

Peer Information and Substance Use Decision Making in Street-Involved Youth

by

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Abstract

Drug related information sharing among homeless youth is an understudied phenomenon with critical intervention implications in the community. This study takes a mixed-methods approach with a sample of street-involved youth, to assess both themes relevant to peer information sharing about drug use, and whether peer information sharing has an impact on well-being. $N=82$ youth were recruited from a community drop-in centre, $n=46$ participants completed a semi-structured interview assessing factors relating to drug related peer information sharing. All participants completed a survey assessing substance use frequency and dependence, well-being, and peer credibility. Key qualitative findings demonstrated that trust, experience, and salience of information were key themes in assessing peer provided information regarding substance use. Regression analysis indicated a small relationship between peer credibility and well-being. These findings provide a critical view of high-risk youths' evaluation of drug related information, with implications for improving current information sharing strategies in the community.

Keywords: Peer Information, Peer Influence, Homeless Youth, Substance Use, Adolescence

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Peer Information and Substance Use Decision Making in Street-Involved Youth

When a teenager decides to take part in a risky activity – such as underage drinking, experimenting with recreational drugs, or having unprotected sex – they rarely do so in isolation. Instead, these decisions are most often made in the presence of their peer group, composed of similar-aged people engaging in similar decision-making processes (Gardner & Steinberg, 2005; Thompson et al., 2010). Of particular concern is why adolescents and young adults tend to take part in high-risk or dangerous behaviours more often when they are together.

Peer influence is understood as a prominent factor in the adolescent decision-making process, given that adolescents are more likely to participate in high-risk behaviours if their peer group is engaging in that same behaviour (e.g., de Water et al., 2016). In addition to the indirect influence of the peer group on an individual's own behaviour, adolescents and young adults often seek information from their peer group, frequently about high-risk behaviours such as substance use (Morse et al., 2013).

Substance use is a high-risk behaviour that peaks in adolescence and young adulthood (Thompson et al., 2010). Statistics from the Canadian Alcohol and Drug Use Monitoring Survey (2010) show that Canadian youth ages 15 – 24 have the highest rates of use of illicit substances in the population, in particular using marijuana, hallucinogens, and ecstasy.

While most studies on adolescent peer influence have examined samples of teens in mainstream settings (most often living with family and attending school), few have examined the effects of peer influence and information on substance use decision making in homeless and street-involved youth. In relation to mainstream youth, homeless and

street-involved youth have much higher rates of substance use. Between 40 – 71% of street-involved youth report engaging in substance use (Kirst & Erikson, 2013), using marijuana, hallucinogens, amphetamines, cocaine, and crack at higher rates than their mainstream counterparts. These high rates suggest that, given their higher exposure to substances within their peer groups, the health-compromising consequences of peer influence or peer misinformation faced by homeless and street-involved youth is likely more severe, making them an important sample for consideration. Of key concern is the potential for peer networks among substance-using homeless and street-involved youth to be influential sources of substance use information, particularly if the information they are disseminating is inaccurate.

The purpose of the present study is to learn how homeless and street-involved youth are sharing and receiving information with one another in order to make decisions about substance use. One dominant perspective on adolescent decision making regarding high-risk behaviours is the influence of adolescent peer groups, thus, relevant peer influence literature is an important consideration in the present research.

Peer Influence on Adolescent Risk Taking

Adolescents and young adults are well-known to take part in risky behaviours at high rates (Thompson et al., 2010), with adolescents and young adults far more likely to engage in risk-taking behaviour than adults over 25 (Albert & Steinberg, 2011). The discrepancy in levels of high-risk behaviour between adolescence and adulthood is a confound to researchers, given the mounting evidence that adolescent capacity for decision making is roughly that of adults (Gardner & Steinberg, 2005). One important contributing factor to adolescent risk taking is peer influence, where individuals are more

likely to take part in a behaviour if their peers engage in that same behaviour (e.g., de Water et al., 2016). Studies show that the strongest predictor of delinquent behaviour in adolescence is affiliation with peers who are engaging in similarly delinquent behaviour (Albert, Chein & Steinberg, 2013; Bauman & Ennett, 1994; Dishion et al., 1995), and peer influence has been cited as a main predictor of the onset of an adolescent's substance use (Bauman & Ennett, 1994).

Peer influence is an indirect process through which a person is impacted by the attitudes and behaviours of their peer group. It is a specific dimension of social influence, where individuals compare their behaviours and attitudes to those around them in order to determine what is appropriate and make adjustments based on their social setting (Maxwell, 2002). Although social influence may occur in any social group, and therefore exert varying pressures based on the type of social group (e.g., family, friends, or work colleagues), peer influence is specific to the peer group.

The mere presence of peers has been shown to fundamentally alter the decision-making process in adolescents about to engage in a high-risk behaviour (Albert, Chein & Steinberg, 2013). One seminal study used a driving simulation experiment with adolescents and adults over 25 to assess risky decision making in the presence of peers (Gardner & Steinberg, 2005). The results showed that individually, adolescents and adults made similar judgements in a driving simulation. However, in the presence of adolescent peers, adolescents were significantly more likely to make high-risk driving decisions compared to their adult counterparts in the presence of adult peers. These results were replicated using a similar driving simulation task demonstrating that risk taking increased in conditions where peers were observing but not engaging with the

participants (Chein et al., 2011). Similarly, these findings were expanded upon using a delay discounting task demonstrating that adolescents show a preference for immediate rewards (despite higher risk) in the presence of peer observers (O'Brien, Albert, Chein, & Steinberg 2011). Taken together, these results suggest that peer influence is a particularly potent force for decision making in adolescent peer groups leading to increased engagements in high-risk behaviours.

While peer influence is related to increased risk-taking behaviours among adolescents, peer influence in itself can be understood as a normative developmental process. The transition to adolescence is marked by an increased frequency in peer interactions outside of school hours (Brown, Dolcini, & Leventhal, 1997). Larson and Richards (1991) found significant declines in the amount of time spent with family during the transition from childhood to adolescence, and correspondingly, significant increases in time spent either with peers or alone during this transition. Further analysis of this longitudinal data showed that the amount of time spent with family decreased by 2.74% per year from 5th through 12th grade (Larson et al., 1996).

Parental factors, such as parental monitoring and support, serve as important protective factors from engaging in high risk-behaviours in adolescence, such as problematic drinking patterns (Windle et al., 2008) and deviant behaviours (e.g., drug use, physical violence, theft; Claes et al., 2005). However, the transition into emerging adulthood is marked consistently by decreased time spent with parents, and increased time spent with the peer group. Therefore, although family support and engagement comprise a critical component of normative adolescent development, peers make up a

potent source of influence on adolescent behaviour, making them an important focus for research on high-risk behaviour in adolescence.

Increased time spent with peers aligns with the increasing importance placed on peer group affiliation and success, or the feeling of being accepted into a peer group, during adolescence (Brechwald & Prinstein, 2011; Simons-Morton & Farhat, 2010). From a social learning perspective (e.g., Bandura, 1986), adolescents may be more likely to adopt a behaviour if high-status members of their social group are engaging in that same behaviour. This type of peer influence may be particularly prominent if the individual receives social reinforcement for engaging in the behaviour, such as feeling like they fit into the social group (e.g., Festinger, 1954). Imitating peers' behaviour in order to adhere to group social norms also creates an increased value in the self, an intrinsically motivating outcome (Abrams & Hogg, 1990). These theories suggest that adolescents are more susceptible to peer influence than their adult counterparts, given their increased proximity to the peer group and importance of feeling accepted into a peer group. Thus, adolescents are more likely to imitate peer behaviour in order to match the social norms of the peer group and contribute to a sense of self-identity (Brechwald & Prinstein, 2011).

Peer influence is often conflated with peer pressure, and the terms are often used interchangeably to describe mechanisms of peer influence (Bradford et al., 2008), but peer influence encompasses a broader range of behaviours beyond direct and overt pressure from a peer group to conform to a particular behaviour. Indeed, it is rarely direct peer pressure that is associated with the onset of high-risk behaviour in youth, but rather mere exposure to members of the same peer group engaging in a behaviour (Bauman &

Ennett, 1996; Cox & Cox, 1998; Foster & Spencer, 2013; Simons-Morton & Farhat, 2010). Adolescents engaging in cigarette smoking, for example, overwhelmingly report feeling internal pressure to take part in a behaviour when their peer group is engaging in that same behaviour, as opposed to a direct, and external, pressure from their peers (Kobus, 2003).

Studies consistently show that strong predictors of adolescent risk taking are the behaviours and attitudes of their peer group, but there is little consensus as to the mechanisms through which peer influence works (e.g., Bauman & Ennett, 1996; Jaccard, Blanton & Dodge, 2005; Kobus, 2003; Simons-Morton & Farhat, 2010). In general, peer influence is understood through two predominant social processes: selection and socialization. *Selection* refers to the tendency for individuals to create peer affiliations with people who already hold similar values, have similar attitudes, and engage in similar behaviours to themselves. *Socialization* refers to the process through which an individual's behaviour is influenced by their peer affiliations, suggesting that the attitudes and behaviours within a peer group will grow to be more similar over time (Kobus, 2003; Prinstein & Dodge, 2008). Selection effects may help to explain the prevalence of peer influence as a factor in adolescents' engagement in substance use. Studies show evidence of youth self-selecting into groups who are already engaging in drug use, whereby drug use then becomes an aspect of their friendship rather than the result of a socializing effect (Foster & Spencer, 2013).

Peer Information and Information-Sharing

Peer influence clearly factors into the process of adolescent decision making, and this influence may be due in part to peer information sharing. *Peer information sharing* is

direct communication between peers regarding any relevant phenomenon, wherein the information or advice shared is typically based on personal experience with that phenomenon (Rupert et al., 2016). Peer information may be particularly relevant for substance use behaviours (Morse et al., 2013), given that adolescents rely on their peers for normative substance use information in order to gauge what behaviours are desirable and relatively safe (Maxwell, 2002). Indeed, students in a Canadian high school sample who identified as already using drugs, or likely to start using drugs, relied most heavily on their friends for information about drug use compared to their family, schools, or religious institutions (Fejer et al., 1971).

Gray and colleagues (2005) more recently described the experiences of adolescents seeking peer-generated health information online, and argued that three main factors determine how adolescents and young adults evaluate health-related information: (1) *saliency* (how relevant is the information to the person), (2) *previous experience* (with the topic of information itself and whether the source has prior experience with the topic), and (3) *credibility* of the source (evaluated through perceived expertise, trustworthiness, and empathy). Their framework calls to mind the Elaboration Likelihood Model, positing two routes through which people process information, central or peripheral. The *central* route occurs when the listener has both the motivation and ability to process the message and consists of thoughtful processing of informational content. The *peripheral* route occurs when the listener uses secondary cues to process the information, such as perceived expertise of the source, attractiveness of the source, or other contextual cues aside from the content of the information (Petty & Cacioppo, 1984; Petty & Cacioppo, 1986). These frameworks provide complementary views of information processing,

information that is more *salient* is likely to be processed through the *central* route of processing, given that the listener is likely more motivated to deeply process information that is relevant to their experience. Moreover, when processing information through the peripheral route, contextual cues such as the credibility of the source, or the previous expertise of the source, are likely to provide contextual cues relevant to peripheral information processing.

Although few studies have examined direct peer to peer information, peer information sharing is arguably an influential factor in adolescent decision making, in particular regarding substance use. Substance use is a salient topic within a peer information context among adolescents and young adults, given the high prevalence of substance use in this population (Thompson et al., 2010). Young people using more substances may also be viewed as more experienced, and therefore credible sources of substance use information they might provide to their peer group. Additionally, perceived expertise may provide contextual cues that highlight the peripheral route of processing information, making the information appear more credible in instances where the listener is less motivated to deeply process the informational content. Therefore, I hypothesize that substance-using peers will be highly influential sources of information, regardless of the accuracy of the information they are circulating.

Peer Networks of Homeless and Street-Involved Youth

Most studies on adolescent peer influence have examined samples of teens in mainstream settings, who are living with family and attending school. However, many Canadian youth are currently homeless or street-involved and represent an at-risk population for the same high-risk behaviours as their non-street-involved counterparts.

Youth aged 13-24 represent approximately 20% of the estimated 35,000 Canadians who are homeless on a given night (Gaetz, Dej, Richter & Redman, 2016). The consequences of high-risk behaviours, such as substance use, unprotected sex, or illegal activity, are anticipated to be severe for this population, as they tend to have less access to the same levels of social support and resources as their mainstream adolescent counterparts, and may face an increased risk of developing substance use disorders, risking sexually transmitted infections, or facing physical or sexual victimization (Rice, Stein & Millbun, 2008; Tyler & Melander, 2015). Two frameworks come together to help understand the consequences of peer influence on at-risk youth: deviancy training and the risk amplification model.

Deviancy training. Deviancy training among peers is a process through which deviant behaviours are discussed and normalized within a peer group. This includes discourse about, and rehearsal of, deviant behaviours during peer interactions. These discussions are often encouraging and instructive in their nature, and result in positive reactions such as peer laughter and approval (Dishion et al., 1995; Dishion et al., 1996; Snyder et al., 2008).

The normalization of deviant behaviours in a peer group through deviancy training discourses are likely to contribute to negative outcomes. Deviant peer affiliation, and resulting deviancy training, during adolescence is associated with increases in a number of high-risk behaviours such as substance use, high-risk sexual behaviour, and stealing (Dishion et al., 1996; Reynolds & Crea, 2015; Snyder et al., 2008). Indeed, early adolescent involvement with a deviant peer group has been shown to mediate the

relationship between early antisocial behaviours and adolescent substance use (Dishion et al., 1995).

Deviancy training is a unique form of peer influence, where both selection and socialization effects are present. Individuals select in to groups of deviant peers who have similar attitudes and engage in similar behaviours as themselves (Foster & Spencer, 2013). Accordingly, peer deviancy training discourses are often fuelled by mutual enjoyment, given the positive nature of the interactions (Dishion et al., 1996).

Socialization effects are seen through the relationship between deviant peer affiliation and the associated deviancy training, an increase in the appearance and growth of conduct problems, and engagement in high-risk behaviours, after controlling for the presence of earlier conduct problems (Snyder et al., 2008). Youth who consistently receive higher levels of reinforcement for deviant behaviours, compared to non-deviant behaviours, show increased engagement in those high-risk behaviours over time (Dishion & Tipsord, 2011).

Risk amplification. Deviancy training is a microcosm of peer influence that is specific to deviant peers, but this theory does not specifically target the experiences of homeless or at-risk youth. Whitbeck and colleagues (1999) introduced the *Risk Amplification Model* for homeless and street-involved youth. This model suggests that homeless and street-involved youth are more likely to have come from dysfunctional, and often abusive, families. This creates a negative developmental trajectory, since these young people lack the standard prosocial developmental contexts present in more typical home environments. When these adolescents or young adults leave home, they are likely to become involved in networks of peers with similar backgrounds. Although these peers

provide valuable social support, they are more likely to be involved in deviant activities, increasing the overall exposure to high-risk behaviours for street-involved youth. Indeed, further research has supported the Risk Amplification Model as it exists for homeless and street-involved youth. Homeless youth report having a higher number of peers engaged in substance use than non-homeless youth (Tompsett, Domoff & Toro, 2013), supporting the concept of an increased exposure to high-risk behaviours through peers. Additionally, homeless youth who report experiencing child abuse and parental substance abuse when living at home show significant positive correlations to increased substance use (Tyler & Melander, 2015), supporting the concept of a negative developmental trajectory leading to increased risk of engagement in deviant behaviours.

Though many studies support the Risk Amplification Model for homeless youth, some have raised the possibility that prosocial peers may also be influential for homeless youth. One study of high-risk sexual behaviours in homeless youth showed that affiliation with highly deviant peers was associated with increased involvement in high-risk behaviours as expected, but affiliation with prosocial peers also *reduced* the risk of engaging in sexual risk-taking behaviours (Rice et al., 2008). To this end, Millburn and colleagues (2009) proposed the modified Risk Amplification and Abatement Model, which suggests that affiliation with antisocial individuals (i.e., those who are engaging in high-risk and deviant behaviours) is associated with amplified risk, and that affiliation with prosocial individuals (i.e., those who are still in school, have jobs, and are not engaging in deviant behaviours) is associated with a reduced risk for homeless youth. Overall, the Risk Amplification and Abatement Model for homeless and at-risk youth may create a framework for understanding the increased engagement in high-risk

behaviours in this population, specifically relating to increased levels of substance use in homeless and street-involved youth.

Adolescent Substance Use

Substance use is a high-risk behaviour that peaks in the teens and early twenties (Thompson et al., 2010). According to statistics provided by the Canadian Centre on Substance Abuse, youth ages 15 – 24 have the highest reported rates of illicit substance use in the Canadian population. The Canadian Alcohol and Drug Use Monitoring Survey assessed substance use rates in a sample of Canadian youth, finding the most common substances being used by a general population of youth ages 15 – 24 are alcohol (71.5%), marijuana (25.1%), hallucinogens (4.6%), ecstasy (3.8%), and cocaine (2.7%) (Canadian Alcohol and Drug Use Monitoring Survey, 2010).

In contrast, homeless and street-involved youth tend to show higher rates of substance use compared to non-homeless youth. Previous researchers have shown that homeless youth use substances at rates up to 10 times higher for male youth and 17 times higher for female youth (Whitbeck et al., 2004); and that between 40 – 71% of street-involved youth report engaging in substance use (Kirst & Erikson, 2013). This latter finding comes from a study of 150 homeless youth in Toronto, Ontario between the ages of 16 – 21 years old. In assessing self-reported substance use in the past 30 days of this sample, the researchers found that the rates of tobacco, alcohol, and marijuana use were highest (91%, 71%, and 73%, respectively). Following these three, the top-used substances were hallucinogens (34%), amphetamines (16%), cocaine (25%), and crack (11%), with relatively few participants overall reporting having used heroin in the last 30 days (5%).

These numbers illustrate that homeless and street-involved youth are using substances at higher rates than non-homeless youth, as well as using a greater variety of substances than non-homeless youth, potentially leading to greater consequences of use such as overdosing or developing a substance use disorder (Rice, Stein & Millbun, 2008; Tyler & Melander, 2015).

Substance Dependence and Well-Being in Homeless Youth

In addition to frequent use, substance dependence is common among homeless youth. In a sample of homeless youth aged 13 – 19, 69% met criteria for dependence on at least one substance, and 30% of those participants met the criteria for polysubstance dependence (Baer, Ginzler & Peterson, 2003). Another sample of homeless youth aged 16 – 19 had a 60.5% lifetime prevalence rate for substance use disorders, with 54% of the sample meeting the lifetime criteria for alcohol abuse and 47% meeting the lifetime criteria for drug abuse (Johnson, Whitbeck & Hoyt 2005). These results provide important context regarding rates of substance dependence among homeless youth but provide little insight into the social components of problematic substance dependence among homeless youth. Peer influence has been demonstrated to be a significant predictor of both alcohol and other drug abuse in homeless adolescents over time (Tompsett, Domoff & Toro, 2013), suggesting that peer influence may be implicated in substance use problems in homeless youth.

Substance use and indicators of psychological well-being are often linked, representing different facets of overall well-being. Indeed, 93% of homeless youth in one sample who met criteria for a substance use disorder had a comorbidity with at least one mental disorder, most commonly a major depressive episode, conduct disorder, or post-

traumatic stress disorder (Johnson, Whitbeck & Hoyt 2005). Other research shows that problematic substance use in homeless youth is related to poorer emotional well-being as evidenced by higher levels of depression and self-destructive coping strategies (Nyamath et al., 2010), suggesting a relationship between substance use patterns and overall well-being among homeless youth.

Homeless youth also tend to show higher rates of both psychopathology and substance dependence than their mainstream youth counterparts. In a comparative study using a matched sample of 118 homeless youth and 118 mainstream youth, homeless adolescents were significantly more likely to meet diagnostic criteria for disruptive behaviour disorders and alcohol dependence (McCaskill, Toro, & Wolfe, 1998). Additionally, homeless youth showed marginally higher rates of depression, mania, and drug dependence, though these results were non-significant. These contrasts demonstrate that while increased substance use and psychopathology in emerging adulthood are typical components of the normative developmental process, homeless and street-involved youth show more severe outcomes, such as higher rates of substance dependence and psychopathology, making them a vulnerable population necessitating further research.

Current study

Though the literature has provided an adequate framework of peer influence in both mainstream and street-involved youth, there are gaps in assessing how peer information is evaluated in relation to substance use, specifically by homeless or street-involved youth. Accordingly, the first research question is to qualitatively explore what factors street-involved youth consider when establishing whether a peer is a credible

source of information, and whether the information a peer provides is valid. This information will be evaluated using Gray and colleagues (2005) conceptual framework of saliency, previous experience, and credibility. Given that substance-related information is salient to adolescents and young adults, peers who are perceived as credible and experienced substance users are expected to be highly influential sources of information, regardless of whether the information they are disseminating is accurate.

A second purpose of the present study is to learn more about the possible outcomes related to reliance on peer information in street-involved youth. Consequently, the second research question aims to answer how youths' evaluation of peer credibility relates to self-reported substance use frequency, substance dependence, and to subjective indicators of well-being. In this study well-being will be assessed using measures of autonomy, relatedness, depression, and participation in the employment, education, and housing programs provided by a local non-profit organization serving homeless and at-risk youth. Street-involved youth who view substance-dependent or heavily delinquent peers as credible sources of information are expected to be heavier substance users and to have poorer well-being as reflected by lower levels of autonomy and relatedness, higher levels of depression, and less engagement in the employment, education, and housing programs.

Method

Recruitment

Participants were recruited at Operation Come Home (OCH), a non-profit organization that serves homeless and at-risk youth in downtown Ottawa. OCH provides youth with a drop-in centre, substance use support, as well as education, employment,

and housing programs. I recruited participants from among visitors to the drop-in centre at OCH. Staff at OCH assisted with recruitment by providing information about the purpose of the study and the nature of participation to eligible youth. Eligibility criteria for participation in the study were English-speaking youth who have a history of substance use, and/or who are currently using substances.

Recruitment and data collection took place in 3 separate 1-week sessions between June and September 2018. During the first two weeks of data collection, youth were invited to take part in a survey followed by an interview. Participant engagement was noted to be considerably higher than anticipated so a third wave of data collection was added after theoretical saturation for the qualitative interviews was met. Additional participants were invited, and agreed, to complete a survey.

Participants and Procedure

A total of 84 youth participated in the study, with all participants completing the survey and $n=47$ participating in the semi structured interviews. I retained 82 surveys and 46 interviews for analysis. Two surveys and one interview from three separate participants were excluded from the analysis. Surveys were excluded due to observations made by the researchers during the completion of the survey that the participant was unable to consistently answer the survey questions (e.g., consistently talking to the researcher about other topics during the survey, distractedly tearing pages in the survey book). In one case this occurred in combination with observations from drop-in centre staff that the individual was not well suited to participate in this research due to mental illness. One interview was excluded for similar reasons, because the participant was unable to remain focused on the topic of the interview and thus did not answer the

majority of the interview questions. Upon analysis of the post-interview comment form it was decided that the individual's responses, as well as the overall tone of the interview (e.g., participant was unfocused, agitated, unpredictable) warranted a removal of their data from analysis. In all cases participants were still compensated for their participation.

Participants completed an informed consent with a member of the research team. They next completed a brief paper-and-pencil survey, with a member of the research team remaining in the room in order to answer questions or clarify wording in the event that the participant had questions. The survey included measures of youths' substance use history, frequency of use, level of substance dependence, perceived confidence regarding substance use, and factors informing level of peer influence over substance use decision-making. Three measures of well-being (autonomy, relatedness and depressive symptoms) were also selected to represent candidate positive and negative facets of well-being, respectively (see Appendix C for the complete surveys).

During the first two waves of data collection, participants next engaged in a semi-structured interview with a member of the research team for approximately one hour. Interview times ranged from 13 – 67 minutes ($M = 21.35$, $SD = 14.26$). Each anonymous interview was audio recorded and later transcribed (audio files were destroyed after transcription was completed). Participants were invited to create a pseudonym under which their quotes would appear in the final research paper.

Once all study tasks were complete, the researcher gave the participant a verbal debriefing and were informed that contact information for all members of the research team was available through the staff at Operation Come Home. Participants who completed both the survey and interview were compensated with a \$25 gift card;

participants in the third wave of data collection who completed the survey only were compensated with a \$10 gift card.

Measures

Demographic Information. Demographic information was collected by the researcher during the one-on-one interview process. This information included month and year of birth, gender identity, ethnicity, relationship status, number of children, current school status and level of education, and current housing status (see Table 4). Youth were also asked whether they had participated in each of several specific programs at OCH (employment, education, housing), and to provide the dates or approximate length of time of their participation. Finally, two questions asked whether the participant received substance use support at Operation Come Home or elsewhere, and whether they are currently receiving mental health support. Participants completing the semi-structured interview were invited to come up with a pseudonym following the demographics survey, provided that it was not linked to their true identity (i.e., could not be a middle name or a nickname of the participant).

Autonomy. Autonomy was assessed using the 7-item subscale from the Basic Psychological Needs Scales (BPNS; Deci & Ryan, 2000; Gagné, 2003). This scale includes statements such as “I feel pressured in my life (reverse-scored)” and “I generally feel free to express my ideas and opinions” rated on a 5-point Likert scale (1 = Not at all true, 5 = Very true). The internal consistency of the autonomy scale was measured with Cronbach’s alpha at $\alpha = 0.64$. This scale has shown evidence of good psychometric properties, including good convergent validity as the autonomy scale correlates to other theoretical facets of well-being, including life satisfaction ($r = .50$), self-esteem ($r = .50$),

and positive affect ($r = .58$) (Johnston & Finney, 2010). Autonomy was chosen because it is a key measure of successful development in adolescence and the transition to adulthood (Deci & Ryan, 2000), and its items do not contain direct references to experiences only typical of mainstream youth, making it appropriate for street-involved and homeless youth. Participants' scores were calculated as the mean of all 7 items, and higher scores reflected a greater sense of autonomy ($M = 3.54$, $SD = .66$)

Relatedness. Relatedness was assessed using the 8-item subscale from the Basic Psychological Needs Scales (BPNS; Deci & Ryan, 2000). This scale includes statements such as "I really like the people I interact with" and "I consider the people I regularly interact with to be my friends" rated on a 5-point Likert scale (1 = Not at all true, 5 = Very true). The internal consistency of the relatedness scale was measured with Cronbach's alpha at $\alpha = 0.73$. Similar to the autonomy subscale, relatedness has shown evidence of good convergent validity to facets of well-being, including life satisfaction ($r = .57$), self-esteem ($r = .41$), and positive affect ($r = .46$) (Johnston & Finney, 2010). Relatedness was chosen as another key facet of well-being in this sample, as relatedness is strongly related to daily emotional well-being (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000), and the items reference experiences common to both mainstream and at-risk youth, making it an appropriate scale. Participants' scores were calculated as the mean of all 8 items, and higher scores reflected a greater sense of relatedness ($M = 3.46$, $SD = .63$)

Depression. Depression was assessed using the short form of the Center for Epidemiologic Studies Depression Scale, a 10-item scale measuring depressive symptoms (CES-D; Radloff, 1977). This scale includes statements of feelings in the past week such as "I felt depressed" and "I felt that everything I did was an effort" rated on a

4-point Likert scale (1 = Rarely or none of the time, 4 = All of the time). The internal consistency of the depression scale was measured with Cronbach's alpha at $\alpha = 0.84$. The full, 20-item version of the CES-D has been shown to have good psychometric properties, including high criterion validity in a clinical sample when correlated to nurses' assessments of patient depression ($r = .56$), high internal consistency reliability ($\alpha = .85$), and high test-retest reliability after 4 weeks ($r = .67$) (Radloff, 1977). The 10-item version shows good predictive accuracy of the full version ($\kappa = .97, p < .001$) high test-retest reliability over a 3-week period ($r = .71$), and high construct validity when correlated to positive affect scales ($r = -.63$) (Andresen et al., 1994). Depressive symptoms were chosen as a representative measure of negative well-being, given that they are more consistently associated with substance use in adolescence than anxiety or general negative affect (Hussong et al., 2017). Participants' scores were calculated as the mean of all 10 items, and higher scores reflected higher levels of depression ($M = 2.48, SD = .63$)

Substance Use History. Substance use history was evaluated by asking about the frequency of use of several different classes of substances. Frequency of use in the past year was assessed on an 8-point Likert scale (1 = Not at all, 3 = About once per month, 5 = About once per week, 7 = Daily or almost daily, 8 = Multiple times per day). Substances assessed included alcohol, marijuana, hallucinogens, cocaine, crack, amphetamines, heroin, prescription opiates, methamphetamine, fentanyl, inhalants (e.g., paint thinners, glue) and over the counter medication used for reasons other than their intended purpose. Participants were provided with a reference sheet for common street names and classifications of drugs. For the analysis substance use frequency was divided

into 3 categories: alcohol, marijuana, and all other drugs. This was done as a means to separate out the ceiling effects seen in marijuana use, where many participants reported using marijuana multiple times per day.

Severity of Dependence Scale. Level of substance dependence were assessed using a modified version of the Severity of Dependence Scales (Gossop et al., 1995). The participants were asked to think about the substance that is currently causing the most problems in their life and write down the name of that substance. The participants were asked 5 questions regarding their use of that specific substance in the past 12 months, including “How much did you worry about your use of the drug?”, “How difficult would you find it to stop or go without this substance?”, and “Did you wish you could stop?”. These questions were answered on a 4-point Likert scale (0 = Not difficult at all, 3 = Impossible), these item scores will be averaged to create a final dependence score, where higher scores indicate higher levels of dependence. The internal consistency of the substance dependence scale was measured with Cronbach’s alpha at $\alpha = 0.94$. This scale has shown evidence of good psychometric properties, including evidence of good criterion validity when correlated with duration ($r = .27$) and frequency ($r = .43$) of substance use (Gossop et al., 1995), and high test-retest reliability ($r = .89$) (Gossop et al., 1997).

Individual Substance Use Confidence. Individual confidence regarding substance use was assessed using three questions created for the purpose of this study. The questions included “How knowledgeable do you think you are about drug use?”, “How much experience do you have with drug use?”, and “How confident are you in the information that you have about drug use?”. These questions were answered on a 3-point

Likert scale (1 = Not at all, 2 = Somewhat, 3 = Very much). The internal consistency of this scale was measured with Cronbach's alpha at $\alpha = 0.63$.

Peer Substance Use Credibility. Participants' subjective assessments of their peer groups' credibility as sources of information regarding substance use were evaluated using 4 questions attributed to each possible peer group (friends, romantic partner, parents, close family (e.g., sibling, cousin), dealer, addictions support workers, and any others listed by the participant). Questions such as "How much do you trust each person or group to give you accurate information about drugs and how to use drugs?" were asked separately of each peer group on a 4-point Likert scale (0 = "I don't have this person or group", 1 = Not at all, 2 = Somewhat, 3 = Very much). The questions separately evaluated trust, knowledge, and experience regarding substance use, and closeness to the participant. Trust, knowledge, and experience regarding substance use were aggregated to create a 'Peer Credibility' variable for each peer group. Reliability analyses for peer credibility (trust, knowledge, and experience) were conducted for each peer group. Reliability was reasonably high for each peer group, internal consistency values of each group are measured with Cronbach's alpha and presented in Table 1.

Table 1. *Internal Consistency of Peer Credibility Scales*

Peer Group	Cronbach's alpha (α)
Friends	.67
Romantic Partner	.93
Parents	.78
Close Family (e.g., siblings, cousins)	.89
Dealer	.82
Addictions Support Worker	.88

Semi-Structured Interview. The semi-structured interview with a member of the research team assessed factors relating to the way that participants receive and evaluate peer information regarding substance use. The interview was comprised of three sections

each containing core questions and follow up probes, as well as yes or no questions that the researcher will fill out during the course of the interview. The full interview questionnaire can be found in Appendix D.

The first section aimed to learn contextual factors about the participants' substance use. The core question in this section was "Who do you usually get your drugs from?" with follow up probes asking, "Would you consider them a friend?" and "How often do you get your drugs from this person?".

The second section assessed factors specific to peer information regarding substance use, including who they get substance use information from, how frequently this information sharing occurs, and how they might evaluate this information. A core question in this section asked participants to create a list of individuals with whom they might discuss their substance use, including friends, a romantic partner, parents, close family (e.g., sibling, cousin), dealer, addiction support worker, and other. Using this list, follow up questions asked, "Do you use drugs with this person / people?", "Do you share drugs with this person / people?", and "Do you buy drugs from this person / people?".

The researcher wrote down yes or no answers for each response for later analysis. Additional core questions in this section included "Do you ever get information about drugs from your friends or social group, like what drugs might be best to use, how to use them, and how much to use?", "How frequently do you think you get information or advice on drug use?", and "Did you ever get information or advice about using drugs that you didn't take?". Several probing questions were used following each core question, including "Who did you talk to?", "What made you decide to talk to that person / people

in particular?”, “What types of information or advice have you been offered?”, and “What caused you to not use the information or advice?”.

The third section of the interview aimed to further probe the types of information that guides substance use decision making in this population, as well as information that is relevant to the partner organization. Core questions in this section included “Do you ever use the internet to look up information about drugs or drug use?”, “How much do you feel your drug use is influenced by your peers (for example, friend, acquaintance, dealer, etc)?”, and “Do you have any ideas about how we could help street-involved youth find good, accurate information about drugs, and safe ways of using drugs? How can we help to stop the spread of bad information about drug use?”.

Post-Interview Comment Form. Following the completion of the interview and the verbal debriefing the researcher conducting the interview utilized a post-interview comment form (see Appendix D). The purpose of this form was for the interviewer to reflect on the overall mood and tone of the interview, including comments on the participant’s mood or emotions, reactions (e.g. emotional and physical) and tone of voice. Further points of this form included highlighting the strong and weak points of the interview and notable features, thus allowing for methodological reflexivity and possible changes during the following interviews should systemic issues arise during the interview process. A review of the post-interview comment forms showed that no systemic issues arose during the interview process that required changes to the interview process. The post-interview comment form was used to remove one interview from the analysis as it was decided that the participant was not able to consistently answer the interview questions. For example, on the post interview comment form it was noted that the

participant was jumpy, physically agitated, and unable to remain focused on a single topic while answering the interview questions.

Research Team

Given the qualitative nature of this research it is important to acknowledge the individuals involved in the collection and analysis of the data for this research, to acknowledge any potential biases that could impact the interpretation of the results. As the primary researcher on this team, I had the biggest impact on the creation of the survey, the collection of data, and the analysis and writing of the results, and thus, my potential bias from the lived experience of a white, middle class, female psychology student should be noted in the interpretation of these results. I kept the community partner involved in the creation of the survey and collection of data as much as possible in order to mitigate any potential biases in the wording of the questions. The research team consisted of myself and three undergraduate research assistants recruited from the psychology department at Carleton University. The first research assistant was involved with the interviewing, transcription, and coding, the second with transcription, coding, and conducting the focus group, and the third with transcription and survey data entry.

Planned Analysis

Thematic Analysis

Semi-structured interview responses were analyzed following the guidelines for thematic analysis outlined by Braun and Clarke (2006), and Table 2 provides a summary of their guidelines for good thematic analysis. Thematic analysis emphasizes the active role of the researcher in the data interpretation and highlights the importance of reflexivity through the research process to enhance the rigor of these findings (Schwab &

Syed, 2015; Syed, & Nelson, 2015). Reliability, or rigor, is ensured by making the research process transparent and by acknowledging the reflexivity of the researcher (Syed, & Nelson, 2015). *Reflexivity* is defined through two aspects; the first is an acknowledgement that the researcher as an active agent in the research process whose subjective judgements help to shape the interpretations of the data. The second is a continuous process of self-reflection of potential biases, assumptions, and theoretical predispositions in the research process, accomplished through recording these reflections during data collection and analysis (Barry et al., 1999). Researcher reflexivity was incorporated by keeping a ‘reflexivity journal’ to self-reflect on biases, assumptions, and potential emotional reactions through the data collection phase and through the data analysis, as well as regular check-ins with the research team throughout the data collection process. This provides a record of potential biases in order to increase the transparency of the research process. No significant biases were noted in the reflexivity journals. In addition, the post-interview comment forms noted strong and weak points of each interview, emotional reactions of the researcher to the participant, and overall tone or mood of the interview, creating an additional record of possible biases within each interview.

Table 2. *Criteria for Good Thematic Analysis (Braun & Clarke, 2006)*

Process	No.	Criteria
Transcription	1	The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for ‘accuracy’
Coding	2	Each data item has been given equal attention in the coding process.
	3	Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive.
	4	All relevant extracts for all each theme have been collated.
	5	Themes have been checked against each other and back to the original data set.
	6	Themes are internally coherent, consistent, and distinctive.
Analysis	7	Data have been analyzed – interpreted, made sense of - rather than just paraphrased or described.
	8	Analysis and data match each other – the extracts illustrate the analytic claims.
	9	Analysis tells a convincing and well-organized story about the data and topic.
	10	A good balance between analytic narrative and illustrative extracts is provided.
Overall	11	Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.
Written Report	12	The assumptions about, and specific approach to, thematic analysis are clearly explicated.
	13	There is a good fit between what you claim you do, and what you show you have done – i.e., described method and reported analysis are consistent.
	14	The language and concepts used in the report are consistent with the epistemological position of the analysis.
	15	The researcher is positioned as active in the research process; themes do not just ‘emerge’.

The validity of qualitative research is determined by the extent to which credible findings emerge that reflect the lived experience of the participants, providing representation to the majority of the participant voices. Ensuring credibility in the research findings is accomplished by creating themes that represent a significant number of the participant accounts, and by incorporating data excerpts from a wide selection of

participants into the writing of the final research findings. In addition, credibility can be increased through member reflections, where the themes are presented back to the participants in order to assess whether the participants agree that the chosen themes are representative of their experiences (Tracy, 2010). To achieve further credibility in the findings, I conducted a focus group at Operation Come Home with a research assistant after creating initial themes based on the qualitative interview data. All participants who had provided an email address to the research team following the completion of the survey or interview were contacted three weeks in advance of the focus group date, and again two days prior to the date.

This research took a primarily inductive, or data driven, approach to the thematic analysis, where themes were created based on the data present in the set rather than relying only upon an existing theoretical framework to evaluate the data (Braun & Clarke, 2006). This was deemed as an appropriate strategy given that there is relatively little known about the way that homeless and street-involved youth evaluate substance use information from peers. However, since I previously evaluated research regarding peer influence and substance use, there are some theoretical biases in place during the data analysis. More specifically, Gray and colleagues' (2005) framework for evaluating peer-provided information was used as a theoretical basis for the structure of the interview questions regarding peer information. Given the specific scope of the study, this thematic analysis focused on providing a detailed analysis of the themes relevant to this phenomenon, rather than a complete description of the entire data set. This was accomplished through detailed coding of all interview transcripts, and a more focused analysis of only the codes that were relevant to the scope of this research (i.e., peer

influence and peer information), leaving codes out of the analysis that were not relevant to the research questions (e.g., harm reduction strategies, experiences of youth homelessness).

Transcription and initial coding. First, the research team transcribed each interview verbatim using Trint, a voice-to-text software (Trint.com, [Online software] (2019) Retrieved from <https://trint.com>), as well as edited and anonymized each interview transcript to ensure no personal identifiers were included in the data (names, places, etc.). The transcription and editing process allowed the research team to become familiar with all data in the set. To ensure accuracy, I reviewed all transcripts edited by the additional members of the research team against the original audio recordings.

Following transcription, the research team started the formal coding process, using excerpts from the interview data generate initial codes. *Codes* are defined as the smallest element of the data that can be interpreted in a meaningful way (Boyatzis, 1998). For example, given the quote “I usually trust what my dealer tells me, like how much to take, he’s been doing this for a while”, we might code ‘Take advice from dealer’, ‘Trust my dealer’, and ‘High in experience’. During the coding process, one or more codes can be generated from a single excerpt, as noted in the above example, while other portions of the transcript may be irrelevant to the research and therefore not generate a code at all.

First, I randomly selected 5 interviews to remove from the coding process, and 5 interviews for all members of the team to code separately in order to establish reliability. Three independent coders were used in total (myself and two undergraduate research assistants). First, all members separately coded the same 5 interviews and met to compare final codes in order to establish reliability between coders. The majority of the codes

overlapped, and any discrepancies were resolved during the meeting in order to establish a final coding framework. While this final framework encompassed the majority of the codes used for the remaining interviews, new codes were added when deemed necessary (i.e., new information was introduced that had not been captured in the previous coding framework). The existing coding framework provided a structure for the type information to be coded, amount of context, and length of code, for any new codes to follow in order to maintain consistency of new codes between the coders. Once a reliable coding framework was established the remaining interviews were divided among the research team to complete coding. The remaining 5 interviews were left uncoded in order to test the final thematic framework against uncoded data.

Establishing higher-order themes. From the final list of codes, I created higher-order themes and subthemes that were representative of patterns within the data. A *theme* is defined as capturing an important aspect of the data as it relates to the overall research question and should represent a pattern prevalent within the dataset (Braun & Clarke, 2006). Given the codes from this example, an overarching theme might be ‘Experience’, where individuals with higher experience are seen as more trustworthy by their peers in the advice that they provide. A subtheme under this theme of experience may be ‘Dealers’, where the individuals selling substances are seen as particularly experienced and thus represent a subgroup of highly experienced and trustworthy peers. This process involved the creation of a ‘thematic map’ to organize the themes and subthemes, as well as listing initial data extracts that relate to each theme and subtheme to be presented in the final analysis. These initial themes were then presented to a sample of participants ($n=3$) during a focus group in order to test the validity of the initial themes as they relate

to the participants own experiences. The feedback from the participants indicated that the majority of the initial themes were an accurate representation of their lived experiences. Some discrepancies between the initial themes and the participant experiences were noted during the focus groups and added into the final thematic analysis. More specifically, nuances within the themes (i.e., personal and peer experience) were noted and additional themes (i.e., salience of information) were added following the focus group.

From the initial thematic map and feedback from participants, I reviewed and refined the themes to ensure that the themes are distinct from one another and form a cohesive pattern. This was accomplished in a twofold process, first by analyzing the data excerpts relevant to each theme and subtheme to ensure internal coherence, through ensuring that the data extracts are all consistently representative of a single idea. Then, by analyzing the themes in relation to one another to ensure they are distinct and representative in telling a story of an overall pattern in the data. Note that this process was recursive, in that I moved back and forth between the codes and themes before deciding upon the most appropriate themes and subthemes to be presented in the final analysis. To ensure accuracy of the themes as they related to the dataset, I tested the thematic framework on five randomly-selected uncoded interviews. All three main themes were represented by 100% of the uncoded interviews, and subthemes were represented between 60% - 80% of the uncoded interviews, confirming a good fit of the data to the thematic framework. Finally, I chose a subset of representative data extracts to be presented with each theme and subtheme in the final paper.

Regression Analysis

Data management. Missing data within the quantitative measures was identified prior to analysis and was assessed to ensure no systematic patterns existed within the missing data. Graphical and statistical analysis of the residuals against key predictor variables in the model was used in order to assess the normality and homoscedasticity of the sample. Substance use outcomes (substance use frequency and substance dependence) did not have normally distributed residuals, as noted by a visual inspection of the residual distribution and a significant Kolmogorov–Smirnov test. A possible consequence of this non-normality is a bias within the standard errors, which should be noted in the interpretation of the regression analysis with these outcomes. Given the small sample size, data transformation was deemed an inappropriate analytical strategy. Autonomy, relatedness, depression all showed normal distribution of residuals.

Outcome variables. Outcome variables in the regression analyses included substance use frequency, substance use dependence, autonomy, relatedness, depression, and program participation. Substance use frequency was evaluated as the average amount of use across three categories of substance: alcohol, marijuana, and all other drugs. Substance dependence was evaluated as an average score of the individual scale items. Autonomy, relatedness, and depression were evaluated as average scores from the survey scales. Program participation was evaluated as the total number of programs participants reported ‘Yes’ to having participated in, including mental health support and substance use support programs.

Missing Data. It was noted during the analysis that many of the peer and family credibility responses were coded as missing in the regression analysis due to participants

responding with “0 = I don’t have this person or group”. Participant responses of ‘I don’t have this person or group’ by peer category are recorded in Table 3. For each group, regression models included a dummy variable indicating whether the participant had this group or person (0=No, 1=Yes), and participants scoring 0 on the dummy code were also assigned a score of 0 on the corresponding credibility variable. A dummy code was not required for the group *Friend*, in which just one person reported not having anyone in this category. Each regression model then tested the effect of the dummy variable and an interaction effect of the dummy variable and credibility variable in order to separate and test for any effects of not having that person or group in their life.

Table 3. ‘I don’t have this person or group’ responses for each peer category

Peer Category	N (%)
Friend	1 (1.2)
Partner	23 (28.0)
Parent	8 (9.8)
Close Family	9 (11.0)
Dealer	11 (13.4)
Addictions Support Worker	29 (35.4)

Regression models. We used quantitative data coded from survey responses to questions about peer credibility and experience to test relations between youths’ peer information-sharing climate and their substance use frequency and dependence, depression, autonomy, and program participation. Assessments of *peer trust*, knowledge, and experience with drugs were used as indicators of *peer credibility* in relation to substance use. Credibility categories were used as predictors in four separate models separated by relationship context: peers (friends, romantic partners, and dealers), parents, close family, and addictions support workers. Multiple models were deemed an appropriate analytical strategy given low sample size and concerns of model overfitting.

Each credibility category was tested in separate models for substance use frequency, substance dependence, depression, autonomy, and relatedness. Program participation (including participation in the OCH employment, education, housing, or drop in programs, as well as any mental health support or substance use support) was indicated as a count variable of the total number of programs each participant reported using. Given that the outcome variable in this regression analysis was a count variable with a low mean count ($M = 1.67$, $SD = 1.03$), I used a Poisson regression analysis for these models in order to counter the bias that an ordinary least squares regression may introduce for this type of model (Coxe, West & Aiken, 2009). All analyses controlled for participants' demographic characteristics including age, gender identity, level of education, and more. We consider these analyses exploratory and acknowledge that the small sample size lacks power to reliably detect differences we might anticipate if we were performing confirmatory hypothesis tests.

Results

Participants

Participants were 63% male and ranged from 16 to 27 years old ($M = 21.35$, $SD = 3.00$; all except 5 were aged 25 or under). Participants provided demographic information about their relationship status, number of children, level of education, housing status, program participation, and current mental health or substance use support (see Table 4 and Table 5). Data on participant ethnicity was collected but not reported in this study because the research team concluded it was consistently misunderstood by participants (e.g., visible ethnic minority participant reporting their ethnicity as 'Canadian').

Table 4. Demographic characteristics of participants

Variable	Total Sample (<i>N</i> = 82)
Age, <i>M</i> (<i>SD</i>)	21.35 (3.0)
Gender identity, <i>n</i> (%)	
Male	52 (63.4)
Female	26 (31.7)
Non binary	4 (4.9)
Relationship status, <i>n</i> (%)	
Single	38 (46.3)
In a relationship / dating	31 (37.8)
Common law	10 (12.2)
Married	2 (2.4)
Children, <i>n</i> (%)	
No children	55 (67.1)
1 child	15 (18.3)
2 children	9 (11)
3 children	2 (2.4)
4 children	1 (1.2)
Currently in school, <i>n</i> (%)	19 (23.2)
Education level completed, <i>n</i> (%)	
Less than high school	8 (9.8)
Some high school	47 (57.3)
Completed high school	24 (29.3)
Completed post-secondary	3 (3.7)
Housing status, <i>n</i> (%)	
Their own apartment or house	32 (39)
Shelter, church, or street	25 (30.5)
Supportive housing (e.g., YMCA)	8 (9.8)
Parents' house	11 (13.4)
Friends' house	4 (4.9)

Descriptive of Outcome Variables

Program Participation. Program participation was assessed as a potential indicator of well-being in this sample, such that higher levels of participation in the programs offered by the community partner may be reflective of better life outcomes. 92.7% of participants reported a history of using the drop-in center (2 people were attending for the first time during our study recruitment), with length of usage ranging from 0 – 11 years ($M = 2.43$ years, $SD = 2.55$ years). Rates of participation in the

education, employment, and housing programs at Operation Come Home were lower, with 4.9% reporting participation in education programs, 37.8% participation in employment programs, and 14.6% participation in housing programs.

Table 5. Participation in Programs and Support

Program	Level of Participation, n (%)
Drop in center	76 (92.7)
Length of drop in participation (years), $M (SD)$	2.43 (2.55)
Education	4 (4.9)
Employment	31 (37.8)
Housing	12 (14.6)
Mental health support*	39 (47.6)
Substance use support*	24 (29.3)

*Support services were not specific to the community partner location

Substance Frequency and Dependence. Participants were asked to report their substance use frequency over the past year for a number of substances (see Table 6). Additionally, participants indicated whether they were dependent on any substances, and if yes, listed the substance causing them the most difficulty. 59 out of 82 participants reported experiencing difficulty with one or more substances, grouped across five main substance categories (see Table 7). These data confirm that youth in the sample were heavily substance using, particularly with a heavy use of alcohol, marijuana, and hallucinogenic drugs. The majority of participants reported a current dependence on a substance ($n = 59$), with the majority of participants showing dependence on either amphetamine drugs (e.g., speed, cocaine, Ritalin, etc) ($n = 25$) or marijuana ($n = 23$). Dependence scores were comparable between substance categories, with the highest levels of dependence being shown for opiates ($M = 2.86$, $SD = .96$) and the lowest for marijuana ($M = 2.16$. $SD = .72$).

Table 6. Descriptive Statistics of Substance Use Frequency

Substance	N (%) of users	M	SD	M (users) ¹	SD (users) ¹
Alcohol	78 (95.12)	4.05	2.07	4.21	2.00
Marijuana	80 (97.56)	6.95	1.72	7.10	1.46
Hallucinogenic	43 (52.44)	2.05	1.50	3.00	1.54
Cocaine / crack	38 (46.34)	2.27	2.04	3.74	2.23
Amphetamines	30 (36.59)	2.30	2.18	4.50	2.27
Heroin	4 (4.88)	1.12	.71	3.50	2.38
Prescription Opiates	30 (36.59)	1.76	1.39	3.00	1.63
Meth / Crystal meth	27 (32.93)	2.04	1.98	4.15	2.30
Fentanyl	8 (9.76)	1.10	.30	2.00	.00
Inhalants	3 (3.66)	1.10	.68	3.67	2.89
OTC Medication ²	27 (32.93)	1.79	1.51	3.41	1.76

*Frequency of use scale range from 1 (Not at all) to 8 (multiple times per day)

¹Users variables describe the amount of use occurring only in participants who had responded as using that substance at least once in the past year

²Describes over the counter medication being used for a reason other than its intended purpose

Table 7. Descriptive Statistics of Substance Dependence Scores (n = 59)

Substance Category	N (%)	M	SD
Alcohol	5 (6.1)	2.32	.86
Marijuana	23 (28)	2.16	.72
Amphetamine ¹	25 (30.5)	2.44	.66
Opiate ²	5 (6.1)	2.68	.96
Hallucinogenic ³	1 (1.2)	2	N/A

*Participants who listed more than one drug were coded under the most serious drug category— so, if they listed ‘pot and speed’ they were coded under ‘amphetamine drugs’

¹Amphetamine drugs defined as cocaine, speed, crack, MDMA, and prescription amphetamines such as Ritalin or Adderall

²Opiate drugs defined as heroin, Xanax, and ketamine

³Hallucinogenic drugs defined as LSD and mushrooms

Correlations

Means, standard deviations, and correlations between all predictor variables (credibility of different social categories, talking about drug use with different social categories, and individual levels of drug related knowledge, experience, and confidence in information) are presented in Table 8.

Levels of friends' credibility about drug use information was positively correlated with increased levels of romantic partners credibility, dealer credibility, and addictions support worker credibility, as well as being positively correlated with levels of relatedness. Romantic partner credibility was positively associated with support worker credibility, talking with romantic partner about drug use, as well as levels of autonomy and individual experience with drug use. Parent credibility was positively correlated with close family credibility, talking with parents about drug use, as well as talking with close family about drug use. Similarly, close family credibility was positively associated with talking to parents and talking to other close family about drug use. Dealer credibility was positively associated with both talking with a romantic partner and close family about drug use, and was positively correlated with mental health support. Finally, addictions support worker credibility was positively associated with talking to both friends and an addictions support worker about drug use, as well as being associated with levels of individual drug experience.

Overall, talking to one group about drug use was associated with talking to at least one other group – this was true for talking with friends being associated with talking to a romantic partner, talking with a romantic partner being associated with talking to an addictions support worker, and talking to parents being associated with talking to other close family. Additionally, talking to friends about drug use was positively related to individual experience with drugs, and talking with a romantic partner about drug use was positively associated with 'hard' drug use frequency (all drugs not including alcohol or marijuana).

Individuals' own experience with drug use was positively correlated with their own levels of knowledge about drug use, as well as confidence in their own drug related information. In addition, individual experience with drug use was positively associated with levels of substance use dependence. Relatedly, subjective levels of knowledge about drug use showed a strong positive correlation to the individuals' levels of confidence in their own drug related information.

Alcohol use frequency was positively associated with both the frequency of use of other drugs (not including alcohol and marijuana), as well as levels of substance dependence. Additionally, alcohol use frequency was positively associated with levels of depression. Relatedly, marijuana use frequency was positively associated with the frequency of use of other drugs.

Autonomy was positively correlated with levels of relatedness and negatively correlated with levels of depression. Autonomy was also positively associated with mental health support. Relatedness was negatively associated with levels of depression. Finally, overall program participation at Operation Come Home was positively associated with both mental health support and substance use support, and mental health support was positively correlated to substance use support.

Table 8. *Correlations Between Predictor and Outcome Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1. Friend credibility	1																						
2. Partner credibility	.31	1																					
3. Parent credibility	.21	.04	1																				
4. Family credibility	.19	.11	.55	1																			
5. Dealer credibility	.46	.18	.11	.18	1																		
6. Worker credibility	.48	.50	.07	-.09	.15	1																	
7. Talk to friend	.20	.13	.15	-.07	.14	.30	.42	1															
8. Talk to partner	.07	.50	-.18	-.05	.27	.30	.42	1															
9. Talk to parents	-.07	.20	.29	.34	.05	.10	.17	.23	1														
10. Talk to family	-.04	-.06	.32	.50	.27	-.02	.22	.21	.42	1													
11. Talk to worker	-.01	-.05	-.16	-.21	-.16	.35	.25	.34	.06	-.00	1												
12. Knowledge	.16	.20	.15	.18	.12	.23	.13	-.02	.22	.09	-.13	1											
13. Experience	.11	.34	-.10	-.12	.02	.41	.24	.24	.09	-.05	.19	.35	1										
14. Confidence	.12	.25	-.01	-.08	.10	.17	.16	.04	.14	.10	-.14	.45	.31	1									
15. Alcohol frequency	-.00	.02	-.08	-.14	.07	.03	.13	.09	.02	-.04	.11	.03	.25	.08	1								
16. Weed frequency	.05	-.02	.14	.15	-.09	.01	-.02	.22	.09	.17	.15	-.02	.10	-.01	.17	1							
17. Drug frequency	.07	.06	.08	-.20	-.07	.07	.07	.35	.06	.11	.18	-.09	.19	-.05	.32	.84	1						
18. Dependence	.14	.12	-.05	-.08	.08	-.03	.09	.11	.06	-.01	.13	.05	.42	.01	.25	.16	.21	1					
19. Autonomy	.10	.30	.12	-.02	.11	.14	.13	.15	.13	.25	.04	.10	.09	.18	.03	.12	.23	.06	1				
20. Relatedness	.25	.20	.03	-.05	.07	.07	.03	.00	.17	.03	.01	-.11	.08	.14	.05	-.03	.11	.10	.61	1			
21. Depression	-.02	-.16	-.17	-.15	.06	.02	-.03	-.06	-.11	-.19	.01	.09	.21	-.05	.25	.06	.06	.36	-.46	-.46	1		
22. Program Participation	.14	-.12	-.03	-.18	-.04	.22	.23	-.10	-.08	-.17	.30	-.20	.14	.02	.05	-.11	-.04	.07	-.00	.09	.03	1	
23. Mental Support	-.01	-.08	-.03	-.09	-.27	.21	.22	.03	.05	-.14	.26	-.20	.02	-.16	.10	.04	.04	.07	-.22	-.05	.25	.24	1
24. Substance Support	-.00	-.16	-.18	-.16	-.05	.26	.18	.08	.12	.05	.58	.01	.07	.10	.12	.14	.12	.10	-.20	-.14	.19	.36	.43

* **bold** values denote significance of $p < .05$

**No significant correlations with 'talking to dealer' so it was not included in this table

Regression Analysis

Substance use and well-being. I performed a series of linear regressions predicting substance use frequency (separated into alcohol, marijuana, and all other drug frequency), substance dependence, autonomy, relatedness, and depression from peer credibility (comprised of friend, romantic partner, and dealer credibility), parent credibility, close family credibility, and support worker credibility. Age, gender, relationship status, children, currently in school, and level of completed education were included as covariates. Only a small number of the models returned significant results. Full regression results for peer credibility predicting substance use outcomes can be found in Tables 9 and 10. Full regression results for peer credibility predicting well-being outcomes (autonomy, relatedness, and depression) can be found in Table 11. Full Poisson regression results for peer credibility predicting program participation count can be found in Table 12.

Peer credibility was unrelated to any measure of substance use frequency or dependence but was positively associated with some aspects of well-being. Specifically, people who found their romantic partner to be a more credible source of substance use information showed significantly higher levels of autonomy, $b = .34$, $SE = .15$, $t(68) = 2.20$, $p = .031$, 95% CI [.03, .64]. In addition, people who found their friends to be a more credible source of substance use information showed significantly higher levels of relatedness, $b = .36$, $SE = .14$, $t(68) = 2.60$, $p = .011$, 95% CI [.08, .64].

Finally, people who reported having parents in their lives showed significantly higher levels of relatedness, $b = .55$, $SE = .22$, $t(71) = 2.53$, $p = .015$, 95% CI [.12, .99]. Similarly, people who reported having close family in their lives reported significantly

higher levels of relatedness, $b = .59$, $SE = .21$, $t(71) = 2.80$, $p = .007$, 95% CI [.17, 1.01]. Parent credibility, close family credibility, and addictions support worker credibility were unrelated to any measure of substance use frequency, substance dependence, or any other aspect of well-being.

Table 9. Credibility Variables Predicting Alcohol and Marijuana Use Frequency

	Alcohol use frequency					Marijuana use frequency		
	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)
Intercept	5.52 (2.22)	5.42 (2.05)	4.52 (2.07)	5.60 (1.99)	9.28(1.73)	8.46(1.59)	8.51(1.62)	8.99(1.53)
Credibility Source								
Peer								
Friend	-.32 (.54)	-	-	-	.32 (.42)	-	-	-
<i>Partner present (Yes=1)</i>	-.63 (.87)	-	-	-	.29 (.67)	-	-	-
Partner	-.02 (.53)	-	-	-	.20 (.41)	-	-	-
<i>Dealer present (Yes=1)</i>	.32 (.76)	-	-	-	-.10 (.59)	-	-	-
Dealer	.29 (.57)	-	-	-	-.59 (.44)	-	-	-
<i>Parent present (Yes=1)</i>	-	-.13 (.81)	-	-	-	.99 (.63)	-	-
Parent	-	-.42 (.43)	-	-	-	.18 (.33)	-	-
<i>Close Family present (Yes=1)</i>	-	-	.54 (.78)	-	-	-	.91 (.61)	-
Close Family	-	-	-.44 (.38)	-	-	-	.26 (.29)	-
<i>Support Worker present (Yes=1)</i>	-	-	-	-.31 (.51)	-	-	-	.51 (.39)
Support Worker	-	-	-	.07 (.54)	-	-	-	.43 (.42)
Covariates								
Age	-.08 (.10)	-.08 (.09)	-.06 (.09)	-.08 (.10)	-.13 (.08)	-.13 (.07)	-.14 (.07)	-.13 (.07)
Gender (Male=1)	.13 (.56)	.27 (.55)	.26 (.54)	.19 (.56)	.79 (.43)	.70 (.43)	.85 (.42)*	.87 (.43)*
Relationship (Yes=1) ¹	.88 (.79)	.67 (.51)	.60 (.51)	.67 (.52)	.44 (.62)	.52 (.40)	.55 (.40)	.48 (.40)
Children (Yes=1)	-.20 (.60)	-.35 (.58)	-.29 (.57)	-.28 (.58)	-.26 (.47)	-.06 (.45)	-.12 (.45)	-.11 (.45)
In school (X=1)	-.51 (.63)	-.55 (.59)	-.45 (.60)	-.49 (.60)	-.39 (.49)	-.46 (.46)	-.32 (.47)	-.56 (.46)
Education ²	.11 (.58)	.14 (.55)	.11 (.55)	.11 (.55)	-.78 (.45)	-.58 (.42)	-.50 (.43)	-.70 (.42)

* $p < .05$, ** $p < .01$, *** $p < .001$ ¹Relationship: In a relationship = 1, Not in a relationship = 0²Education: Less than high school = 0, completed high school = 1

Table 10. Credibility Variables Predicting Other Drug Use and Substance Dependence

	All other drug use frequency					Substance dependence		
	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)
Intercept	6.40 (2.62)	4.70 (2.42)	3.82 (2.47)	5.19 (2.39)	1.33 (1.22)	1.05 (1.14)	.68 (1.16)	1.04 (1.11)
Credibility Source								
Peer								
Friend	-.97 (.64)	-	-	-	.36 (.31)	-	-	-
Partner present (Yes=1)	-.51 (1.02)	-	-	-	-.09 (.50)	-	-	-
Partner	.25 (.62)	-	-	-	-.13 (.29)	-	-	-
Dealer present (Yes=1)	.02 (.89)	-	-	-	-.50 (.45)	-	-	-
Dealer	.92 (.67)	-	-	-	-.10 (.31)	-	-	-
Parent present (Yes=1)	-	.46 (.95)	-	-	-	.11 (.45)	-	-
Parent	-	-.90 (.50)	-	-	-	-.13 (.24)	-	-
Close Family present (Yes=1)	-	-	.93 (.93)	-	-	-	.42 (.44)	-
Close Family	-	-	-.64 (.45)	-	-	-	-.09 (.21)	-
Support Worker present (Yes=1)	-	-	-	-.11 (.61)	-	-	-	.04 (.29)
Support worker	-	-	-	-.04 (.65)	-	-	-	-.27 (.30)
Covariates								
Age	-.15 (.12)	-.11 (.11)	-.09 (.11)	-.10 (.12)	.02 (.06)	.01 (.05)	.01 (.05)	.02 (.05)
Gender (Male=1)	.37 (.66)	.61 (.65)	.56 (.64)	.39 (.67)	.16 (.31)	.12 (.31)	.15 (.30)	.01 (.31)
Relationship (Yes=1) ¹	1.00 (.94)	1.04 (.61)	.91 (.60)	.94 (.63)	.51 (.44)	.38 (.29)	.36 (.28)	.36 (.29)
Children (Yes=1)	.12 (.71)	-.10 (.68)	-.03 (.68)	-.05 (.70)	-.24 (.33)	-.23 (.32)	-.21 (.32)	-.28 (.32)
In school (X=1)	-.43 (.74)	-.34 (.70)	-.12 (.71)	-.20 (.72)	.39 (.35)	.27 (.34)	.36 (.34)	.33 (.34)
Education ²	.53 (.68)	.53 (.64)	.42 (.65)	.42 (.66)	.32 (.32)	.37 (.30)	.38 (.31)	.39 (.30)

* $p < .05$, ** $p < .01$, *** $p < .001$

¹Relationship: In a relationship = 1, Not in a relationship = 0

²Education: Less than high school = 0, completed high school = 1

Table 11. *Credibility Variables Predicting Well-Being Outcomes*

	Autonomy				Relatedness				Depression			
	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)
Intercept	3.91(.65)	3.77(.62)	3.74(.64)	4.19(.59)	3.42(.57)	3.50(.55)	3.36(.56)	4.08(.55)	3.49(.61)	3.12(.60)	3.02(.61)	2.81(.58)
Credibility Source												
Peer												
Friend	.06 (.16)	-	-	-	.36 (.14)*	-	-	-	-.12 (.15)	-	-	-
Partner present (Yes=1)	.36 (.25)	-	-	-	.38 (.22)	-	-	-	-.37 (.24)	-	-	-
Partner	.34 (.15)*	-	-	-	.18 (.14)	-	-	-	-.21 (.14)	-	-	-
Dealer present (Yes=1)	.21 (.22)	-	-	-	.29 (.19)	-	-	-	-.49 (.21)*	-	-	-
Dealer	.11 (.17)	-	-	-	.05 (.15)	-	-	-	-.00 (.16)	-	-	-
Parent present (Yes=1)	-	.25 (.25)	-	-	-	.55 (.22)*	-	-	-	-.22 (.24)	-	-
Parent	-	.04 (.13)	-	-	-	-.02 (.12)	-	-	-	-.11 (.13)	-	-
Close family present (Yes=1)	-	-	.24 (.24)	-	-	-	.59 (.21)**	-	-	-	-.13 (.23)	-
Close family	-	-	-.05 (.12)	-	-	-	-.05 (.10)	-	-	-	-.09 (.11)	-
Support worker present (Yes=1)	-	-	-	-.10 (.15)	-	-	-	-.02 (.14)	-	-	-	.07 (.15)
Support worker	-	-	-	.28 (.16)	-	-	-	.19 (.15)	-	-	-	-.12 (.16)
Covariates												
Age	-.05 (.03)	-.05 (.03)	-.05 (.03)	-.05 (.03)	-.04 (.03)	-.06 (.03)*	-.05 (.03)*	-.06 (.03)*	-.01 (.03)	-.01 (.03)	-.01 (.03)	-.00 (.03)
Gender (Male=1)	.41 (.16)*	.34 (.17)*	.40 (.17)*	.45 (.17)**	.40 (.14)**	.32 (.15)*	.40 (.15)**	.39 (.16)*	-.32 (.15)*	-.26 (.16)	-.30 (.16)	-.34 (.16)*
Relationship (Yes=1) ¹	.05 (.23)	.44 (.16)**	.45 (.16)**	.47 (.16)**	-.01 (.20)	.36 (.14)*	.36 (.14)*	.37 (.15)*	.16 (.22)	-.21 (.15)	-.23 (.15)	-.24 (.15)
Children (Yes=1)	.15 (.17)	.15 (.18)	.13 (.18)	.18 (.17)	.52 (.15)**	.55 (.16)**	.53 (.15)**	.54 (.16)**	-.16 (.22)	-.19 (.17)	-.17 (.17)	-.19 (.17)
In school (X=1)	-.15 (.18)	-.05 (.18)	-.03 (.18)	-.10 (.18)	-.23 (.16)	-.17 (.16)	-.08 (.16)	-.20 (.17)	.29 (.17)	.21 (.17)	.20 (.18)	.25 (.17)
Education ²	.07 (.17)	.08 (.17)	.08 (.17)	.02 (.16)	.24 (.15)	.28 (.15)	.29 (.15)	.20 (.15)	.00 (.16)	-.00 (.16)	-.02 (.16)	.03 (.16)

* $p < .05$, ** $p < .01$, *** $p < .001$ ¹Relationship: In a relationship = 1, Not in a relationship = 0²Education: Less than high school = 0, completed high school = 1

Program participation. I used a Poisson regression model predicting the total number of programs participated in (including education, employment, housing, drop-in, mental health support, and substance use support), from peer credibility (comprised of friend, romantic partner, and dealer credibility), parent credibility, close family credibility, and support worker credibility. Age, gender, relationship status, children, currently in school, level of completed education, and length of time using the drop in centre were included as covariates. Full regression results can be found in Table 12.

Peer credibility, parent credibility, and close family credibility were unrelated to the amount of programs participation, however, the presence and credibility of a substance use support worker was positively associated with program participation. Having a substance use support worker was associated with participation in more programs, $b = .37$, $e^B = 1.45$, $SE = .17$, $p = .033$, 95% CI [.03, .71]. In addition, support worker credibility was associated with participation in more programs, $b = .42$, $e^B = 1.52$, $SE = .19$, $p = .028$, 95% CI [.05, .80].

Table 12. *Credibility Variables Predicting Program Participation*

	B(SE)	e ^B	B(SE)	e ^B	B(SE)	e ^B	B(SE)	e ^B
Intercept	1.36(.70)	3.90	1.73(.67)	5.64	1.99(.66)	7.32	1.62(.64)	5.05(1.90)
Credibility Source								
Peer								
Friend	.15 (.17)	1.16	-	-	-	-	-	-
Partner present (Yes=1)	-.44 (.31)	-1.55	-	-	-	-	-	-
Partner	-.23 (.17)	-1.26	-	-	-	-	-	-
Dealer present (Yes=1)	.30 (.26)	1.35	-	-	-	-	-	-
Dealer	-.33 (.21)	1.39	-	-	-	-	-	-
Parent present (Yes=1)	-	-	.13 (.30)	1.14	-	-	-	-
Parent	-	-	-.11 (.15)	-1.12	-	-	-	-
Close family present (Yes=1)	-	-	-	-	-.24 (.26)	1.27	-	-
Close Family	-	-	-	-	-.16 (.13)	-1.17	-	-
Support worker present (Yes=1)	-	-	-	-	-	-	.37 (.17)*	1.45*
Support worker	-	-	-	-	-	-	.42 (.19)*	1.52*
Covariates								
Age	-.04 (.03)	-1.04	-.06 (.03)*	-1.06*	-.05 (.03)	-1.05	-.06 (.03)	-1.06
Gender (Male=1)	-.08 (.19)	-1.08	-.01 (.18)	-1.01	-.04 (.19)	-1.04	.11 (.21)	1.12
Relationship (Yes=1) ¹	.26 (.29)	1.30	-.08 (.17)	-1.08	-.09 (.17)	-1.09	-.19 (.18)	-1.21
Children (Yes=1)	.04 (.20)	1.04	.05 (.20)	1.05	.04 (.20)	1.04	.16 (.21)	1.17
In school (X=1)	.31 (.18)	1.36	.41 (.17)	1.51	.33 (.18)	1.39	.35 (.17)	1.42
Education ²	.18 (.20)	1.20	.02 (.19)*	1.02*	-.02 (.20)	-1.02	-.04 (.19)*	-1.04*
Drop in length (years)	.01 (.00)*	1.01*	.01 (.00)*	1.01*	.00 (.00)	1.00	.01 (.00)	1.01

* p < .05, **p < .01, ***p < .001

¹Relationship: In a relationship = 1, Not in a relationship = 0

²Education: Less than high school = 0, completed high school = 1

Exploratory analysis. As an exploratory analysis, I replicated the linear and Poisson regressions predicting substance use/dependence and well-being outcomes using individual experience with drugs, knowledge about drug use, and confidence in drug use information as predictors (see full regression results presented in Table 13, Table 14, and Table 15.). A small number of the regression models returned significant results.

People with more individual experience with drug use showed significantly higher levels of alcohol use frequency, $b = .86$, $SE = .42$, $t(1) = 2.09$, $p = .040$, 95% CI [.04, 1.69]. People with more individual experience with drug use showed significantly higher levels of drug use other than alcohol and marijuana, $b = 1.40$, $t(1) = 2.95$, $p = .004$, 95% CI [.45, 2.35]. People with more individual experience with drug use showed significantly higher levels of substance dependence, $b = .88$, $SE = .21$, $t(1) = 4.14$, $p = .000$, 95% CI [.46, 1.31]. Finally, results of a Poisson regression indicated that individuals with higher self-reported levels of knowledge about substance use showed significantly less program participation, $b = -.43$, $e^B = -1.54$, $SE = .16$, $p = .006$, 95% CI [-.74, -.13].

Table 13. *Individual Confidence Levels Predicting Substance Use Outcomes*

	Alcohol	Marijuana	All other drugs	Substance Dependence
	B(SE)	B(SE)	B(SE)	B(SE)
Intercept	3.44 (2.28)	8.99 (1.84)	1.48 (2.63)	.02 (1.18)
Knowledge	-.19 (.48)	-.06 (.39)	-.34 (.56)	-.16 (.25)
Experience	.86 (.41)*	.38 (.33)	1.40 (.48)**	.88 (.21)***
Confidence	.04 (.42)	-.16 (.34)	.31 (.49)	-.28 (.22)
Covariates				
Age	-.07 (.09)	-.14 (.07)	-.09 (.11)	.00 (.05)
Gender (Male=1)	.23 (.54)	.87 (.43)*	.44 (.62)	.25 (.28)
Relationship (Yes=1) ¹	.54 (.50)	.54 (.40)	.82 (.58)	.30 (.26)
Children (Yes=1)	-.17 (.58)	-.05 (.47)	.09 (.67)	.01 (.30)
In school (X=1)	-.53 (.59)	-.51 (.47)	-.28 (.68)	.24 (.31)
Education ²	.08 (.54)	-.65 (.43)	.31 (.62)	.37 (.28)

* $p < .05$, ** $p < .01$, *** $p < .001$

¹Relationship: In a relationship = 1, Not in a relationship = 0

²Education: Less than high school = 0, completed high school = 1

Table 14. Individual Confidence Levels Predicting Well-Being Outcomes

	Autonomy <i>B(SE)</i>	Relatedness <i>B(SE)</i>	Depression <i>B(SE)</i>
Intercept	3.43(.71)	3.99(.64)	2.62(.67)
Knowledge	.04(.15)	-.27(.14)	.08(.14)
Experience	.03(.13)	.14(.12)	.22(.12)
Confidence	.15(.13)	.12(.12)	-.16(.13)
Covariates			
Age	-.04(.03)	-.05(.03)*	-.01(.03)
Gender (Male=1)	.32(.17)	.35(.15)*	-.25(.16)
Relationship (Yes=1) ¹	.46(.16)**	.35(.14)*	-.25(.15)
Children (Yes=1)	.08(.18)	.51(.16)**	-.09(.17)
In school (X=1)	-.09(.18)	-.12(.17)	.20(.17)
Education ²	.02(.17)	.23(.15)	.02(.16)

* $p < .05$, ** $p < .01$, *** $p < .001$

¹Relationship: In a relationship = 1, Not in a relationship = 0

²Education: Less than high school = 0, completed high school = 1

Table 15. Individual Confidence Levels Predicting Program Participation

	<i>B(SE)</i>	e^B
Intercept	1.94 (.74)	6.96
Knowledge	-.43 (.16)**	-1.54**
Experience	.30 (.15)	1.35
Confidence	.03 (.14)	1.03
Covariates		
Age	-.06 (.03)	-1.06
Gender (Male=1)	.07 (.19)	1.07
Relationship (Yes=1) ¹	-.16 (.17)	-1.17
Children (Yes=1)	.14 (.21)	1.15
In school (X=1)	.11 (.20)	1.12
Education ²	.44 (.17)*	1.55*
Drop in length (years)	.01 (.00)*	1.01*

* $p < .05$, ** $p < .01$, *** $p < .001$

¹Relationship: In a relationship = 1, Not in a relationship = 0

²Education: Less than high school = 0, completed high school = 1

Qualitative Results

The thematic analysis of the semi-structured interviews with participants revealed three overarching themes: peer influence on patterns of substance use (THEME ONE); peer information sharing within groups regarding substance use (THEME TWO), and finally, using the internet to seek substance use information (THEME 3).

Social influence of peer groups is a significant theme within drug use in homeless and street-involved youth (THEME 1), seen in the way that youth use substances socially, use similar substances within a social group, and initiate or stop the use of specific substances due to peer influence.

In addition to the peer influence on patterns of substance use within social groups, peer groups tend to share information about drug use (THEME 2). A number of relevant themes are important in the way that youth share drug related information with each other, including the salience of the information to the individual, the trustworthiness of the person sharing the information, and finally the amount of drug related experience, both of the source of the information and the individual receiving the information.

Finally, while a number of social factors influenced the way that drug related information was sought out, received, and evaluated, the participants reported that internet use was a main avenue of seeking drug related information, and should thus be considered equally in this analysis (THEME 3).

Table 16. *Themes, Subthemes, and Participant Endorsement*

Themes	Participant Endorsement n (%)
Theme 1: Peer Influence on Patterns of Drug Use	
1a. Drug use occurring with peers	32 (69.57)
1b. Peers using similar drugs	31 (67.39)
1c. Starting use due to peer influence	32 (69.57)
1d. Stopping use due to peer influence	24 (52.17)
1e. Peer pressure	16 (35.56)
Theme 2: Peer Information about Drug Use	
2a. Context of Peer Information Sharing*	45 (100)
2b. Trust of others	19 (41.30)
2c. Experience with drugs	
Peer experience with drugs	41 (89.13)
Personal experience with drugs	22 (47.83)
2d. Salience of information	22 (47.82)
Theme 3: Internet Use for Drug Information	42 (91.30)

*Subtheme consists of each participant's subjective experience of peer information sharing regarding drug use, as such, every participant endorsed this subtheme

Theme 1: Peer Influence on Patterns of Drug Use

Both the thematic analysis and the survey data revealed a significant social component to drug use, where peer groups talked about, shared, and used drugs within their peer group. Most youth in the sample reported talking to their friends about their drug use ($n=64$), as well as using ($n=73$) and sharing ($n=69$) drugs with friends and buying drugs from friends ($n=54$; see Table 17.)

Table 17. *Indicators of Drug Influence Among Social Categories*

Social Group	Talk, n (%)	Use, n (%)	Share, n (%)	Buy, n (%)	Valid Responses (n)
Friends	64 (80.00)	73 (91.25)	69 (86.25)	54 (67.50)	80
Romantic Partner	45 (73.77)	37 (60.66)	39 (63.93)	13 (21.31)	61
Parents	41 (53.95)	15 (19.74)	14 (18.42)	7 (9.21)	76
Close family	29 (39.19)	29 (39.19)	27 (36.49)	12 (16.22)	74
Dealer	36 (49.32)	46 (63.01)	41 (56.16)	67 (91.78)	73
Support Worker	29 (52.72)	0 (0.00)	0 (0.00)	0 (0.00)	55

* n (%), reporting YES responses and percentage out of valid data responses

These results indicate that talking about drugs, using drugs, and sharing drugs within a peer group context is a common experience among homeless and street-involved youth. This gives important context to the social environment in which peer influence on drug use may occur, where drug use is a common experience within peer groups, and thus, individuals may influence (and be influenced by) the peers that they are using drugs with on a regular basis. The commonality of drug use within peer groups appeared to influence the patterns of drug use in individuals. Peer influence manifested in a number of ways, specifically in youth reporting using drugs most regularly with their peer groups (Subtheme 1a), youth tending to engage in same types of substance use (e.g., close friends using marijuana together, but not heroin; Subtheme 1b), and youth discussing that they started or stopped using a particular substance due to peer influence (Subthemes 1c and 1d). Finally, peer influence was seen to be a distinct, and more frequently occurring instance than direct peer pressure to use drugs or take drug related advice (Subtheme 1e).

Subtheme 1a: Drug use occurring with peers. The majority of participants ($n=32$, 70%) discussed engaging in substance use within social situations in their peer groups, rather than alone. This type of peer influence on drug use was succinctly described by Kwame in responding to whether he felt his drug use was influenced by his peers, stating: “Of course. Yeah. They always smoke [marijuana]. So when I’m around them, I smoke.” (Kwame, 21/M). Similarly, in discussing whether she felt her drug use was influenced by her peer group, Gwenyth stated feeling that her usage was heavily influenced by her friends, given that her use of marijuana occurs almost exclusively within the context of her peer group, saying: “I find that I never really smoke weed alone. I’m often with friends whenever I do it.” (Gwenyth, 24/F).

In discussing his relationships with close friends, Batman described friendships wherein using drugs was the activity that would take up the majority of their time spent together.

Um, well I've had close friends where we just like... we just used together, and, erhm, you know you'd just hang out, you know, right when we woke up, till pretty much bedtime. And we'd just get high. (Batman, 21/M).

Adding to this concept, Martina discussed using drugs or alcohol with her friends for safety purposes, stating that she would prefer to be with her friends because they would know what to do in a situation where her safety or health was in danger.

Cause whenever I, I were to go out and like do drugs or go out and drink and whatever, I'm always with my friends. Yeah, I don't go out alone and drink and do drugs just in case something bad happens. I need somebody there with me. ... They, they've been through it. And plus on top of that, they'll, they'll know what to do if anything bad happens. (Martina, 21/F).

In discussing buying drugs from a former friend, Morty stated that he would use drugs with his dealer and his partner during these interactions.

Well before like ... I'd just go and kinda grab some, we'd hang out, like we'd maybe kind of use a little bit together, and then like me and my ex-girlfriend would go home after or whatever. (Morty, 24/M).

Finally, in talking about the way his drug use was influenced by his peers, Puma noted that he purposefully avoided peers who were using heavier drugs after he had stopped using those drugs himself, instead choosing to spend time with peers who used

only marijuana. Puma went on to discuss typically using marijuana with his peers rather than alone, stating it is more enjoyable as a group experience.

I just kinda, try and avoid surrounding myself with people that do harder drugs. I just, chill with people that smoke weed and, [sigh] yeah we all wanna, have a, hoot here and there, so. We all kinda just like, hey do you wanna go smoke up? Yeah, 'kay let's go. Smoke as a group, it's a little bit more fun, rather than just sitting there, smoking alone. (Puma, 21/M)

These examples suggest that while youth are typically using substances in a social context, there may be a number of motivations behind peer groups typically using substances together, highlighted through examples of youth using drugs socially for fun, for safety, or for convenience.

Subtheme 1b: Peers Using Similar Drugs. Youth reported engaging in drug use as a social activity, in addition to this social experience most peers who spent time together tended to use the same types of drugs ($n=31$, 67%). This incidental finding was particularly interesting given that it was not a direct question within the interview, but rather a theme that came up organically in participant interviews. In one example of the use of similar drugs within a peer group, Sarah discussed using speed both with her romantic partner and roommates while they all lived together.

I had three other roommates at the time and all four of us were doing speed. I, I was living with three guys, my boyfriend two other roommates and all four of us were doing speed ... (Sarah, 19/F).

Other participants more directly noted patterns of similarity of the substances used within peer groups. In discussing her patterns of drug use within her group of friends, Liz

noted commonalities of substances used within different peer groups. She stated that while different peer groups who hang out in different locations used mostly cocaine or crack cocaine, the majority of her own peer group primarily used marijuana.

And I know some people, at the old building I used to hang out with all do like coke and crack, right? There's like different areas that everyone kind of prefers one drug over the other. Due to accessibility kind of thing, like ... What I find is like the majority of our friend group does do like, weed right? Cause I'm finding like, there may be a little bit of other users who use other ones, but there's always that majority of hey, we all use this and it's kind of common. (Liz, 18/F)

Denis Rogers confirmed the similarity of substances used within his own peer group. He notes that individuals within his peer group tended to share opinions on what drugs were acceptable and unacceptable to use, stating: "A lot of my friends share the same opinion, on what drugs are clearly fucked up and what drugs are clearly there for pleasure. So." (Denis Rogers, 19/M). In a later response discussing information sharing with his friends, he stated that his friends all used the same drugs at a similar frequency to himself, going on to say that he felt this made them reliable sources of advice for drug use.

They're like, we all do the same drugs. We all, except, a few, do so-some other stuff but like the majority. We just all, once a year, acid or shrooms, every other day in between we smoke weed. (Denis Rogers, 19/M).

These examples demonstrate that, in addition to the social component of drug use within a peer groups, youth within a peer group use similar types of drugs and share similar opinions on the types of drugs deemed acceptable to use.

Subtheme 1c: Starting Use. Patterns of substance use, specifically the initiation or stopping of substance use, were also seen to be influenced by peer groups. Most participants ($n=32$, 70%) reported that their initial use of a given substance occurred as a result of peer influence. In talking with Catwoman about people with whom she discusses her drug use, she stated that her best friend, an experienced drug user, influenced her own initiation into drug use. Catwoman went on to note that this influence was not the result of a direct pressure, but rather through the availability of the drugs from her friend.

To be honest that's actually who got me on my drugs was my best friend.

[Laughs] ... I never tried them until I hung out with her and then she started doing them so I started doing them. ... Well, it's not like she peer pressured me but she would offer it to me, and if I said no she would accept that but if I said sure then she would give it to me. (Catwoman, 24/F)

Ease of accessibility through peers was an influential factor in initiating drug use for Mary as well as Catwoman. Recalling a time when she felt her drug used had been influenced by her friends, Mary discussed first trying hallucinogenic mushrooms when her friends offered to share them with her. Mary stated that while she initially refused the offer, she changed her mind given that the drugs were easily accessible to her in that situation.

Mmm... only like a little bit, cause like, my friend who had the shrooms they were like asking me like, I think like twice if I wanna join. And I was like no at first, but then I was like starting to consider it. [*Interviewer: OK. What changed your mind?*] Well like, I was like on the fence and then I was like OK I'll just give

it a shot, cause like it's in front of me anyways, and I'll take just a little bit, it'll be okay, yeah. (Mary, 25/F)

While ease of accessibility was an influential factor for some participants, others noted that simply watching their friends having fun using a drug was influential in their initial use. In discussing whether he had ever engaged in drug use due to peer influence, Batman stated that he initially used LSD in a social situation within his peer group. Batman discussed initially feeling reluctant to try LSD, and making the decision to use LSD after seeing his friends appearing to have fun.

Um, yeah. Well that was like, probably... actually yeah, it was back uh when I did acid. Yeah. Just cause ... I really didn't want to do it, I was scared to do it. And... and then when I saw them all having a good time, laughing and stuff, I did it.

(Batman, 21/M)

Most participants reported experiences of initial use of a given substance occurring as a function of peer influence. Although this was predominantly seen within friend or romantic partner settings, a smaller subset of these participants ($n=2$, 4%) reported that their initial use occurred with a parent. In one example, Sparky stated that her biological father offered her cocaine, later going on to state that this was her first drug experience outside of alcohol and marijuana use at that time.

My biological father's the one who got me into drugs. He's the one who fucking, offered me a line of cocaine, and I remember I was 13. And I was at his place for the first Christmas. So ... (Sparky, 24/F).

In another example, Bob discussed his initial use of marijuana as occurring with his mother. Bob stated that his mother was an experienced drug user, and that her

preference was for his initial use of marijuana to be with her rather than someone else.

Bob reported his mother going on to state that he should come to her for advice about other substances in the event that he was interested in trying drugs other than marijuana.

So, and that's actually, when I start smoking weed actually, it was with my mom, because. I said to her, I was like 'Mom I wanna try weed for the first time' you know, so she's like OK well, at least you came to me, and not did it with someone else. So, me and her, we smoked our fir- smoked me my first joint and stuff like that, so. But, I know I'm, and uh, and she told me like if you ever, you know like if you do any other drugs, you tell me and I'll let you know because I've done them all a-and I know what they're like and stuff like that, so. (Bob, 25/M).

These examples highlight the impact of peer influence on the youth's initial use of a given substance, demonstrating that both accessibility of a drug as well as observing peers enjoying the use of a given substance were influential in the decision to try that substance. Additionally, these examples bring focus to the smaller group of youth who experienced initial use as a function of parent, rather than peer, influence.

Subtheme 1d. Stopping Use. A number of participants ($n=24$, 52%) reported stopping the use of a given substance due to peer influence. Several participants reported stopping their use following the death of a friend due to an overdose. In one example, Emily discussed the reasons leading to her stopping her use of all substances, stating: "... like one of my friends OD'd and died, so like, it kinda woke me up. So, I kind of stopped using." (Emily, 23/F).

In a similar story, RAKS discussed ceasing his use of drugs following the overdoses of a number of close friends during his times of heavy use, stating that this influenced his decision to stop using.

Yeah. Um, that's why. OK, the reason why I stopped doing drugs, is cause a few people back then passed away that uh, I was really close to. The last one being [name] and uh, [inaudible] well, actually a year and a half, I just was like, I thought about that girl so much. She died doing needles. Fuck. And then I woke up [month, day], it was 7:13 in the morning. I looked at myself, I will never forget it. and I was like I'm not doing this anymore. I'm done. After today, it's done. (RAKS, 27/M).

While many participants reported the death of a friend being an influential factor in their decision to stop using, other participants reported seeing the effects of drug use on their peers as influencing this decision. Josh discussed this occurrence in stopping his use of amphetamines, stating that although his intentions had been to use speed recreationally and infrequently, his romantic partner became heavily dependent on speed. He goes on to note that observing her patterns of use and dependence on speed contributed to his own decision to stop using.

Because it was something that I wasn't gonna do very often at the time. But. And then, whenever she got addicted to it, and she like freaked out, I'm like, that could be me. So then I stopped. ... (Josh, 19/M)

Um... Mainly it was my ex-girlfriend that I was with at the time about the whole like speed thing. Because she got addicted to it, and she was like freaking out and all that, and I was like, yeah, no, not doing that again. [Laughs]. Just like, it wasn't

really scary, it was just like, you really think about it cause it can mess up your head too. Like worse than like I think anything else, but. (Josh, 19/M)

Finally, some youth discussed stopping their own drug use in order to support a friend who was trying to reduce or abstain from substance use. In discussing whether a peer had ever influenced his decision to stop using, Philipe stated that when his friend intended to reduce their use of speed and cocaine, and that the rest of his peer group also decided to reduce their levels of use.

Um... Yeah. Uh, one of my buddies was trying to, get away from like, speed... and coke. And then, like me a couple of our other friends, had to stop doing that stuff around him. But we still hung out with him all the time, so we cut back like, a lot.
(Philipe, 18/M)

These examples demonstrate the influence of peer groups on reducing or abstaining from substance use. Observing the negative effects of a drug, such as dependence, or helping a friend to stop using a substance were noted as influential factors in stopping substance use. Additionally, these examples highlight the salience of overdoses within peer groups of street-involved youth as an influential factor in stopping substance use.

Subtheme 1e. Peer Influence vs Peer Pressure. A final, relevant subtheme was the distinction between direct pressure from peers to engage in substance use, and indirect peer influence creating an internal motivation to engage in substance use. Peer influence was seen to be a distinct, and more frequent occurrence among participants ($n=42$, 91%) in comparison to occurrences of direct peer pressure to use drugs or take drug related advice ($n=16$, 36%). Most participants did not report feeling motivated to

engage in substance use following overt peer pressure, but rather feeling internally motivated to engage in substance use after seeing others in their social group engaging in use, characteristic of peer influence. Comments above from Catwoman, Mary, and Batman illustrate this point.

Sabrina stated feeling that her boyfriend's use of marijuana influenced her own use of marijuana, stating that although she intended to reduce her frequency of use, seeing her romantic partner smoke marijuana on a daily basis influenced her own decision to use more frequently.

Um, a lot, like, I wanna quit smoking weed, cause it makes me so lazy. I wanna do shit with my life, but, my boyfriend smokes weed like every day so, it's kind of, really doesn't help, when I'm seeing him smoke it just makes me wanna smoke. (Sabrina, 18/F)

In discussing whether he felt his peer group influenced his drug use, Phil stated that seeing his friends using marijuana would make him want to engage in marijuana use, while being around sober people would have the effect of lessening his desire to engage in marijuana use.

I would say um, let's just say I'm beside someone that is, smoking weed, I will literally instantly wanna smoke weed, just because, it's like I don't wanna be that person, that's not high and this person's high so I'll be like okay I gotta do the same thing. But if I'm around sober people and this person's sober I'm like, OK imma do the same thing. (Phil, 23/M)

While peer influence was a commonly reported experience by the participants ($n=42$, 91%), a number of participants ($n=16$, 36%) also reported instances of feeling

direct pressure from peers or others to engage in drug use. In the most extreme example of direct peer pressure in the sample, Cola states receiving both direct pressure and threats to engage in drug use at a party. She discussed feeling pressured to use drugs and wanting to leave the situation, and eventually using more drugs than she intended to.

I was at a party, and pretty much everyone was doing them, and I was like, okay, like I don't wanna do it, I'm just here for the booze, I don't want to do drugs. So, they're like, 'Oh well if you don't do it we're gonna slip it in your drink and we're gonna rape you.' And I'm like, this is so fucked up I wanna go home. And, I tried to leave and, they all pulled me and they're like, you need to do drugs, you need to do drugs, I'm like fine, I'll just do one small little line. And then I ended up [doing] six. (Cola, 16/F)

In an additional example of direct peer pressure to engage in substance use, Ann states feeling pressured through a constant beratement from her dealer to purchase and use the drugs being sold, through arguments stating that the drugs were clean and good quality.

Well, cause the constant saying 'no it's okay, I don't do that'. And the constant "Oh c'mon it's good, it's clean stuff, it's this, it's that", it's like kay no, like I really don't want to. [*Interviewer: And was it someone trying to sell to you?*] Yeah, try to get me to try it, and then buy some. And it's just like, no I'm good. (Ann, 25/F)

These quotes demonstrate the distinction between instances of direct peer pressure to use drugs, and the more common occurrence of peer influence, where seeing peers engaging in substance use created internal motivation to use drugs. Additionally, these examples show that although peer influence is a more frequent occurrence, instances of

direct peer pressure were reported by a number of participants, and in some cases resulted in more extreme consequences.

THEME 2: Peer Information

An important aspect of peer influence is youth seeking and sharing information relating to drug use within their peer group. Given that most youth reported using drugs with their friends or romantic partners, it follows that peer groups also serve as a frequent source of information about drug use. A number of factors were relevant in the evaluation of drug related information, in particular, the *trustworthiness* of the information source, the level of drug *experience*, both of the individual giving and receiving the information, and finally the *salience* of the information to the individual.

Subtheme 2a. Context of Peer Information Sharing. Several interview questions aimed to gain context about peer information sharing regarding drug use (e.g., sources of information, types of information), given the minimal literature on this topic among homeless and street-involved youth. Overall, participants reported discussing drug use most often with their peers (friends or romantic partners), as indicated in Table 17. More participants reported talking to members of their peer groups, including friends ($n=64$), or romantic partners ($n=45$) than parents ($n=41$) or addictions support workers ($n=29$).

Philipe reported sharing drug related information with his peers, stating that since the majority of his peer group was also engaged in using substances, they were likely to share information about their drug experiences with one another.

Yeah. I mean, pretty much all of us do it, like. We'll try something, and then, if we get like really messed up it's like, 'Hey guys you might want to try this, but you know, take it easy.' [Laughs]. (Philipe, 18/M)

As noted in Table 17, a number of the youth also reported discussing their drug use with people outside their peer group, such as parents or addictions support workers. This is succinctly described by Sarah, who stated: "Um, the most helpful, actually the most helpful advice I ever got about speed was off of my addiction support worker, who worked alongside us with [OCH employment program]" (Sarah, 19/F)

Participants reported receiving drug related information covering variety of topics, including instructions for taking a particular drug, advice on specific strains or types of drugs (e.g., strains of marijuana), or information relevant to safe drug use, such as identifying laced drugs. In one example of peer information sharing, Bill discusses the specific types of information he has sought from other drug users when taking a specific drug, such as dosage, quality, and potential interaction effects of mixing the drug with alcohol, going on to state that this information is important in order to take a drug safely while still enjoying the high.

Oh yeah I would pretty much just ask the simple question like hey how much do I do. What will it make me do? Like what, what should I expect this way I don't- Just walk into like, sitting there and all silent. Why am I seeing things I thought I was supposed to relax. So that's the information that I like. How much do I take, is it good, how much are you, what happens if I add this, what should- how much should I drink water. Can I drink alcohol on this. Just little things like that, like the basics where it's like I don't want to die but I do want some fun. (Bill, 24/M)

Sharing information was often a two-way interaction between peers. A number of participants ($n=22$, 49%) reported giving information to others in addition to receiving information relating to drug use. In responding to whether she would receive information about drug use from her peers, Britney Spears stated: "Not really, I'm usually the one that gives out the knowledge [laughs] I guess." (Britney Spears, 21/F).

Stacy reported sharing information with her friends regarding the best people or places to buy drugs from, stating that she would provide specific information to her friends on who to buy drugs from in order for them to get the best quality and price.

Cause if we get, if we get like really good like stuff, and like good deals, like we'll, we'll tell our friends, you know like. We'll be like "Ok, well go here because this is a good deal and you'll get this". And you know, or be like "Mention my name and maybe you can get hooked up or something". And, that's like how that works. (Stacy, 19/F)

Similar to Britney Spears, Eric noted that he would more often give advice than receive advice. In discussing instances of providing other people with advice about drug use, he recalled giving direct advice to friends to reduce or abstain from drug use, stating that they were risking an overdose if they continued their use. Eric went on to state that giving this advice typically led to his friends stopping their drug use.

I dunno. Sometimes I'm an asshole to people, if like, they're making the same mistakes over and over again. I'll be an asshole and just be like, 'You know what, you're gonna end up killing yourself on the drugs that's your own problem and I'm not gonna [be] here for it.' And, usually when I tell people that, they clue in that they're screwing up and then they'll stop, so. (Eric, 24/M)

These examples give important context surrounding the way that homeless and street-involved youth share drug related information with their peers, as well as the types of information that are shared within these groups.

Subtheme 2b. Trust of Others. Trusting the person providing drug related information was an influential subtheme within peer information sharing. Interestingly, level of trust was not directly asked about in the semi-structured interviews, however, a number of participants ($n=19$, 41%) reported more positively evaluating advice about drugs from a trusted source. There was often less emphasis placed on the informational content, and more emphasis on the amount of trust in the person who was providing the information.

In discussing Mackenzie's initial use of speed, she stated that although she did not know the appropriate amount of speed to take, she trusted her best friend both to have that information and to measure out the correct dose for her. This example highlights that the actual information (what the correct dosage would be) did not appear to be as important to Mackenzie as the level of trust she had in the source of the information.

To be honest, the thing is I really didn't know what the right amount was at the time ... But the thing is, because I had so much trust in the girl, because she was my best friend since four years old. I trusted her enough to know, like, I didn't do drugs, she did. So I trusted her enough to know that she was gonna at least be decent with me, and that trust ended up being good enough. (Mackenzie, 18/F)

Similarly, in elucidating the reasons she would ask her friends for information about drug use, Cola stated that she believed her friends would give her accurate and

objective information about the drugs she was using because she trusted and felt close to them.

I mean, like you always feel close to your friends, right. Like I knew I could trust them. I knew that they wouldn't give me false information. I knew that they'd tell me very, quite frankly, like you know, this is what's gonna happen. Like, you either, don't do it or you do it. Take my information as you will. (Cola, 16/F)

Close, trustworthy friends were often used as sources of drug related information for the participants. Bob stated that he would typically seek drug related information from his close friend, as this was an individual he had known for a long time and therefore felt was a trustworthy source of information.

And, you know, and then I got my good friend, my good buddy of mine who's, we, we've grew up together since we were kids there. We knew each other since we were little. And, he's always been there for me and I've always been there for him so I know he's someone I can trust as well and talk to about drugs. (Bob, 25/M)

Closeness to the source of information engendered trust in both the person and the information for several participants. In a similar example, Puma described feeling that the advice he received from his friend about appropriate cocaine dosages was helpful in allowing him to monitor his usage, stating that he would only seek this information from a source that was both a close and trusted relationship.

I found it useful yeah, it... Kinda, helped me monitor myself like... I dunno I kept track more, tried to, keep track of how much I was taking so I could like, keep it at a consistent uh, high rather than getting, too high and, not being able to

function. [*Interviewer: Were they a close friend?*] Oh yeah. I, I wouldn't ask anybody that wasn't like, close enough that I trusted them fully, so. (Puma, 21/M)

Trust within relationships was an important factor in seeking drugs in addition to information. Several participants ($n=16$, 35%) discussed purposefully purchasing their drugs from a trusted source. Britney Spears noted that her most frequent drug purchases were made in large quantities to allow her to buy drugs through her close friends who live in other cities. She goes on to state that she trusted the quality and safety of the marijuana she was purchasing because she was sourcing the drugs from her friends and felt they would sell her safe, high quality substances.

Well just cause my, my friends won't give me anything that's bad. They make sure that everything that I get isn't laced or anything like that, it's clean and it comes from a good person. (Britney Spears, 21/F)

Similarly, Jack discussed hypothetical situations in which he may be offered drugs, noting that he would only accept drugs from a trusted friend but would not accept drugs from a stranger. In elaborating on this, Jack stated that knowing and trusting the source of his drugs was an important factor in deciding to accept substances from another person.

Uh, cause I trust that they... uh. I don't know, well they're doing it and they're my friends, and I see them doing it, then there's this random that could die from their shit. I don't know. ... it's just like don't trust them cause I don't know them. (Jack, 21/M)

Finally, Philipe discussed trusting his friends as sources of drugs, noting that he trusted all of his friends to provide safe drugs that were safe. More specifically, Philipe

cited potential concerns of drugs being laced with fentanyl, stating that he trusted his friends levels of experience with drugs to recognize signs of laced drugs before taking them.

Yeah. I mean like, I trust pretty much all my friends not to like, kill me with some crazy ass drugs or some shit. Like I don't wanna be smoking weed and find like, fentanyl or something, like. Most of my friends are gonna look out for that, and, they already know what the fentanyl looks like when it's laced with all this other shit. (Philipe, 18/F)

These quotes highlight that trust in relationships is an influential factor in evaluating information relating to drug use, as well as potential sources for the drugs themselves. Close and trusted friends were often evaluated positively as sources of drug related information, with less priority placed on the informational content than the trust in the source of information.

Subtheme 2c. Experience with Drugs. Previous experience with drug use, both peer experience and personal experience, were influential factors in the evaluation of peer provided information relating to drug use. Peers with more drug experience were more influential sources of drug related information, while individuals with higher levels of personal experience with drug use tended to seek less information about drug use overall.

Peer Experience. Most of the youth in the sample ($n=41$, 89%) reported seeking advice about drugs from someone who had previous experience with the drug in question. For example, in responding to who she would typically take drug related advice from, Cupcake stated “Um, my boyfriend. Cause he had experience with stuff before. So, yeah. I would ask him.” (Cupcake, 19/F).

Water noted talking to a specific, highly experienced peer for information regarding to drug use because they were highly experienced in using and selling a variety of substances, which led her to believe that the information they provided would be reliable.

Uh, [they] did drugs for years, experimented with so many different types of drugs. They would even do like Native tea, ayahuasca and stuff like that. And, they went to a lot of raves. They've also supplied a lot of drugs. So... they know a lot about drugs [laughs]. So I assume they know what they're talking about because every time I've taken their word, it's, it's been right. (Water, 22/F)

In addition to seeking peers with previous drug experience as sources of information, participants reported seeking peers who had experience with the specific drug they were interested in using. John Doe noted that he would seek information specific to others' experiences with the same drug he was interested in using. He goes on to state that he would seek out multiple, experienced peers in order to get a broad scope of information regarding experiences with the drug in question.

But anything that I was putting my- in my body, I'd look for the information first, or, know from other people's experiences and whatnot. Like, not just from one person. I wanna hear a couple people, I want some comparatives here, like [laughs]. [*Interviewer: Who would you go to?*] Uh, the ones that I, uh, the people that I know that have already done it. (John Doe, 25/M)

The pattern of seeking information from experienced peers was reflected in youth seeking drug related advice from their drug dealers, given that dealers were viewed as highly experienced drug users. In responding to how frequently she felt she was getting

information regarding drug use, Cola stated that she would typically ask her dealer for information because they had a breadth of experience with drug use and would therefore be a good source of drug related information.

Um, pretty often. I mean like if I ever had a question about a drug I'd just usually ask my dealer, or if, people that have tried the drug, and I'm like, well what does it do? ... Uh, cause they have extreme experience, they've pretty much done every drug on the face of the planet. (Cola, 16/F)

A peer's previous experience with a particular drug was noted to overlap with that peer being trusted as a source of information for that drug. Ginger recalled his initial use of LSD occurring with his partner, stating that his partner was experienced in the use of this particular drug, making her a good person to use with. He notes that her previous experience with LSD made her a more trustworthy person to use with, as he felt she would be better prepared to deal with a potentially bad experience. Notably, Ginger stated that the level of experience his girlfriend had with LSD led him to trust her as a source of information.

Uh... She was raised like um, I guess like what we would, we would call hippies. She was like uh, raised by like hippies and, they gave it to her when she was like 14, 15. So she's, she's grown up on it, and like, I trusted her. Like, uh, to get it for me if I was gonna try for my first time. So I was like, uh, might as well like try it from someone that's had experience over the years with it. And then, and plus also if I have like a trip out then, she can, like help with that. Cause she's seen people do it before. (Ginger, 22/M)

The theme of experience was also noted in the strategies utilized by the youth in seeking dealers for particular drugs. In responding to who he typically buys or gets his drugs from, Mike noted that when he was seeking specific substance, such as Xanax, he would purposefully look for an older dealer who he deemed as being more experienced in using or selling Xanax, because this person would be a more trustworthy source. This example further supports the overlap between perceived peer experience and trustworthiness.

Usually I'm buying it from a dispensary, or occasionally if it's more like, Xanax or anything like that it'll be like, an older dealer or something like that. Like ah, somebody more older and experienced and actually doing that shit and like, not some random dude that I don't know or nobody actually ever buys off. Basically somebody more trusted by more, um, more people. (Mike, 17/M)

These examples demonstrate that previously experienced peers are positively evaluated as sources of information relating to drug use, particularly when the peer is experienced with the specific drug the participants were interested in learning about. Additionally, these quotes highlight the relationship between previous experience and trust, where a peers' previous experience with a drug engendered trust in that peer as a source of information.

Personal Experience. In addition to seeking information from peers with higher levels of experience, a number of participants ($n=22$, 48%) reported seeking less information about drugs in general as they themselves gained more experience with drugs. This was typically due to youth making more decisions about drug use based on

their own personal experiences and opinions formed through experience, rather than seeking those experiences from external sources.

In one example of this type of personal experience, Antonio stated that his own experience using different types of drugs allowed him to determine for himself the quality of the drugs he was purchasing. Antonio noted that each experience using a drug built onto his knowledge base of using that substance, stating that having a good or bad experience of using a drug that looked or felt a certain way would inform his next experience in using that drug.

Experiences. Like it's, it's been so long I'm taking drugs I guess and, you just know. Cause when you get started off small you just like, drugs drugs, you know like take it take it. And then honestly, you know when you taken a drug, oh I took a speed, I don't feel nothing, you know. So I know that was, let's just say for example that was a um, let's just say, let's call the uh, ice, ice okay, blue ice or something. And they it gave to you, it, it's pretty good they say, and you take it, it's no good. So maybe for the next time now, you'd be like okay I remember the last time, it was blue ice. So you go to the guy and it's like, can I see the pill, you know if it's soft or if it's hard and, you'll know, you know like. (Antonio, No Age Provided/M)

In discussing how he often provides information to his friends about which drugs are safe to use or not, Eric stated that his own experience with drugs makes him a knowledgeable source of information. In this case, Eric noted in his interview that he was more likely to provide information about drug use rather than seek it, as his previous experience with drugs informed his own decision making.

So it's um, I've done a lot of drugs in my past, so I know what's supposed to be in different drugs and what's not. And so, when people bring like white powder to me, I'll tell them what's in it. And then, yeah. [Interviewer: *How did you come to have that kind of information?*] I've been doing drugs since I was 8. So. And then I went to a rehab center, ended up working in a rehab center. Relapsing, coming back to Ottawa, started, doing drugs again. Yeah. (Eric, 24/M)

In addition, participants would use their own knowledge based on previous experience in order to make decisions about who to get their drugs from. In discussing with Waldo how he would judge the quality of the dealers that he chose, he stated that he would use the drugs in order to determine whether they were good quality. He went on to note that he has extensive experience in using a number of different drugs, and that this experience made him a more knowledgeable source of information in determining the quality of the drugs he purchases.

Uh I go and shoot it into my veins [laugh] cause I don't do uh, I don't do opiates at all and shit and like, I'm really like knowledgeable about drugs. And cause I've been doing them since I was like fifteen or sixteen. I've done like all of them like LSD, done the magic mushrooms, PCP, DMT, 2CB, I've done this entire list. I've done this entire list. I've tried, heroin, hydro, oxy, uhh Ativan, Valium, Xanax, GHB and alcohol so that much of your list I've done. Yeah so I know what I'm talking about [laugh]. (Waldo, 26/M)

These quotes demonstrate the impact of personal experience with drug use on the ways that youth seek drug related information from their peers. Youth with more personal

experience with drugs tend to rely on their own opinions formed through those experiences rather than seeking information from external sources.

Subtheme 1c. Salience of Information. Salience of information was an important theme in evaluating drug related information provided by peers. Notably, salience of information was not specifically asked about in the interview, however, a number of participants ($n=22$, 48%) showed a preference for information that was relevant to their experience. Salience of drug related information was noted either in the relevance to the drugs that the participants were currently using, or the relevance to issues in the community that might impact their own lives (i.e., fentanyl overdoses).

Youth reported seeking out information specific to the drugs that they were currently using and being interested in learning more about these drugs. John Doe succinctly describes this experience in responding to whether the drug related information he had received was helpful to him, stating “Oh yeah. I'd like to know about the drugs that I'm puttin' in my body [laughs].” (John Doe, 25/M).

Similarly, Water stated that while she typically heard a lot of information about drugs and drug use within her social group, she would only listen to the information about drugs that she was using because this information was relevant to her.

I've heard a lot. About a lot of drugs. And effects, on a lot of drugs. I've heard a lot of different things about the same drugs. There's a lot of information going around, but, like if I don't do that particular drug, I won't really listen to it. (Water, 22/F)

Salience was an important factor in seeking out drug related information on the internet as well as from peers. In responding to the types of drug related information that

he typically looks for on the internet, Loner Stoner stated that he would only look for information that affected him directly.

I mean I guess sometimes, like for example I had a friend go into withdrawals on something that I don't even do. It was cocaine or whatever. 'n I was trying to Understand like what they're going through right? So I'd like go on some. I dunno, Health Canada website about like withdrawal effects or whatever. I dunno, I didn't really pay attention. It's just kind of like whatever, a website. So like yeah, I get info like that. It's only like If it's affecting me directly, right? (Loner Stoner, 26/M)

In addition to seeking information specific to their own drug use, information regarding fentanyl was a salient topic among participants. Currently, fentanyl is a major concern for overdosing within this community, either through purposeful use or through fentanyl being unknowingly laced into other drugs. As such, information regarding fentanyl was a prevalent topic within the interviews. RAKS noted the salience of this topic within this population, stating that he had lost multiple peers due to fentanyl overdoses.

Um, fentanyl... that's probably one of the scariest drugs I've ever learned about. I've actually lost a few people on fentanyl, and... Yeah, it scares the shit outta me. Like I won't even touch it. (RAKS, 27/M)

The salience of fentanyl is also noted in the frequency in which this topic is discussed amongst peer groups of street-involved youth. Sabrina stated that fentanyl was a significant topic of discussion within her social group, given that many people have been dying from overdosing on drugs laced with fentanyl.

We just like, talk, I don't know like... a lot of people, die so we talk about like Fentanyl quite a bit. Apparently there's been fentanyl in weed too, so my friend told me that like, four people in Ottawa have died from fentanyl in their weed. Some shit like that. (Sabrina, 18/F)

Similarly, Liz stated specifically seeking information on fentanyl after her friend died of a fentanyl overdose, in order to better inform her friends on safer ways to continue their drug use.

Well now with the fentanyl going out, I kind of looking into that more often. After my friend died to kind of see. Cause I knew there's a lot of, some friends were still using, right? So I wanted to see kinda, how fast fentanyl was growing in, kind of drug, like pill drugs like [inaudible]. So, so I can inform my friends and be like don't take it, like [laugh]. (Liz, 18/F)

Finally, in discussing times where he was seeking drug related information, Batman stated talking healthcare professionals, drop in staff members, and friends about the Naloxone kits used to intervene in opiate overdoses.

Um... Yeah just like when uh, with Fentanyl when it was new 'n stuff like that, I was asking questions. When I was getting like uh the Naloxone kits, I was asking lots of questions. [*Interviewer: And Naloxone's like the?*] Its the thing that saves l-lives, opiate overdose. [*Interviewer: Who were you talking to about that?*] Uh, pharmacies, public health came here to OCH, staff members, friends. That was pretty much everyone. (Batman, 21/M)

These examples show that salience is an important factor in the evaluation of drug related information for the participants. Salience is noted both in the relevance of the

information to the participants' own drug use, highlighted through seeking information specific to their current drug use, as well as relevance to broader issues facing their social group, as exemplified through the relevance of fentanyl overdoses in the community.

THEME 3: Internet Use for Information

Our interviews clarified that although this population of heavily drug-using youth wants to use drugs, they also show a high interest in using them safely. The informational resources available to this population are not always viewed as adequate. For example, members of youths' peer groups are not always viewed as reliable sources of information. Alternatively, youth did not always want to talk to drop in center staff or addictions counsellors (more typically viewed as reliable sources), due to a lack of trust, or perceived stigma associated with seeking drug related information from these sources. Finally, posters or pamphlets containing drug related information did not always provide information on safe drug use, instead focusing on abstaining from drug use altogether.

The majority of the participants ($n=42$, 91%) reported using the internet to look up information related to drug use, mostly search engines such as Google or information pages such as Wikipedia to research different information about drugs. The internet was used as a resource for drug information both prior to drug use, in order to learn more about the specific drug before trying it, or after the initial time trying it in order to learn more about the contents of the drug, side effects, overdose information, and more.

For example, in discussing the ways in which he researched cocaine prior to trying it, Ethan noted that he would prefer to use the internet to look up the objective information over a person with a biased experience in using that substance.

When I do researches on drugs I do a couple of websites over about, all the information. I'd rather believe something I see like, that makes more sense, than someone that's using constantly and thinks it's amazing. (Ethan, 19/M)

In addition, youth reported using multiple, reputable sources of information on the internet in order to increase the reliability of the information. For example, in responding to ways in which he would use the internet to seek drug related information, Rico Suave stated that he would make sure the message was consistent across multiple websites before trusting that information.

Well, if you do your research and like look up like six, seven, eight different sites and they all say the same thing well then you can, probably lean on that it's real. But if you go to like three different sites and they all say different things about one topic, [...] you're gonna be like okay, I don't really trust what the hell this is saying ... (Rico Suave, 23/M)

Similarly, in responding to what types of drug related information she looked for on the internet, Britney Spears discussed relying on medical grade websites as she felt they were the most reliable sources of information. In addition, she reported researching the creators of the website in order to check for potential biases in the information being reported.

I look for like medical grade websites. That's, that's stuff that I definitely look for. Um, just stuff like that, like reputable Web sites, like I'll look at the person that, you know, runs the website and kinda do like background research and stuff like that, cause. (Britney Spears, 21/F)

A number of youth reported specific websites that were useful in providing the types of drug related information that they were looking for. In suggesting ways that homeless and street-involved youth might access more accurate information about drug use, Waldo stated “Um I don't know, those websites. That erowid one. E-R-O-W-I-D. Websites amazing. It's the reason I'm alive [laugh].” (Waldo, 26/M). In response to the same question, Ricky elaborated on using the same website, citing that a helpful feature of this site was including other people's personal experiences with specific drugs.

Um, yeah just like uh, like the websites, I dunno. Erowid, and just uh. Especially trip reports like, reading what someone, especially candid ones where you uh, where the person might admit, yeah I felt bad. Then I felt good, or I felt bad I felt good, but. At least if he says that he felt, bad or, like I felt this way at a certain time or whatever, sometimes it can influence you though. Like okay I know what to expect. (Ricky, 24/M)

Discussion

This mixed-methods research broadly examined drug related information sharing between peers in a sample of homeless and street-involved youth. Overall, this study aimed to evaluate the themes relevant to peer information sharing about drug use in a high-risk, highly substance using sample of emerging adults, and to assess whether peer information sharing had a significant impact on the well-being of street-involved youth. The primary aim of this study was to investigate the factors that street-involved youth consider when establishing both the credibility of a peer as a source of information, and the validity of the information the peer provides. These factors were evaluated using Gray and colleagues' (2005) conceptual framework of saliency, previous experience, and

credibility. Key findings supported this framework, demonstrating that peer influence was a significant factor in drug use patterns among high-risk youth, and that trust, experience, and salience of information were key factors in assessing peer information regarding drug use.

A secondary aim of this study was to assess whether youths' evaluation and use of peer information related to self-reported substance use frequency, substance dependence, and to subjective indicators of well-being. Key findings from the regression analysis did not indicate a strong relationship between peer credibility ratings and levels of substance frequency or dependence, though higher friend and partner credibility were related to better well-being outcomes. Exploratory regression analysis suggested a relationship between individual levels of substance experience and levels of substance use frequency and dependence. Descriptive findings of the quantitative results aligned with the qualitative findings, demonstrating that most youth discuss their drug use with their peers, in addition to using and sharing drugs with their peers. These findings lend valuable context to the environment in which peer influence on drug use and peer information sharing about drug use may occur.

Peer Influence on Drug Use

The results of this research provide support for the impact of peer influence on substance use, as this was a salient theme present in the thematic analysis. Youth reported using drugs within their peer groups, using similar drugs to the members of their peer group, and initiating or stopping the use of a substance due to peer influence. Additionally, differences between peer influence and direct peer pressure were noted by the participants.

Overall, these results are consistent with the body of peer influence literature that is largely based on studies using samples of mainstream youth. The results highlight the fact that individual youth were more likely to engage in substance use if their friends were engaging in that same behaviour, consistent with peer influence literature (e.g., de Water et al., 2016). Indeed, this pattern of influence also manifested as peer groups using similar substances, suggesting that peer groups influence many aspects of substance use. More specifically, these results suggest that groups of peers co-create a setting wherein substance use occurs and boundaries of substance use (e.g., types of substance, frequency of use, context of use) are negotiated. Importantly, these results clarify that the mechanisms of peer influence occur similarly between samples of mainstream youth and samples of homeless and street-involved youth. Additionally, these results demonstrate that peer influence processes are similar between youth who are using multiple or harder substances and youth singularly using more typical, legal drugs such as alcohol or cigarettes.

In addition, these results are consistent with the concepts of drawing boundaries of acceptable or unacceptable drug use within a peer group put forward by Foster and Spencer (2013). For example, peer groups tend to use similar drugs as one another and hold similar values on what drugs are acceptable for use (e.g., using speed is acceptable, but using drugs intravenously is unacceptable). Potentially, these types of boundaries of acceptable drug use within a peer group create an additional influence on the frequency and type of drug use engaged in by these youth.

In addition, these findings relate to the selection vs socialization debate within the peer influence literature. It is often unknown whether specific peer influence mechanisms

work dominantly through *selection*, individuals creating peer affiliations with individuals who hold similar values, attitudes, and beliefs as themselves, or *socialization*, behaviours within a peer group becoming more similar over time as a result of peer influence (e.g., Bauman & Ennett, 1996; Jaccard, Blanton & Dodge, 2005; Kobus, 2003; Simons-Morton & Farhat, 2010). These results demonstrate that overall, peer groups frequently use drugs together, and use similar drugs to one another. The qualitative research findings show more support for the socialization mechanism over selection; a number of youth ($n=32$, 70%) reported their first drug use occurring as a result of peer influence within their existing peer group – a clear example of the socialization process of influence within a social group. There is little evidence from this sample suggesting that youth sought out peer groups who already use similar drugs to themselves. Future research in this area may aim to focus more specifically on peer relations within high-risk youth, potentially using interviews and surveys from multiple peers within a peer group in order to assess the way that selection or socialization effects impact patterns of substance use.

Finally, the qualitative results provided some differentiation between peer influence and peer pressure regarding substance use. Consistent with the literature, the results demonstrated that peer influence on substance use was a more common occurrence than direct peer pressure within this sample of youth (e.g., Foster & Spencer, 2013; Simons-Morton & Farhat, 2010) – though a number of the participants reported experiences of direct peer pressure. Participants often reported that the mere presence and availability of a drug, watching their friends use that drug, or being offered to try, was enough to influence them to use that same substance, consistent with Kobus's (2003) finding that peer influence often acts through internal pressure rather than direct external

pressure from peers. Indeed, almost all participants reported experiences of peer influence ($n=42$, 91%) compared to 16 participants (36% of the sample) who reported experiences of direct peer pressure. The experiences of direct peer pressure showed a range of intensity, with very few participants reporting instances of direct threats to use drugs, and other participants reporting simply feeling consistent pressure from other sources to participate in drug use. These findings help to distinguish between peer influence and peer pressure as they occur in a high-risk, heavily substance using population of youth. Indeed, this highlights the potential misconception that peer pressure is the primary experience of initial or continuing drug use for vulnerable youth, where we may be tempted to conclude that at-risk youth are engaging in heavy drug use simply as a result of direct peer pressure. Instead, these results indicate that the peer influence experiences of homeless and street-involved youth engaging in substance use align with those of mainstream youth.

Interestingly, the mechanisms of peer influence that are widely supported in the literature evaluated using mainstream youth are supported in this sample of high-risk and heavily substance using youth. Previous studies have dominantly assessed patterns of peer influence in traditional youth using primarily alcohol or cigarettes, while the youth in this research are using harder substances on a more frequent basis than their mainstream counterparts. These findings suggest that peer influence mechanisms operate similarly across populations of youth, as well as across different categories and severities of substance use. A potential difference between these populations of youth may be the saturation of drug use, and therefore influence on drug use, in the environments of homeless and street-involved youth in comparison to mainstream youth. Similar to the

Risk Amplification Model (Whitbeck et al., 1999), a smaller proportion of street-involved youth are actively working or in school and are more likely to be consistently exposed to a highly drug-using environment, particularly if they themselves are currently engaging in drug use. This is likely to contribute to more frequent and more intense peer influence on drug use, given more time spent with these peers overall, than mainstream youth who are intermittently exposed to school, parent, and extracurricular influences in addition to their peer groups. Indeed, parental factors such as parental support and monitoring often protect against adolescent engagement in high-risk behavior (e.g., Claes et al., 2005; Windle et al., 2008), and may thus act as a counter to peer influence to engage in those behaviors. In relation to the Risk Amplification and Abatement Model (Millburn et al., 2009), we can assume that the higher levels of prosocial influences in the lives of mainstream youth, in counterbalance to drug using influences, are a contributing factor in the lower frequency and severity of drug use in mainstream youth populations.

Given the frequency of substance use in this high-risk population, it is all the more critical to understand whether and how these peer groups are sharing information regarding drug use, in order to further understand ways in which we can disseminate accurate information on safe drug use in the community.

Peer Information Sharing

The primary focus of this research was on peer information sharing, the direct communication between peers about a relevant phenomenon (Rupert et al., 2016). Consistent with the literature, the majority of the participants reported talking to their friends about drug use and getting information or advice regarding substance use from their peer group (Morse et al., 2013). This finding aligns with previous research

conducted with samples of mainstream youth, suggesting that adolescents tend to rely on their peers for information regarding substance use in order to gauge whether these activities are desirable and relatively safe (Maxwell, 2002).

Qualitative findings. Results of this research align closely with Gray and colleagues' (2005) framework that emphasized *saliency* (how relevant is the information to the individual), (2) *previous experience* (with the topic of information itself and whether the source has prior experience with the topic), and (3) *credibility* of the source (evaluated through perceived expertise, trustworthiness, and empathy) as relevant factors in youths' evaluation of peer generated information. In addition to the model posited by Gray and colleagues (2005), these results also suggest a peripheral route of information processing as outlined in the Elaboration Likelihood Model. Participants were more likely to take information from trusted, experienced members of their peer group, particularly in times when they themselves had little experience or information on the topic at hand.

Participants tended to listen to information that was relevant to their current drug use, types of drugs that they engage with, as well as information that was relevant to topics within their peer group or community (e.g., laced drugs, fentanyl). Interestingly, these findings suggest that important drug related information may be more difficult to successfully communicate to youth who are not currently engaged in the use of that particular drug, regardless of whether they may initiate the use of that drug at a later time. For example, an adolescent who is engaging only in moderate use of marijuana receiving information regarding safe practices of using crack cocaine may retain less of this information given that it is not relevant to their current drug use. An important

implication of this finding may be relevant to drug information programming that occurs in schools, for example, D.A.R.E. (Drug Abuse Resistance Education; n.d.) an abstinence-based education program that often appears in schools. Youth who have not yet started using substances may find this information irrelevant to their own lives, and therefore not listen to this information, even though it may be relevant to them later. Given that many participants in this sample reported a high interest in seeking drug related information (demonstrated through their use of the internet for drug related information), this suggests a gap between approaches to communicating and receiving information. Potentially, creating more accessible avenues for drug related information could bridge this gap, so that youth can access this information when it becomes relevant to them.

In addition to the relevance of the information, participants sought information from peers who had more perceived experience with substance use than themselves. Several of the youth noted that they would specifically seek out peers with experience in the specific drug that they were using, suggesting an overlap between saliency of information and previous experience. In addition, participants overall sought less information as they gained individual experience with substance use. This finding shows that youth who have more individual experience with drug use (i.e., have used many drugs, or for a longer period of time) are generally less engaged in seeking new information on drug use, particularly information that overlaps with the drug experience they already have. Given these results, it is reasonable to suggest that highly experienced individuals may be more influential sources of drug related information, particularly for those with less drug experience, while those with little or no drug experience may be

generally more open to learning about safe drug use from any source. Thus, interventions relevant to safe drug use in youth may attempt to target inexperienced drug users as this population may be the most receptive to receiving new information on drug use.

Finally, within Gray and colleagues' (2005) factor of peer credibility, the qualitative results supported that trustworthiness and prior drug use expertise of their peers (demonstrated through peers' previous experience with that particular drug) were important factors in evaluating substance use information from peers. Trustworthiness in particular was noted as an important factor, and showed overlap with previous experience in the qualitative results. Previous experience with a drug notably engendered trust in that person as a source of information, and a number of the youth appeared to emphasize their trust in the source of the information over the quality of the information itself. This emphasis on trust likely stemmed from the previous drug experience of the source, where the participants had most likely received high quality information from this same, previously experienced source, thus creating trust in this relationship as a source of valid information. In the context of Gray and colleagues' (2005) framework, we can view this overlap as being facets of *peer credibility*, where peers who were more experienced and trustworthy were viewed as more *credible* sources of information. An important implication of these findings may be relevant to current communication strategies of safe drug use information. Potentially, recruiting highly experienced members of a peer group to support the dissemination of accurate information on safe use would be an effective strategy to increase the knowledge on safe drug use within this population of youth.

Internet use for drug related information. While homeless and street-involved youth reported receiving information from a number of sources, they are not entirely

reliant on their peers for accurate drug information. The proliferation of smartphones over the past decades may create an additional means through which drug related information is disseminated amongst peer groups. Indeed, in a recent assessment of internet use among youth currently living in a homeless shelter, 86% of youth reported accessing the internet at least once per week, and 56% reported accessing the internet at least once per day. For 66% of the youth sampled, their internet use occurred primarily on smartphones (VonHoltz et al., 2018). Given the high rates of internet and smartphone access among youth who are actively experiencing homelessness (i.e., currently living in a homeless shelter), it is plausible to anticipate that rates of smartphone and internet use would be higher among this sample of youth who were either actively homeless, living with friends or family, or had an apartment or house of their own.

An unanticipated finding within the qualitative results of this research was the regularity in which the internet is being used as a means to research safe drug use among homeless and street-involved youth. While this sample of youth showed high rates of substance use, they also showed high interest in using these drugs safely and with minimal risk. Youth reported feeling that the resources available to help them find information on safe drug use were not always accurate (e.g., pamphlets advertising abstinence from drug use rather than harm reduction strategies), or concern about the stigma associated with some help-seeking behaviour (e.g., concern for being judged when using a safe needle exchange location). This is consistent with other research assessing the perceptions of harm-reduction strategies by the high-risk youth that these interventions are targeted towards. This qualitative research suggested that effective harm-reduction strategies for highly drug using youth are often viewed by the youth as

being inadequate in the support that they provide, or being deterred from accessing these services due to stigma or neighbourhood considerations (Bozinoff, Small, Long, DeBecka, & Fasta, 2017). Factors such as perceived stigma or perceived lack of salient information regarding may be influential in the frequency of using the internet to find information regarding safe drug use.

In addition to the perceived lack of informational resources regarding safe drug use, this sample showed both a high interest in seeking information as well as crucial information literacy skills in the way that they sought drug related information. This was demonstrated in the youth seeking reliability in their information by confirming the same information across multiple websites, and stating a preference for objective information from the internet rather than from a friend who was engaging in substance use who might provide a biased opinion. While highly substance using youth may be portrayed as being disinterested or indifferent to learning about drug use, these results indicate that, similar to mainstream youth and adults, high-risk youth are rational, critically-thinking individuals willing to make competent decisions regarding safe drug use.

These research findings may provide some guidance for improving the communication of harm reduction strategies to this population of heavily substance using youth in changing the mediums through which these messages are communicated. For example, utilizing peers with previous experience in drug use to communicate current harm reduction strategies might engender more trust in substance using youth aiming to gain more information about safe drug use. Additionally, more effective communication techniques might include engaging youth through avenues of social media that we know they are consistently engaging with (e.g., Facebook, Instagram, Snapchat, etc). Social

media may provide an avenue through which youth are able to engage with harm reduction information privately, in order to reduce feeling judgement from peers, as well as providing a means for youth to engage with media pages to request information relevant to their own drug use experience.

Quantitative findings. The qualitative analysis explored factors relevant to the evaluation of drug related information provided by peer groups. Descriptive findings demonstrated that the majority of youth are talking to their peer groups (friends and romantic partners) about drug use, as well as using and sharing drugs with those individuals. These findings lend quantitative support to the qualitative results in showing the context in which at-risk youth are talking about and using drugs, creating a setting wherein peer influence on drug use is likely to occur. Additional descriptive findings of the quantitative results demonstrated the high rates of both substance use frequency and substance dependence in this sample of homeless and street-involved youth. Correlational analysis showed that heavier alcohol use and substance dependence was related to higher levels of depression in this sample, suggesting a relationship between substance use and well-being in high-risk, highly substance-using youth. Additional correlational findings suggested that several categories of peer credibility were related, suggesting that viewing one peer group as a credible source of information is related to seeing other groups as highly credible information sources.

In further analysis I aimed to explore whether peer credibility had an impact on key substance use and well-being outcomes, using regression models to explore the impact of peer credibility on substance use frequency, substance dependence, autonomy, relatedness, depression, and program participation. The results of these regressions were

largely non-significant, though this may be a reflection of low power due to a small sample size. Significant findings showed that youth who saw their romantic partners as more credible sources of information showed higher levels of autonomy and lower levels of depression, suggesting that there may be some relationship between peer credibility and well-being – though this finding may equally be explained by perceiving a romantic partner as a credible information source reflecting a higher-quality romantic relationship, thus contributing to higher levels of individual well-being. Exploratory regression models probed the relationship between individual confidence in substance use and key substance use and well-being outcomes. These findings showed that those with higher levels of individual substance use *experience* reported higher levels of alcohol use, all other drug use (other than alcohol and marijuana), and substance dependence. Overall, the quantitative findings suggested that while some relationship may exist between perceived peer credibility and well-being, further quantitative studies are necessary in order to explore the extent to which these concepts are related. More specifically, refining and validating the questions assessing peer credibility, as well as conducting a study with a broader sample size assessing both high and low-risk youth, may allow future researchers to more directly test the associations between peer credibility and well-being.

Limitations

A number of strengths and limitations regarding the sample and method should be considered when assessing the results of this study. The local drop-in centre was an ideal setting for this study in allowing access to a high-risk, highly substance using sample of youth. Working with Operation Come Home as a community partner allowed access to a large number of youths within a typically difficult to reach population, allowing novel

findings within a minimally explored research area. Although recruiting from a drop-in center allowed many advantages, it also creates a biased sample, as only youth who are currently accessing the resources provided through Operation Come Home are present in this study. Recruiting youth from more than one drop-in location may have provided a more diverse sample of participants. Additionally, the homeless and street-involved youth who are not currently accessing resources from any community location may have different patterns of substance use (e.g., using substances intravenously), or peer information sharing that are not represented by this sample. Furthermore, literature on youth homelessness has suggested that the duration of homelessness varies in this population, with short-term homelessness being a common experience in youth (e.g., Johnson, Whitbeck & Hoyt, 2005). As such, the short time frame in which participant recruitment and data collection occurred was a limitation in accessing a broader sample of homeless and street-involved youth. Finally, this study assessed whether the participants were currently accessing mental health support but did not assess or control for mental health issues in the analysis, potentially lending some bias to the results.

Additionally, the sample size of this mixed-methods study presents both a strength and weakness. The sample size was high for qualitative standards, giving the research a detailed account of the context of peer information sharing in this sample of youth. Theoretical saturation was reached within the 46 interviews in the analysis, where new themes were no longer being detected in the last interviews being coded. However, the sample size was low for detecting any significant quantitative effects in the patterns of peer information sharing. The small sample size may have contributed to the lack of

significant findings in the regression analyses, and these quantitative results are considered exploratory in nature.

Finally, the entirety of the interview and survey questions concerning peer credibility and individual substance use confidence were created for this study and therefore have no evidence of validity outside of this research. The exploratory nature of this quantitative research, particularly peer credibility and individual confidence as predictor variables, limits the conclusions we can draw from those findings. In addition, the questions were not consistently and accurately interpreted by the participants (e.g., ethnicity), limiting some of the demographic information collected from the sample. Finally, this sample of youth was highly engaged in substance use. Though this provided interesting context for the qualitative interviews, it also made it difficult to assess patterns of change in substance use as an outcome variable.

Conclusion

The findings of this research demonstrate that the mechanisms of peer influence are similar between the mainstream youth engaging in normative substance use who are typically sampled in the peer influence literature (e.g., Bauman & Ennett, 1996; Simons-Morton & Farhat, 2010), and highly substance using youth engaged with high-risk peer groups. Homeless and street-involved youth are heavily influenced by their peers in their drug use, as evidenced by engagement in drug use with their peer group, using similar types of drugs as their peers, and being influenced to start or stop the use of a particular drug by their peers. These findings are crucial in understanding the way that patterns of drug use are formed and cemented among peer groups. Given the influence among peer

groups regarding drug use, primary support workers may aim to target at-risk peers as a group, rather than individual youth, in order to communicate strategies for safe drug use.

In addition to peer influence, these results demonstrated significant amounts of peer information sharing about drug use among this sample of youth. Patterns of peer information sharing aligned closely with Gray and colleagues' (2005) framework of information saliency, trustworthiness of the source of information, and previous experience both of the individual and the source of information. These findings suggest that experienced members of a peer group may be viewed as more trustworthy and may thus be highly influential sources of drug related information. Furthermore, these results suggest that individuals with lower levels of drug experience may be more receptive to receiving drug information, particularly if this information is coming from an experienced source and is relevant to the substances that they are interested in using. These findings provide a critical view into the way that current information on drug use may be evaluated by the high-risk, highly substance using youth to whom this information is typically targeted. These results could assist in implementing effective strategies, such as peer led information sessions, for communicating information for safe drug use among at-risk youth.

Finally, this sample of youth demonstrated a high interest in seeking information about safe drug use, and did not feel that there were adequate resources available to them with this information. To this end, the majority of youth reported using the internet to seek information on drug use and demonstrated strategies of information literacy to gain reliable information on the internet regarding drug use. This unanticipated result gives an important look into the current shortcomings of the harm reduction information available

to youth, and a view into potential avenues to improve the communication of this information. Given the high interest in this sample for more information on safe drug use, these strategies may be implemented in using the internet and social media in order to communicate information about safe drug use to a broader audience of high-risk youth.

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Participants Needed!



Purpose of Study: To learn how youth talk to their friends and get advice about using drugs

**Participation will take place at Operation Come Home
June XX to June XX, in the drop-in center**

Participants must speak English, and have a history of using drugs, or are currently using drugs

Participants will be compensated with a \$25 Tim Hortons gift card

Participation involves completing a survey and one on one interview with a researcher. Interviews are approximately 45-60 minutes and will be audio recorded and transcribed. Names will NOT be recorded; your identity will not be connected with the data in any way. All interviews are kept confidential and anonymous.

If you wish to participate, ask Katie Sanders for details, or contact:

**Department of Psychology
B550 Loeb Building
1125 Colonel By Drive
Ottawa, ON
K1S 5B6**

Erin.Macdonald3@carleton.ca

This research has been cleared by
Carleton University Research Ethics
Board-B (Clearance #)

Participants Needed!



Purpose of Study:

To learn how youth talk to their friends and get advice about using drugs.

Participation:

Survey participation will take place at Operation Come Home Sept 24th to Sept 28th

Participants:

Must speak English, and have a history of using drugs, or are currently using drugs

Compensation:

\$10 Tim Hortons gift card

Participation involves completing a survey with a researcher. Surveys are approximately 20 - 25 minutes and will be completed with the researcher in the room. Names will NOT be recorded; your identity will not be connected with the data in any way. All survey responses will be kept confidential by the research team.

If you wish to participate, ask Katie Sanders for details, or contact:

Department of Psychology
B550 Loeb Building
1125 Colonel By Drive
Ottawa, ON
K1S 5B6

Erin.Macdonald3@carleton.ca

This research has been cleared by
Carleton University Research Ethics
Board-B (Clearance #108816)



Department of Psychology
B550 Loeb Building
1125 Colonel By Drive
Ottawa, ON
K1S 5B6

Appendix B: Informed Consent Form

The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide enough information so that you can make an informed decision about whether you wish to participate in the study. This study has been approved by the Carleton University Research Ethics Board (#).

Study Title: Peer Information and Substance Use Decision Making in Street-Involved Youth

Research personnel. The following people are involved in this study, and may be contacted at any time if you have questions or concerns: Erin Macdonald (Erin.Macdonald3@carleton.ca), Dr. Andrea Howard (Faculty Supervisor) (email: andrea.howard@carleton.ca; phone: 613-520-2600 x3055).

If you have any ethical concerns about this research, please contact Dr. Andy Adler (Chair, Carleton University Research Ethics Board - B; email: ethics@carleton.ca; phone: 613-520-2600 x 4085).

Purpose: Currently, we know very little about how young people who are homeless or who spend a lot of their time on the street share information with their friends and get advice about drugs and using drugs (we call this “peer information” about drugs). The goal of this project is to listen to what young people on the street have to say about peer information and what their experiences have been. We think that the kind of information that young people get about drugs affects the kinds of decisions youth make about using drugs (how much; how often; what’s safe and what isn’t).

Your Participation: You will be asked to complete a survey with questions asking about your drug use, and other things like your mood and feelings you’ve had in the past weeks. You will also be asked to take part in a 45 – 60 minute interview with one of the researchers. This interview will be recorded, and later transcribed.

Compensation: As compensation for your time, you will receive a \$25 gift card to Tim Hortons.

Potential risk/discomfort. Some of the topics covered on the survey or interview may cause you some emotional distress. You may choose to withdraw from the study at any time without being penalized or identified, and we will direct you to an Operation Come Home staff member. You may also choose to not respond to any question during the survey or interview that you are uncomfortable answering.

Right to withdraw. Your participation in this study is entirely voluntary. At any point during the study, you have the right to withdraw (stop participating) without penalty. You will still receive your compensation.

Anonymity/Confidentiality. All the information you share with us will be kept anonymous and confidential. Any information you choose to share will only be used by the researchers during the course of the study. No identifying information (like your name and phone number) will be connected with your data. Instead, we make up a meaningless ID number to link your survey responses to your interview. Your audio recording will be kept password protected and then permanently deleted after they are transcribed (written down).

Transcribed interviews will be kept in a secure location (on a password protected computer at Carleton University) and they will contain no identifying information. This means that it will not be possible for us to share your information with anyone including the police, doctors, people at Operation Come Home, your family, or anyone else.

The only exception is that if you say something during the interview that makes us think you might be in danger of hurting yourself or someone else, we have to report it immediately by ending the interview and speaking to a staff member at Operation Come Home.

Consent to Participate

Please sign below to indicate that you have read and understood the nature and purpose of the study. By signing, you agree that a copy of the consent form has been made available to you, and acknowledge your willingness to participate in this study.

Participant's Name

Participant's Signature

Date

Researcher Name

Researcher Signature

Date

Consent to Audio Record

I agree to allow my interview to be audio recorded on a digital device. I understand that the interview will be recorded to ensure that the researchers have an accurate record of our conversation and so that they can analyze the information I provide later. I also understand that the recording(s) will be deleted once they have been transcribed.

Participant's Name

Participant's Signature

Date

Researcher Name

Researcher Signature

Date



Informed Consent Form

The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide enough information so that you can make an informed decision about whether you wish to participate in the study. This study has been approved by the Carleton University Research Ethics Board (#108816).

Study Title: Peer Information and Substance Use Decision Making in Street-Involved Youth

Research personnel. The following people are involved in this study, and may be contacted at any time if you have questions or concerns: Erin Macdonald (Erin.Macdonald3@carleton.ca), Dr. Andrea Howard (Faculty Supervisor) (email: andrea.howard@carleton.ca; phone: 613-520-2600 x3055).

If you have any ethical concerns about this research, please contact Dr. Bernadette Campbell (Chair, Carleton University Research Ethics Board - B; email: ethics@carleton.ca; phone: 613-520-2600 x 4080).

Purpose: Currently, we know very little about how young people who are homeless or who spend a lot of their time on the street share information with their friends and get advice about drugs and using drugs (we call this “peer information” about drugs). The goal of this project is to learn about what young people on the street have to say about peer information and what their experiences have been. We think that the kind of information that young people get about drugs affects the kinds of decisions youth make about using drugs (how much; how often; what’s safe and what isn’t).

Eligibility: In order to participate in this study, each participant must speak English, and have a history of substance use, or current substance use to discuss in the research.

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Potential risk/discomfort. Some of the topics covered on the survey may cause you some emotional distress. You may choose to withdraw from the study at any time without being penalized or identified, and we will direct you to an Operation Come Home staff member. You may also choose to not respond to any question during the survey that you are uncomfortable answering.

Right to withdraw. Your participation in this study is entirely voluntary. At any point during the study, you have the right to withdraw (stop participating) without penalty. You will still receive your compensation if you decide to withdraw from the study.

Anonymity/Confidentiality. All the information you share with us will be kept confidential. Any information you choose to share will only be used by the researchers during the course of the study. No identifying information (like your name and phone number) will be connected with your data. Instead, we make up a meaningless ID number to link to your survey responses.

Anonymized data (with no identifying information included) will be used in published research, and will be kept indefinitely by the research team. Your anonymized data will be stored and protected by Carleton University on servers located at Carleton, but may be disclosed via a court order or data breach.

Consent to Participate

Please sign below to indicate that you have read and understood the nature and purpose of the study. By signing, you agree that a copy of the consent form has been made available to you, and acknowledge your willingness to participate in this study.

Participant's Name

Participant's Signature

Date

Researcher Name

Researcher Signature

Date

Appendix C: Surveys**Peer Information and Substance Use Survey**

These questions will ask you to think about your feelings and life, your drug use and feelings about drug use, and the people in your life. This survey will take about 15 – 20 minutes to complete. If you have any questions about the survey, or if any questions are confusing, please ask one of the researchers.

Thank you!

Participant No: _____

My Life

Please read each of the following items carefully, thinking about how it relates to your life, and then indicate how true it is for you by **circling the number** that indicates your response. Use the following scale to respond:

	Not at all true		Somewhat true		Very true
I feel like I am free to decide for myself how to live my life.	1	2	3	4	5
I really like the people I interact with.	1	2	3	4	5
I feel pressured in my life.	1	2	3	4	5
I get along with people I come into contact with.	1	2	3	4	5
I pretty much keep to myself and don't have a lot of social contacts.	1	2	3	4	5
I generally feel free to express my ideas and opinions.	1	2	3	4	5
I consider the people I regularly interact with to be my friends.	1	2	3	4	5
In my daily life, I frequently have to do what I am told.	1	2	3	4	5
People in my life care about me.	1	2	3	4	5
People I interact with on a daily basis tend to take my feelings into consideration.	1	2	3	4	5
There are not many people that I am close to.	1	2	3	4	5
I feel like I can pretty much be myself in my daily situations.	1	2	3	4	5
The people I interact with regularly do not seem to like me much.	1	2	3	4	5
There is not much opportunity for me to decide for myself how to do things in my daily life.	1	2	3	4	5
People are generally pretty friendly towards me.	1	2	3	4	5

My Feelings

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past week by **circling the appropriate number** for each question.

	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	All of the time (5-7 days)
I was bothered by things that usually don't bother me.	1	2	3	4
I had trouble keeping my mind on what I was doing.	1	2	3	4
I felt depressed.	1	2	3	4
I felt that everything I did was an effort.	1	2	3	4
I felt hopeful about the future.	1	2	3	4
I felt fearful.	1	2	3	4
My sleep was restless.	1	2	3	4
I was happy.	1	2	3	4
I felt lonely.	1	2	3	4
I could not "get going."	1	2	3	4

My Alcohol and Drug Use

The following questions will ask you to think about any drugs you have used, and how often you have used them, in the past year. Please **circle the response** that best represents your drug use in the past year.

In the **past year**, how often have you had **alcoholic beverages** to drink ("one drink" is a 12oz bottle of beer, a 5oz glass of wine, or 1.5oz of hard liquor)?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

In the **past year**, how often have you used **marijuana** (weed, pot) or **hashish** (hash, hash oil)?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

In the **past year**, how often have you used **hallucinogenics** like MDMA, Ecstasy, LSD, or mushrooms?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

In the **past year**, how often have you used **cocaine or crack**?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

In the **past year**, how often have you used **amphetamines** like Adderall or Ritalin?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

In the **past year**, how often have you used **heroin**?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

In the **past year**, how often have you used **prescription opiates** like Oxycontin, morphine, Hydromorphone, or Dilaudid?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

In the **past year**, how often have you used **methamphetamine** or crystal meth?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

In the **past year**, how often have you used **Fentanyl**?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

In the **past year**, how often have you used **inhalants** (paint thinners, glue, gasoline, cleaners)?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

In the **past year**, how often have you used over the counter medicines *for reasons other than their intended purpose* (cough syrups, sleeping pills, allergy medications, gravol, etc)?

1. Not at all
2. Less than once per month
3. About once per month
4. Less than once per week
5. About once per week
6. A few times per week
7. Daily or almost every day
8. Multiple times per day

The following questions will ask you about your feelings about **your own** drug use. Please **circle the response** that best represents your feelings.

	Not at all	Somewhat	Very much
How <u>knowledgeable</u> do you think you are about drug use?	1	2	3
How much <u>experience</u> do you have with drug use?	1	2	3
How <u>confident</u> are you in the information that you have about drug use?	1	2	3

For the next set of questions, please think about the drug you are using that is **causing you the most problems** in your life.

Write down the name of the drug: _____

Or check this box if **none** of the drugs you're using are causing you any problems:

*If you wrote down a drug that is causing you problems, read the questions below and circle the answer that best describes how you have felt about your use of **that drug** in the past year:*

Did you ever think that your use of that drug was out of control?	Never or almost never	Sometimes	Often	Always
Did the prospect of missing a hit/a shot/a snort/a dose make you feel very anxious or worried?	Never or almost never	Sometimes	Often	Always
How much did you worry about your use of that drug?	Never or almost never	Sometimes	Often	Always
Did you wish you could stop?	Never or almost never	Sometimes	Often	Always
How difficult would you find it to stop or go without that drug?	Not difficult at all	Quite difficult	Very difficult	Impossible

People in My Life

Thinking about different groups of people in your life, how **close** are you with each person or group? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Not at all	Somewhat	Very much
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Not at all	Somewhat	Very much
Parents	I don't have this person/group	Not at all	Somewhat	Very much
Close family (brothers and sisters; cousins)	I don't have this person/group	Not at all	Somewhat	Very much
Dealer	I don't have this person/group	Not at all	Somewhat	Very much
Addictions support worker	I don't have this person/group	Not at all	Somewhat	Very much
Other:	I don't have this person/group	Not at all	Somewhat	Very much

Thinking about different groups of people in your life, how much do you **trust** each person or group to give you accurate information about drugs and how to use drugs? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Not at all	Somewhat	Very much
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Not at all	Somewhat	Very much
Parents	I don't have this person/group	Not at all	Somewhat	Very much
Close family (brothers and sisters; cousins)	I don't have this person/group	Not at all	Somewhat	Very much
Dealer	I don't have this person/group	Not at all	Somewhat	Very much
Addictions support worker	I don't have this person/group	Not at all	Somewhat	Very much
Other:	I don't have this person/group	Not at all	Somewhat	Very much

Thinking about different groups of people in your life, how **knowledgeable** do you think this person or group is about drugs and how to use drugs? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Not at all	Somewhat	Very much
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Not at all	Somewhat	Very much
Parents	I don't have this person/group	Not at all	Somewhat	Very much
Close family (brothers and sisters; cousins)	I don't have this person/group	Not at all	Somewhat	Very much
Dealer	I don't have this person/group	Not at all	Somewhat	Very much
Addictions support worker	I don't have this person/group	Not at all	Somewhat	Very much
Other:	I don't have this person/group	Not at all	Somewhat	Very much

Thinking about different groups of people in your life, how much **experience** does each person or group have about drugs and how to use drugs? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Not at all	Somewhat	Very much
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Not at all	Somewhat	Very much
Parents	I don't have this person/group	Not at all	Somewhat	Very much
Close family (brothers and sisters; cousins)	I don't have this person/group	Not at all	Somewhat	Very much
Dealer	I don't have this person/group	Not at all	Somewhat	Very much
Addictions support worker	I don't have this person/group	Not at all	Somewhat	Very much
Other:	I don't have this person/group	Not at all	Somewhat	Very much



Peer Information and Substance Use Survey

These questions will ask you to think about your feelings and life, your drug use and feelings about drug use, and the people in your life. This survey will take about 20 – 25 minutes to complete. If you have any questions about the survey, or if any questions are confusing, please ask one of the researchers.

Thank you!

Participant No: _____

Participant No: _____

Demographic Information

Birth Date (Month-Year): _____

Identified gender: _____

Country of origin/ethnicity: _____

Relationship status: _____

Number of children: _____

Are you currently in school: Yes / No

Highest level of education completed: _____

Where do you most frequently live or stay overnight: _____

If housed, are you on the lease: Yes / No

Are you currently receiving substance use support at Operation Come Home or elsewhere: Yes / No

Are you currently receiving mental health support: Yes / No / Not Applicable

Are you participating in any of the programs here at Operation Come Home: Yes / No

Are you participating in any of the following programs at Operation Come Home? If yes, approximately how many **months** have you been participating in this program? Please **circle the response** that applies to you.

	Participation		If YES, approximately how many months?
Drop in Center	Yes	No	
Foodworks	Yes	No	
Incubator Works	Yes	No	
Youth Workforce Initiative	Yes	No	
Jobs First	Yes	No	
Housing Works	Yes	No	
Youth Housing Based Case Manager (HBCM)	Yes	No	
BottleWorks	Yes	No	
FarmWorks	Yes	No	
BYBO	Yes	No	
Achievement Centre	Yes	No	

My Life

Please read each of the following items carefully, thinking about how it relates to your life, and then indicate how true it is for you by **circling the number** that indicates your response. Use the following scale to respond:

	Not at all true		Somewhat true		Very true
I feel like I am free to decide for myself how to live my life.	1	2	3	4	5
I really like the people I interact with.	1	2	3	4	5
I feel pressured in my life.	1	2	3	4	5
I get along with people I come into contact with.	1	2	3	4	5
I pretty much keep to myself and don't have a lot of social contacts.	1	2	3	4	5
I generally feel free to express my ideas and opinions.	1	2	3	4	5
I consider the people I regularly interact with to be my friends.	1	2	3	4	5
In my daily life, I frequently have to do what I am told.	1	2	3	4	5
People in my life care about me.	1	2	3	4	5
People I interact with on a daily basis tend to take my feelings into consideration.	1	2	3	4	5
There are not many people that I am close to.	1	2	3	4	5
I feel like I can pretty much be myself in my daily situations.	1	2	3	4	5
The people I interact with regularly do not seem to like me much.	1	2	3	4	5
There is not much opportunity for me to decide for myself how to do things in my daily life.	1	2	3	4	5
People are generally pretty friendly towards me.	1	2	3	4	5

My Feelings

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past week by **circling the appropriate number** for each question.

	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	All of the time (5-7 days)
I was bothered by things that usually don't bother me.	1	2	3	4
I had trouble keeping my mind on what I was doing.	1	2	3	4
I felt depressed.	1	2	3	4
I felt that everything I did was an effort.	1	2	3	4
I felt hopeful about the future.	1	2	3	4
I felt fearful.	1	2	3	4
My sleep was restless.	1	2	3	4
I was happy.	1	2	3	4
I felt lonely.	1	2	3	4
I could not "get going."	1	2	3	4

My Alcohol and Drug Use

The following questions will ask you to think about any drugs you have used, and how often you have used them, in the past year. Please **circle the response** that best represents your drug use in the past year.

In the **past year**, how often have you had **alcoholic beverages** to drink ("one drink" is a 12oz bottle of beer, a 5oz glass of wine, or 1.5oz of hard liquor)?

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

In the **past year**, how often have you used **marijuana** (weed, pot) or **hashish** (hash, hash oil)?

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

In the **past year**, how often have you used **hallucinogenics** like MDMA, Ecstasy, LSD, or mushrooms?

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

In the **past year**, how often have you used **cocaine or crack?**

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

In the **past year**, how often have you used **amphetamines** like Adderall or Ritalin?

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

In the **past year**, how often have you used **heroin**?

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

In the **past year**, how often have you used **prescription opiates** like Oxycontin, morphine, Hydromorphone, or Dilaudid?

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

In the **past year**, how often have you used **methamphetamine** or crystal meth?

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

In the **past year**, how often have you used **Fentanyl**?

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

In the **past year**, how often have you used **inhalants** (paint thinners, glue, gasoline, cleaners)?

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

In the **past year**, how often have you used over the counter medicines *for reasons other than their intended purpose* (cough syrups, sleeping pills, allergy medications, gravol, etc)?

- 9. Not at all
- 10. Less than once per month
- 11. About once per month
- 12. Less than once per week
- 13. About once per week
- 14. A few times per week
- 15. Daily or almost every day
- 16. Multiple times per day

The following questions will ask you about your feelings about **your own** drug use.
Please **circle the response** that best represents your feelings.

	Not at all	Somewhat	Very much
How <u>knowledgeable</u> do you think you are about drug use?	1	2	3
How much <u>experience</u> do you have with drug use?	1	2	3
How <u>confident</u> are you in the information that you have about drug use?	1	2	3

For the next set of questions, please think about the drug you are using that is **causing you the most problems** in your life.

Write down the name of the drug: _____

Or check this box if **none** of the drugs you're using are causing you any problems:

*If you wrote down a drug that is causing you problems, read the questions below and circle the answer that best describes how you have felt about your use of **that drug** in the past year:*

Did you ever think that your use of that drug was out of control?	Never or almost never	Sometimes	Often	Always
Did the prospect of missing a hit/a shot/a snort/a dose make you feel very anxious or worried?	Never or almost never	Sometimes	Often	Always
How much did you worry about your use of that drug?	Never or almost never	Sometimes	Often	Always
Did you wish you could stop?	Never or almost never	Sometimes	Often	Always
How difficult would you find it to stop or go without that drug?	Not difficult at all	Quite difficult	Very difficult	Impossible

People in My Life

Thinking about different groups of people in your life, how **close** are you with each person or group? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Not at all	Somewhat	Very much
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Not at all	Somewhat	Very much
Parents	I don't have this person/group	Not at all	Somewhat	Very much
Close family (brothers and sisters; cousins)	I don't have this person/group	Not at all	Somewhat	Very much
Dealer	I don't have this person/group	Not at all	Somewhat	Very much
Addictions support worker	I don't have this person/group	Not at all	Somewhat	Very much
Other:	I don't have this person/group	Not at all	Somewhat	Very much

Thinking about different groups of people in your life, how much do you **trust** each person or group to give you accurate information about drugs and how to use drugs? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Not at all	Somewhat	Very much
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Not at all	Somewhat	Very much
Parents	I don't have this person/group	Not at all	Somewhat	Very much
Close family (brothers and sisters; cousins)	I don't have this person/group	Not at all	Somewhat	Very much
Dealer	I don't have this person/group	Not at all	Somewhat	Very much
Addictions support worker	I don't have this person/group	Not at all	Somewhat	Very much
Other:	I don't have this person/group	Not at all	Somewhat	Very much

Thinking about different groups of people in your life, how **knowledgeable** do you think this person or group is about drugs and how to use drugs? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Not at all	Somewhat	Very much
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Not at all	Somewhat	Very much
Parents	I don't have this person/group	Not at all	Somewhat	Very much
Close family (brothers and sisters; cousins)	I don't have this person/group	Not at all	Somewhat	Very much
Dealer	I don't have this person/group	Not at all	Somewhat	Very much
Addictions support worker	I don't have this person/group	Not at all	Somewhat	Very much
Other:	I don't have this person/group	Not at all	Somewhat	Very much

Thinking about different groups of people in your life, how much **experience** does each person or group have about drugs and how to use drugs? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Not at all	Somewhat	Very much
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Not at all	Somewhat	Very much
Parents	I don't have this person/group	Not at all	Somewhat	Very much
Close family (brothers and sisters; cousins)	I don't have this person/group	Not at all	Somewhat	Very much
Dealer	I don't have this person/group	Not at all	Somewhat	Very much
Addictions support worker	I don't have this person/group	Not at all	Somewhat	Very much
Other:	I don't have this person/group	Not at all	Somewhat	Very much

Thinking about different groups of people in your life, do you **talk** to this person or group about your drug use? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Yes	No
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Yes	No
Parents	I don't have this person/group	Yes	No
Close family (brothers and sisters; cousins)	I don't have this person/group	Yes	No
Dealer	I don't have this person/group	Yes	No
Addictions support worker	I don't have this person/group	Yes	No
Other: _____	I don't have this person/group	Yes	No

Thinking about different groups of people in your life, do you **use drugs** with this person or group? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Yes	No
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Yes	No
Parents	I don't have this person/group	Yes	No
Close family (brothers and sisters; cousins)	I don't have this person/group	Yes	No
Dealer	I don't have this person/group	Yes	No
Addictions support worker	I don't have this person/group	Yes	No
Other: _____	I don't have this person/group	Yes	No

Thinking about different groups of people in your life, do you **share drugs** with this person or group? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Yes	No
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Yes	No
Parents	I don't have this person/group	Yes	No
Close family (brothers and sisters; cousins)	I don't have this person/group	Yes	No
Dealer	I don't have this person/group	Yes	No
Addictions support worker	I don't have this person/group	Yes	No
Other: _____	I don't have this person/group	Yes	No

Thinking about different groups of people in your life, do you **buy or get drugs** from this person or group? Please **circle the response** that applies to you.

Friends	I don't have this person/group	Yes	No
Romantic partner (boyfriend or girlfriend)	I don't have this person/group	Yes	No
Parents	I don't have this person/group	Yes	No
Close family (brothers and sisters; cousins)	I don't have this person/group	Yes	No
Dealer	I don't have this person/group	Yes	No
Addictions support worker	I don't have this person/group	Yes	No
Other: _____	I don't have this person/group	Yes	No

Appendix C

Reference Sheet: Examples of Drug Classifications

Depressants	Stimulants	Hallucinogens
<p>Opioids:</p> <ul style="list-style-type: none"> - Heroin - Hydromorphone (dilaudid) - Oxycodone (oxycontin, oxyNEO) - Fentanyl - Morphine - Buprenorphine (suboxone) - Methadone - Codeine - Demerol - Hydrocodone (Vicodin) - Percocet <p>Benzodiazepines:</p> <ul style="list-style-type: none"> - Ativan - Halcion - Restoril - Rohypnol - Serax - Valium - Xanax <p>Barbiturates:</p> <ul style="list-style-type: none"> - Amytal - Seconal - Nembutal <p>GHB</p> <p>Alcohol</p> <p>Zopiclone</p>	<p>Cocaine</p> <p>Crack Cocaine</p> <p>Amphetamines:</p> <ul style="list-style-type: none"> - Speed - Crystal Meth <p>Methylphenidate:</p> <ul style="list-style-type: none"> Ritalin <p>MDPV:</p> <ul style="list-style-type: none"> - Bath Salts <p>Ectasy/MDMA*</p>	<p>LSD</p> <ul style="list-style-type: none"> - Acid <p>Magic Mushrooms</p> <p>PCP</p> <p>DMT</p> <p>2C-B</p> <p>Ketamine</p> <p>MDMA*</p>

MDMA is considered a cross-over drug with potential to induce stimulant and hallucinogenic effects

Appendix D: Interview Questions

Demographics
Participant No: _____

Chosen pseudonym / nickname: _____

Birth Date (Month-Year): _____

Identified gender: _____

Country of origin/ethnicity: _____

Relationship status: _____

No. of children: _____

Are you currently in school: Yes / No

Highest level of education completed: _____

Where do you most frequently live or stay overnight: _____

If housed, are you on the lease: Yes / No

Are you participating in any of the programs here at Operation Come Home: Yes / No

If yes, which ones, and for how long:

	Participate (Yes / No)	Date started
Achievement Centre		
Foodworks		
Incubator Works		
Youth Workforce Initiative		
Jobs First		
Housing Works		
Youth Housing Based Case Manager (HBCM)		
BottleWorks		
FarmWorks		
BYBO		
Drop in Center		

Are you currently receiving substance use support at Operation Come Home or elsewhere: Yes / No

Are you currently receiving mental health support: Yes / No / Not Applicable

Interview Date: _____

Interview Location: _____

Interview Duration: _____

Notable Comments: _____

Part A: Substance Use

In the following sections I am going to ask you some questions about your drug use, and who you talk about your drug use with. In this section when I say 'drugs' I mean any of the drugs we asked you about in the previous survey or that are on the drug classification sheet. So this doesn't include alcohol, cigarettes, or caffeine, but it does include marijuana, mushrooms, opioids, and other drugs you might be using. If this is confusing please let me know.

Who do you usually get your drugs from? (For example: do you have a consistent dealer, or do you use different people every time?)

- Would you consider them a friend?
- How often do you get your drugs?

Part B: Peer Information

Do you talk to your peers / friends (e.g., friends, romantic partner, dealer, etc) about your drug use?

I am going to list off some groups of people that you may discuss your drug use with:

	Do you talk to this person / group about your drug use? (Y/N)	Do you use drugs with this person / group? (Y/N)	Do you share drugs with this person / group? (Y / N)	Do you buy or get drugs from this person / group? (Y/N)
Friends				
Romantic partner (boyfriend or girlfriend)				
Parents				
Close family (brothers and sisters; cousins)				
Dealer				
Addictions support worker				
Other: _____				

Do you ever get information about drugs from your friends or social group, like what drugs might be best to use, how to use them, and how much to use? (E.g., a friend, an acquaintance, a dealer?)

If yes:

- Can you give me an example about a time that has happened?
- Who did you talk to?
- What made you decide to talk to that person / those people in particular?
- Did you find this advice helpful?
- Did you seek out this advice, or was it offered to you unsolicited?

How often do you think you get information or advice on drug use?

- What types of information or advice have you been offered? Can you give me some examples?
- Who do you typically take advice from?
- How frequently do you use the advice?

Did you ever get information or advice about using drugs that you didn't take?

If yes:

- Can you tell me about a time that happened?
- Who provided this information or advice?
- What caused you to not use the information or advice?

If no:

- Go to next section

Have you ever felt pressured to take information or advice about drug use?

If yes:

- Can you tell me about a time that happened?
- Who provided this information or advice?
- What caused you to feel pressured in that situation?

If no:

- Go to next section

Part C: Wrap Up

Do you ever use the internet to look up information about drugs or drug use?

How much do you feel your drug use is influenced by your peers (for example, friend, acquaintance, dealer, etc)?

How much do you feel your drug use is influenced by a celebrity or someone you admire?

Has there ever been a time that you have started using a certain drug because of a friend?

On the flip side, has there ever been a time that you have refrained from using, or stopped using, a drug because of a friend?

Do you have any ideas about how we could help young people who are homeless or on the street to find good, accurate information about drugs, and safe ways of using drugs? How can we help to stop the spread of bad information about drug use?

Finally, how can we more effectively spread information about drug warnings (i.e., bad batches going around the city)?

Do you have anything else you would like to add? Are there any questions you can think of that I did not ask?

Post-Interview Researcher Comment Form**Participant No.:** _____

Feeling/Mood/Tone of the overall interview:

Participant's reactions (emotions, body language, etc.):

My emotional reactions to the participant:

My emotional reactions to what the participant said:

Strong points of the interview:

Weak points of the interview:

Other notable features or comments:



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Appendix E: Verbal Debriefing

Now that we're done with the interview, I'd like to tell you a little bit more about the study.

When we went over the consent form, we told you that the purpose of this study was to learn more about how young people who are homeless or who spend a lot of time on the street share information about drugs and using drugs. We called this “peer information”. To be more specific, we are wondering whether things like credibility, experience, and trust are important factors in how young people evaluate peer information. We are also interested in learning whether peer information is related to well-being, including things like feeling depressed, how often you use drugs, and whether you’re participating in the programs at Operation Come Home.

It's important that we don't tell you all of these details before you participate. The idea is that if the participants knew exactly what the study was about, their answers to our questions might be influenced by that knowledge, and that would prevent us from being able to make accurate conclusions. Because of this, we ask that you don't discuss the details of the study with other potential participants.

As you know, your participation in this study is completely voluntary. At this point, you can still decide to withdraw from the study and have your survey and audio recordings will be destroyed while we still know which information belongs to you. We hope that you've had a positive experience participating, but you won't be penalized if you choose to withdraw, you'll still receive the gift card as compensation. Are you still comfortable with us using your data? Do you have any questions?

If you think of any questions for us later, you can e-mail me using the contact information provided on the consent form. If you have any questions or concerns about the ethics of this study, you can call or e-mail the ethics review board using the contact info also provided on the consent form. If you lose our contact information, you can always get it later by talking to a staff member at Operation Come Home.

If after completing this study you experience any distress or feelings that created discomfort for you and you wish to speak to someone about it, we can direct you a staff member at Operation Come Home who will connect you with the appropriate source.

Thank you very much for your participation today, we truly appreciate your time. If you would be willing to provide feedback on our initial round of results, or would like to have a copy of the results sent to you, please let me know and I will take your email address. You can also follow our research group on Facebook or Twitter, where we'll be posting results of this study, likely in late Fall 2018.

Thank you, and have a great day!



Verbal Debriefing Script

Now that the survey is complete, I'd like to tell you a little bit more about the study.

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