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Canadian Youth Perceptions on Cannabis

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This research report contains strong language and profanity that some readers could find offensive.

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Executive Summary

Introduction

Research has shown that youth are unclear on the effects and harms of cannabis, which could put them at an increased risk for use (Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2015). This fact is concerning as brain development and mental health can be compromised if cannabis use, particularly frequent use, is initiated in early adolescence (George & Vaccarino, 2015). The World Health Organization compared past-30-day cannabis use among youth aged 15 across 40 countries and found that use by Canadian youth was the second highest of the countries surveyed (13%), being surpassed only by France (15%) (World Health Organization, 2014). This rate of use illustrates the need for a better understanding of the misconceptions and attitudes Canadian youth have towards cannabis.

To effectively prevent harms related to cannabis among adolescents, it is valuable to understand what youth believe are the effects associated with the drug and what could influence a youth to use it or abstain from using it. Youth are best suited to inform researchers about where gaps exist in current cannabis education and awareness efforts. This study aimed to examine what common misconceptions are held by youth, where gaps in evidence-based information exist and how best to move forward with prevention efforts. This work is timely as the current Canadian government intends to legalize and regulate cannabis during its mandate. This report will ensure that parents, teachers and youth are accurately informed of the effects of cannabis use. It will also aid policy makers, prevention specialists and researchers in developing evidence-informed prevention efforts for youth.

This study builds on previous research completed by the Canadian Centre on Substance Abuse (CCSA) (Porath-Waller, Brown, Frigon, & Clark, 2013) that examined Canadian youth's perceptions on cannabis. The current study is based on additional focus groups conducted with youth from jurisdictions that were not included in the last study with the goal of verifying past research and uncovering changes or differences in youth's perceptions.

Method

This investigation adopted a qualitative approach using a series of focus groups to collect data. This method was selected in order to provide participants with the ability to engage in semi-structured discussion, resulting in data that might not be accessible through surveys or one-on-one interviews (Morgan, 1997). Recruitment strategies included collaborating with partners who work with youth, accessing youth through CCSA staff, conducting groups in the locations where youth were present (e.g., high school), and advertising the focus groups through bulletins and the CCSA website (Krueger & Casey, 2009). Due to this complex topic and to ensure that saturation was achieved, 20 focus groups were conducted, in six cities across Canada. The number of participants in the focus groups ranged from one[1] to seven and all groups were run by the same two facilitators. In total, 77 youth between the ages of 14 and 19 participated, 36 (47%) male participants and 41 (53%) female participants. Each focus group was audio-recorded and the recording transcribed. The data were analyzed using inductive thematic analysis adhering to the procedures of Braun and Clarke (2006), and Frith and Gleeson (2004) with the assistance of NVivo 10 software.

[1] There was only one focus group that had one participant. After reviewing the data collected from this individual, there was no indication that his or her responses were meaningfully different from the data collected in the larger groups. As a result, the information was pooled with the rest of the data.

Key Findings

Overall, youth considered cannabis to be less harmful than alcohol and other substances. Participants cited a number of reasons youth use cannabis, including fitting in with friends or family, the availability and acceptability of the drug, and the drug's positive effects such as coping with stress. Fewer reasons were offered for why youth might not use cannabis, but these reasons included fear of getting caught by parents or police and the stigma of being labelled a "drug user." In terms of understanding the harms of cannabis use, participants varied in their knowledge. Generally, they felt that the effects of cannabis are dependent on how often it is used, the amount used and the person. Long-term significant effects were considered to be limited to those who used the drug frequently and for a long period of time. As to driving after cannabis use, most participants understood it can be dangerous and were able to cite reasons why (e.g., slowing down reaction time), but again felt that these effects were dependent on the driver. Similarly, youth believed that cannabis would be detrimental to the brain in some capacity, but had a limited understanding of how and why. Most youth were unaware that cannabis was addictive and could lead to withdrawal even though many youth described characteristics of these conditions such as someone being "grumpy" when they did not have access to cannabis after consistent use.

Participants provided a number of examples of the ways in which cannabis is used (e.g., baked into food), the types of cannabis available to youth (e.g., shatter[2]) and methods for concealing cannabis use (e.g., spraying perfume to mask the smell). Participants viewed impairment due to cannabis as less concerning than impairment due to alcohol. Many participants considered riding with a driver impaired by cannabis as the safer option of the two. This opinion seemed to be related to the conception of impairment as equivalent to the physical characteristics common to alcohol use (i.e., slurring words, drowsy, stumbling behaviours), which are not necessarily present for cannabis impairment. The lack of visible impairment related to cannabis could lead youth to believe cannabis is not impairing.

Other factors influenced youth's perception of cannabis. For instance, confusion around cannabis laws were cited as playing a role in use: some participants assumed it was legal to possess less than a certain amount of cannabis (e.g., three grams) and that police were unable to charge youth for possession under this amount. Similarly, many participants had not heard accounts of peers, friends or drug dealers being arrested due to cannabis possession, pulled over for cannabis impairment or involvement in serious or fatal crashes due to cannabis, making these consequences unrealistic to youth. All participants reported they knew cannabis might be legalized and many were supportive of this change, as they felt that it meant greater regulation as well as greater availability.[3]

According to participants, the media also played a role in youth's understanding of cannabis, acting as a major outlet for the positive positioning of the drug. Almost all participants used the Internet to find out "facts" about cannabis and were overwhelmed with the quantity of information available. Previous prevention efforts were described as ineffective with school assemblies or lessons delivered by teachers being described as unmemorable. Participants suggested future prevention efforts should be interactive, delivered on a smaller scale (small group), ideally by someone who has experience with the drug, and unbiased information should be presented, including methods for reducing harms.

[2] Shatter is a hard, amber-coloured solid made from the THC-rich resins of the cannabis plant (National Institute on Drug Abuse, 2015).

[3] Focus groups were run before the October 2015 election that resulted in a majority for the Liberal party, which ran on a platform that included legalizing cannabis.

Discussion

This study provided an opportunity to uncover what youth know about cannabis and where confusion lies, and to compare this information to the effects demonstrated in the scientific literature. Encouragingly, youth understood that cannabis can cause harm to the lungs and brain, and that there was potential for cannabis to result in addiction and impaired ability to drive, all of which is supported in the literature. That being said, a number of attitudes and contextual factors reported by participants correlate to risk factors for use, including perceived use among friends, low parental monitoring, availability and acceptance of cannabis (within the community, by friends and law enforcement), and the belief cannabis is not harmful. There were also inconsistencies in the thoughts and opinions reported: for example, some youth believed cannabis remedied mental illness, while others believed it triggered it, and some youth claimed cannabis increased confidence in social interaction, while others felt it inhibited the ability to socialize. These findings illustrate the inconsistencies in understanding cannabis's effects among youth. Comparison of results from this study to those observed by Porath-Waller et al. (2013) appear to suggest that there could possibly have been some advancements made in terms of a greater understanding of risks of cannabis use, although direct comparisons between both studies should be interpreted with caution.

The findings from this study and previous studies have a number of implications for prevention practice and policy. Youth made several suggestions for improving prevention initiatives, many of which are supported by prevention research (Canadian Centre on Substance Abuse, 2015a).

- To begin, providing clearer targeted messaging about cannabis to youth, including the role of law enforcement, legality of cannabis, risks related to cannabis-impaired driving and defining cannabis impairment can positively influence perceptions. Similarly, emphasis should be placed on the effects of driving while impaired by cannabis apart from the effects of driving while impaired by alcohol.
- Secondly, education and resources needed by youth to make decisions about substance use are lacking and the lack is potentially contributing to youth substance use. It would be beneficial to provide further access to resources such as supports for managing stress and mental illness, information about the harms of cannabis use, and objective information about cannabis (Griffin & Botvin, 2010).
- Finally, the method of delivery of prevention initiatives should take into consideration the unique needs of youth such as increasing parental involvement and using community-based initiatives to deliver prevention efforts.

With these prevention considerations in mind, the perceptions of youth collected for this report are part of a larger perspective that can help inform the development of policy.

Although findings from this study provide an invaluable perspective in terms of youth perceptions, there were limitations related to the data. Mainly, the study sample is not representative of the Canadian youth population, meaning results cannot be generalized to this age group as a whole. Also, due to the small sample size, it was not possible to analyze data by participant demographics (e.g., gender, jurisdiction). Regardless of these limitations, results from this study add to the growing evidence in the area and highlight potential opportunities for continued research. Future efforts should include an examination of why past prevention efforts related to cannabis harms (e.g., on the lungs) have resonated with youth and what can be done to educate parents and educators. A national level survey of Canadian youth perceptions would help to further contribute to our understanding of this issue.

Conclusions

With changes in cannabis legislation occurring in the near future it is imperative that education includes evidence-based cannabis messaging to ensure youth minimize risks to their brain development, mental health, safety, and educational and occupational goals (Canadian Centre on Substance Abuse, 2015b). As research continues to accumulate about the effects of cannabis, it will be important to integrate this new information into current prevention efforts. The continued improvement of prevention initiatives will also require monitoring of the attitudes and beliefs about cannabis held by youth, as well as factors that influence use. This data can be used to ensure initiatives remain effective and targeted to this vulnerable age group.

Introduction

Interest in cannabis use, norms and effects has been growing over the past decade as Canada began to move towards a change in cannabis policy, especially in terms of its legal status. As a handful of jurisdictions around the world have legalized the substance while others discuss this possibility, it is unsurprising that public perception of risks associated with use and consideration of cannabis as harmful or dangerous is decreasing (McHale, Goddard, & Vásquez, 2016). Despite this perception, research shows that there are harms associated with use, particularly for adolescents (George & Vaccarino, 2015). These harms are concerning as cannabis is one of the most frequently used substances among Canadian youth after alcohol (Statistics Canada, 2016).

Although cannabis use among school-aged youth in Canada has steadily declined over the past decade (World Health Organization, 2014), Canadian youth have one of the highest rates of cannabis use worldwide. The World Health Organization compared past-30-day cannabis use among youth aged 15 across 40 countries and found that use by Canadian youth (13%) was the second highest of the countries surveyed, being surpassed only by France (15%) (World Health Organization, 2014). According to the Canadian Tobacco, Alcohol and Drugs Survey (CTADS), 20.6% of youth aged 15–19 reported using cannabis in the previous 12 months in 2015. In 2013, of youth who reported using cannabis in the past three months, 23.4% reported daily or almost daily use (Statistics Canada, 2015). The average age of initiation for cannabis use among Canadian youth is 15.4 years—a number that has remained relatively consistent over the past six years that data are available (Statistics Canada, 2016). Provincial surveys of student drug use reveal that cannabis use increases with grade level. For instance, in 2012–2013, 3.2% of Canadian youth in Grade 7 reported using cannabis compared to 23% of those in Grade 10 and 35.6% of those in Grade 12 (Health Canada, 2014a).

These rates of use are concerning as consistent evidence indicates there are a number of mental and physical health consequences associated with cannabis, particularly when use begins early and is frequent. Cannabis intoxication can result in anxiety, difficulty focusing, problems with processing information and coordination, as well as slowed reaction time. Cannabis use has also been shown to affect memory, cognition, and planning and decision making, both in the short term and long term. Due to the decrease in ability to concentrate, cannabis use impacts learning and school work, which can negatively affect educational attainment. In some cases, this affect can result in dropping out, thereby decreasing access to post-secondary education. Regular heavy use during adolescence can affect mental health, is associated with the development of psychotic symptoms and doubles the likelihood of being diagnosed with schizophrenia (George & Vaccarino, 2015; World Health Organization, 2016). Of note, THC levels have increased over the past several decades (Office of National Drug Control Policy, 2013), which is concerning as cannabis with higher THC content has been associated with greater risk, earlier onset of psychosis and higher risk of brain damage (Di Forti et al., 2009; Rigucci et al., 2015), as well as higher risk of vehicle collisions for impaired drivers (Ramaekers, Berghaus, van Laar, & Drummer, 2004).

Cannabis has the “fastest rate of transition to substance use disorder among adolescents” when compared to alcohol and tobacco (Ridenour, Lanza, Donny, & Clark, 2006), and those who use cannabis regularly are more likely to use other substances (Silins et al., 2014; Hurd, Michaelides, Miller, & Jutras-Aswad, 2014). Risk for cannabis dependence is approximately 16% among those who initiate use during adolescence (Anthony, 2006). Ceasing regular cannabis use can result in withdrawal, with symptoms such as depression, insomnia, and anxiety (Allsop et al., 2012).

Cannabis use puts youth at risk for other potential harmful behaviours. For instance, although the potential for overdosing on cannabis is low, use can lead to hospitalization at a higher frequency than one might assume: approximately 1,600 hospital stays in Canada in 2011 were recorded as being primarily due to a cannabinoid-related disorder (Young & Jesseman, 2014). Cannabis use can also result in decreased ability to safely drive a motor vehicle. Cannabis delays reaction time, affects a driver's ability to focus and causes variation in speed and steering. Driving while impaired by cannabis can lead to a crash risk double that of a sober driver (Asbridge, Hayden, & Cartwright, 2012), which is concerning as data from a recent roadside survey in Ontario show that cannabis is the most common illegal substance used by young drivers (Beirness, Beasley, & McClafferty, 2015).

Unfortunately, research suggests that youth are not often aware of these harms, especially in comparison to their awareness of the harms of tobacco use or alcohol use. Instead, youth are better able to list what they consider are the benefits of cannabis (Roditis & Halpern-Felsher, 2015).

International Studies of Youth Perceptions

Previous studies have examined youth perceptions on substances, some focusing specifically on cannabis use. Examples of this work are provided below.

An Australian study conducted focus groups with youth ages 18 to 30 with both youth who had and had not used cannabis. All participants were living with a mental illness. Results from this study revealed that motivations for use were connected to youths' desire to cope with their mental illness (i.e., to relax and "escape" their illness as well as combat nausea from their medication). Youth also reported cannabis helped improve their ability to communicate with others. Conversely, it was also reported that use compounded or caused the individual's psychosis and was detrimental to their ability to socialize. Although participants were generally aware of the risks of cannabis use, these were not compelling enough to prompt them to cease use and these risks were always considered as less detrimental than dealing with their mental illness while not under the influence of the drug (Stavropoulos, McGee, & Smith, 2011).

Another study explored perceptions of cannabis and tobacco among a sample of 22 Swiss youth aged 15–21 years who had experience using both substances (Akre, Michaud, Berchtold, & Suris, 2010). It was found that participants considered cannabis to be "natural" and not necessarily harmful to health, which was in direct contrast to the predominantly negative perception of tobacco consumption. Similar findings were apparent in focus groups conducted with 24 youth from Northern California. Participants in this sample were much more aware of the harms of cigarette use than cannabis use, and there was a clear gap in the accuracy of information they were receiving about cannabis. The authors theorized that this gap could be contributing to the positive perceptions of cannabis among the adolescents (Roditis & Halpern-Felsher, 2015).

A Saudi Arabian study of 41 adolescents between the ages of 13 and 18 was conducted to uncover perceptions on substance use, including cannabis. Generally, participants had limited knowledge of the harms of substance use and reported getting their information from friends, family, the media and their peers. Parental monitoring of youth and strong relationships between youth and parents were highlighted as protective factors against use, whereas lack of parental presence was a risk factor. Boredom, availability and low risk of being caught were also reasons listed for use (Alhyas et al., 2015).

Canadian Studies of Youth Perception

A quantitative report, based on the British Columbia Adolescent Health Survey, which is a cross sectional survey of 30,000 British Columbian youth grades seven to 12, explored the correlations between cannabis use and health-related harms, risk factors for use and self-reported consequences related to use. Study authors found that participants who initiated cannabis use at an earlier age were more likely to have used cannabis recently and frequently. These participants were less likely to report positive overall health, but more likely to have tried multiple substances. Those who used frequently (20 days or more in the past month) had the poorest indicators of health (e.g., poor nutritional habits and sleep patterns). This finding illustrates a relationship could exist between early and frequent use and unhealthy outcomes among Canadian youth. Risk factors for use included depression, stress, friends who use and experiences being bullied (McCreary Centre Society, 2016).

Health Canada commissioned focus groups with both youth and parents to identify their misconceptions and lack of knowledge about cannabis. Participants in this study were able to identify some health impacts of cannabis, such as an increase in respiratory issues and mental illness. They also noted that it is difficult to know with certainty what cannabis accessed through the unregulated market consists of. Similar to previous studies, stress alleviation, peer pressure, media, curiosity and availability were identified as contributors to youth use (Health Canada, 2014b). Perth County, Ontario, conducted focus groups with 30 youth ages 16 to 24 in 2012 to investigate their perspective on drug use in their area. Youth identified cannabis as the most popular substance in terms of use, and felt that users were becoming younger and younger over time. Reasons for use included stress, availability, boredom and desire to increase confidence. They believed it was a gateway drug and that availability and price of the drug played a role in its use. Youth had found cannabis information online with some going as far as checking several sources to verify consistency in facts. Participants believed it was very difficult to prevent use among this age group and that the “just say no” approach to drug prevention is ineffective (Perth District Health Unit, 2012).

Finally, Porath-Waller et al. (2013) conducted focus groups with 76 youth across Canada to uncover perceptions and attitudes about cannabis. The results from this study revealed that participants believed several variables influenced cannabis use. These included attitudes towards cannabis among important persons such as family, friends and peers, and the availability and perceived acceptability of the drug. Reasons not to use cannabis included health risks associated with the substance, the effect on academic performance and potential negative impact on family relationships. Participants held misconceptions about cannabis, describing it as “safe.” Some also argued it does not affect driving, whereas others felt it did. In terms of prevention efforts, youth were unsupportive of “scare tactics” and instead suggested that prevention approaches should provide fact-based information at an early age. This current study builds upon the earlier work.

Objectives

Based on what is known from previous studies, it is apparent that youth lack clarity about the effects cannabis use has on the body and brain. This lack of clarity is concerning as the perceived risk of use relates to rates of use, meaning if youth do not consider a substance risky, they are more likely to use it (Johnston et al., 2015). The increased risks that adolescents face in terms of cannabis use and brain development and mental health, paired with the high rate of cannabis use among Canadians illustrates the need for a better understanding of what Canadian youth think about cannabis. This work is timely as the current Canadian government intends to legalize and regulate cannabis during its mandate. This report will ensure that parents, teachers and youth are accurately informed of the

effects of cannabis use. It will also aid policy makers, prevention specialists and researchers in developing evidence-informed prevention efforts for youth by better understanding their attitudes.

The current study builds on the work previously completed by Porath-Waller et al. (2013) by conducting additional focus groups with youth from jurisdictions that were not included in the last study with the goal of verifying past research and uncovering changes or differences in the results. Through CCSA's earlier work on youth perceptions of cannabis and the current study, we aim to provide a clearer picture of what Canadian youth think about cannabis, what common misconceptions are held, where gaps in evidence exist and how best to move forward with prevention efforts, and to add to the available Canadian data on this topic to inform future policy and prevention initiatives.

Method

This investigation adopted a qualitative approach using a series of focus groups to collect data. This method was selected due to the nature of the focus group environment in which participants can engage in semi-structured discussion resulting in the collection of data that might not have been accessible through surveys or one-on-one interviews (Morgan, 1997). Focus groups also allow for the researcher to gain an understanding of the thoughts and opinions of a targeted group around a specific topic (Kruger & Casey, 2009), in this case, youth thoughts on cannabis. This study received ethics approval from the Chesapeake Institutional Review Board Services.

Developing the Interview Guide

CCSA developed a semi-structured interview guide (see Appendix A) for use in the focus groups. This guide was comparable to the one used in the previous study (Porath-Waller et al. 2013). The following issues were among those examined:

a) How social influences, such as peers, educators and family, influence decisions to use or not use cannabis;

b) The possible negative and positive consequences of using cannabis;

c) How and whether cannabis use affects brain development and ability to drive;

d) Clarity around cannabis laws;

e) How cannabis is portrayed in the media; and

f) How youth feel cannabis use can be prevented.

The interview guide was designed to be open and general to facilitate participant discussion. It also contained important instructions for focus group participants. Specifically, the guide notes that participants do not have to disclose information about their own personal use or experience with cannabis, but can describe in general their opinions on how youth perceive and experience cannabis. It should be noted, however, that during the focus groups many participants willingly disclosed information about their own personal experiences with cannabis. This information was anonymized and included in the findings.

Piloting the Interview Guide

A draft version of the interview guide was pilot tested through two focus groups conducted in Ottawa, Ontario. Participants were asked to provide feedback on the interview guide, introduction and questions to ensure that a youth audience would understand and have the capacity to respond. The first pilot consisted of one male and three females, while the second consisted of one female and two males. All participants were between the ages of 14 and 19.

Feedback from the pilot participants resulted in alterations to the interview guide, including changes in wording, simplification of technical questions and the addition of new questions. The feedback provided by participants resulted in a clearer and more succinct discussion guide, targeted at the appropriate age group. Participants found the guide's content relevant and commented that this is an important topic to discuss with youth.

Recruitment Strategy

Youth between the ages of 14 and 19 were targeted for recruitment for the current study. Participants were recruited from seven cities across Canada: Ottawa and Perth, Ontario, Winnipeg, Manitoba, Saskatoon, Saskatchewan, Wainwright and Calgary Alberta, and Pictou County, Nova Scotia. The recruitment strategy was designed to ensure maximal participation rates within the scope of a non-profit organization and included collaborating with partners who serve youth, accessing youth through CCSA staff, conducting groups in the locations where youth were present (e.g., high school), and advertising the focus groups through bulletins and the CCSA website (Krueger & Casey, 2009).

More specifically, CCSA leveraged existing relationships with partners (e.g., community centres, schools) who work with youth in the targeted focus group locations (Ottawa, Winnipeg, Saskatoon, Calgary and Perth) to help recruit participants and provide space for the focus groups. An announcement detailing how to participate in the focus groups was also placed in youth-related newsletters, which resulted in additional jurisdictions (Wainwright and Pictou County) participating in the study. If recruitment was not solidified through the above process, core programs and services that interact with youth were contacted, including large organizations (e.g., Males and Females Clubs, YMCA/YWCA) and youth groups and clubs such as youth sports teams, and group homes.[4] The contacted organizations were asked to distribute an electronic and hardcopy recruitment poster advertising the study and study webpage (see Appendix C and Appendix D).

The project webpage reiterated the topic of the study, outlined its ethics protocol and informed youth how they could become involved. Youth under the age of 16 were also informed that they would require parental consent to participate. The project webpage included a link to the participant online screening form (see Appendix E), as well as the online participant and parent/guardian information and consent forms (see Appendix F).

Participants were also accepted as walk-ins on the days that focus groups were being conducted as long as the appropriate consent forms were signed and provided to the research team. This flexibility was especially important in cities where participants had not been confirmed before researchers arrived to conduct the focus groups.

Participants

A total of 77 youth participated in 20 focus groups. These included three each in Ottawa, Saskatoon and Perth, five in Calgary, two in Wainwright, and four in Pictou County. One of the focus groups in Ottawa was conducted in French and the two focus groups conducted in Wainwright were conducted through videoconferencing. The videoconference format was challenging due to the inability of the researchers to pick up on cues (e.g., body language) with the same accuracy as in-person focus groups because of a lag in the timing of the video feed. Regardless, including this otherwise unreachable group was deemed more valuable than the challenges of the videoconferencing format, and the results from these groups did not differ greatly from the in-person groups.

Given circumstances beyond the control of both the researchers and participating partners, no youth presented for the Winnipeg focus groups. Attempts were made to conduct other focus groups in the area, but were unsuccessful because of organizational barriers. The failure to hold a group in Winnipeg was not concerning methodologically, as it has been recognized that not-for-profit organizations experience challenges with focus group recruitment (Krueger & Casey, 2009). The challenges are due to the difference in resources available to not-for-profit compared to private organizations

[4] See Appendix B for a list of organizations contacted.

(e.g., those conducting market research). In addition, other jurisdictions volunteered to partake in the study that were not included at the outset meaning the goal sample size of 60 or greater was achievable without participants from Winnipeg.

Male participants made up 47% of the sample and female participants 53%. In terms of participant's province, 29% of the participants were from Ontario, 35% were from Alberta, 23% were from Nova Scotia and 13% from Saskatchewan, with 48% living in rural areas and 52% in urban. Overall, 44% were recruited through a community centre (some of which provided services for at risk youth), 34.5% of participants were recruited through their high school, 11% were recruited through personal networks, 8% were recruited from an alternative school and 2.5% heard about the groups through their addiction councillors. This sample was not intended to be representative of all Canadian youth. Instead, participant recruitment was designed to provide contrasting opinions within groups, but to foster an environment where participants related to one another and were able to understand each other's lifestyles so they were comfortable discussing the topic (Krueger & Casey, 2009).

Procedure

The number of participants in the focus groups ranged from one[5] to seven and all groups were conducted by the same two facilitators. Although some qualitative methodology suggests six to 12 participants is an appropriate number per focus group (Krueger & Casey, 2009), small groups were optimal for this study as the topic is complex, controversial and can illicit emotional responses. Because of this, the authors sought to provide a productive environment for discussion, which was afforded by running groups with a smaller number of individuals (Babbie & Benaquisto, 2010). Similarly, due to this complex topic and to ensure that saturation was achieved, 20 focus groups were conducted, which is higher than the average number of focus groups conducted for other topics (i.e., usually 10 to 15 groups).

The focus groups took place from October 28, 2015, to February 11, 2016. Each focus group started with the facilitators outlining the topic of discussion and all ethical considerations. Participants were also informed that it was important to respect the privacy of those in the group and to refrain from repeating what other participants said during the discussion to anyone outside of the focus group. Participants were also told that for note-taking purposes the discussion would be audio-recorded and later transcribed. All participants were required to provide written consent before proceeding with the focus group discussion. In addition, the parents of participants aged 14 and 15 were required to provide consent for their children to participate. Each focus group took approximately 45 minutes. After participating, all participants received a $20 honorarium in the form of a retail or restaurant gift card. They were also provided with a debriefing from the researchers, which included a review of their responses and provision of accurate information to counter misperceptions as well as a handout with resources related to substance use (Appendix G).

Discussions during the focus groups were held in English and French with the French groups being translated into English for coding. Statements translated from French to English are identified as such in the text. As these original statements were in colloquial French, in the case of disputed meaning or wording, the French version prevails.

[5] One focus group had only one participant. After reviewing the data collected from this individual, there was no indication that his or her responses were meaningfully different from the data collected in the larger groups, so that information was pooled with the rest of the data.

Data Analysis

The data were analyzed using inductive thematic analysis adhering to the procedures of Braun and Clarke (2006), and Frith and Gleeson (2004). Inductive thematic analysis allows the analyst to make interpretations of the data rather than use the data to support previous theoretical conceptions, as with a deductive approach (Patton, 2002). An inductive approach was important for this project because it allowed for greater flexibility in capturing participants' perspectives and facilitating a more complete understanding of youth perceptions of cannabis use. NVivo 10 software was used to manage all aspects of the thematic analysis in the current study.

Results

Findings from the focus groups are organized by theme: reasons to use or not use cannabis, understanding of cannabis effects, cannabis and alcohol, cannabis culture, variables that influence cannabis perceptions, the legal status of cannabis, and prevention approaches.

Reasons to Use Cannabis

Participants were able to cite many reasons why they believe youth use cannabis, which included the influence of those around them, the availability of the drug and perceived "positive benefits." These reasons are summarized below.

Influence from Important Others

One of the most common reasons that youth said their peers tried or used cannabis was to fit in with friends. This reason included peer pressure, the desire to be accepted into a particular peer group. Some youth might be seeking an identity and see "stoner" as an option with cannabis use acting as the common ground to make friends. Some participants noted that youth might fear they will be left behind or not invited to parties with their current friend groups if they do not use the drug. In other words, "everyone else is doing it, and they want to be cool, too." Participants also reported that friends might discuss personal accounts of cannabis use where it is described as fun and exciting, enticing their friends to experience it. Cannabis use was also related to improvements in personalities, such as making someone "more fun." One participant reported: "I know someone who smoked it because they felt like everyone thought he wasn't fun when he was sober, because when he got high, he'd be really animated and excited about things." Similarly, cannabis was said to give youth confidence and alleviate the social anxiety of making friends.

The socialization inherent in smoking cannabis was also listed as a reason youth might use cannabis. For instance, cannabis use was labelled as a fun way to spend time with friends, similar to having a beer or glass of wine:

> Well, even on the social drinking, it is not much different from that, if you were to pack a bowl in a pipe, you can pass it around, as you would sitting in a bar and have a beer. It's not really any different except the fact that you could get caught and go to jail. Maybe not go to jail, but get in trouble.

Use was also related to boredom while with friends, especially for those who live in rural areas who do not have as many entertainment options as those in urban areas. It was mentioned by a few participants that youth in "bad areas of town" or in "rough neighborhoods" might be more likely to use cannabis due to the influence of their environments.

Family members were also considered important and influential in some youth's decisions to use cannabis. Youth agreed that if someone's parents were using cannabis, it would be much more likely the children of those parents would use it as well. One participant reflected on his or her experience in this regard:

> I did not realize it. I saw my family do it a lot, so when it came to my friends saying hey, do you want to smoke? I said, well my parents do it, so why shouldn't I? It's like why I started smoking too it's because my mom smoked all the time in the house around me, a subconscious factor that had an influence.

Overall lack of present authority was said to also play a role in influencing use; for example, absent parents, teachers or coaches who are not known for giving severe consequences for substance use. Similarly, few youth spoke of having conversations with parents or other adults about the dangers of cannabis use. Conversely, some youth claimed they used cannabis to "piss parents off." Many youth felt that cannabis use was a result of rebellion on the part of teens, who are often craving independence. Thus, youth reasoned that parents being strict or setting rules could actually backfire in terms of preventing use.

Siblings were also said to play a role, with those using frequently either influencing use or discouraging it. Some participants argued that siblings who have a brother or sister who use a lot of cannabis are likely to use as well. One participant commented using her own sister as an example:

> I think, like, for example, that's my little sister right there. I think, like, say, if I started smoking, and she seen me, then she'd probably think it's a cool type of thing. So she'll eventually want to try it. Or let's say for example, if I don't do it around her, and she doesn't know anything about it, then maybe she won't.

Availability and Acceptability

Youth considered availability as a reason someone might use cannabis as it was viewed as a readily available substance for this age group. Youth mentioned that it is common for there to be cannabis available at house parties and social events. Similarly, locating and contacting a drug dealer was a very easy task, and even youth who did not use were well aware of where they could buy cannabis if they needed to. It was even considered more available than alcohol as there is no legal age of access to purchase cannabis. One participant noted: "Well, I mean if I was 14 I could buy marijuana, but I could not walk into a liquor store and buy alcohol. You need someone else to buy it for you." It was also used in some cases as an alternative to alcohol. One respondent reported availability of cannabis online:

> I forgot to mention this earlier, but there's another way you can get marijuana… It's called the deep web which you need to download a special browser for that but it's basically like a different side of the Internet where you can use a regular Internet connection, but there's all this weird stuff… Like there's drug websites where you can buy up to any amount of weed and have it shipped to your house.

The availability of cannabis and lack of exposure of youth to any negative ramifications could contribute to the overall perception that use of the drug is acceptable. For instance, one participant mentioned that while growing up she always knew the "older kids" were using cannabis, but never saw them get in trouble, so when it was offered to her she assumed "it was not a big deal." It was also mentioned that youth might lack knowledge of cannabis harms, so when deciding to try the drug, their thoughts are "why not?"

Positive Effects on the Body and Mind

Youth classified cannabis as the "safest" of all substances to use and that the side effects were minimal when compared to other drugs. For instance, one participant noted: "It's obviously not good for you to put like smoke into your lungs, but yeah, but if you compare it to heroin, it's like no big deal. I would say it's way better for you than alcohol even, by a lot." This was supported by the apparent "mild" effects of cannabis on the body in comparison to other substances. Youth felt they were more in control and better able to function when under the influence of cannabis. For example, one youth stated "You can't even overdose on [cannabis]. It's actually physically impossible to overdose on marijuana. The only thing that'll happen is you'll pass out, wake up, feel, you know, normal." This

sentiment was echoed in relation to prescription drugs as well. A number of youth considered cannabis use as a much "healthier" method for addressing medical issues than prescription drugs, which were described as "synthetic chemicals" that are addictive and can result in overdose. Cannabis was considered a natural alternative that would not result in any of these issues.

Many medical issues were mentioned as reasons youth might use cannabis, both in terms of prescription from a doctor and self-medication. A number of youth had researched the effects of cannabis on physical and mental health, and often used this information (whether from a credible source or not) as a reason to start cannabis use for what they considered a medical condition without consultation with a doctor. Of concern, this self-diagnosis and self-medication appeared to lead to recreational use. One youth, who had been prescribed cannabis by his doctor described treatment for his depression as more successful in terms of withdrawal effects from using cannabis compared to withdrawal effects of anti-depressants: "Well, personally, depression, I find that [cannabis] works better than an anti-depressant for me, myself. When I am not high I don't find myself as depressed as when the pills are not working."

The following diseases or conditions were cited by participants as those that, in their opinion, could be alleviated or controlled with cannabis:

- Chronic or acute pain (e.g., back pain, pain from concussions);
- Seizures;
- Mental illnesses such as depression, anxiety, post-traumatic stress disorder (PTSD), attention deficit hyperactivity disorder (ADHD), schizophrenia and bi-polar disorder;
- Cancer and side effects of cancer treatment (i.e., pain relief and stimulating hunger);
- Stress; and
- Arthritis.

Interestingly, many youth cited increased appetite as a reason for using cannabis. It appears as though some youth might not be eating due to stress or other health concerns such as depression or medication effects. Participants reasoned that cannabis, which causes the "munchies" or the desire to eat, can be used to alleviate stress, stimulate hunger and help to hold down food. One participant reported her experience:

> Generally food tastes disgusting, but once you have a few drags of a certain type [of cannabis], it's more… It's complicated, but once you have a few drags you feel like you'll be able to eat more and you get hungry… You're not feeling self-conscious, but you don't feel sorrow from eating or anything.

Youth said that cannabis can also be used to stimulate hunger for eating disorders such as bulimia, anorexia and purging. Individuals suffering from these conditions were said to use cannabis to increase their appetite, to help them to begin eating again and subsequently to gain weight. Similarly, those who have cancer and are undergoing chemotherapy were said to benefit from increased appetite related to cannabis use.

Cannabis was also said to improve sleep, decrease night terrors and allow youth to function properly and worry less. Many youth also said they used cannabis to escape reality or a negative situation they were coping with, as well as decreasing their capacity for caring about a situation. One youth described this as "disassociation from reality" and another as "a daily dose of fuck it all." Other positive effects of cannabis included better concentration and focus resulting in better academic

performance, and increased energy and alertness. Being high on cannabis was described as "joyful," "blissful," "relaxing" and boosting happiness, outgoingness and positivity.

Reasons to Not Use Cannabis

Although youth generally had more to discuss in terms of the positive effects of using cannabis, there were some key points discussed about why youth do not use cannabis. These points included fear of parental or legal consequences, negative effects on the mind and body, stigma of being labelled a drug user and personal beliefs. Many of these effects were in contrast to the previously mentioned positive effects, such as triggering mental illnesses as opposed to treating them, and the possibility of overdosing called "greening out."

Fear of Consequences

Overall, participants did not seem concerned with the consequences of cannabis. There was a small number of youth who were concerned about what their parents would think or whether they would be punished if they were caught using cannabis. An even smaller number of participants were concerned with disappointing family members and losing their trust. One example of positive influence from a parent was a mother sharing her past negative cannabis experiences with her daughter, which affected her greatly. Similarly, siblings were said to deter use in younger siblings by helping them learn from their mistakes or providing an example of "going down a bad path" that their siblings could learn from.

In terms of legal consequences, few youth mentioned the fear of ending up in jail or respect for the law as reasons not to use cannabis. Some participants felt the anxiety of being caught in and of itself was a deterrent. Another deterrent for participants were their experiences growing up. For instance, one youth was greatly affected by his encounters with individuals who were addicted to drugs and did not have homes. In his mind, these people had "ruined their life" and thus this influenced his decision to not use drugs. Of concern, very few participants felt school presentations and learning the health, social and legal consequences of use was enough to deter youth from trying cannabis.

Youth had trouble relating to the consequences of cannabis use if they had not experienced any themselves (e.g., being caught by police driving after cannabis use). Those youth who had experienced something negative, on the other hand, while using cannabis or after trying it (e.g., what they considered as triggering a mental illness, increased fighting with their boyfriends) were more likely to report regretting initiating use.

Negative Effects on the Body and Mind

There were some common negative physical, mental and behavioural effects of cannabis that were reported to possibly deter youth use. Physically, youth recognized cannabis can affect the brain, (mainly brain cells), and the lung and heart, and, because of the inhalation of smoke can, cause irritability in the eyes and throat. Participants pointed out that cannabis can make a person feel tired, hungry and uncomfortable (described as an "ugly feeling"), and affect athletic abilities. In terms of chronic conditions or diseases, youth mentioned that cannabis can cause lung cancer, can "speed up growth of HIV" and hepatitis C, cause asthma attacks and acne, and result in a "depression hangover" after use. Some youth felt that cannabis is an addictive substance; those who were aware of this possibility and did not want to rely on cannabis as a coping mechanism appeared to steer clear of use.

Several changes in behaviour and attitude due to cannabis use were also listed as reasons youth might not use the substance. For instance, participants felt the drug could change a person, by lessening his or her ability to handle things and decrease his or her motivation. It could also make

someone closed off and anti-social, and cause mood swings that could affect his or her interpersonal relationships. Cannabis was said to lower inhibitions, potentially causing someone to do something he or she would regret, as well as making a person unpredictable, especially in terms of anger control. Youth also cited long-term effects on behaviour experienced after cannabis use cessation, including an increase in boredom while sober and difficulty enjoying things they once were interested in.

Youth felt that cannabis could also affect a person mentally, whether through the worsening of mental illnesses or negatively changing thought patterns. Youth reported personal experiences or experience among their peer group with schizophrenia, psychosis or depression that, in their opinion, was induced or aggravated by cannabis use:

> For me, I don't know, I never really like had mental health problems before I started, but then like after, I don't want to say stopped, but at the peak of my use, as soon as I stopped using, because I was literally using every day, like eight times, if not more, so when I stopped doing that it kind of brought out mental health problems in me. So like, I don't know, when I went to the hospital I got diagnosed with like drug-induced depression and anxiety, and I'd never had anything like that before, like I was a really happy kid, so it kind of brought that out of me.

Use was also said to result in anxiety or panic attacks, paranoia, negative thought patterns, memory loss and suicidal thoughts. These findings contrast with what was previously highlighted as benefits of cannabis use, mainly, that cannabis use can improve mental health and make a person more positive and happy.

Stigmatizing of People Who Use Cannabis

Many participants recognized that people who use cannabis, especially those who use frequently, are stigmatized because of their use. This stigmatizing was a significant reason why participants thought youth might not want to use cannabis. Youth outlined the common versions of this stereotype: "stoner," "pot head" or "druggie." Youth described this stereotype using such terms such low income, low education, low social status, laziness, chill, someone with the munchies, deadbeat, loser, partier, sketchy, drop out, crazy or unpredictable, no good, something wrong with them, risk takers (have less to lose), and someone from the 1960's. Generally, participants felt that those who used cannabis infrequently or only in social settings were not subject to this stigma.

One male participant who had used cannabis recreationally, but also had a medical document for cannabis from his doctor to treat his depression expressed facing stigma due to his use:

> Me, myself… I've been known as a pothead and druggie and no-good degenerate… just all of that stuff… where I actually, myself, not trying to brag, I'm quite intelligent versus what they have said before… It's more adult figures [who have these stereotypes], people not really from my generation grew up with the stigma against it.

Often when youth described this stigma, they were not speaking from their own perceptions, but instead were describing what they thought were the perceptions of the general public. For instance, they assumed non-users considered those who use cannabis to be "morons" or "losers." They assumed figures of authority, like parents or "the government," were most likely to believe and perpetuate this stereotype. When describing their parent's negative views on cannabis use, they thought this bias was unfair, as parents often support the use of pharmaceuticals for medical reasons, but not cannabis, even though most youth thought pain medications were much more dangerous. They also felt that "the government" contributes to this stigma by fear mongering and painting the drug in a negative light in order to deter use.

Regardless of the source, youth generally did not want to be associated with the stigma and were still influenced by stereotyping as they mentioned they had been surprised in the past when they discovered a high achieving peer was using cannabis (i.e., a "good student" from a "good home") or that an adult or person of authority used cannabis.

Opinions about Substance Use

A minority of participants held beliefs that were against substance use or cannabis use. Generally, it was hard for participants to articulate the reasons they held such beliefs. They did not attribute them to their parents or peers, but instead considered them a natural part of who they were. For instance, one participant noted that youth could be against drug use: "I don't know. I think some people are just really against that kind of stuff and, like, their morals and beliefs are just… They just don't believe in that, so they don't do it, kind of thing." Youth who fell into this category did not see the benefit in using substances and felt that they would be going down the wrong path if they chose to engage in that behaviour.

Understanding the Effects of Cannabis

Many youth stated that although their peers generally understand the risks of cannabis use they "don't care" about consequences and choose to use the drug anyway. For example, one participant noted: "Even if they understand [the risks], it's like they have stopped caring. They're like, okay, [there are risks], but it's never happened to me any of these times before, so I doubt it's going to happen now." This view could be related to participants describing cannabis as a "soft" drug or "helping drug," as opposed to what youth classified as a "hard" drug, such as cocaine. With this perspective in mind, it was not surprising there was inconsistency among participants about what they thought were the risks of cannabis use. Youth held different opinions on the negative effects of cannabis, which was likely due to the belief that the drug "affects everyone differently." Youth did not think any negative immediate or permanent consequences were guaranteed for everyone who used cannabis. Instead, these consequences changed based on the person, how long they have been using the drug, how often they use the drug, their height and weight, the amount they use, the THC level and the type they use. Cannabis was described by participants as complex, meaning each strain is different and the same strain can have different effects. Because of this, youth felt it was not possible to predict how cannabis will affect someone.

Participants also highlighted individual characteristics as contributors to the effects of cannabis. They observed that some users can function while "high," while others cannot, and felt this depended on a person's levels of control, will power and self-motivation. Similarly, each user has a different tolerance level, (e.g., lightweight or heavyweight), and the effects of smoking cannabis can reflect someone's pre-established mind set and mood. One participant described how cannabis can affect every individual's brain chemistry differently, resulting in different experiences:

> Because [cannabis] is not for everybody, it's not. Everybody is different, every drug, alcohol, anything affects people differently, and the same goes for the THC. Because we do have the receptors in our brain to receive the cannabinoids from the THC, but not, some people have more and some people have less. Some people it affects more in a neurological way than it does some other people who are more sensitive to it. And it might not feel good to them, it might feel more scary, the feeling might be more scary than calming for some people. It is not that they are against it, it's just that it is not for them.

Personality type[6] was also said to contribute to the effect of cannabis:

> I think it also depends on your type of personality. Like, if you've got an addictive personality, like me. Like I just started knitting. I can't put it down. I used to do this. I couldn't stop because I have an addictive personality. So I think it does come down to what kind of person you are because it could change you. But it could also have no effect. It could make you more aggressive. It could make you more calm. It could make you a little bit more rude. It could make you a little bit slower. It could make you too nice to the point where you're, like, letting people walk all over you because you're like, "I'm just so high, and I'm so happy, and I don't care. Here, take whatever you want."

Many youth took comfort in their opinion that cannabis "affects everyone differently" as this allowed them to selectively choose when the drug is or is not safe. This opinion was especially prevalent in relation to their friends and family. For instance, in terms of driving after cannabis use, many youth were comfortable doing so with an adult (such as a family member) as "they can handle it" and "know what they are doing." Similarly, some youth trusted certain friends while high because they "knew them." Interestingly, participants did not think cannabis affected adults. They always described their experience with adult use as something where the adult was "totally fine" and did not show any signs of being impaired.

Further to these effects of cannabis, there were several topics that youth commented on about the risks of cannabis. These topics included driving, brain development, cannabis as a gateway drug and risk of addiction, and are discussed in the following subsections.[7]

Cannabis and Driving

A majority of participants recognized that cannabis can affect driving, but only with the caveat that it depends on the person, how much he or she smoked, and individual tolerance. For example, one participant noted: "I think it depends how high you are. If you're out-of-your-mind high, then yeah, you shouldn't be driving, but I mean, if you're just, like, pretty much sober, and maybe you just had a toke, then I could drive just absolutely fine." Youth were able to identify the dangers of driving while high, but generally had limited understanding as to why cannabis affects driving. Regardless of this knowledge, participants felt youth did not care about the dangers of cannabis-impaired driving.

A large majority of participants knew that cannabis use would slow reaction time and reflexes, impair cognitive functions and motor skills, and distort perceptions of time and space. Youth felt cannabis could cause confusion, disorientation, hallucinations and sleepiness for the driver, as well as alter vision, impair concentration and slow driving. A small number of youth recognized that even though they perceived this impairment as minimal, the one or two second time delay in reaction while driving could be fatal. It was also acknowledged that it can be hard to tell if someone is high, in contrast with drunk, due to only subtle changes in physical behaviour. One participant elaborated on how this can result in the misperception that it is safe to drive high:

> Yeah, I think that [driving high will] become a lot bigger issue because people don't think about it. When people are drunk, I think they think of it differently because if you're really clearly impaired, you know that your judgement and reaction times are off, and people kind of seem to forget—because it's a different type of impairment when you're high—they seem to forget

[6] For more information on the factors that have been shown to modulate an individual's vulnerability to addiction to cannabis (i.e., genetic or environmental) please see George & Vaccarino, 2015.

[7] The term "addiction" is used throughout this section as it was the terminology used by participants.

> that they have, like… Reaction times are one of the biggest parts of driving, and that reaction time is slow, whether you're realizing it or not.

All youth considered alcohol-impaired driving as obviously dangerous and something they would never do, but the dangers of cannabis-impaired driving were dependent on who was driving or how much they had smoked. The same logic applied to driving with a cannabis-impaired driver. Almost all participants were vehemently against getting in a car with someone who was drunk or on prescription medications, but only some participants felt this way about riding with a cannabis impaired driver. They often classified driving while impaired by cannabis as "safer" or "less dangerous" than driving while impaired by alcohol. For instance, some youth argued that someone who is impaired by cannabis will actually be more careful on the road, as he or she is more aware of their impairment and would not want to get caught by police, in contrast with drunk drivers who are not as aware they are impaired due to a decrease in inhibitions. Cannabis was also considered the safer alternative to alcohol because "being high burns someone out" making it less likely he or she would leave the house and thus would not be driving. Similarly, the behaviours associated with being high such as "calm," "happy" and "chill" are not associated with risky driving.

Participants felt that the lack of awareness of the dangers of cannabis-impaired driving among youth could be due to the limited exposure of youth to firsthand accounts of traffic crashes that were attributed solely to cannabis use, especially in regards to deaths. Instead, youth reported growing up hearing "horror stories" about crashes caused by alcohol-impaired drivers: "You hear about all these tragic car accidents and they never say marijuana or drug use. It's always, like, alcohol. People are stupider when they get drunk." Youth were aware that getting caught driving high would result in the same punishment as being caught driving while impaired by alcohol, but had not heard of many of their peers being caught for this offence and thus thought it was unlikely they would be apprehended. Some participants believed that police had limited capabilities to detect if a driver had used cannabis or were unlikely to take the time to reprimand someone who had. Other participants were aware that police looked at physical signs of cannabis impairment such as dilated pupils and red eyes. The concept of a "breathalyzer" for cannabis use was mentioned a number of times by youth, although they were unsure of what this device would actually look like or how it would operate.

Cannabis and Brain Development

When asked about whether cannabis affected the brain, most youth perceived this question as asking about how cannabis changes mood or behaviour via the brain or how it affects mental health. When asked directly about the effect of cannabis on brain development, many participants either guessed or acknowledged that cannabis very likely has some effect on a developing brain, but they were unsure of how or why. Although a majority of youth accepted that cannabis can affect their brain, even if they did not know how, this knowledge did not appear to deter use. Many of those who agreed there were effects only felt they would be an issue for those who smoke large amounts of cannabis for a long period of time, and that effects would not be apparent in the short term. In other words, moderate use or recreational-only use would not affect the brain. For example, one participant argued:

> We're speaking of like the recreational abuse with like buddies and stuff… So basically, if you use it recreationally you're not… it doesn't affect your brain. It doesn't affect much…

Another participant agreed:

> It's like anything within like high doses… Like alcohol, you can drink yourself to dementia. I suppose you could probably smoke to dementia in a certain level of smoking, I guess. I don't know. I've never reached that.

Essentially, youth considered above average amounts of use, such as a gram a day or more than a joint a day to result in negative effects, but less frequent or heavy use was considered safer in this regard.

A smaller number of participants were under the impression that cannabis use resulted in immediate effects on the brain that they often described as changes in behaviour and mind set. For example, one participant observed of his friend: "my friend smoked a joint one time and like he's not right in the head no more, it might have been laced or something but still… Like, he's, like, he lost a couple marbles."

Other youth were aware that cannabis affects brain development in young users, especially before their early 20s, which led them to believe that it is not something that should be used by anyone younger than 21. They were able to identify this age as an appropriate legal age for use once cannabis is legalized. The negative effects of cannabis on the brain that were mentioned included stunting growth and development, negatively affecting brain functioning (e.g., analytic thinking) and the binding and releasing of neurotransmitters, triggering illnesses (e.g., schizophrenia), causing memory loss, decreasing grey matter, affecting decision making, lowering intelligence, and causing hallucinations. A small number of positive effects were also mentioned: making the brain more "awake" and "alive," promoting healthier brain development after the age of 21 and creating new neural pathways.

Cannabis as a Gateway Drug

Youth were asked if they felt that cannabis was a "gateway drug," that is, if cannabis use predisposed someone to the use of other illicit drugs. This theory has been proposed in the past, but is not supported by current research (George & Vaccarino, 2015). Results from the focus groups were mixed, with some youth certain it did act as a gateway drug, while others attributed new drug use to something unrelated to cannabis. The latter felt the transition through the gateway was more dependent on one's peer group, and whether these peers were encouraging the person to use cannabis, and on one's pre-existing personality, that is, if they are impulsive and the type of person to try new things. Transition into other drug use was said to also relate to one's experience with cannabis. For example, one youth raised the possibility that some users function quite well while impaired by cannabis and see no need for new drug use, whereas those who struggled more in their lives might turn to new drugs:

> Not in all cases. Like, my aunt, like for instance, she doesn't even care if anyone knows she smokes weed. She smoked weed and she didn't ever try anything else, and she's got, like, a really, really good paying job, and, like, it doesn't limit her, prohibit her from being able to go into work. In fact, it actually enables her to go into work in a better mind state. But then, I do also see people who are, like… I've seen people who were, like, top of their class, then they had one, like, really rough, like, week, and they tried it. They smoked weed, and they're like, "Yeah, I'll just keep going from this." And someone was like, "Yeah, try this [other drug], and try this [other drug], and try this [other drug]." And eventually, they were like, "fuck school."

Cannabis use was seen as a "slippery slope," as it is perceived as harmless and can lure individuals unknowingly towards other drugs. This attraction could be a result of those who use cannabis craving a bigger and better high than cannabis alone, encouraging them to use what participants considered harder drugs, such as cocaine. Participants also reasoned that cannabis use "shrinks the gap" between refraining from drug use and "hard drug use." In other words, the gap between using no drugs and using "hard" drugs is much smaller when cannabis acts as a "stepping stone" in between. Some participants felt that cannabis use opened doors to interactions with drug dealers and making drug-using friends. From there, a dealer can offer the individual new or different drugs. In other words, cannabis is a "gateway drug by proxy" as it brings people into a new circle of peers who use drugs.

Participants reasoned that if the individual has had no negative experience with cannabis he or she might be more inclined to try a different drug. Similarly, if someone had a positive experience with cannabis he or she might become curious about other drugs and want to try them.

Other participants felt cannabis was not a gateway drug and that any participation in new drug use was the choice of the person and unrelated to their cannabis use. Many based this opinion on their own personal experiences or experiences with their friends who had not transitioned to new drugs after cannabis. Although some acknowledged that cannabis use opened the door to the "drug using world," in their opinion, use of new drugs was not due to cannabis use in and of itself, but instead the choices, struggles or existing problems of the person. For instance, one participant stated "you can't blame it on the drug. You blame it on the person. The drug didn't make me decide to do other drugs… Like you can't blame it on it, if that's all you're doing." Based on this reasoning, participants also argued plenty of people who use cannabis had no interest in trying other drugs or had complete self-control in stopping drug experimentation at cannabis. Similarly, participants felt experimentation with new drugs could be based on lack of knowledge of the harms of these drugs instead of any interaction with cannabis. Participants who had had more experience with cannabis seemed less likely to agree it was a gateway drug.

Cannabis and Addiction

Opinions were divided about whether cannabis is addictive. Several participants felt that cannabis was not addictive at all, while others considered cannabis addiction to be in a different category than addiction to other drugs. For instance, it was suggested by some participants that addiction to cannabis would occur gradually over time, as a habitual thing compared to the immediate physical reactions of other drugs (e.g., cocaine) or only in cases where someone is using copious amounts of the drug. Cannabis addiction was said to be "mental" as opposed to physical, where the person is addicted to the feeling of being high on cannabis as opposed to the body craving the substance. One participant reported: "THC has been confirmed that it's not addictive, but it's not the chemical that's addictive, it's the rush. It's the feeling and it's the notion that there's nothing wrong in that moment is what's addictive."

Addiction was also attributed to a person's propensity for addiction instead of the substance. Some youth felt that only people with "addictive personalities" can become addicted to cannabis and this addiction is more a personal choice, rather than an uncontrollable condition. Some also suggested that addiction to cannabis was related to the need for a person to escape his or her reality or problems, making the "escaping" aspect of use addictive, not the drug itself.

Although it was not necessarily considered addictive, youth pointed out that once you begin using you are "chasing the dragon's tail" and constantly trying to recreate the previous feelings of being high, especially the feeling of when you first tried it. They thought people can become "immune" or tolerant to the effects over time, meaning they would need to smoke stronger or greater amounts of cannabis to recreate the feeling. They also described these urges as more manageable than other types of drug addictions and argued it is much easier to quit cannabis than other substances.

Interestingly, many youth brought up withdrawal symptoms of cannabis, but did not equate them with addiction. For example, they described friends or loved ones who were frequent users as becoming grumpy or mean when they had not used cannabis in some time. This behaviour was also described as a dependence on cannabis that resulted in anxiety, edginess and aggressiveness. Regardless, participants were quick to label this behaviour differently than regular addiction because there are no withdrawal symptoms:

> You can [withdraw], but it's not going to be the same as vomiting, sweating, shaking, screaming, running away… anything like that. It's going to be a lot of trying to calm yourself down and not hurting yourself or getting angry at people. It's not really something that physically upsets your body like an addiction does. It's more of something that mentally you have to get over. It's like a barrier that you have to get over.

A minority of youth believed cannabis was addictive, similar to other substances, and could affect the production of serotonin in the brain. They considered pride to be a contributing factor to individuals who use refusing to admit addiction: youth want to believe they have control over their use and can stop at any time.

Cannabis Overdose

Several participants assumed it was not possible to overdose on cannabis, but some also assumed that heavy cannabis use does not result in severe after effects (e.g., hospitalization). The absence of media stories or personal accounts of severe health effects due to cannabis could be contributing to the perception that it is impossible to overdose on cannabis or experience severe harms from use. Youth mentioned they had never heard of anyone dying from cannabis or heard of any cannabis-related overdoses. One youth commented that it is impossible to overdose on THC, but one could die from suffocating on cannabis smoke. Other participants considered overdosing due to cannabis as a possibility, but only if an individual had taken large amounts, which was described as difficult to do. That being said, a fair number of participants described the process of "greening out," which they defined as an individual smoking too much cannabis resulting in dizziness, becoming light headed and possibly vomiting.

Cannabis versus Alcohol

When describing cannabis experiences or opinions, youth often used alcohol as a comparator. Generally, participants considered alcohol to be a much riskier substance than cannabis, mainly because they thought alcohol can kill someone through overdose or dangerous behaviours such as impaired driving. This difference in risk confused them, as cannabis is illegal and alcohol is not. They tended to assume anything legal was safe, but did not think alcohol was safe. Youth saw alcohol as more "destructive" than cannabis with many more negative effects, meaning they believed they would face less issues or consequences after using cannabis than alcohol.

> Think about this. Here's another thing. If they were to legalize [cannabis], they could criminalize fucking alcohol and think about [how] much better the world would be. Seeing a bunch of stoners walking around instead of a bunch of drunken alcoholics fucking a bunch of shit? Which one seems like the better of two evils, you know?

As similar observation arose about impaired driving: "Well, [cannabis] can [affect driving]. I'm assuming like you still are under the influence of drugs, so it's a terrible idea to drive, but… it's probably not as bad as liquor." When given the choice between getting in a car with someone high or someone drunk, riding with someone who was high was consistently chosen as the more favourable option.

Participants also considered alcohol to be more impairing. For example, some said that people are more in control when high than drunk. This opinion appeared to be manifested in how they visualized a "drunk" person (slurring their speech, staggering) believing alcohol significantly affected behaviour, even resulting in "crazy" or "violent" actions, whereas "high people" only look happy, "chill" and relaxed, and just want to "sit on the couch and eat." Of note, youth's image of impairment is defined by the

characteristics of being drunk, meaning they have more difficulty recognizing if someone is under the influence of cannabis:

> I would totally agree with what [participant] is saying and it kind of freaks me out because if you are out somewhere with your friends and somebody is like "I will give you guys a drive" and you are like they haven't been drinking, but you can't… I don't think [being high] is as identifiable, like I know personally because I have trouble with identifying if someone is high or not…. We were out somewhere and he got in the car with somebody and he didn't even realize and I was like "this person is like stoned" or whatever…

They also saw more negative physical responses to alcohol such as vomiting, memory loss and hangovers, which would "never happen" with cannabis. As with overdosing, youth identified many more examples of negative impacts to the body from drinking too much alcohol, such as liver issues, brain injuries and possible death, but pointed out that cannabis use did not result in these effects. About withdrawal symptoms, they also considered alcohol to result in greater harm than cannabis: "I've also been an alcoholic. Once you get alcoholic shakes, it actually makes you physically sick not to have booze. You can't get physically sick from not having pot."

Youth also commented on the benefits or detriments of mixing alcohol use with cannabis. It was said that alcohol can enhance the high from cannabis and vice versa, and youth were encouraged to mix the substances as it was "fun." Others felt it was unsafe to mix cannabis with alcohol. The feeling of mixing both was described as being wide awake and hyper while simultaneously lacking energy. Some participants also considered cannabis as a means to alleviate their impairment by alcohol: "But I feel like when I drink and then smoke weed, like, I feel like it brings down my alcohol, and the marijuana overpowers the drinking"; that is, participants believed it "sobers them up."

Interestingly, many participants classified alcohol as the gateway drug to cannabis use. For instance, many youth reported trying cannabis while they were impaired by alcohol because they lacked judgment and did not consider the effects. Often this resulted in regret the next day: "I think I've heard of people who, again, were drunk when they tried [cannabis] and then the next morning when they were sober, were like, 'Oh what did I do?' Like, I don't think they would have done that in normal mindset."

Some considered the transition to cannabis use to correlate with a decrease in alcohol use. One participant provided some of the reasons for this correlation:

> I don't know, because I was like comfortable, I was already having a good time and I didn't need to like get any more intoxicated and honestly like alcohol compared to weed sucks, like it makes you feel like crap, you throw up, you don't remember stuff. You could literally die because of it.

In other words, cannabis use replaced alcohol use.

Cannabis Use Culture

Covering Up Use

During the focus groups, some participants identified tactics used by cannabis smokers to cover up their use. For example, the use of sunglasses (titled by the participant as "sneaky shades") and eye drops to cover up bloodshot eyes. Similarly, body spray, hand washing, gum chewing, changing clothing or smoking a cigarette were said to be tactics to mask the smell of cannabis use. In general, it was agreed that the smell of cannabis is very notable and difficult to cover. Another means of hiding use

was via e-cigarettes: one participant noted that e-cigarettes can be used to smoke cannabis, thereby tricking onlookers to assume they are smoking a tobacco e-cigarette and not a cannabis one.

Youth felt that chronic cannabis use was something that could be easily hidden from friends or family, and that it was something the user had the power to disclose if they liked, but if they did not tell anyone no one would know. One participant observed that cannabis use is "a way to do drugs safely, without like having track marks or scabs growing." In other words, other forms of drug use leave visible signs on the body, whereas smoking cannabis does not leave any permanent signs. Youth designated two types of people who use cannabis: those who keep their use a secret, by not speaking about it at school or doing it alone privately, and those who are more public about their use and more likely to talk about it with friends or smoke openly.

In terms of finding excuses to use, some teens noted that being very busy with extracurricular activities did not necessarily prevent them from using. Instead, they could lie about where they were going to their parents, using these activities as a cover, and be able to use without detection. Participants gave examples of code words developed to mean cannabis, such as "tree," that could be used when someone is looking to buy the drug. These codes translated to emoticons used in social media to signify a dealer has cannabis in stock (e.g., a Christmas tree picture on Facebook preceded by "I got…").

Cannabis Types and Use

Participants were aware that cannabis has different strains and types that could affect a person differently. They considered the cheaper priced strains to have the less favourable effects or no effects at all, whereas the higher priced strains would be the "better stuff" with more favourable effects. In terms of knowing which type had which effect, youth relied on their drug dealer, friends, word of mouth and their own experimentation. Youth also understood that the THC levels in cannabis would dictate the psychedelic effects of the drug with some participants even knowing the difference between sativa and indica (i.e., one resulting in a "lazy" experience and the other in an "energetic" one). Most youth also knew that the THC levels in cannabis have gone up in the past several decades, making the modern substance more potent.

The most common terms used for cannabis were "weed" and "pot." Some other terms used to describe cannabis were "bud" or "green leafy awesome" and "hash," which was said to consist of the oil taken from large quantities of cannabis. There were several examples of variances in cannabis that have been produced and have recently become commonly used. For instance, "shatter" was described as the crystalized version of cannabis, which has the highest form of concreted THC (anywhere from 80%–97%). Shatter was said to be created by pulling THC from cannabis or the "street way," which was described as follows:

> So when you make your concentrates, and you take your butane and put it through, like, a tube or whatever, and you get all your yellow putty. You whip it and put it in a vacuum purge, and that makes the shatter. It takes everything out of it.

Shatter was also named as "Phoenix Tears" or "Rick Simpson Oil." One youth had seen local police speak out on the risks of the drug where it was said to result in psychotic breakdowns and overdoses. According to the participant, the police had to "retract their statement the next day because everything they said was false about it." Next, many participants mentioned "dabs" or "mad dabs," which they described as a more concentrated version of weed or a higher concentration of THC. It was said to be "liquidy, sticky stuff you smoke" in a bong. The use of dabs was considered "hard core" and can get someone higher faster than regular cannabis. Other cannabis-related terms youth described included "spice," which youth knew could be bought legally; "kush," described as a hybrid between hash and weed; "coco puffs," described as little brownie balls full of drugs (mainly cannabis); "budder," sticky

white-coloured pot; and "poppers," which were said to be created by taking cannabis remnants from a bong and a small piece of cigarette and "stamping" them together to smoke.

There were also several methods detailed by the groups of how to use cannabis. The most common form was smoking a joint or blunt, or smoking a bong. Joints were said to be rolled using white paper, while a blunt is rolled using cigar paper. It was said that these methods result in different types of high for youth, with a bong tending to lead to a stronger sensation. Participants also described ways to eat cannabis, which they considered safer than smoking due to the lack of risks associated with inhaling. Ways to eat cannabis included baking it into brownies or cookies, or making cannabis butter to cook with. Participants also mentioned drinking cannabis via tea or even alcohol. Participants mentioned mixing alcohol with cannabis, such as inhaling from a joint, drinking alcohol, then blowing out the smoke. Medical methods of use listed by participants included THC pills or injections, as well as oil, but these methods could all be used recreationally as well. Other ways to use cannabis were through a vaporizer, which was also said to be safer than smoking, as the user does not "get all the bumping plaque matter." More creative forms of use included hot boxing and what one participant described as a "lunger":

> [It is a] bottle cut in half and then they get like a bag and then they put it in there and tape it around and then you get the tape, and make a hole in it. It's like an actual lung, you know how you breathe in, and it like expands? And you suck it up… it goes up. Lunger is harder than the bong and papers, you get more than [in] a bong and in papers.

Lacing

The issue of lacing or adding another drug to cannabis came up in a majority of the focus groups, but with varying accounts and opinions. Some participants did not consider lacing to be a common activity among drug dealers. One participant reported they had never experienced an issue with lacing despite being a regular user, whereas another participant estimated that in their inner circle, only about 10% of the cannabis they used was laced. Conversely, other participants considered drug dealers lacing cannabis as very common and a reason some might fear using it. Of those who considered it common, many had accounts of friends or personal experiences of having very negative reactions to what they assumed was laced cannabis (e.g., vomiting blood) or ending up in the hospital. Youth reported that cocaine, methamphetamine, MDMA, bath salts, crack and LSD were used to lace cannabis.

Generally, youth who had what they considered a lacing experience did not know for sure if cannabis was laced or what it was laced with. Other participants claimed there were ways to distinguish if cannabis contained another substance such as the smell and the appearance. For example, the presence of white crystals or powder among the plant materials could mean that cocaine or meth were present. One participant used a microscope to examine his or her cannabis to ensure it was not laced. Some participants disagreed that lacing was detectable and instead argued it is impossible to tell without smoking the drug. Instead, they relied on the trustworthiness of their dealer to disclose if the plant is laced: "Yeah… and the people we got it from… is a known dealer to my friend who got it and he said he would never lace it with anything or anything like that. He knows the guy well enough that that would never be a problem with him… so I believe him well enough."

The main reason that the youth thought dealers might lace cannabis and not inform their consumers was to make the drug more addictive. By increasing the addictiveness of the cannabis, drug dealers ensure "returning customers" who are hooked on their unique brand:

> Participant 1: [Lacing is] so that way people can buy it more and be, like, "It's the good stuff." And people can get more business buzz from it.

> Participant 2: Yeah, that's what I was saying. Depending on what you lace it with, it makes you addicted to it, and then you can't stop.

Participants reasoned that lacing would be the only reason that cannabis would be considered a gateway drug, as without cannabis being laced with another drug, it would not be addictive. Once laced, cannabis would cause individuals to crave a bigger and better high, and thus buy different drugs from their dealer. Participants also reported drug dealers spraying cannabis plants with substances such as soda pop to make the plant appear wet (i.e., fresh). Other youth felt that dealers "touched up" cannabis with an extra chemical to make the effects better.

Legal Status of Cannabis

When asked about the legal status of cannabis use in Canada, most participants knew it was illegal, but were unclear on the circumstances of legality and often thought there were exceptions to the rule based on how much someone possessed or their age. Some youth thought cannabis possession was only illegal if there was intent to sell it and many youth cited different amounts of cannabis that a person is "allowed" to carry before police can charge them with trafficking. For example, more than an ounce, three grams or more, or "amounts divided into individual baggies" were all cited as reasons youth would be charged with trafficking. Some participants felt that police could not do anything if they were caught with cannabis if it was under a certain amount and that "it's legal to smoke on 4/20."

Youth were unclear on what is meant by decriminalization. They considered decriminalization to mean they would not face consequences from police if they possessed cannabis and that this would be the first stage in the process of legalization. One participant remarked: "decriminalization is pretty much the thing they're going to do before they legalize it. What the decriminalization means is that you can walk around carrying a joint, and the cops won't bust you for it." Other youth knew decriminalization would result in fines for possession and use. Of concern, a number of the youth claimed they do not think much about cannabis laws or that they and other youth do not care about the laws.

This confusion could stem from the different ways in which cannabis is being handled across Canada and internationally. For example, some youth brought up the presence of cannabis dispensaries in British Columbia and assumed these dispensaries indicated the drug was legal. Similarly, the prevalence of cannabis use for medical purposes seemed to skew participant's understanding of legality, but they reported that one needed a medical cannabis card from a healthcare provider to obtain cannabis from Health Canada.

All of the participants were well aware of the impending possibility of the legalization of cannabis and enthusiastically contributed their opinions on the matter. Some were aware of the debate surrounding the issue and the complexities of the process. One participant had cited international treaties as a barrier to this legislative change: "[Trudeau] technically can't because there is actually like a treaty that says… I can't remember, but my dad told me that he can't actually do it, it is against the law. It would be breaking something, so…"

Generally, most youth were supportive of legalization, but there were a small number who were not. Youth's opinions on this issue are summarized in the following subsections:

Support for Legalization

Participants identified a number of possible benefits from legalizing cannabis. Primarily, they maintained their opinion that cannabis is not a harmful drug and has several medical benefits (e.g., a natural alternative to prescription drugs). They saw legalization as an opportunity to regulate and monitor the growth and distribution of the drug. Youth speculated that this regulation would result in a safer and

better product, free of any inappropriate additions and less availability of the drug to youth. They also saw legalization as an economy booster or debt reducer in terms of profit, as well as a stimulator of Canadian tourism. Some participants hoped that funds from legalization could be funneled into areas such as health care and education. Similarly, participants hoped the funds saved from the decrease in cannabis-related enforcement and corrections could be allocated to detect what youth considered more "important" criminal activities such as cocaine sales.

Many participants were confident that legalization would put cannabis dealers out of business and effectively shut down the black market. They also argued that legalization will "keep innocent people out of jail," as they did not consider possession or use of cannabis as a valid reason for someone to end up behind bars.

Those who were supportive were less concerned with the ramifications legalization could have for youth. They felt youth would retain the prevention messaging to which they had previously been exposed and continue to base their decisions about use on their understanding of cannabis harms. Similarly, they felt that legalization, in removing the taboo of use, will result in less interest from youth, as it will not be considered rebellious to smoke cannabis legally: "I find too that people always say that when you are a teenager drinking is like scandalous, when you turn 19 it's not like a big deal anymore, so that can be part of the appeal [of smoking cannabis] maybe, is that it is illegal and that's why people might be interested in it." Regardless, in their opinion, youth will smoke cannabis any ways so it might as well be legalized.

Some supporters of legalization recognized the importance of ensuring youth do not access the drug and that impaired driving does not increase. They advocated for secure control of the drug by the government and that it should be treated in the same manner as alcohol or cigarettes, where use would be allowed only in private homes or designated public areas with no access for minors.

Against Legalization

Youth cited fewer reasons against legalization. Mainly, youth were concerned that legalizing cannabis would force drug dealers to push harder drugs on clients in order to maintain their profits. Cocaine was the most common drug cited as the "replacement" drug for cannabis in this situation. It was also thought that legalizing cannabis could cause youth to feel more comfortable using the drug as they might assume they would not be in as much trouble from their parents as they would be if it was illegal. Conversely, one participant suggested that, regardless of legalization, parents will still be against cannabis use, meaning legalization does not benefit youth in any way. Legalization was also seen as unbeneficial because of the age limit that would be put in place: this limit would limit youth access and thus require youth to still purchase through the black market. They felt the drug would be highly taxed, meaning high prices, and participants felt that since the population is going to use cannabis anyway, the government was undeserving of cannabis-generated profits. Youth were also concerned the government would lower the levels of THC in the drug, making it less potent.

Societal Influences on Cannabis Perceptions

Key social influences were found to play a role in shaping youth's perceptions of cannabis such as the portrayal of cannabis in the media, including social media, the use of cannabis for medical purposes and response from enforcement to cannabis-related illegal behaviours. These influences are summarized in the following subsections.

Portrayal in the Media and Social Media

Participants reported that the portrayal of cannabis in the media (such as in the news, movies, songs and online) was inconsistent and biased with depictions often skewing drastically towards positive or negative. In terms of Hollywood portrayal in movies and on TV, youth described cannabis depictions as very happy, fun, mellow and party-related, where characters faced no harms and had "awesome" experiences. Similarly, youth mentioned they had never seen on the news or in fictional shows accounts of someone going to jail for cannabis possession. This bias influenced some of the participants' opinions on the harmfulness of the drug with one participant stating "rich people use it so it can't be bad for you." All youth brought up influential figures they connected with cannabis use, especially musicians such as Miley Cyrus and Snoop Dog. Many even quoted the same line from a popular song, "smoke weed every day." Such influential figures were a major cultural influence that was not specific to any jurisdiction. Most youth realized this portrayal was unrealistic with a few youth acknowledging that it could undermine prevention efforts.

Discussion or information about cannabis appears commonly on social media as well. Youth mentioned cannabis being openly discussed on Snapchat, Twitter, Instagram, YouTube and, to a lesser extent, Facebook through videos, memes (i.e., humorous image shared on the Internet), articles and statistics. Participants were under the impression that youth who posted videos of themselves using cannabis were not worried about getting caught by police or parents, as they believe authority figures do not use social media. Participants described social media as making cannabis seem "friendly" and risk free and felt this portrayal was influential in shaping other youths' opinions about the drug.

Cannabis for Medical Purposes

Participants were divided in their feelings about the validity of common medical uses of cannabis. For some participants, the use of cannabis for medical purposes delegitimized the information about the harms of cannabis, which led them to argue there is no reason for cannabis to be illegal. Some youth felt that cannabis's negative reputation is a result of the "government" and other information sources "exaggerating" the dangers of the drug. With this in mind, they believed that the drug was not harmful, but instead actually very useful for medical conditions such as chronic and acute pain, arthritis or seizures and other practical uses (e.g., hemp).

Some participants, on the other hand, were skeptical of this view and felt there was more to the story. They were under the impression that cannabis might not be as risky as it had been made out to be, but that the information that argues cannabis is a cure to all medical ailments (they used the example of curing cancer) was very unlikely. They thought critically about the information they read or heard that supported the use of cannabis for many medical treatments and realized there might be two sides to the story. For instance, one participant noted:

> Well, now you are seeing all these, like, medicinal like…. The, like, 50,000 diseases it can cure all of a sudden and stuff. Most of it probably could not be true. There is no way one drug can cure like all these diseases. I'm sure it has tons of medical pop. It has medical benefits, just not what we are seeing.

Some participants did not think cannabis should be abused for its recreational purposes, but instead use should be restricted to strictly medical needs: "Yeah, a lot of people say, well, it's medicine. Why can't I use it? But… at the same time it's not just medicine. It's prescription medicine. You can't take someone's Adderall. That's illegal." Others felt it was unfair that cannabis can be used medically, but not recreationally, and went as far as to say they would like to ask their doctor for a prescription, although this was usually said in a joking manner.

Response from Enforcement

Perceptions of the response of enforcement to cannabis appeared to play a significant role in the way that youth perceived the risk of cannabis and cannabis use. Overall, youth did not consider enforcement of cannabis laws, especially for teenagers, to be very strict. Instead, they were under the impression that police officers would let youth go with a warning if they were caught using or possessing a relatively small amount of cannabis. Similarly, youth were not concerned with being reprimanded for driving while high or driving with cannabis in the vehicle. They had only heard of or had experiences where police asked drivers about alcohol, but not cannabis. There were some participants who did not know of the capabilities of police in detecting driving while impaired by cannabis.

These impressions could be related to the lack of visibility noted by participants about cannabis enforcement. Youth, who appear to form opinions on topics through what they hear from friends or older peers and siblings, were often unaware of the legal ramifications of cannabis use and cannabis-impaired driving, or the likelihood of apprehension, reducing their concerns for being caught themselves. They also held the notion that police had "better things to do" than spend resources on enforcement of cannabis laws and that this was not a priority for them:

> See, my dad's a police officer, so I know that they don't crack down as hard anymore [on those who use cannabis] in a lot of situations because it's becoming such a big part of the culture, especially where it's going to be legalized that it's, like, they have to kind of choose what they have to prioritize.

Instead, participants reported that police will "turn a blind eye" and give youth using cannabis a warning. One participant went as far as saying police are corrupt and those who do bust youth for possession are turning around and using or selling the confiscated cannabis.

Conversely, when discussing the legalization of cannabis, participants expressed the opinion that enforcement at this time is too strict in regards to cannabis and that a relatively "safe" drug such as cannabis does not warrant this response. For example, one participant said:

> They treat you like heartfelt, cold-blooded criminals for supposedly having it on you… or without any proof and they treat you like garbage… I don't think so. I don't understand how that's legal… I mean just treat you like… you know, when there's nothing wrong with marijuana… like.

This duality in perceptions — enforcement generally does not prioritize cannabis while simultaneously being too hard on users — was a contradiction that could be contributing to the lack of clarity among youth about the risks and legal status of cannabis.

Experience with Prevention Approaches

Participants identified inconsistent information and messaging as a major barrier to teaching youth about the effects of cannabis. There is a plethora of conflicting research about the harms and benefits of cannabis, as well as pro-cannabis and anti-cannabis groups advocating for different agendas. With access to these resources online, youth are free to make their own assumptions about the drug, being able to pick and choose which information they want to believe. Participants said this lack of clarity was compounded by the availability of cannabis and cannabis-related products to the public.

A majority of participants, if not all of them, reported using the Internet as a source of cannabis information. Many youth struggled to distinguish between credible and not credible sources and

were often confused by contrary research or findings, often causing them to discredit all research on the topic in its entirety. Many youth recognized that proponents of cannabis use might be biased when writing "informative" articles, similarly with those who do not support the drug. Sources youth used to research cannabis included Google, Wikipedia, .org and .edu websites, Reddit, pro-cannabis groups, political parties, and government and health agencies, and, for those who had problematic use, counsellors and treatment providers. Youth had difficulty relating to news sources as these represented a "parental" or "adult" perspective making these sources inherently "anti-drug" in their eyes. Some youth made an effort to find credible sources or to verify results through more than one source, but reported that such verification was challenging. In order to form their opinion on the topic, youth often relied on friends, drug dealers or their own personal experiences.

Although most participants had some memory of receiving prevention messaging about cannabis in previous years, very few remembered what they were taught. The clearest message was the "just say no" message, which did not resonate well with youth. A smaller number of participants commented that they did not receive any prevention messaging and if they did they cannot remember it any longer. The most commonly mentioned prevention efforts that youth remembered participating in were presentations given at assemblies, such as the DARE program, and some graphic imaging. Many youth cited a commercial they had seen on brain damage and drugs. Other media prevention efforts were seen as corny or unrealistic. Some youth remembered harms being touched on in health class, but many youth had not received this information via the standard curriculum. Prevention efforts were often brief, at an early age, with no additional information provided in later years.

Youth felt that an adult or person of authority, such as a police officer, talking to a class in a presentation-style format was boring and ineffective. These presentations were seen as an excuse to skip class or an assembly with those attending tuning out or soon forgetting what they learned. Many were not optimistic about prevention efforts; instead they concluded that youth are going to smoke cannabis regardless of prevention efforts and there is not much that can be done to stop this.

Suggestions for Future Prevention Approaches

Although many participants were under the impression that it was very difficult, if not impossible, to prevent cannabis use among their age group, they did provide some recommendations for future prevention efforts. These recommendations are discussed in the following paragraphs.

Delivery by someone with experience. Participants agreed that someone who had experience with cannabis use, both positive and negative, would be the best positioned to deliver prevention messaging to youth. Many youth assumed that authority figures such as teachers, police, parents and councillors, had no experience with cannabis use, did not understand the circumstances and pressures faced by modern youth, and were thus unable to provide youth with the perspective they are seeking. They felt these figures of authority simply wanted to keep them away from cannabis because it was illegal. Hearing about the harms and benefits of cannabis from someone who has used, especially someone close to their age, on the other hand, was seen as more legitimate by this age group and would provide an opportunity for them to ask questions where they would not have to fear getting in trouble.

Give both sides of the story. One of the most consistent suggestions made by participants was to cease the "just say no" prevention approach and instead provide youth with unbiased, evidence-based information on both the positives and negatives of cannabis use. Youth consider cannabis prevention as an important addition to the curriculum, through health class for example, but only if it is not delivered in a "preachy" manner. Messaging that is overly dramatic, such as "you'll die if you smoke cannabis," is immediately discredited by youth as an exaggeration, but research supported

facts might be taken more seriously. These facts can be used to help youth make informed decisions on their own, as opposed to being told how to behave. Participants also advocated for more research on the positive aspects of cannabis and the incorporation of this research into prevention efforts.

Harm reduction. Although participants did not use the term "harm reduction," many suggested teaching youth harm reduction strategies, in the form of low-risk cannabis use guidelines. In this instance, the analogy of sexual education was often used, where participants pointed out it is ineffective to tell youth not to have sex. Instead, youth should be taught about birth control. Participants felt a similar approach would work well with cannabis use; that is, youth are "going to use it anyways," so it could be beneficial to show them how to do so safely. Participants wanted "cut offs" for how often they can smoke cannabis before it will do any damage, suggesting messaging of "moderation" as a possibly effective route.

Begin efforts earlier with consistent follow up. Participants felt it would have been beneficial for them to receive drug education and information immediately before they entered high school where they were faced with opportunities to use drugs, and then consistently throughout their education, whether through health class, driver education, assemblies or guest speakers. Many youth reported forgetting what they had learned because it had been delivered too early or too infrequently, and suggested prevention education should be frequent and mandatory for teenagers.

Different approaches based on target audience. There were differences noted by the participants in how certain groups of youth responded to prevention messaging. For instance, differences were found to be related to gender, educational aspirations, family life and cannabis use experience. Participants acknowledged that peers who are higher achievers are more likely to respond well to certain prevention messages, whereas those who are less concerned with doing well will be less affected by this type of messaging. Similarly, it was said that those youth who have already started cannabis use at the time they receive prevention programming might be less influenced by this message. They are more likely to apply the "that-won't-happen-to-me" rationale when learning about the harms, whereas a student who has not begun use could be more affected by the potential consequences of cannabis use. Participants felt that prevention messaging needs to be targeted based on a youth's pre-established behaviour and attitudes.

Provide more or different information. Participants suggested a number of topics that they feel are not covered sufficiently by current prevention efforts. These included:

- Drug-impaired driving education;
- Explanation of the ways in which drugs affect the body, as opposed to only learning the effects (e.g., cannabis affects the developing brain vs. cannabis can damage the developing brain due to the increased THC in the pre-frontal cortex, possibly jeopardizing executive functioning);
- Dangers of synthetic cannabis;
- How use will affect you as an adult;
- Potential for cannabis addiction;
- Potential effects on mental health;
- Effects on the brain; and
- Strategies to quit cannabis use.

Those participants who had experienced harms from cannabis use that they were not previously aware of, were particularly adamant about warning youth about these potential consequences. For example, one female participant spoke of the detrimental experience she had with cannabis and how she wished she had been warned:

> But, like, the worst part of marijuana for me is, like, this crippling anxiety I live with day to day. And if somebody would have told me that this is what my life would be like for the rest of my life or until I can find a way to, like, get this out, like, I hate it. I hate it so much. I would rather have my arm chopped off then have to deal with this.

As is often the case during adolescence, youth are less likely to heed warnings of harms if they do not perceive the harm as something realistic to them.

Discussion

Research shows youth are unclear on the effects and harms of cannabis, which could put them at an increased risk for use (Johnston et al., 2015). This increased risk is concerning, as brain development and mental health can be compromised if cannabis use, particularly frequent use, is initiated in early adolescence (George & Vaccarino, 2015). Canadian youth have one of the highest rates of cannabis use worldwide (World Health Organization, 2014), illustrating the need for a better understanding of the misconceptions and attitudes youth have towards cannabis.

The objective of the current study was to confirm and extend the work previously conducted by CCSA (Porath-Waller et al., 2013) with a view to informing prevention initiatives. This study aimed to examine what common misconceptions are held by youth, where gaps in evidence-based information exist and how best to move forward with prevention efforts. To do so, 20 focus groups with 77 youth were conducted across Canada using a similar approach to that of the previous investigation by Porath-Waller et al. (2013). The findings from this research can be used to educate parents, teachers and youth on the effects of cannabis use and to aid policy makers, prevention specialists and researchers in developing effective evidence-based prevention efforts for youth. This discussion will highlight key themes observed from the current study, specifically about risk factors for youth cannabis use, and will compare and contrast how the results differ from previous investigations, including key determinants that influence youth's decisions to use cannabis, misconceptions or gaps in knowledge related to the effects of cannabis, and external factors that can contribute to these misconceptions. The discussion will also identify implications of these results for prevention programs, practice and policy.

What Youth Know

This study intended to uncover the perceptions youth hold about cannabis. Although the study found many misperceptions, there were a number of examples of the correct knowledge youth held about the effects of cannabis for both the 2013 and 2016 focus groups[8]. For instance, participants from each study agreed that smoking cannabis can damage lungs and possibly cause cancer. Respiratory issues were mentioned as a concern in the focus groups conducted by Health Canada (2014b) as well. Similarly, some participants were aware that cannabis is addictive, can affect the brain and impairs driving. It would be beneficial to explore further why these particular harms have resonated with certain youth while others have not. One theory is that past prevention efforts related to similar harms such as those targeting impaired driving or cigarette use and lung damage make similar messaging more easily received. Interestingly, participants in the 2016 groups reported that some youth are changing how they use substances in order to mitigate the potential for harms; for example, baking cannabis into cookies and ingesting it orally to avoid lung damage. This trend was supported in a quantitative study of Colorado high school students conducted by Johnson et al. (2016) that found that high perceived harmfulness of cannabis was associated with vaporizing or ingesting edibles instead of smoking. Similarly, some participants claimed that designated drivers "only smoke weed" at parties instead of drinking, as it is "less impairing." This view suggests that if youth believe there is a significant risk of harm due to substance use, they might alter their behaviour. Unfortunately, this fear might not result in a decrease in use, but instead alteration in how or what is being used, illustrating the importance of understanding how education on harms can impact youth cannabis use.

8 Direct comparisons between both studies should be interpreted with caution as these studies were conducted separately by different researchers with a similar methodology.

Another topic of discussion among youth was about cannabis as a gateway drug. The 2013 groups appeared to be more supportive of this concept, whereas participants in the current study instead attributed the gateway affect to alcohol use, arguing that alcohol use is the gateway to cannabis use. This effect was found by Kirby & Barry (2012) using Grade 12 data from the 2008 Monitoring the Future study. Participants in the present study appeared to have a better understanding of the potential for addiction to cannabis than those who participated in the 2013 focus groups. Similarly, there appeared to be a higher level of agreement that cannabis negatively affects driving. This change is encouraging as it could indicate cannabis prevention messaging is having an impact on youths' knowledge. Youth were also asked about the effect of cannabis on brain development, something that was not discussed in the 2013 groups. Participants were fairly confident that cannabis affects brain health in some manner, but were unsure how. Youth would benefit from more information about the mechanisms behind the effects of cannabis on the developing brain.

Why Youth Use Cannabis

Understanding why youth use cannabis provides an opportunity for researchers to identify potential risk factors for cannabis use and dependence.[9] The reasons for use and the attitudes and beliefs observed in the current study, as well as previous research, correlate with a number of risk factors for use, such as lack of parental monitoring, perceived availability and accessibility, positive attitudes towards use and lack of understanding of harms associated with cannabis use.

Influence of Friends, Family and Community

The current study revealed reasons for use that were also found in the 2013 focus groups and in previous research; mainly, the desire to feel connected, whether it be through friends, family or community. These reasons are discussed in detail in the following paragraphs.

In terms of "important others," participants in the focus groups for the current study reported that youth value their friends and peers, and might use cannabis as a means to penetrate or remain within a peer group. Similarly, the assumption that "everyone's doing it" played a role in youths' acceptance of cannabis use as did the relative normalization of the practice as a means of socializing comparable to having a beer with friends. Other qualitative studies have found that youth report cannabis use to increase confidence and their ability to communicate and socialize (Perth District Health Unit, 2012; Stavropoulos et al., 2011) and that peer pressure plays an important role in influencing cannabis use (Porath-Waller et al., 2013; Health Canada, 2014b). This influence is concerning as peer use of cannabis, perceived use of cannabis among friends and beliefs about peer use are all risk factors for cannabis use (Ali, Amialchuk, & Dwyer, 2011; Stephens et al., 2009; Pinchevsky et al., 2012; Pejnovic, Kuzman, Pavic, & Kern, 2011).

Secondary to peers, parental influence was noted to play a role in youth cannabis use in both the 2016 and 2013 focus groups, albeit 2013 participants seemed more concerned with disappointing parents or getting in trouble than their 2016 peers. Participants in both groups reported that parents who use the substance or do not have a consistent presence in their teen's life could increase the likelihood of use by their child. Weak family cohesion and low parental monitoring were also identified as risk factors by participants in Alhyas et al. (2016). In terms of risk factors for use related to parents, low levels of parental involvement with youth, family disruption and parents having used

[9] Dependence is physical dependence on an addictive substance, where an individual experiences withdrawal symptoms when the substance is removed. Dependence can occur with or without the psychological and behavioural symptoms, such as compulsive use and craving, associated with the disease of addiction. A person who is dependent on a substance is only able to function normally when that substance is present in his or her system.

cannabis all relate to an increased risk for use of cannabis for youth (Low et al., 2012; Pinchevsky et al., 2012; Miller, Siegel, Hohman, & Crano, 2013). Conversely, protective factors related to parents include parental monitoring of youth, beliefs by youth that their parents are monitoring their behaviour and mothers who disapprove cannabis use (Dever et al., 2012; Tang & Orwin, 2009; Musick, Seltzer, & Schwartz, 2008).

Finally, one's environment was also mentioned by participants in the 2016 and 2013 groups as a possible influence on cannabis use; for example, living in a "bad neighborhood" could lead to use. Community is said to increase likelihood for youth cannabis use, for instance, if youth feel that community norms are favourable to substance use and if the neighborhood is unsafe due to crime and drug sales (Van Horn, Hawkins, Arthur, & Catalano, 2007; Nalls, Mullis, & Mullis, 2009).

Perceived Availability and Accessibility

Aside from the influence of others, participants in the current study reasoned that cannabis use could be a result of availability and accessibility. Accessibility and perception of availability have also been highlighted as contributors to use in previous focus groups (Perth District Health Unit, 2012; Alhyas et al., 2016; Health Canada, 2014b). These are also indictors of risk for use: that is, those youth who have cannabis available to them or an accessible opportunity to use it are more likely to do so (Fagan, Van Horn, Hawkins, & Arthur, 2007; ter Bogt et al., 2014; Martino, Ellickson, & McCaffrey, 2008; Collins, Abadi, Johnson, Shamblen, & Thompson, 2011).

Stress and Mental Health Management

In the 2016 focus groups, cannabis was reportedly "self-prescribed" by youth to address serious mental illness such as anxiety, PTSD or depression, as well as for relaxation purposes with the goal of "medicating" cognitive or mental illness. This reason for using cannabis was similarly reported in the 2013 focus groups, as well as others previous studies (Perth District Health Unit, 2012; Health Canada, 2014b, Stavropoulos et al. 2011). The belief that cannabis will relieve stress and help an individual relax has been cited as another risk factor for use (Hayaki, Hagerty, Herman, de Dios, Anderson, & Stein, 2010). This rationale is concerning as research is still inconclusive about the relationship between mental health and cannabis use, meaning caution should be exercised when self-medicating with cannabis to address mental illness as it could have the opposite effect (George & Vaccarino, 2015; McInnis & Porath-Waller, 2016).

Misconceptions

Other risk factors for cannabis use and dependence include a decrease in beliefs about the harms of cannabis, positive attitudes towards use and belief in the positive benefits of cannabis (Stephens et al., 2009; Pérez, Ariza, Sánchez-Martinez, & Nebot, 2010; Johnston et al., 2015). In certain cases these positive beliefs and attitudes are misconceptions about the drug. A number of misconceptions were expressed by the participants in both the 2016 and 2013 focus groups, illustrating the need to rectify these beliefs in order to advance prevention efforts. Some misconceptions are discussed in the following paragraphs.

"Cannabis isn't addictive"

Participants in both the 2016 and 2013 focus groups cited that youth come to rely on cannabis for the positive feeling derived from using the drug. They noted that as time goes on more of the drug is needed for them to maintain that feeling. In addition, many participants observed that when use is stopped the individual becomes "grumpy" or "agitated." These descriptions are consistent with the

signs and symptoms of cannabis dependence and withdrawal. Interestingly, a fair number of participants from the 2016 and 2013 groups did not think that cannabis was addictive in the traditional sense and did not believe that heavy use of the drug would result in withdrawal symptoms. This view suggests a prevention opportunity: there is a need to link youth's observations of dependence and withdrawal due to cannabis with the clinical definition of these conditions to show youth that cannabis is similar to every other drug in terms of risk for negative effects. Encouragingly, there were youth in both the 2016 and 2013 groups, as well as in the Health Canada (2014b) study, who reported that cannabis is addictive.

The concept of "greening out" came up in the 2016 groups, which was described as something similar to a drug overdose. Despite this concept, participants knew that it is not possible to overdose on cannabis. This view illustrates that, although youth might not understand why, there is acknowledgement of immediate negative effects of cannabis use. Youth could benefit from information about immediate risks and harms associated with cannabis use (See George & Vaccarino, 2015 and CCSA's Clearing the Smoke series for information on the risks and harms of cannabis use for youth).

"Cannabis isn't harmful"

Most youth in the current study as well as previous studies (Health Canada, 2014b; Porath-Waller et al., 2013; Alhyas et al., 2015; Roditis & Halpern-Felsher, 2015) were under the impression that cannabis is "safe" or does not have significant harms, especially when compared to other substances. The perception that cannabis is not harmful or is only somewhat harmful has been shown to be a risk factor for use (King, Vidourek, & Hoffman, 2012). Depending on the study, varying arguments are given for this risk factor. For example, participants from the current study relied more on the argument of comparison with alcohol or pharmaceuticals to illustrate the safety of cannabis, whereas participants from Porath-Waller et al. (2013) reasoned that cannabis is safe because it is a plant and is natural. This difference in reasoning could possibly be illustrative of some successes in terms of teaching youth about cannabis harms: 2016's participants were more willing to admit cannabis can be harmful, but did not consider these risks concerning as they are "much less" than alcohol, whereas the 2013 participants relied on the "natural plant" aspect, essentially implying plants are not harmful.

"Cannabis effects depend on the person"

Participants from the current study felt that the effects of cannabis use depended on the person, which aligns with findings from the 2013 study. Youth in the current study rationalized that the reason for this variance in cannabis effects is based on the person and their attitudes, as opposed to the drug itself. This rationale provided youth an opportunity to selectively decide when the substance is safe or harmful, mainly when it was beneficial to them. It provided youth a rationale for smoking "every once and a while" or for getting in a car with a driver who had smoked because "it doesn't affect them." The rationale is concerning as youth appear to depend on this notion in order to justify their use: that is, they acknowledge harmful side effects exist, but these are applicable to "someone else" and not themselves. As mentioned above, the belief by youth that they are not susceptible to these harms puts them at risk for greater use (King et al, 2012). It would be beneficial to alter this perception, where instead youth are concerned with the unpredictability of cannabis effects and would rather not take the risk for exposure to the effects instead of assuming they are exempt.

Other Influencers

There are three other themes apparent throughout the focus groups about the influences on youth perceptions of cannabis. These were the Internet and media, the debate about cannabis legalization and the perceived response by law enforcement to cannabis use.

Internet and Media

Results from the current study revealed that youth appear to receive most of their information about cannabis from friends, peers and media, and to a lesser extent siblings and parents. Similar results were found in a study conducted by Alhyas et al. (2016). Youth from the current study described cannabis use as "normalized" in the media and online, with a plethora of information available that supports or condones cannabis. Participants appeared to struggle with critically evaluating these various types of information and discerning which conclusions are valid and which are highly biased; this perception was also supported in Perth District Health Unit (2012).

Youth in both the 2016 groups and 2013 groups often mentioned the portrayal of cannabis in the media as having an influence on how teens see the drug. For instance, 2016 participants described cannabis in the media as glamourized, while 2013 participants described media presentation of people who use cannabis as negative (where the person is "dumb" or "lazy"). This difference could indicate a shift in how individuals who use cannabis are portrayed in the media, which could have corresponding effects on youth. The current study also asked participants about the influence of social media in youth's perceptions of cannabis. Results show there is a high presence of supportive comments about cannabis on social media and youth are not afraid of exposing their use online. This trend could be detrimental in that it gives youth the impression that cannabis is acceptable and that use is not met with severe consequences.

Legalization

The current study provided an opportunity for youth to share their opinions on the legalization of cannabis, an issue that has not been discussed in much detail in previous studies. Participants reasoned that legalization would lead to better regulated and thus "safer" cannabis, which would also mean the government would be controlling the substance. The debate over legalization appeared to permeate the discussion in other areas as well. For example, participants argued it was unfair that cannabis was illegal as "more dangerous substances" such as pharmaceuticals and alcohol are legal. Compared to participants in the 2013 groups, youth in the current study seemed to express less fear of the health and legal consequences related to cannabis, which could also be due to the prospect of legalization signalling to youth that the drug is "safe."

Enforcement

Participants from the 2016 groups seemed to lack any concern for being apprehended by police for cannabis-related issues. Only a very small number of participants highlighted "fear of getting caught" by police as a reason to abstain from cannabis use. Instead, youth described police as indifferent to their cannabis use and were under the impression law enforcement would not do anything about it, even if they were aware of it. Instead, youth assumed police prioritize "more important" matters and were likely to let youth off with a warning, if they were apprehended. This view illustrates another risk factor for use: the perception that law enforcement agencies are permissive of substance use (Van Horn et al., 2007). Inconsistent reactions from police to youth cannabis use were also documented in the Porath-Waller et al. (2013) study as something that confused and frustrated youth.

A finding unique to the current study was that participants had never or rarely heard of car accidents due solely to cannabis. On the other hand, they had heard of many instances where alcohol-impaired driving caused a crash. Consequently, participants lacked concern about cannabis-impaired driving. Youth appear to have internalized an anti-impaired driving attitude towards alcohol, but do not extend this attitude to cannabis-impaired driving. This gap could be related to youth's concept of impairment, which has been developed by the discourse on alcohol-impaired driving. Individuals who use cannabis are unlikely to exhibit these behaviours, which means cannabis impairment is less visible to youth, putting them at risk for unknowingly riding with a cannabis-impaired driver.

Implications for Prevention, Practice and Policy

The findings from this study point to the complexity surrounding youth perceptions of cannabis, and confirm the importance of evidence-informed messaging to youth about the effects of the substance. In particular, clearer, targeted messaging about the role of law enforcement, the legal status of cannabis, the risks related to cannabis-impaired driving and the definition of cannabis impairment could help to increase awareness of the harms associated with cannabis use while also influencing youth to examine their misperceptions in light of factual information. The findings also highlight implications for the increased involvement of parents and the community, and for programming.

Provide clarity around cannabis-impaired driving. A shift toward recognizing cannabis-impaired driving as unsafe needs to occur that is equivalent to the shift in public understanding of the risks of alcohol-impaired driving. Currently, youth visualize impairment as someone being drunk. Prevention efforts should emphasize that just because cannabis impairment is not easily identifiable, that does not mean a driver is not impaired (Beirness, 2014). Messaging such as "impairment isn't only on the outside" and that it is different among individuals could be useful. Youth should be encouraged to plan a safe ride home or ask friends or adults who are driving if they have used cannabis and to not get in a car with someone who has. It is important that youth refrain from using alcohol-impaired driving as the standard by which they measure impaired driving due to cannabis. While cannabis-impaired driving appears "safer" in comparison, the baseline should be sober driving, not alcohol-impaired driving. It could also be beneficial to increase awareness of the ability of Drug Recognition Evaluators to detect cannabis-impaired driving and to emphasize that police are checking for cannabis along with alcohol and other substances at sobriety checkpoints.

Increase education about the risks of cannabis use. An apparent lack of awareness of the negative effects of cannabis points to the need for more education for youth through schools and youth-based organizations. Youth should be aware that there are health and legal consequences associated with cannabis use, and this awareness can be achieved by targeting youth's personal priorities and making the potential for long-term consequences clear. For instance, education programs can illustrate how cannabis can affect academic performance through impacts on the brain and athletic performance through harms to the body. Programs could use social norming campaigns, where information is provided on the actual prevalence of drug use among youth of a particular age, thus illustrating that youth might be overestimating that "everyone's doing it"(Berkowitz, 1997). Education should act as one piece of a multifaceted approach to prevention.

Provide both sides of the story, including harm reduction strategies. Youth consistently recommended adding content on the positive effects of cannabis to prevention initiatives, which have traditionally focused on the harms. Many youth claimed that this gap in information made the more harmful claims appear overstated, causing youth to disregard these initiatives all together. Instead, youth would value a breakdown of what research exists about cannabis harms as well as its positive uses, mainly those that are medical in nature. Similarly, youth wished guidelines were available that outlined

"safe" cannabis use, such as "how much you can smoke before you damage your brain" or "how often you can smoke before risk of lung cancer." Participants reasoned that youth will be using cannabis regardless, so resources would be better spent aiming to reduce harms related to use. Harm reduction has been shown to decrease risky behaviour among this population (Leslie, 2008; Poulin, 2006).

Begin efforts earlier with consistent follow up. Several participants were of the opinion that prevention efforts should begin earlier in youths' education. Some participants felt messaging was delivered "too late" because use had already started. Other participants had no recollection of these interventions or could not recall the key messaging. This lack of recall points to the need for follow up with prevention messaging and efforts to target appropriate age groups. Both of these recommendations have been shown to be effective (Canadian Centre on Substance Abuse, 2015a).

Teach youth skills for critical analysis. With scientific information becoming more available, it becomes crucial that youth understand how to critically analyze the "facts." Almost all youth who participated in the current study reported using the Internet and social media to find information about cannabis, but only a small number stated they had attempted to verify information by consulting multiple sources. Enhancing youth competency to critically analyze information could prevent ill-informed decisions about cannabis use (Griffin & Botvin, 2010). Youth should be made aware that not all information is accurate or evidence-based. Similarly, there is no conclusive evidence on certain issues about cannabis use (e.g., cannabis use and mental health). Youth should use caution when interpreting research results. Youth need to be encouraged to access evidence-based resources, possibly through school or youth-friendly avenues (e.g., social media).

Target approaches based on audience. Each focus group included youth from various backgrounds including those from rural or urban settings, those accessing community services, those who had experience with addiction and other issues, those enrolled in advanced education courses and those with Indigenous heritage. Each demographic group connected differently with different types of prevention efforts. Research shows there is value in targeting prevention efforts to the audience: cannabis use has been shown to vary by country, GDP, family affluence, race and gender (ter Bogt et al., 2014; Wu, Swartz, Brady, Hoyle, & NIDA AAPI Workgroup, 2015). Targeting efforts can be done by involving youth in the development of initiatives and allowing youth to deliver programming to their peers. If their peers are perceived to be unsupportive of cannabis use, youth might be more likely to reject the drug and abstain from use (ter Bogt et al., 2014; Pinchevsky et al., 2012; Walker, Neighbors, Rodriguez, Stephens, & Roffman, 2011; Pejnovic et al, 2011).

Provide youth with tools to manage stress and mental illness. Many youth reported using cannabis to manage their stress, anger or anxieties. This evidence illustrates a need to educate youth on alternative options to manage these issues and to provide more avenues for communicating about and discussing their difficulties (Griffin & Botvin, 2010). Options include treatment services, peer or school counsellors, and support from parents and friends. By addressing these issues through other avenues than cannabis consumption youth will be better equipped to maintain their mental health and will no longer need to rely on cannabis as a means to escape. Youth could be motivated by the possibility of using another form of treatment apart from cannabis and need to be informed that there are alternatives available (Stavropoulos et al., 2011).

Strengthen parental involvement. Parental monitoring or perceived parental monitoring have been shown to play a protective role in adolescent substance use (Schofield, Conger, & Robins, 2013; Dever et al., 2012; Farhat, Simons-Morton, & Luk, 2011; King et al, 2012). Participants in the current study believed that a lack of parental involvement or parental encouragement of youth could play a role in youth cannabis use. Very few youth from the 2016 focus groups reported having open and

honest conversations with their parents about cannabis use. Similarly, parents and youth in the Health Canada (2014b) study reported parent–teen conversations about cannabis were reactive in nature as opposed to proactive. The Health Canada study also found that parents want more information on the effects of cannabis use on brain development, mental functioning and mental health. It could be beneficial to provide parents with education on cannabis harms and the tools for monitoring and speaking with youth about use (Canadian Centre on Substance Abuse, 2010; Boyle, Sanford, Szatmari, Merikangas, & Offord, 2001; von Sydow, Lieb, Pfister, Höfler, & Wittchen, 2002).[10]

Increase capacity for addressing cannabis use among those working with youth. Providing practitioners such as teachers, coaches and community workers with evidence-informed tools and resources on cannabis will ensure they are equipped to inform youth about it. Teachers are well positioned to deliver prevention initiatives related to cannabis due to their familiarity with students. For instance, Moffat, Haines-Saah, & Johnson (2016) found that a classroom intervention that focused on decision making created a neutral environment to engage students in discussion. This dialogue supported critical inquiry and provided an opportunity to encourage youth who use cannabis to stop or reduce use. Both teachers and students were receptive to this intervention format. Similarly, healthcare professionals working with youth can help to identify risky cannabis use early. Screening for cannabis use followed with referral to treatment can prevent more serious use of cannabis (i.e., chronic use, dependence) and encourage youth to access services they would not have accessed without guidance from their healthcare provider (George & Vaccarino, 2015).

Use findings from this and other qualitative studies to inform policy. Qualitative research provides a deeper understanding of the thoughts and attitudes of a specific population, providing additional depth compared to the data available from quantitative surveys. Using this information, along with other data, to inform policy will ensure well-rounded, robust laws that take into consideration the contextual and demographic circumstances of youth. The misperceptions documented in this report, and the implications for prevention and practice, can also be used to inform policy makers tasked with developing or revising cannabis regulations. An evidence-informed approach to regulation that incorporates research, education, prevention, treatment, enforcement and harm reduction will be key in minimizing the risks and harms of cannabis use among Canada's youth.

Limitations

The limitations of this study need to be considered when interpreting its findings. Although researchers took all measures possible to include a diverse cross section of Canadian youth, the study sample is not representative. There was an overrepresentation of youth who were above the age of 16 and a higher number of participants in the Alberta and Ontario groups. Due to the small number of participants, results cannot be analyzed by jurisdiction, age, gender or background, as this analysis would compromise the anonymity of participants. Regardless, researchers were confident saturation was met as the amount of new information presented decreased, while previous themes from earlier groups were supported. By the time the final groups were held, the moderators were able to anticipate with some accuracy the issues and viewpoints that would arise (Babbie & Benaquisto, 2010).

The interpretations of the data in this study are those of the analyst. A number of steps were taken to help ensure the reliability of the research findings. First, the analyst was involved in every aspect of the study (i.e., data collection, analysis and writing), ensuring full immersion in the data. Second, reliability can also be assessed by consistency between the study's findings and previous research. Some findings in the current work have been reported in previous cannabis literature (Perth District

[10] See Canadian Centre on Substance Abuse. (2016). Parents: Help your teen understand what's fact and fiction about marijuana (infographic). Retrieved from www.ccsa.ca/Resource%20Library/CCSA-Marijuana-Fact-and-Fiction-Infographic-2016-en.pdf.

Health Unit, 2012; Stavropoulos et al., 2011; Health Canada, 2014b; Alhyas et al., 2016). Third, a second investigator was present for all data collection and provided input when completing the analysis and developing findings. This process helped ensure that interpretations accurately reflected the focus group dialogue and provided opportunities for clarification between the two investigators, supported by event transcripts. Finally, participants' quotes pertaining to themes and interpretations were provided verbatim in this report to further contribute to transparency.

Future Directions for Research

The results of this study have implications for future research and point to opportunities to strengthen current prevention efforts. These opportunities are especially important because the current Canadian government intends to proceed with legalization and regulation. Future research could explore the effectiveness of the prevention approaches suggested in this report, including providing youth with information on both positive and negative effects of cannabis, and incorporating in service delivery peers and people with lived experience (Canadian Centre on Substance Abuse, 2010). Future research could explore how and why some messaging (e.g., harm to the lungs) has resonated with youth and resulted in behaviour change (e.g., taking cannabis in a form other than smoking) in order to uncover methods for use in future prevention efforts. It will be important to understand how knowledge of harms will influence youth behaviour, so that measures can be put in place to ensure youth are not switching from one risky behaviour to another (e.g., baking cannabis into food instead of smoking it).

While conducting the focus groups, it became apparent that adults, similar to adolescents, would value information related to the effects of cannabis. Based on the discussions with youth, it might be the case that parents are reinforcing incorrect perceptions about cannabis, possibly through their own behaviours, such as driving after using cannabis. Teachers could benefit from greater availability of cannabis information that they can incorporate in their lesson plans. Future efforts to conduct qualitative studies, similar to this current study, to uncover the perceptions and attitudes parents and teachers hold about cannabis and develop corresponding material are warranted. Understanding these gaps can help inform the development of resources to help parents play an active role in preventing youth cannabis use. Similarly, educational material outlining the effects of adolescent cannabis use would be useful to teachers and other youth service providers who can also participate in prevention delivery. These measures should be evaluated for effectiveness.

National-level data on youth cannabis perceptions would also be useful to obtain a more representative picture and to monitor changes over time. This data would be particularly timely as Canada moves towards the legalization and regulation of cannabis, as they would contribute to the ability to evaluate the impact of the policy change. The data could be collected via an independent survey or through the expansion of existing national data collection initiatives, such as the Canadian Student Tobacco and Drug Survey.

Conclusion

The evidence base for the impacts of cannabis use among youth is growing, increasing the quality of information needed for effective prevention, education and intervention. To effectively prevent harms related to cannabis among adolescents, it is also valuable to understand what youth believe are the effects associated with the drug and what can influence a youth to use or abstain. Youth are best suited to inform researchers about where gaps exist in current cannabis education and awareness efforts. To contribute to this understanding, CCSA conducted 20 focus groups on the topic of cannabis with youth across Canada.

This study revealed that participants underestimated some of the harms associated with cannabis, such as driving while impaired, the impact on brain development, risk for addiction and other mental and physical consequences. It revealed that youth do not feel they will be reprimanded by enforcement for cannabis use. Participants also believed there are several benefits related to cannabis use, such as stress relief and increased social confidence. However, they expressed their belief that the effects of cannabis are experienced differently at the individual level. Because of this difference, and in combination with the various cannabis-related resources online, youth are able to pick and choose when they consider the drug "safe" and when it is detrimental to one's health.

Findings from this study highlight the importance of raising awareness about cannabis risks and providing youth the tools to critically assess the available information about cannabis. Misperceptions can be altered through appropriate, targeted prevention efforts that provide evidence-informed facts about cannabis use by adolescents. These efforts should also promote resiliency, for example through tools for youth to manage stress and combat peer pressure, in order to refrain from engaging in use at an early age. Providing those who work with youth resources to address this issue can also lead to early intervention and the prevention of harms due to use. Research supports prevention initiatives that involve or are delivered by youth (or someone other than an authority figure), that are informative and that suggest less harmful alternatives, as opposed to prescriptive measures (Massey & Neidigh, 1990; Janz & Becker, 1984).

With changes in cannabis regulation anticipated in the near future, it is imperative that education is proactive in nature (i.e., before legalization occurs) and provides youth with factual information they can use to inform their decisions to use cannabis (Canadian Centre on Substance Abuse, 2015b). As research on the effects of cannabis continues to accumulate it will be important to integrate this new information into prevention and intervention initiatives, and policy. The effective management of targeted prevention for this vulnerable age group will also require continued monitoring of the attitudes and beliefs about cannabis held by youth and those variables that influence their decision making.

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Appendix A

Interview Guide

Thoughts about Marijuana Study

Instructions to participants prior to beginning the focus group:

Because the focus group will involve a group discussion, your responses will be known to each other, and therefore, only limited confidentiality can be guaranteed. By confidentiality, we mean keeping what you say private. We want to make sure that we all respect each other's opinions and answers. To do this, it is important that you do not share what other participants say to people outside of this group. We also want to remind you that you do not have to answer any questions that you are uncomfortable with. You won't get in any trouble for not answering questions and you will still get your gift card for participating.

In order to assist with note taking, we are going to audio record our discussion. No one else but Katie and I will have access to this recording. After our discussion we are going to type out everything that is said. During this process, we will make sure no names of people or places that are mentioned are included. We will do this to make sure you cannot be identified by your answers. Only those people working directly on this study will be able to see what is typed up. Your parents, teachers, and school administrators will not have any access to your answers.

Does anyone have any questions before we get started?

Question Guide:

1) Why do you think some teens your age start using or smoking marijuana?
2) Why do you think some teens your age choose not to use or smoke marijuana?
    a) How is this decision influenced by the people in a teen's life (e.g., friends, siblings, and peers)?
3) Does using or smoking marijuana change a person?
    a) If yes, how? For example, what are the social, physical, and mental changes?
4) What are the negative effects of using or smoking marijuana?
    a) Do you think that using or smoking marijuana can lead to the use of other drugs?
5) What are the positive effects of using or smoking marijuana?
6) Do you think that using or smoking marijuana can affect the brain and its development?
7) Does using or smoking marijuana affect driving ability? Why or why not?
8) Is it illegal to use or smoke marijuana?
    a) What do you find confusing about marijuana being illegal to use or possess?

9) How is marijuana presented in the media (e.g., social media, movies, music videos)?
   a) How do you think the media influences teens in making decisions about marijuana?
10) How might the use of medical marijuana by people influence teens' decisions to use marijuana?
11) How do you think youth could be prevented or discouraged from using marijuana (e.g., advertisements on TV, drug education in school)?

Appendix B

Organizations contacted included, but were not limited to:

- Joint Consortium for School Health
- Students Commission of Canada
- Sandbox Project
- Young Canadians Roundtable on Health
- Youth Centres Canada
- Substance Abuse and Youth in School Coalition
- RCMP National Advisory Committee
- Alberta Health Services
- Addiction Foundation of Manitoba
- University of Saskatchewan
- Calgary Youth Addictions Services
- YAK Youth Services
- Youth Services Bureau of Ottawa
- Youville Centre

Appendix C

Recruitment Poster

Appendix D

Webpage Text

Thoughts About Marijuana Study

The Canadian Centre on Substance Abuse (CCSA) is conducting a research study that is looking at what youth think about marijuana.

This study is looking at what youth between the **ages of 14 and 19** think about marijuana. Through multiple in-person focus groups taking place across Canada, youth will be asked about their thoughts on topics such as:

1. What contributes to youth choosing to use or not use marijuana? For example, how do the community, family, and school impact these decisions?
2. How does marijuana use change a person?
3. How can marijuana use among youth be prevented?

Participants **will not** be asked to talk about their specific experiences with marijuana. Furthermore, they **will not have to answer any questions that make them uncomfortable** and may withdraw from the study at any time.

Each focus group will have a maximum of six youth and two researchers involved. They will be 45 minutes in length. Any identifying information, such as names, will be removed from all study material (e.g., transcripts) and excluded from the final research report.

To participate please click on the following links:

- If you are 14 or 15 years old, click here to participate in this study.
- If you are 16, 17, 18 or 19 years old, click here to participate in this study.

For information you can print use the links below:

- Parent/Guardian Information Form
- Youth Information Form

If you have any questions or concerns, contact Anna McKiernan at: 1-613-235-4048 ext. 224, amckiernan@ccsa.ca.

Appendix E

Participant Online Screening

Thoughts about Marijuana Study

The following information is needed to help us select participants for the focus groups. Your answer to these questions will be kept strictly confidential. Only the researchers will have access to this information. Your parents, teachers, school administrators and anyone outside of the research team will not be able to see your answers. Please answer the questions honestly. To ensure confidentiality of your answers on this form, you should complete this form in private.

1. How old are you?

   _____

2. What is your gender?

Male	Female
M	F

3. What language do you speak?

English	French	Both English and French
E	F	B

4. In which city and province do you live? _____

5. What is your ethnicity?

A	Caucasian/White
B	Black Canadian
C	East Asian (e.g., China, Japan, Korea, etc.)
D	South Asian (e.g., India, Pakistan, etc.)
E	Aboriginal (e.g., Metis, Inuit, Treaty or Non-Treaty First Nations)
F	Other

6. Have you ever used marijuana?

No	Yes
N	Y

7. If yes, when was the last time you used marijuana?

A	In the last 24 hours
B	In the last week
C	In the last month
D	In the last 4 months
E	In the last year
D	It has been more than one year since I last used marijuana

If you are selected to participate in one of the focus groups, we will need to contact you to schedule the focus group.

8. What is your name? _____

9. What is your phone number? _____

10. What is your email address? _____

Submit this Form

By submitting your complete answers, you are telling us that you would like to participate in the focus group. If you are eligible to participate, we will contact you.

Appendix F

Participant Information and Assent/Consent Form

Thoughts about Marijuana Study

The Canadian Centre on Substance Abuse is conducting a research study that is looking at what youth think about marijuana. You are invited to participate in this study and share your thoughts about why teenagers your age might choose to use or not use marijuana. The following provides some important information about the study. If you have any questions after reading this information please contact Anna McKiernan (613-235-4048 ext. 224 or amckiernan@ccsa.ca).

WHAT:

- The study is looking at what Canadian teenagers between the ages of 14 and 19 think about marijuana.
- More specifically, you and other teens your age will be asked:
  1. Why teens would choose to use or not use marijuana. For example, how do the community, family, and school impact these decisions?
  2. How does marijuana use change a person?
  3. How can marijuana use among teens be prevented?
- The study involves participating in a focus group (i.e., a small group discussion facilitated by two researchers).

WHO:

- You and other teens across Canada are invited to participate in the study.

WHY:

- Information gathered from the study will help the Canadian Centre on Substance Abuse to understand some of the ways teens think about marijuana.
- Such information will help to develop future prevention and intervention programs that will help teens make informed decisions about marijuana and decrease its negative effects.

WHEN & WHERE:

- The study will take place on:
  - Ottawa: October 21 and 22 at 6:00 pm at the Canadian Centre on Substance Abuse, 75 Albert St (please note these groups will be offered in French and English).
  - Winnipeg: October 28 and 29 at 6:00 pm at the Addictions Foundation of Manitoba, 200 Osborne St N.
  - Saskatoon: November 4 and 5 at 5:00 pm at Station 20 West, 1120 20 St W.

  - Calgary: November 9 and 10 at 5:30 pm at the Alberta Health Services, Youth Addiction Services Calgary, 1005 17 St NW.
  - Perth: November 23 and 24 at 3:00 pm at YAK Youth Services, 1 Sherbrooke St E.
- The focus group for this study will require 45 minutes to complete.

WHAT YOU NEED TO KNOW:

- If you would like to participate in the study, you will need to complete the screening form by clicking on the participation link on the study webpage.
- If you are under the age 16, you will also need to get your parent or guardian's permission to participate in this study.
- Participation in this study is not a requirement. You may choose not to participate. You will not be penalized if you do not participate.
- Even if you choose to participate, you do not have to answer any questions you are uncomfortable with. You may also withdraw from this study at any time.
- Because of the general nature of the questions asked during the focus group, there are no anticipated risks to you.

THE FOCUS GROUP:

- A group of five to six teens and two researchers will be involved in each focus group.
- To help protect confidentiality, those participating in the focus group will be asked not to share the other participants' responses.
- For note taking purposes, the discussion will be audio recorded.
- **Only those working directly on this research study will have access to the transcripts.** All notes and audio files will be kept in a protected and confidential manner.
- Any identifying information, such as names, will be removed from transcripts and excluded from the final research report.
- Participants will be asked about why teens may or may not choose to use marijuana.
- During the focus group participants **will not** be asked to talk about their specific experiences with marijuana.

THE SCREENING FORM:

- In order to help select participants to take part in this study, you will need to complete the screening form by clicking on the participation link on the study webpage.
- To ensure confidentiality of your answers on this form, you should complete this form in private.
- This form will ask you to identify your age, gender, the city you live in, and your experience using marijuana.
- The information collected on this form is only to help select participants for each focus group.

- No one outside of the research team will have access to this information.
- After you finish the form, you might or might not be contacted to participate in the study, which involves the focus group.

QUESTIONS?

- If you have any questions about the proposed study, you can contact Anna McKiernan from the Canadian Centre on Substance Abuse (613-235-4048 ext. 224 or amckiernan@ccsa.ca).
- You may also contact Dr. Amy Porath-Waller from the Canadian Centre on Substance Abuse (613-235-4048 ext. 252 or aporath-waller@ccsa.ca).
- Institutional Review Board Services is an independent committee that reviewed this research. If you have any general questions about your rights as a participant, please contact Institutional Review Board Services (1-866-449-8591 or subjectinquiries@irbservices.com).

ADDITIONAL INFORMATION

- In recognition of the time required for you to participate in the focus group (which you may or may not be asked to participate in), you will receive a $20 gift card following completion of the focus group.
- Results of the study will be summarized in a research report written by the Canadian Centre on Substance Abuse.
- The information provided in all reports will be grouped across all participants and cannot be used to identify you.

DO YOU WANT TO PARTICIPATE?

Yes, I agree to participate in this study	No, I do not agree participate in this study

- Your name _____
- Your last name _____
- Today's date _____
- Your email address _____
- Your signature _____

Thank you for your time,

Sincerely,

Anna McKiernan
Canadian Centre on Substance Abuse
Tel: 613-235-4048 ext.224
Email: amckiernan@ccsa.ca

Parent/Guardian Information and Consent Form

Thoughts about Marijuana Study

The Canadian Centre on Substance Abuse is conducting a research study that is looking at what youth think about marijuana. Your child is invited to participate in this study and share his or her thoughts about what influences other youth his or her age to use or not use marijuana. The following provides some important information about the study. If you have any questions after reading this information please contact Anna McKiernan (613-235-4048 ext. 224 or amckiernan@ccsa.ca).

WHAT:

- The study is looking at what youth between the ages of 14 and 19 think about marijuana.
- More specifically, participants will be asked:
    4. What they think contributes to youth choosing to use or not use marijuana. For example, how do the community, family, and school impact these decisions?
    5. What misusing marijuana means and looks like?
    6. How can marijuana use among youth be prevented?
- The study involves your child participating in a focus group (i.e., a small group discussion facilitated by two researchers).

WHO:

- Your child, along with other youth across Canada, is invited to participate in the study.

WHY:

- Information gathered from the study will help the Canadian Centre on Substance Abuse to understand some of the ways youth think about marijuana.
- Such information will help to develop future prevention and intervention programs that will help youth make informed decisions about marijuana and decrease its negative effects.

WHEN & WHERE:

- The study will take place on:
    - Ottawa: October 21 and 22 at 6:00 pm at the Canadian Centre on Substance Abuse, 75 Albert St (please note these groups will be offered in French and English).
    - Winnipeg: October 28 and 29 at 6:00 pm at the Addictions Foundation of Manitoba, 200 Osborne St N.
    - Saskatoon: November 4 and 5 at 5:00 pm at Station 20 West, 1120 20 St W.
    - Calgary: November 9 and 10 at 5:30 pm at the Alberta Health Services, Youth Addiction Services Calgary, 1005 17 St NW.
    - Perth: November 23 and 24 at 3:00 pm at YAK Youth Services, 1 Sherbrooke St E.

- The focus group for this study will require 45 minutes to complete.

WHAT YOU NEED TO KNOW:

- **You or your child may choose not to participate.** Your child will not be penalized in any way if he or she does not participate.
- If you consent to your child's participation, it does not mean that your child will automatically take part in this study. **Each child will be asked whether or not he or she wants to participate** before participating in the study.
- Your child will not have to answer any questions he or she is uncomfortable with and may withdraw from the study at any time.
- Because of the general nature of the questions asked during the focus group, there are no anticipated risks to your child.

THE FOCUS GROUP:

- A maximum of six youth and two researchers will be involved in each focus group.
- To help protect confidentiality, those participating in the focus group will be asked not to share the other participants' responses.
- For note taking purposes, the discussion will be audio recorded.
- Only those working directly on this research study will have access to the transcripts. All notes and audio files will be kept in a protected and confidential manner.
- Any identifying information, such as names, will be removed from transcripts and excluded from the final research report.
- Participants will be asked about why youth may or may not choose to use marijuana.
- During the focus group participants **will not** be asked to talk about their specific experiences with marijuana.

THE SCREENING FORM:

- If you and your child would like to participate in this study, your child will need to complete the screening form on the study webpage that will be used to help select participants to take part in the focus groups.
- To ensure confidentiality of your child's answers on this form, your child should complete the form in private.
- This form will ask about your child's age, gender, the city of residence, and experience using marijuana.
- The information collected on this form is only to help select participants for each focus group.
- No one outside of the research team will have access to this information.
- After your child completes the screening form, he or she might or might not be contacted to participate in the study, which involves the focus group.

QUESTIONS?

- If you have any questions about the study, you can contact Anna McKiernan from the Canadian Centre on Substance Abuse (613-235-4048 ext. 224 or amckiernan@ccsa.ca).
- You may also contact Dr. Amy Porath-Waller from the Canadian Centre on Substance Abuse (613-235-4048 ext. 252 or aporath-waller@ccsa.ca).
- Institutional Review Board Services is an independent committee that reviewed this research. If you have any general questions about your child's rights as a participant, please contact Institutional Review Board Services (1-866-449-8591 or subjectinquiries@irbservices.com).

ADDITIONAL INFORMATION

- In recognition of the time required for your child to participate in the focus group (which he or she may or may not be asked to participate in), he or she will receive a $20 gift card following completion of the focus group.
- Results of the study will be summarized in a research report written by the Canadian Centre on Substance Abuse.
- The information provided in all reports will be grouped across all participants and cannot be used to identify your child.

MAY YOUR CHILD PARTICIPATE?

- If you **want** your child to participate, then you will need to complete the following questions and submit this form. Please remember that the researchers will also ask your child if he or she wants to participate and if he or she agrees to participate.
- By answering the following questions, you are telling us that you agree for your child to participate in the focus group.
- If you do not want to participate then we thank you for your time and you can simply close your Internet browser.

1. Your first name _____
2. Your last name _____
3. The city and province in which you reside _____
4. Your child's first name _____
5. Your child's last name _____
6. Your telephone number _____
7. Your email address _____

Yes, I agree to let my child participate in this study	No, I do not agree to let my child participate in this study

Thank you for your time,

Sincerely,

Anna McKiernan
Canadian Centre on Substance Abuse
Tel: 613-235-4048 ext. 224
Email: amckiernan@ccsa.ca

Appendix G

Participant Debriefing Information

Thoughts about Marijuana Study

Thank you for your participation!

The group discussion you just completed was intended to provide the researchers with information regarding how teens think about marijuana. The overall purpose of this research is to understand some of the important reasons why some teens choose to use marijuana and why other teens choose not to. With this knowledge, prevention and intervention programs aimed at reducing the negative effects of marijuana can be developed. Most importantly, the information that you provided will be used to ensure that such programs are relevant to teens.

We want to remind you that all the information we collected in today's discussion will be kept confidential. We will also ensure that you cannot be identified by your responses.

In order to further protect the identity of the other teens participating in this study, it is important that you do not discuss what you heard other teens say during the group discussion.

If you have any further questions regarding this study, please contact Anna McKiernan from the Canadian Centre on Substance Abuse (613-235-4048 ext. 224 or amckiernan@ccsa.ca) or Dr. Amy Porath-Waller from the Canadian Centre on Substance Abuse (613-235-4048 ext. 252 or aporath-waller@ccsa.ca). You may also contact Anna McKiernan if you would like to receive a copy of the research report from this study. If you have any general questions about your rights as a participant in this research study, please contact Institutional Review Board Services (1-866-449-8591 or hrpp@irbservices.com).

For more information about the effects of marijuana, the following are some good websites to check out:

www.ccsa.ca/Eng/topics/Marijuana/Pages/default.aspx

www.nationalantidrugstrategy.gc.ca/prevention/youth-jeunes/index.html

www.whatswithweed.ca

www.deal.org

www.drugabuse.gov/students-young-adults

If you would like to speak to someone in an anonymous and confidential way, then help is available 24/7 through the Kids Help Phone at 1-800-668-6868.