding sex trade exploitation are presented in a later section.

This concludes the section on methamphetamine use. The remaining sections of the report return to a pattern of presenting results for all street youth, usually categorized by gender rather than methamphetamine group.

Figure 3. Percentage of Respondents Reporting Physical Abuse While Growing Up, by Age and Methamphetamine User Group

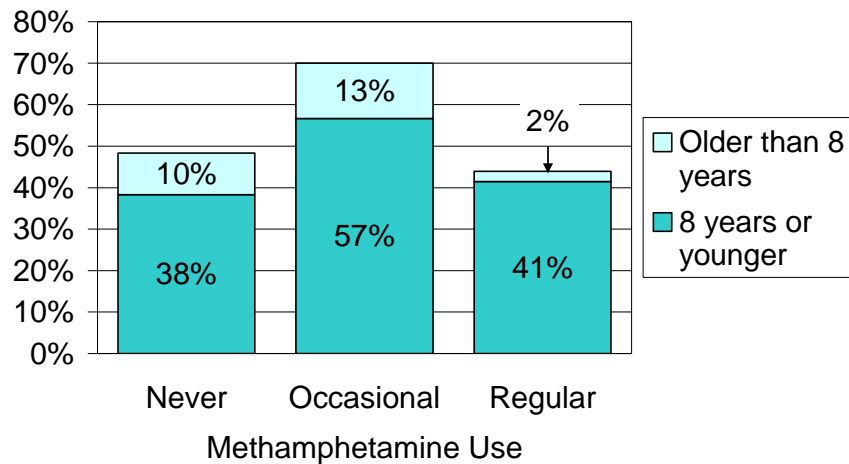
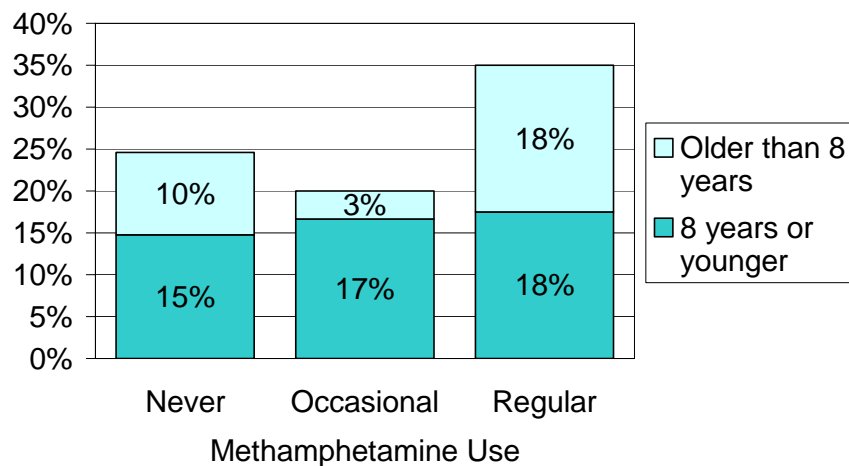


Figure 4. Percentage of Respondents Reporting Sexual Abuse While Growing Up, by Age and Methamphetamine User Group



3.7 Family and Home Environments

Street youth by definition experience residential instability. Such instability likely affects, and *is affected by* other areas of their lives, including their relationships with their families. Many street youth have lived with parents or guardians who display harmful behaviours, such as substance use and child abuse. Approximately one-third of the street youth in this study felt that their homes were not safe places: 27% of males felt this way, as well as a significantly greater percentage (43%) of females. Additionally, many street youth have been exposed to physical violence and may have experienced abuse from

adults other than their parents/guardians. In all, these are situations that the youth may want to escape from or be forced from in hopes of finding better situations elsewhere.

3.7.1 Past and Present Lodging

Overall, 82% of males and 73% of females had lived in a shelter or had no fixed address at some point in their lives, with 24% of males and 18% of females having been in this situation for more than a year. Before leaving home, 71% of males and 89% of females lived with one or both of their biological parents, while the remaining 29% of males and 11% of females lived with assigned guardians. Since leaving home, roughly half of respondents (58% of males, 44% of females) had not returned home, while 15% of males and 26% of females had returned four or more times. Over 40% of respondents had lived in either a group home (44% of males, 47% of females) or a foster home (47% of males, 40% of females). Additionally, 19% of males and 14% of females had moved to Winnipeg within the past 12 months.

Regarding more recent living environments, respondents were asked how often they stayed overnight at certain locations in the past year (Table 19). Only 21% of respondents reported “never” staying at friends’ houses; thus, 79% of respondents had stayed with friends at some point. The next most frequented location was the street, with 30% of respondents staying on the street “often.” Ten percent of respondents reported never staying overnight at any of the locations listed in Table 19. The questionnaire did not provide an open-ended option for this question; thus, the other locations where the youth may have stayed cannot be reported with certainty; possibilities include staying with strangers or living in a rooming house.

Table 19
Frequency with which Respondents Reported Staying in Various Locations in the Past Year (%)

Location	Frequency			
	Never	Rarely	Sometimes	Often
Friend's house	21	22	37	20
Street	47	14	9	30
Parent's house	54	22	12	12
Relative's house	65	20	12	4
Shelter	67	21	8	4

3.7.2 Substance Use by Parents and Guardians

Street youth reported that their parents and guardians used alcohol and other drugs, and alcohol was used more frequently than were other drugs (Table 20). About one-third of respondents (33% of males, 30% of females) reported that their parents or guardians used alcohol two or more times a week. The same percentages (33% of males, 30% of females) described their parents or guardians as *heavy drinkers*. However, not all of the respondents who described their parents/guardians as heavy drinkers also reported that their parents/guardians used alcohol two or more times a week. Rather, 19% of males and 11% of females who described their parents/guardians as heavy drinkers reported that their parents/guardians used alcohol once a week or less often. Another 12% of males and 17% of females who described their parents/guardians as heavy drinkers reported that they did not know how often their parents/guardians drank alcohol.

Table 20
Frequency of Substance Use by Parents and Guardians of Survey
Respondents, by Gender (%)

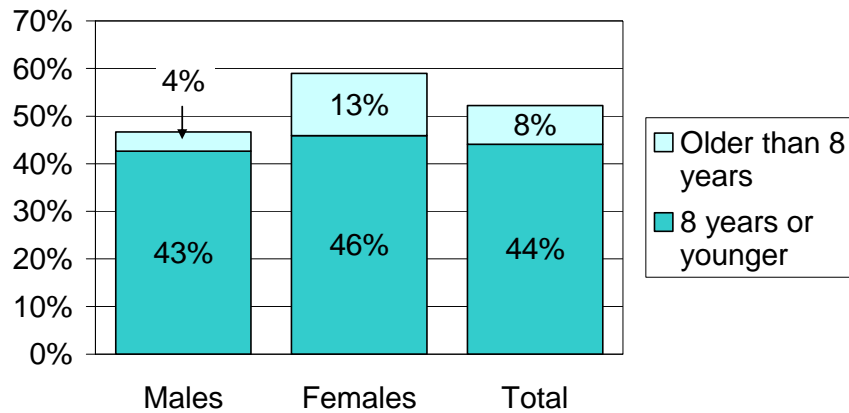
Frequency	Alcohol			Other drugs		
	Males	Females	Total ^a	Males	Females	Total
Never	16	18	17	58	55	57
1-4 times a month	42	41	42	10	15	12
2 or more times a week	33	30	31	16	18	17
Don't know	9	11	10	15	13	14

^aThe total percentages in this column differ slightly from the total percentages for alcohol in Table 18 because not all respondents answered every question, creating slight differences in the percentages that were estimated by gender versus by methamphetamine group.

3.7.3 Abuse

As noted earlier, physical and sexual abuse are often reported by street youth and may be a significant factor in their decision to leave home. Approximately half of all respondents (47% of males, 59% of females) reported being physically abused while they were growing up (Figure 5). This proportion is not only very high, but for a vast majority of physically abused street youth (91% of abused males, 78% of abused females), the first occurrence of abuse was at 8 years or younger.

Figure 5. Percentage of Respondents Reporting Physical Abuse While Growing Up, by Age and Gender



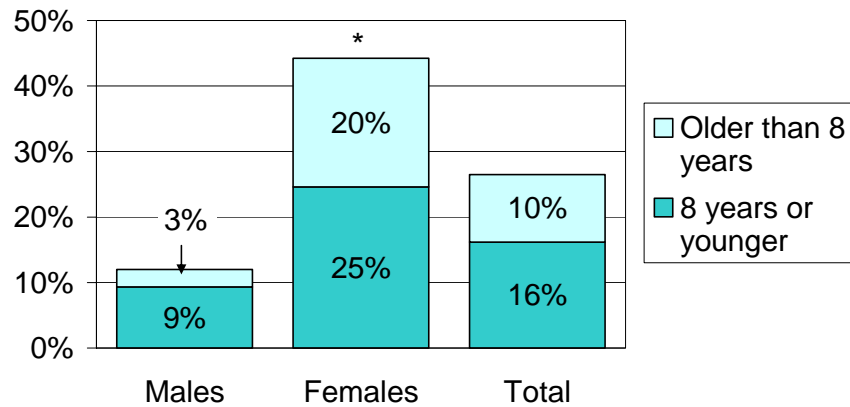
Approximately one-quarter of the street youth in our study reported *sexual* abuse (Figure 6). Significantly more females (45%) than males (12%) reported this type of abuse, and while young males may be less willing to report abuse, the rate for females is quite high. For sexually abused males, most (75%) first experienced the abuse at 8 years or younger, with 100% reporting that the first instance of abuse occurred by age 11. For sexually abused females, 56% reported first abuse at age 8 years or younger, with another 29% reporting that it started at age 9.

3.8 Exploitation by the Sex Trade

Table 5 in an earlier section showed that significantly more female respondents were sexually exploited compared to male respondents. For this section, other demographic characteristics were explored in relation to sex trade exploitation; however, gender was the only demographic characteristic significantly related to exploitation by the sex trade (Table 21).

In addition to females being more likely to be exploited by the sex trade, significantly more female street youth were sexually abused than male street youth, as seen in the previous section (*see* Figure 6). Sexual abuse has been correlated with later sexual exploitation; however, additional analyses (not show here) suggested that it was **not** because females were more likely to be abused that they were more likely to be exploited by the sex trade. Rather, gender alone, regardless of abuse history, was related to sex trade exploitation. In fact, as seen in Table 22, females who were **not** abused (compared to males who were not abused) were more likely to be sexually exploited. There were no statistically significant differences between males and females who *were* abused, although the percentages for females were higher in all cases.

Figure 6. Percentage of Respondents Reporting Sexual Abuse While Growing Up, by Age and Gender



* Male and Female percentages significantly different.

Table 21
Demographic Characteristics, by Sex Trade Exploitation (%)

Demographic characteristic	Sex trade exploitation		Total ^a
	No	Yes	
Male	61	27 *	58
Female	39	73 *	42
Under 20 years of age	41	60	43
Less than high school education	77	73	77
Held job with past year	64	67	64
Family background			
Caucasian	55	47	54
Metis	19	13	18
First Nations	15	27	17
Other	11	13	11

*Sex trade exploitation group percentages significantly different.

^aThe total percentages in this table differ slightly from the total percentages in Table 13 because not all respondents answered every question, creating slight differences in the percentages that were estimated by sex trade exploitation group versus by methamphetamine group.

These results showing no significant relationship between abuse history and sex trade exploitation differ from previous studies that have found a significant relationship between the two. Because our sample size was relatively small, finding statistically significant relationships was difficult. However, because the relationship between gender and sexual exploitation was detectable with even a small sample, it suggests that this was a strong relationship. In contrast, the relationship between abuse history and later sexual exploitation may be weaker. Further, the relationship between sexual abuse and later sexual exploitation may not be direct: Chen and colleagues (2004) found that for females, early sexual abuse (i.e., occurring between 8 and 12 years of age) was related to higher rates of drug use and longer lengths of time spent on the streets, which *in turn* were related to higher rates of exploitation by the sex trade. With our small sample size, it was very difficult to investigate this many factors at the same time. However, we did assess the relationship between sex trade exploitation and substance use.

We explored the relationship between sex trade exploitation and substance use by comparing past year drug use between those who were exploited by the sex trade and those who were not. As already noted, cannabis use was quite high in the total population; therefore, we did not expect to find large differences for that drug. However, as seen in Table 23, higher percentages of sexually exploited street youth used all classes of drugs compared to street youth who were not exploited, and the differences were statistically significant for methamphetamine, crack, stimulants, and other people's prescriptions.

Although sexual exploitation and substance use are related, the dynamics of the relationship are not clear. One often expressed concern about substance use by street youth is that they may be exploited by the sex trade as a means of earning money for drug purchases. Of course, an equally plausible alternative is that because of exploitation by the sex trade, youth will use drugs to escape from the pain created by the lifestyle. That is, drugs may be used to help numb the emotional consequences of sexual exploitation.

Table 22
Percentage of Respondents Exploited by the Sex Trade, by Gender and Abuse History

Abuse	Males	Females	Total
Physical			
No abuse	5	25 *	13
Abuse	5	15	10
Sexual			
No abuse	5	22 *	10
Abuse	11	15	14

*Male and female percentages significantly different.

Table 23
Percentage of Respondents Who Used Drugs, by Sex Trade Exploitation

Drug	Sex Trade Exploitation		Total ^a
	No	Yes	
Cannabis (weed, hash, oil)	94	100	94
Magic mushrooms	56	67	57
Methamphetamine (ice, crystal meth)	50	80 *	53
Crack	38	67 *	42
Cocaine	37	60	39
Stimulants (speed, amphetamines)	35	67 *	38
Hallucinogens (LSD/acid)	34	47	35
Ecstasy	31	47	33
Other people's prescriptions	28	73 *	33
OxyContin	18	27	19
Other club drugs (GHB, ketamine)	15	33	17
Heroin	12	20	13
Salvia	9	13	9
Inhalants	5	7	5

*Sex trade exploitation group percentages significantly different.

^aThe total percentages in this table differ slightly from the total percentages in Table 15 because not all respondents answered every question, creating slight differences in the percentages that were estimated by sex trade exploitation group versus by methamphetamine group.

3.9 Health Status and Use of Health Services

One of the lowest ranking among the problems faced by street youth, *but still a significant issue*, was that of their health status. Earlier, Table 1 showed that 54% of health problem questions were endorsed by the respondents. Analysis of additional questionnaire sections showed that street youth in the current study rated their own health worse than other people living in Winnipeg and Manitoba did. Within the Winnipeg Regional Health Authority, 64.0% of males and 62.0% of females rated their own health status as being either excellent or very good. Within all of Manitoba, 61.1% of males and 60.4% of females rated their health as excellent or very good (Statistics Canada, 2001). As expected, a much smaller percentage of the street youth rated their health this highly. Only 33% of male street youth and 24% of female street youth rated their own health as excellent or very good (Table 24).

Respondents in our survey identified several health-related issues that were consistent with their lower self-rated health compared to the general population. Some of the survey respondents found that their health limited their activities: 42% of males and 41% of females reported that they were limited in their work or other activities in the past month due to their physical health. Roughly one-third of respondents (31% of males, 36% of females) reported that their health limited them during moderate activities, such as moving a table. Higher percentages of respondents reported that they would be limited doing a more strenuous activity (climbing several flights of stairs): 48% of males and 69% of females (a significantly greater percentage than the males) reported that they would be limited in this activity. Further, 48% of males and 60% of females reported that they had accomplished less than they would have liked to in the past month due to their physical health. Table 25 shows the percentages of respondents who identified pain as one limitation that interfered with their normal work during the past month. In general, these street youth appeared to be quite “out of shape” in spite of their youth.

In addition to the above health limitations, the street lifestyle puts these youth at increased risk for serious health problems, including STIs, HIV, and Hep C. Overall, one-quarter of respondents (21% of males, 31% of females) reported having a STI at some time in the past. Sixty-five percent of males and 80% of females had been tested for HIV, but none had tested positive. This is lower than the 7% of injection drug users testing positive in a recent Winnipeg study (Wylie, 2005). Further, 53% of male street youth and 80% of female street youth (a significantly greater percentage than the males) had been tested for Hep C, with 3% of the tested males testing positive and 6% of the tested females testing positive. Again, these rates are notably lower than the 54% reported by Wylie (2005). These low rates of positive status are encouraging. It is also a good sign that so many of these street youth have been tested for HIV and Hep C, because testing is one important step in secondary prevention (i.e., preventing the further spread of, or deterioration from an already acquired disease).

Table 24
Self-rated Health, by Gender (%)

Rating	Males	Females	Total
Excellent	10	8	9
Very good	23	16	20
Good	37	34	35
Fair	25	29	27
Poor	5	13	9

Table 25
Extent to which Pain Interfered with Normal Activities in Past Month, by Gender (%)

Rating	Males	Females	Total
Not at all	27	25	26
A little bit	32	43	36
Moderately	20	8	15
Quite a bit	19	18	19
Extremely	3	7	4

Given the overall poor health status of the survey respondents, receiving health care is important. One aspect of regular health care, having a regular family doctor, was endorsed by 42% of male respondents and 52% of female respondents. Having a regular family doctor meant that the respondents were more likely to go to their doctor for health advice (Table 26). Respondents without a regular family doctor were most likely to get health advice at a walk-in clinic. Overall, respondents' friends were the third most likely source of health advice. This is a concern, given that many of their friends are unlikely to be sources of accurate health information.

One aspect of health care that is relevant and important for street youth is that of substance abuse treatment. Thirty-nine percent of males and 31% of females had been in treatment for alcohol or other drug use. Of these, 74% of both males and females had attended treatment in Manitoba, and 61% of the males and 47% of the females completed the treatment. However, substance abuse issues continue to be a concern for many of the respondents.

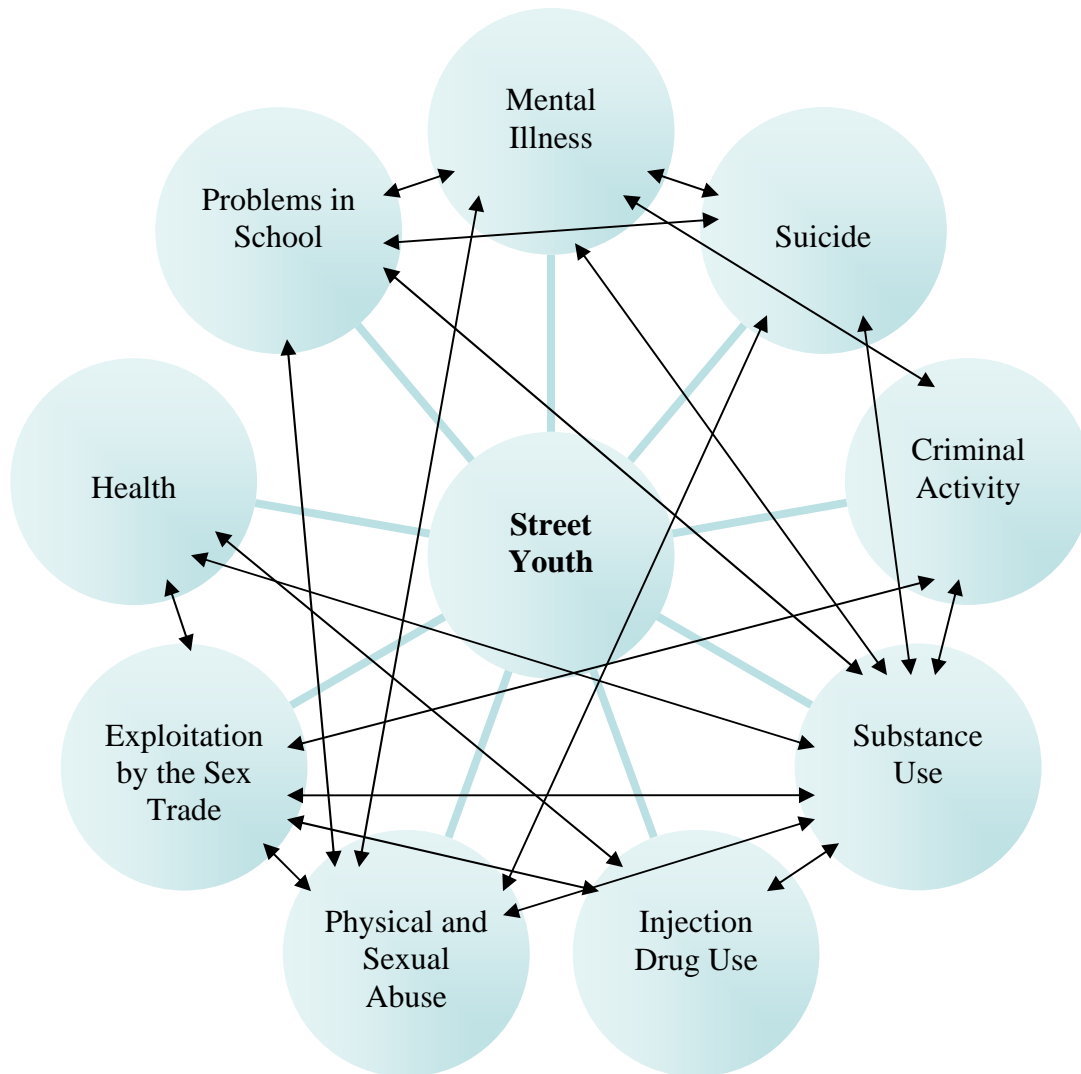
Table 26
Sources of Health Advice Reported by Respondents, by Availability of Family Doctor (%)

Source	Has Doctor	No Doctor	Total
Walk-in clinic	17	37 *	28
Doctor	36	6 *	20
Friends	15	15	15
Family	12	7	10
Nowhere	5	10	8
Hospital	2	6	4
Nurse	3	3	3
Other	10	15	13

*Doctor and no doctor percentages significantly different.

4. SUMMARY

This report describes the wide range, severity, and complexity of the issues that street youth in Winnipeg characteristically face. We present the diagram below, also seen in the Introduction, to summarize the major issues discussed in this report. Again, it is important to point out that this diagram is **not** a *complete* representation of the issues faced by street youth, but rather a summary of the main points from this report.



Because we did not follow the respondents over time, but rather relied on their current reports of past and present problems, we were limited in our ability to determine which issues may have caused problems in other areas. However, no matter what the cause, it is clear that symptoms of mental illness and substance use are widespread and prevalent

among the street youth population. These issues likely impact on the ability to maintain a health-promoting lifestyle, which includes completing high school and possibly further education, maintaining stable and meaningful employment, abstaining from harmful activities such as injection drug use and unsafe sex, and maintaining supportive social networks.

Given the severity and commonality of mental illness issues for street youth, it is unfortunate that few illnesses appeared to have been diagnosed and treated. Some of the more common mental illness symptoms reported by the street youth suggest that the youth may require intensive support, including monitoring of medications and psychosocial rehabilitation. Further, while many street youth had attended substance use treatment programs, few youth had completed these programs and very few were abstinent or not suffering from harmful consequences of substance use. Given the high level of substance use addiction treatment likely must be quite intensive to be successful.

Intensive treatment for either mental illnesses or addictions would require that the street youth themselves be motivated to be treated. Based on the results from this study, we do not have evidence for or against the youths' willingness to enter and continue in treatment programs. However, we anticipate that the youth may have some level of distrust in authority that would impact on their ability to form therapeutic relationships necessary for positive long-term effects.

Both mental illness and substance use issues are related to other issues faced by street youth. As well, the other issues have myriad interrelations. This complexity suggests that there are no simple solutions to the problems faced by street youth. Changing the situations of these youth will require a multitude of resources from a variety of agencies and organizations, including justice, education, family services, housing, mental health, addictions, and the community. Through coordinated efforts of these agencies and organizations, as well as efforts by the street youth themselves, it will be possible for the youth to achieve their potential within safe and supportive living environments.

The various agencies and organizations with the potential to help street youth are responsible for offering needed and accessible services in a manner that is attractive to the target group. This is not an easy task, as these youths are not well connected to the usual social networks and may have difficulty accessing services typically available to other Canadians. For example, results in the current report showed that, despite their poor health, less than half of all street youth had a regular family doctor, and only one-fifth of the respondents went to a doctor for health advice. This suggests that street youth are not a group who characteristically access traditional resources. Therefore, outreach services that are focused on building a positive relationship are required in order to maximize the opportunities to link the street youth to needed programs and resources. Through such outreach, the AFM and other agencies can support and assist these youth to move towards lifestyles that are less harmful and that are more likely to offer them opportunities to achieve their potential. Finally, these youth have many talents and skills that can be channeled in a way that will help them realize their capacity and positively contribute to the larger community.

REFERENCES

- Adlaf, E. M., Begin, P., & Sawka, E. (Eds.). (2005). *Canadian Addiction Survey (CAS): A national survey of Canadians' use of alcohol and other drugs: Prevalence of use and related harms: Detailed report*. Ottawa, ON: Canadian Centre on Substance Abuse.
- Adlaf, E. M., & Zdanowicz, Y. M. (1999). A cluster-analytic study of substance problems and mental health among street youths. *The American Journal of Drug and Alcohol Abuse*, 25, 639-660.
- Ayerst, S. L. (1999). Depression and stress in street youth. *Adolescence*, 34, 567-575.
- Baron, S. W., & Hartugal, T. F. (1998). Street youth and criminal violence. *Journal of Research in Crime and Delinquency*, 35, 166-192.
- Beaudoin, C., Larsen, T., & Wood, M. (2005). *The descriptive epidemiology of sexually transmitted infections and blood-borne pathogens in Manitoba: 2002-2003*. Winnipeg, MB: Manitoba Health.
- Bernstein, J., Adlaf, E., & Paglia, A. (2004). *Drug use in Toronto 2004*. Toronto, ON: Research Group on Drug Use.
- Buxton, J. (2003). *Vancouver drug use epidemiology: Vancouver site report for the Canadian Community Epidemiology Network on Drug Use*. Vancouver, BC: CCENDU.
- Cauce, A. M., Paradise, M., Ginzler, J. A., Embry, L., Morgan, C. J., Lohr, Y., & Theofelis, J. (2000). The characteristics and mental health of homeless adolescents: Age and gender differences. *Journal of Emotional and Behavioral Disorders*, 8, 230-239.
- Chen, X., Tyler, K. A., Whitbeck, L. B., & Hoyt, D. R. (2004). Early sexual abuse, street adversity, and drug use among female homeless and runaway adolescents in the Midwest. *Journal of Drug Issues*, 34, 1-21.
- Dachner, N., & Tarasuk, V. (2002). Homeless "squeegee kids": Food insecurity and daily survival. *Social Science and Medicine*, 54, 1039-1049.
- Evans, E., Hawton, K., & Rodham, K. (2004). Factors associated with suicidal phenomena in adolescents: A systematic review of population-based studies. *Clinical Psychology Review*, 24, 957-979.
- Farrow, J. A., Deisher, R. W., Brown, R., Kulig, J. W., & Kipke, M. D. (1992). Health and health needs of homeless and runaway youth. *Journal of Adolescent Health*, 13, 717-726.

- Hare, R. D. (1998). Psychopaths and their nature: Implications for the mental health and criminal justice systems. In T. Millon, E. Simonson, M. Burket-Smith, & R. Davis (Eds.), *Psychopathy: Antisocial, criminal, & violent behavior* (pp. 188-212). New York: Guilford Press.
- Health Canada (2005). *Canadian Tobacco Use Monitoring Survey (CTUMS) 2005*. Available (cited 28 February 2006): http://www.hc-sc.gc.ca/hl-vs/tobac-tabac/research-recherche/stat/ctums-esutc/2005/index_e.html.
- Higgitt, N., Wingert, S., Ristock, J., Brown, M., Ballantyne, M., Caett, S., Coy, K., Quoquat, R., & Operation Go Home (2003). *Voices from the margins: Experiences of street-involved youth in Winnipeg*. Winnipeg, MB: University of Winnipeg, Institute of Urban Studies.
- Janus, M., McCormick, A., Burgess, A. W., & Hartman, C. (1987). *Adolescent runaways*. Toronto, ON: Lexington.
- Kelly, P. J., Grajcer, B., & Rigato, F. D. (2003). Children living on the street. *Online Brazilian Journal of Nursing*, 2 (2). Available (cited 28 February 2006): www.uff.br/nepae/objn202kellyetal.htm.
- Martens, P., Fransoo, R., McKeen, N., The Need to Know Team, Burland, E., Jebamani, L., Burchill, C., De Coster, C., Ekuma, O., Prior, H., Chateau, D., Robinson, R., & Metge, C. (2004). *Patterns of regional mental illness disorder diagnoses and service use in Manitoba: A population-based study*. Winnipeg, MB: University of Manitoba, Manitoba Centre for Health Policy.
- McCormick, A. (2004). Running for their lives: The impact of family violence on youth homelessness. *British Columbia Institute Against Family Violence*, 11, 13-17.
- Patton, D., Mackay, T.-L., & Broszeit, B. (2005). *Alcohol and other drug use by Manitoba students*. Winnipeg, MB: Addictions Foundation of Manitoba.
- Poole, N., & Dell, C. A. (2005). *Girls, women and substance use*. Prepared for the British Columbia Centre of Excellence for Women's Health and the Canadian Centre on Substance Abuse.
- Rew, L., Taylor-Seehafer, M., & Fitzgerald, M. L. (2001). Sexual abuse, alcohol and other drug use, and suicidal behaviors in homeless adolescents. *Issues in Comprehensive Pediatric Nursing*, 24, 225-240.
- Ross, C. A., Norton, G. R., & Anderson, G. (1988). The dissociative experiences scale: A replication study. *Dissociation: Progress in the Dissociative Disorders*, 1, 21-22.

- Roy, E., Haley, N., Leclerc, P., Sochanski, B., Boudreau, J.-F., & Boivin, J.-F. (2004). Mortality in a cohort of street youth in Montreal. *Journal of the American Medical Association, 292*, 569-574.
- Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., Hergueta, T., Baker, R., & Dunbar, G. C. (1998). The Mini-International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *Journal of Clinical Psychiatry, 59*, 22-33.
- Slesnick, N., & Prestopnik, J. (2005). Dual and multiple diagnosis among substance using runaway youth. *American Journal of Drug and Alcohol Abuse, 31*, 179-201.
- Statistics Canada (2001). 2001 Community Profiles (Cat. No. 93F0053XIE). Available (cited 28 February 2006): <http://www.statcan.ca/bsolc/english/bsolc?catno=93F0053XIE>.
- Tarter, R. E., Laird, S. B., Bukstein, O. & Kaminer, Y. (1992). Validation of the adolescent Drug Use Screening Inventory: Preliminary findings. *Psychology of Addictive Behaviors, 6*, 233-236.
- Tyler, K. A., Cauce, A. M., & Whitbeck, L. (2004). Family risk factors and prevalence of dissociative symptoms among homeless and runaway youth. *Child Abuse and Neglect, 28*, 355-366.
- van Leeuwen, J. M., Hopfer, C., Hooks, S., White, R., Peterson, J., & Pirkopf, J. (2004). A snapshot of substance abuse among homeless and runaway youth in Denver, Colorado. *Journal of Community Health, 29*, 217-229.
- Whitbeck, L. B., & Hoyt, D. R. (1999). *Nowhere to grow: Homeless and runaway adolescents and their families*. Hawthorne, NY: Aldine de Gruyter.
- Wylie, J. (2005). *The Winnipeg injection drug use social network study: Phase II*. Winnipeg, MB: Manitoba Health, Communicable Disease Control (CDC) Unit. Available (cited 28 February 2006): <http://www.gov.mb.ca/health/publichealth/cdc/surveillance/sns2.pdf>.