



The **Research Shop**

COMMUNITY. CAMPUS. COLLABORATION. 

ENGAGING YOUTH IN CANNABIS AWARENESS MESSAGING: A REVIEW

# ENGAGING YOUTH IN CANNABIS AWARENESS MESSAGING: A LITERATURE REVIEW FOR THE WELLINGTON GUELPH DRUG STRATEGY

MAY 2018

Taylor Anne Grills\*, Aarabhi Rajendiran\*, Alexandra  
Sawatzky\*\*

\*Research Shop Intern

\*\*Research Shop Project Manager

Citation: Grills, T., Rajendiran, A., & Sawatzky, A.  
(2018). *Engaging Youth in Cannabis Awareness  
Messaging: A Literature Review for the Wellington  
Guelph Drug Strategy*. Guelph, ON: Community  
Engaged Scholarship Institute.

<https://atrium.lib.uoguelph.ca/xmlui/handle/10214/8902>



## ACKNOWLEDGEMENTS

### Contributors

The authors would like to acknowledge the following individuals who contributed to this report:

- Adrienne Crowder, Wellington-Guelph Drug Strategy Manager
- Micaela Yawny, Wellington-Guelph Drug Strategy Program Assistant
- Karen Nelson, Research Shop Coordinator

### Acknowledgements

The authors would like to acknowledge the members of Wellington-Guelph Drug Strategy (WGDS) for their support in creating this report, whom without their continued hard work the report would not be possible.



## SUMMARY

This report presents findings from a literature review of participatory approaches to engage youth in cannabis awareness messaging initiatives. Specifically, this review sought to identify interventions that engaged youth and young adults in the design, development, implementation, and/or service delivery stages of the messaging initiative through the use of participatory methods. Findings from this review will be used to inform the creation of a local youth-targeted cannabis messaging initiative in the Guelph-Wellington area. This will include the creation of a toolkit for the Wellington-Guelph Drug Strategy (WGDS).

### Research Goals

- Examine how existing public health messaging initiatives have engaged youth in the development of messaging
- Identify potential participatory approaches for the WGDS to use to inform their programming and messaging with youth in the Guelph-Wellington area

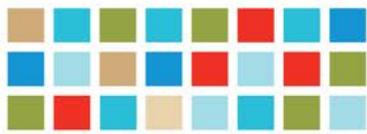
### Methods

- Web-based literature review of grey and academic sources.

### Main Findings

Participatory models can help combine the strengths of both researchers and youth to create more relevant messaging and programs for cannabis use targeted at youth.

It is important to engage youth in the design, development, implementation, and service delivery of public health messaging initiatives that are relevant and accessible for youth. Engagement strategies are often more effective when they take place in safe, supportive environments.



## TABLE OF CONTENTS

**Acknowledgements**..... **2**  
 Contributors..... 2  
 Acknowledgements ..... 2

**Summary**..... **3**  
 Research Goals..... 3  
 Methods ..... 3  
 Main Findings..... 3

**Introduction** ..... **5**  
 Background ..... 5  
 Key Concepts ..... 6  
 Participatory Approaches ..... 6

**Methods** ..... **7**

**results** ..... **8**  
 Degree and Nature of Youth Engagement in Public Health Messaging Development..... 8  
 Table 1: Cannabis/ Substance Use Messaging that Involved Participatory Approaches..... 9  
 Consultation and Shared Decision-Making with Youth ..... 10  
 Youth Leadership and Self-Determination..... 10  
 Youth-for-Youth Public Health Messaging: Challenges and Opportunities ..... 11  
 Challenges..... 11  
 Opportunities ..... 12  
 Youth-for-Youth Public Health Messaging: Outcomes and Evaluation ..... 14

**Implications** ..... **15**

**Conclusions**..... **15**

**References**..... **17**

**Appendix A: Summary of Retrieved Articles from Literature Search**..... **21**





## INTRODUCTION

### Background

Cannabis<sup>1</sup> use in Canada is associated with various health, social, and economic risks and benefits (Canadian Public Health Association [CPHA], 2017). However, there is currently a lack of clear, consistent public health information about the risks and benefits of cannabis among the general population (Porath-Waller et al., 2013). In addition, there is limited understanding as to what kinds of public health messages resonate with cannabis users.

Inadequate access to evidence-based, relevant information on cannabis use creates difficulties in designing public health education campaigns, which in turn makes it challenging for individuals to make informed decisions related to their health. Improving access to cannabis-related information is particularly important for youth in Canada aged 15 to 24 years, as cannabis is the most commonly-used drug among youth, and youth are the highest users of cannabis compared to other age groups (UNCF, 2013).

The federal government recently introduced legislation to legalize and regulate recreational cannabis across Canada in July 2018 (Government of Ontario, 2018). The government also committed to new measures that will prevent youth (particularly minors) from consumption, and/or encourage safe consumption of cannabis (Taylor, 2017).

Given that youth typically receive information from various sources including the media, peers, and adults, The Canadian Public Health Association (CPHA) recommended that the government provide youth with “clear and consistent information regarding the potential risks and benefits associated with cannabis use” (CPHA, 2017).

Previous research has found that youth tend to feel indifferent to the risks associated with cannabis (Porath-Waller et al., 2013). In addition, experts in health and education have reported that reaching youth with cannabis awareness messaging is challenging and stress the need for new approaches (Health Canada, 2016). These approaches must be evidence-informed, informative, and credible, and must also resonate with youth (Health Canada, 2016). Therefore, it is important to involve youth in the creation

---

<sup>1</sup> Also referred to informally as marijuana, “cannabis” is the preferred term used within the health and social science sectors.



of public health messaging surrounding cannabis risks and protective factors to increase the effectiveness of awareness initiatives (Canadian Centre for Substance Use and Addiction, 2018). Ultimately, cannabis awareness messaging aimed at youth should promote healthy behaviours and strengthen capacity among youth to identify risk and protective factors themselves (CPHA, 2017).

In its 2018 budget, the federal government allocated \$9.6 million towards funding public education regarding the risks of cannabis use, with a particular focus on young people. These funds are meant to contribute to the country's goals of minimizing potential risks of cannabis use, providing evidence-informed services, and supporting safer behaviours towards cannabis use (CPHA 2018; Taylor 2017).

Wellington-Dufferin-Guelph Public Health (WDGPH) was recently awarded funding through Gambling Research Exchange Ontario, and part of these funds are allocated towards youth and cannabis public health programming in partnership with the WGDS. Together, WGDS and WDGPH are developing a "Youth & Cannabis Awareness Initiative" to raise awareness and promote informed decision making prior to the legalization of cannabis in the summer of 2018. The initiative seeks to inform a participatory approach to developing public health messaging surrounding cannabis use among youth, with the messaging developed by and for youth themselves. A particular focus is directed toward the following aspects of participatory public health messaging:

- Building consensus with youth;
- Creating a safe and constructive environment to discuss youth cannabis and other substance use;
- Identifying risk and protective factors in youth-friendly language; and
- Information about how youth assess risk related to substance use

## Key Concepts

### Participatory Approaches

Participatory approaches to public health messaging involve collaborating with the groups who will receive the messages to improve understandings of the behaviours and surrounding environments that impact risky health behaviours (Baum et al., 2006; Gosin, Dustman, Drapeau & Harthun, 2003). In the context of cannabis awareness



among youth, participatory approaches can help create more relevant cannabis awareness messaging and programs with and for youth in an inclusive and collaborative environment.

To maximize the effectiveness of cannabis awareness initiatives developed with and for youth, a review of current knowledge and best practices was required to develop an understanding of how to implement youth-for-youth cannabis awareness messaging in the Guelph-Wellington area. Ultimately, findings from this review will be used by the WGDS to guide the design and delivery of a youth-for-youth cannabis awareness initiative.

## METHODS

To examine how existing cannabis and other substance-use awareness initiatives engaged youth in the development of public health messaging, online database searches were conducted to identify eligible resources for analysis. Resources were identified through searching government and non-government websites, and the following academic databases: ScholarsPortal, PubMed, Google Scholar and Primo Search Tool on the University of Guelph website.

Search terms used to find these resources included: “youth AND cannabis interventions”, “youth AND marijuana”, “youth AND cannabis prevention”, “peer cannabis programs”, “youth engagement AND cannabis prevention”, “youth engagement programs”.

All resources obtained through the online searches had to meet the following criteria to be included for in-depth analyses:

1. Must focus on Canadian or American youth (to ensure similar populations and societal norms regarding cannabis use);
2. Must have been published within the last 15 years;
3. Must focus on one or more aspects of substance use and/or promotion of healthy behaviours in youth; and



4. Approach to the development of public health messaging must fall under the “Degrees of Participation” segment of Hart’s Ladder of Youth Participation<sup>2</sup> (Hart, 1997 in Oregon Health Authority, 2014).
  - a. Degrees of Participation range from least to most optimal:
    - i. Level 1: Youth are assigned roles by adults, but are informed about how and why they are involved
    - ii. Level 2: Youth are consulted and informed about how their input will be used
    - iii. Level 3: Adult-initiated, but involved shared decision-making with youth
    - iv. Level 4: Youth-initiated and directed, with adults involved in supportive roles
    - v. Level 5: Youth-initiated, and involved shared decision-making and partnership with adults.

## RESULTS

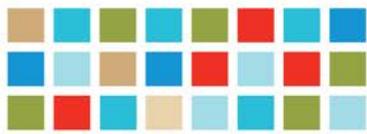
Through searches and screening of academic and grey literature sources, 14 resources met all of the inclusion criteria and were analyzed. Please refer to the summary table in Appendix A for a detailed overview of each of the programs and the specific strategies used to engage youth in the interventions.

### **Degree and Nature of Youth Engagement in Public Health Messaging Development**

The degree of youth engagement in public health messaging described in the included resources ranged from low to high levels. As highlighted by Dunne et al. (2017), programs and initiatives were most often effective when youth are engaged throughout the planning and implementation process. Notably, five resources described engagement strategies that fell between Levels 3 to 5 of Hart’s Ladder of Youth Participation and gave in-depth descriptions of how participatory approaches were used

---

<sup>2</sup> Hart’s Ladder of Youth Participation looks at degrees of non-participation and participation of youth in an intervention.



to engage youth in the design and implementation of messaging surrounding substance use (Table 1).

**Table 1: Cannabis/ Substance Use Messaging that Involved Participatory Approaches**

<b>Program</b>	<b>Age Range</b>	<b>Program Length</b>	<b>Examples of How Participatory Approaches was Used</b>
Keepin' it REAL	11-18 years	2-3 months	Youth were engaged in creating prevention messaging and providing expert feedback to create lesson plans.
Youth Participatory Action Research Curriculum	14-17 years	Variable	Youth helped identify specific local issues to address in prevention messaging.
CYCLES: An Educational Resource Exploring Decision Making and Marijuana Use Among Young People	12-18 years	34 minutes	Researchers worked closely with youth to develop a film and supporting materials to show in a classroom setting.
Just Say 'Know'	12-30 years	Long-term	Youth were trained to engage with other youth to brainstorm and create arts/media resources on cannabis use.
Youth Engagement Strategies	11-29 years	Variable	Youth were involved in a variety of ways from completing evaluation surveys to sitting on decision-making committees with researchers and community staff.



The nature of youth engagement in the development of public health messaging also varied. For example, some resources described how youth served in advisory roles and were involved in program management, decision making, and evaluation (Baker et al., 2015; Dunne et al., 2016; Oregon Health Authority, 2014; Real Prevention, 2018; WAYVE 2018). Others described how youth were engaged as peer-counsellors (Evans et al., 2017; Mentor Program USA, 2018). Overall, youth engagement strategies ranged from consultation and shared decision-making with youth, to youth leadership and self-determination in the strategy.

### Consultation and Shared Decision-Making with Youth

In some cases, youth were consulted and included in decision-making about certain aspects of the initiative or program, while adult facilitators directed the overall process. For example, The Drug Resistance Strategies' (DRS) program, Keepin' it R.E.A.L., focused on the development of evidence-based, informative, and credible preventative messaging regarding substance use among youth. This program was directed by adults, and engaged youth in the initial needs assessment, program design, video creation, and prevention messaging. Prevention messaging was developed through the use of story-telling to improve understandings of the needs of local youth, that included reducing barriers to accessing information and programs related to mental health issues (Goslin et al. 2003; Real Prevention 2018). Adults helped to facilitate the discussion with youth to ensure the most relevant issues of cannabis use in the local context was addressed in the prevention messaging. Thus, this program was classified under Level 3 of Hart's Ladder of Youth Participation.

The CYCLES educational resource package, developed by the University of British Columbia's School of Nursing, was also classified under Level 3 of Hart's Ladder. The CYCLES resource package was developed to allow for open classroom discussions about risks and benefits of cannabis use and create informed decision making skills for youth (Moffat et al., 2017). The development of this resource package was directed by a team of researchers who consulted with local youth throughout the process. Youth were directly involved in making a film about fictional high school students and their relationships with cannabis, and helped with script writing and provided feedback.

### Youth Leadership and Self-Determination

Other resources described higher degrees of youth engagement and emphasized the need for youth leadership and self-determination through active participation in the



development and implementation of messaging and/or programming. The Institute for Community Research's Curriculum for Youth was used as a support tool for creating effective youth-adult partnerships, and engaging messages to support youth's voices and leadership. The curriculum was evidence-based and promoted positive youth development through the collaborative identification of issues, creating resources such as posters, pamphlets, or videos to increase cannabis awareness, and creation of social change through the implementation of 'actions' youth identified. This Curriculum was led by youth and involved shared decision making with adults, and so it would fall under level 5 of Hart's Ladder of Youth Participation. This curriculum has been found to empower youth and create social change. (Oregon Health Authority, 2014).

The "Just say Know" program focused on creating authentic youth engagement to develop arts/media resources for cannabis prevention awareness. The program included youth training to create in-depth interviews, facilitate focus groups, translate knowledge and disseminate findings through arts and media. Youth were directly involved in the research and knowledge translation. This program falls within level 5 of Hart's Ladder of Youth Participation. Just Say Know has created a sense of autonomy, community, ownership, and empowerment for youth through the use of media and art-based products by youth and for youth. (Baker et al., 2015)

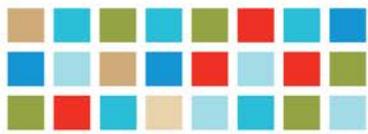
### **Youth-for-Youth Public Health Messaging: Challenges and Opportunities**

Many resources provided useful information regarding how to engage youth and support youth leadership within a program framework. However, upon further analysis, it became apparent that there were both challenges and opportunities that must be considered prior to engaging youth in one's own program or initiative. Below, common challenges and opportunities identified through this review are listed to help program leaders create open, welcoming spaces for youth engagement.

#### **Challenges**

Some of the common challenges to engaging youth in public health messaging initiatives, as identified in the research, included:

- Sustaining adequate funding – inadequate funding was identified as a major barrier to the operations and logistics of the initiatives;
- Bureaucratic processes that slowed down the flexibility of the initiative, or prevented the adaptation of the initiative to other contexts;



- Achieving sufficient levels of trust, respect and equity of power was often difficult to balance and maintain when working with diverse groups of youth and adults (Real Prevention, 2018; Porath-Waller et al., 2010; Moffat et al., 2017);
- Discomfort of teachers and facilitators with regards to drugs and drug education could hinder their motivation to engage with youth in dialogue about cannabis in schools or community programs (Moffat et al., 2017; Porath-Waller et al., 2010); and
- Decreasing rates of Facebook use among youth presented challenges for spreading health promotion messaging through this social media channel (Evans et al., 2017).

### Opportunities

Using participatory approaches to develop public health messaging with youth offered several opportunities for enhancing the effectiveness of the initiatives described in the included resources. For the purposes of this review, particular focus was directed toward the ways in which participatory approaches generated opportunities for: 1) consensus-building with youth; 2) creation of inclusive, collaborative environments; and 3) youth-led identification and assessment of risk and protective factors.

#### Consensus-Building Among Youth

Consensus-building was an important tool used by program facilitators to consider barriers to implementation, and encourage negotiation among youth and facilitators so that they were all in agreement about appropriate solutions for addressing these barriers. Many of the consensus-building strategies described in literature sought to engage youth, understand their needs within the local context, and develop relevant prevention messaging together with adults and youth. These strategies took a variety of forms, such as:

- Formation of an advisory committee comprised of youth, their family members, service providers, researchers, and any other stakeholders with a vested interest in cannabis use among youth to prioritize local issues (Dunne et al., 2017);
- Implementation of youth advisory/peer boards (Oregon Health Authority, 2014; Real Prevention, 2018; Baker et al., 2015; Dunne et al., 2016); and



- Collaboration between youth and program facilitators and researchers to create discussion guides, activities, films, and other resources that were relevant to the language, needs, cultural contexts, and issues faced by local youth in the community (Moffat et al., 2017).

### **Creation of Inclusive, Collaborative Spaces**

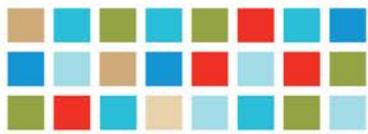
Effective participatory approaches for the development of youth-for-youth public health messaging often prioritized the creation of inclusive, collaborative spaces that were rooted in a genuine interest in youth, and that also encouraged reflection and learning. Messaging that was created within inclusive, collaborative spaces was often more specific to the needs of youth (Shrier et al., 2014). Providing spaces for open discussions surrounding topics related to substance use may help address concerns among youth. This includes confusing health messages, associated mental health issues, and the influence of personal use on siblings and peers.

There were two factors that helped to create inclusive, collaborative spaces for youth engagement (Moffat et al., 2017). One was to make the initiative flexible so that facilitators could adjust the activities in the program to meet the needs of the participants. Another factor to consider is the location of the program and to make sure that it is accessible, welcoming, and open to the youth of the local community. For example, information from videos and social media was found to contribute to changes in attitudes among youth towards cannabis. This information was even more effective when combined with face-to-face interactions (Dunne et al., 2017).

Engaging youth in public health messaging was also more effective when messages was developed collaboratively using highly interactive strategies as opposed to a traditional lecture style of teaching (Porath-Waller et al., 2010; Baker et al., 2015; Moffat et al., 2017). Examples of such strategies included: small-group exercises, role playing, focus groups, or arts-based strategies.

### **Youth-Led Identification of Risk and Protective Factors**

Several resources also pointed to the need for youth to lead the identification of risk and protective factors associated with substance use, and factors that impacted decision making (Oregon Health Authority, 2014; Moffat et al., Baker et al., 2015; Dunne et al., 2017). Strategies found to be effective in promoting youth-led identification of risk and protective factors often positioned youth as experts who were able to provide knowledge and feedback to create effective and connected public health messaging



(Gosin et al., 2003; Oregon Health Authority, 2014; Dunne et al., 2017; Baker et al., 2015).

Some of the key components of effective strategies for promoting youth leadership in participatory messaging development included:

- Exposure of youth to role models (Porath-Waller et al., 2010);
- Conducting initial needs assessments in collaboration with youth before creating a initiative/program (Real Prevention, 2018); and
- Creation of different programs based on local communities and populations to consider socio-demographic factors (gender, ages, ethnicities, races, rural/urban setting, etc.) that contributed to participatory messaging (Oregon Health Authority, 2014; Real Prevention, 2018; East Metro Youth Services, 2018; Tebes et al., 2007).

### **Youth-for-Youth Public Health Messaging: Outcomes and Evaluation**

Strategies for engaging youth in messaging initiatives led to several different types of outcomes. Many initiatives focused on preventing substance use (Gosin et al. 2003; Real Prevention 2018; Porath-Waller et al., 2010; Evans et al., 2017; Baker et al., 2015; Dunne et al., 2016; Moffat et al., 2017). Other initiatives prioritized outcomes related to youth empowerment (Oregon Health Authority, 2014; Porath-Waller et al., 2010; Dunne et al., 2016), and development of decision making skills as a result of balanced and inclusive discussions (Moffat et al. 2017). Through direct engagement in messaging development, youth were empowered to overcome barriers, build resilience, and ultimately successfully participate in the programs.

Qualitative feedback from program facilitators and users was often used to understand evaluate a program's effectiveness. For instance, Baker et al. (2015) used an informal approach where participants were surveyed or interviewed at the start of the project and again at several different checkpoints. Additionally, "open graffiti walls" allowed for participants to share their thoughts on the project, as well as anything else on their minds (Baker et al., 2015). Private reflections in a sealed comment box was another option provided as well. From these methods, it was found that participants thought of the arts as a useful and engaging method of knowledge transfer for complex issues (Baker et al., 2015).



With regards to more quantitative evaluation measures for messaging initiatives, Evans et al. (2017) identified several types of indicators and performance measures, including:

- Traditional and digital media use;
- Personal and perceived peer reasons to use;
- Drug use risk perception;
- Attitudes towards social media;
- Drug use social norms;
- Participation rates; and
- Perceived peer drug use vs. reported peer drug use.

## IMPLICATIONS

Findings from this review demonstrate how participatory approaches can enable youth to collaborate with program coordinators and ultimately create effective public health messaging and programs regarding substance use. This in turn has several important implications for the WGDS to consider in the development of public health messaging surrounding cannabis use among youth.

For one, it is important for researchers and facilitators alike to collaborate with youth throughout the entire process of designing and implementing a youth-for-youth messaging initiative because it is the youth who are the end-users and should find the intervention relatable, genuine, and applicable in their everyday lives.

Facilitators should also be provided proper training prior to working with youth to develop the messaging. Additionally, facilitators should express openness to engaging with youth in a wide range of discussions surrounding cannabis use to encourage an open and safe environment for all youth to have an honest discussion.

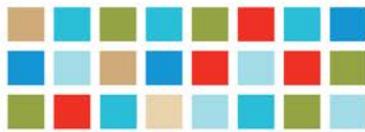
## CONCLUSIONS

The literature highlighted in this review indicate that efforts to engage youth in the development and implementation of public health messaging surrounding cannabis use can be used to implement more effective youth-targeted messaging.



The success of the initiatives analyzed in this review was dependent on the input and feedback from the local youth in their communities, the motivation and passion of the facilitators to continue to encourage youth to participate and discuss, and the participatory activities of the program that allowed for youth collaboration.

It is vital that community coalitions like the WGDS continue to create opportunities for youth collaboration to build capacity, discuss issues such as cannabis use, design programs, create messaging, and provide space and opportunities for self-determination and capacity-building among youth. These findings can be used to inform and support ongoing and future initiatives spearheaded by the WGDS as they continue to take evidence-based action to prevent and respond to local substance use and addiction issues in the Guelph community.



## REFERENCES

- Baker, N. A., Willinsky, C., & Boydell, K. M. (2015). Just say know: Engaging young people to explore the link between cannabis and psychosis using creative methods. *World Cultural Psychiatry Research Review*, 10(3/4), 201-220. <https://www.wcpr.org/wp-content/uploads/2015/10/2015.03-04.201-220.pdf>
- Baum, F., MacDougall, C., & Smith, D. (2006). Participatory action research. *Journal of Epidemiology & Community Health*, 60(10), 854-85.
- Berkeley University. (2018). What is Youth-led Participatory Action Research?. YPAR Hub. Retrieved 22 March 2018, from <http://yparhub.berkeley.edu/>
- Blueprints Programs. (2018). "Lifeskills Training (LST)."  
<http://www.blueprintsprograms.com/factsheet/lifeskills-training-lst>
- Canadian Centre on Substance Use and Addiction. (2018).  
<http://www.ccdus.ca/Eng/topics/>
- Canadian Public Health Association, CPHA. (2017). *A Public Health Approach to the Legalization, Regulation and Restriction of Access to Cannabis*. Retrieved 20 March 2018, from <https://www.cpha.ca/public-health-approach-legalization-regulation-and-restriction-access-cannabis>
- Connex Ontario. (2018). "Drug and Alcohol Help Line." Ontario Government. Retrieved from <http://www.connexontario.ca/Home/Links>
- Dunne, T., Bishop, L., Avery, S., & Darcy, S. (2017). A review of effective youth engagement strategies for mental health and substance use interventions. *Journal of Adolescent Health*, 60(5), 487-512.
- Dupont, H. B., Candel, M. J. J. M., Kaplan, C. D., van de Mheen, D., & de Vries, N. K. (2016). Assessing the efficacy of MOTI-4 for reducing the use of cannabis among youth in the netherlands: A randomized controlled trial. *Journal of Substance Abuse Treatment*, 65(Complete), 6-12. 10.1016/j.jsat.2015.11.012
- East Metro Youth Services. (2018). "YOW and RYTE Programs." Toronto, Ontario. <http://emys.on.ca/>
- Evans, W., Andrade, E., Goldmeer, S., Smith, M., Snider, J., & Girardo, G. (2017). The Living the Example Social Media Substance Use Prevention Program: A Pilot Evaluation. *JMIR Mental Health*, 4(2), e24. <http://doi.org/10.2196/mental.7839>



- Friese, B. (2017). "Is Marijuana Even a Drug?" A Qualitative Study of How Teens View Marijuana Use and Why They Use It. *Journal of Psychoactive Drugs*, 49(3), 209-216.
- Georgie, J., Sean, H., Deborah, M., Matthew, H., & Rona, C. (2016). Peer-led interventions to prevent tobacco, alcohol and/or drug use among young people aged 11–21 years: a systematic review and meta-analysis. *Addiction*, 111(3), 391-407.
- Gosin, M., P. Dustman, A. Drapeau, & M. Harthun. (2003). "Participatory Action Research: creating an effective prevention curriculum for adolescent youth in Southwestern US." *Health Education Research* 18(3): 363-379. doi:10.1093/her/cyf026.
- Government of Canada. (2018). "Health effects of cannabis." <https://www.canada.ca/en/health-canada/services/substance-abuse/controlled-illegal-drugs/health-risks-of-marijuana-use.html>
- Health Canada. (2016). "A Framework for the Legalization and Regulation of Cannabis in Canada." Government of Canada: 1-112. <http://healthycanadians.gc.ca/task-force-marijuana-groupe-etude/framework-cadre/alt/framework-cadre-eng.pdf>
- Holmes, E., W. Vanlaar and R. Robertson. (2014). "The Problem of Youth Drugged Driving and Approaches to Prevention: A Systematic Literature Review." Canadian Centre on Substance Abuse. <http://www.ccdus.ca/Resource%20Library/CCSA-Youth-Drugged-Driving-technical-report-2014-en.pdf>
- Kettle and Stony Point Health Services. (2018). "Awareness and Prevention of Drug and Alcohol Abuse." Ontario. <https://kettlepoint.org/kettle-stony-point-health-services/>
- Kids Now Canada. (2018). "Our Program." Canada. <http://www.kidsnowcanada.org/our-program/program-elements/>
- McKiernan, A., and K. Fleming. (2017). "Canadian Youth Perceptions on Cannabis." Ottawa, Ontario: Canadian Centre on Substance Abuse. <http://www.ccdus.ca/Resource%20Library/CCSA-Canadian-Youth-Perceptions-on-Cannabis-Report-2017-en.pdf>
- Mentor Foundation USA. (2018). "Living the Example Program." <http://mentorfoundationusa.org/what-we-do/living-the-example/>
- Moffat, B., Haines-Saah, R., & Johnson, J. (2017). From didactic to dialogue: Assessing the use of an innovative classroom resource to support decision-making about cannabis use. *Drugs: Education, Prevention and Policy*, 24(1), 85-95.



National Public Radio. (2018).

<https://www.npr.org/templates/story/story.php?storyId=127081326>

Oregon Health Authority. (2014). The institute for community research's youth participatory action research curriculum. Adolescent and School Health Program. <http://www.oregon.gov/oha/PH/HEALTHYPEOPLEFAMILIES/YOUTH/Documents/CurriculumYPAR2014.pdf>

Parent Action on Drugs. (2017). "Challenges, Beliefs and Changes Program." <http://parentaction.server295.com/program-resources/peer-education-programs/cbc/>

PARTY International. 2018. "Prevent Alcohol and Risk-Related Trauma in Youth." Toronto Ontario: <http://partyprogram.com/>

Piehler, T. F., & Winters, K. C. (2015). Parental involvement in brief interventions for adolescent marijuana use. *Psychology of Addictive Behaviors*, 29(3), 512-521. 10.1037/adb0000106

Porath-Waller, Amy J., Beasley, Erin, & Beirness, Douglas J. (2010). A Meta-Analytic Review of School-Based Prevention for Cannabis Use. *Health Education & Behavior*, 37(5), 709-723.

Porath-Waller, A., J. Brown, A. Frigon, and H. Clark. (2013). "What Canadian Youth Think about Cannabis." Canadian Centre on Substance Abuse. <http://www.ccdus.ca/Resource%20Library/CCSA-What-Canadian-Youth-Think-about-Cannabis-2013-en.pdf>

Project ALERT. (n.d.). [https://www.projectalert.com/teacher\\_tools/teen-leadership-training](https://www.projectalert.com/teacher_tools/teen-leadership-training)

Real Prevention. (2018). <https://real-prevention.com/>

Schwinn, T., Schinke, S., Hopkins, J., Keller, B., & Liu, X. (2017). An Online Drug Abuse Prevention Program for Adolescent Girls: Posttest and 1-Year Outcomes. *Journal of Youth and Adolescence*, 28 July 2017.

Shrier, L. A., Rhoads, A. M., Fredette, M. E., & Burke, P. J. (2014). "Counselor in your pocket": Youth and provider perspectives on a mobile motivational intervention for marijuana use. *Substance use & Misuse*, 49(1-2), 134-144. 10.3109/10826084.2013.824470

Slater, M., Kelly, K., Edwards, R., Thurman, P., Plested, B., Keefe, T., & Henry, K. (2006). Combining in-school and community-based media efforts: Reducing



marijuana and alcohol uptake among younger adolescents. *Health Education Research*, 21(1), 157-167.

- Taylor, S. (2017). "Health Canada to launch new campaign warning youth on risks of cannabis use." CBC News. <http://www.cbc.ca/news/canada/saskatchewan/health-canada-cannabis-1.4304523>
- Tebes, J. K., Feinn, R., Vanderploeg, J. J., Chinman, M. J., Shepard, J., Brabham, T., & Connell, C. (2007). Impact of a positive youth development program in urban after-school settings on the prevention of adolescent substance use. *Journal of Adolescent Health*, 41(3), 239-247. 10.1016/j.jadohealth.2007.02.016
- United Nations Children's Fund. (2013). "Child well-being in rich countries: A comparative overview." Innocenti Report Card 11. [https://www.unicef-irc.org/publications/pdf/rc11\\_eng.pdf](https://www.unicef-irc.org/publications/pdf/rc11_eng.pdf)
- Wellness Acceptance Youth Voices Empowerment. (2018). <https://wayve.ca/>
- What's With Weed. (n.d.). <http://www.whatswithweed.ca/weed/>



## APPENDIX A: SUMMARY OF RETRIEVED ARTICLES FROM LITERATURE SEARCH

#	Program	Source	Location	Age Range	Program Description and Main Message	Degree of Youth Participation based on Hart's Ladder of Youth Participation	Nature of Engagement
1	<b>Kids Now Canada</b> (Kids Now Canada, 2018)	Grey literature	Canada	11-14 years	Youth learned skills for dealing with stress to help navigate their teenage years. These skills fell under the following areas: communication, conflict resolution, goal setting, self-esteem, and stress management.	Level 2: Consulted with youth	A Youth Advisory Committee met monthly to brainstorm new ideas for keeping the program relevant and engaging.
2	<b>Life Skills Training</b> (Blueprints Programs, 2018)	Grey	New York	Middle & high school (ages 12-19)	Within this program, youth discussed how to resist peer pressure and build self-esteem. Youth were given messaging that promoted alcohol and drug resistance skills through group discussions, demonstrations, modelling exercises, feedback, reinforcement, and behavioural changes.	Level 1: Assigned roles to youth	This was a 3-year intervention that began in grades 6-8, or 7-9 and was taught by teachers, counsellors or youth peer leaders.



#	Program	Source	Location	Age Range	Program Description and Main Message	Degree of Youth Participation based on Hart's Ladder of Youth Participation	Nature of Engagement
3	<b>Prevent Alcohol and Risk-Related Trauma in Youth</b> (P.A.R.T.Y. International, 2018)	Grey	Several locations across Canada (initially developed at Sunnybrook Hospital in Toronto)	15 years	This in-hospital program was created to educate youth about the consequences of risk-taking behaviour and ultimately seeks to change behaviours and attitudes about risk-taking.	Level 1: Assigned roles to youth	Program facilitators included various health professionals, teachers, and or at-risk youth who dsustained substantial injuries resulting from risk-taking behaviour.
4	<b>Reaching Youth Through Engagement (RYTE)</b> (East Metro Youth Services, 2018)	Grey	Toronto, Canada	12-21 years	This multimedia program helped youth develop multimedia skills, social skills and prevention of violence using digital media software and hardware to create projects that promote messaging that addressed key issues in their communities.	Level 4: Youth-initiated and directed	Youth created the projects themselves with some input from adult. Projects included films, print, documentaries, photography, and music.



#	Program	Source	Location	Age Range	Program Description and Main Message	Degree of Youth Participation based on Hart's Ladder of Youth Participation	Nature of Engagement
5	<b>Counselor in Your Pocket</b> (Shrier et. al, 2014)	Peer-Reviewed	United States	15-24 years	This mobile intervention was developed to reduce cannabis use among youth. Youth self-monitored their use and received motivational messaging within real-life contexts or environments where substance use would typically take place.	Level 2: Consulted with youth	Youth participants were asked to use the mobile app to monitor social and emotional contexts associated with cannabis use, reasons for use, and then selected three main "trigger contexts." Participants were then invited to participate in semi-structured interviews to provide feedback on the mobile app and messaging.
6	<b>A meta-analytic review of school-based prevention for cannabis use</b>	Peer-Reviewed	Canada	12-19 years	The main messages of the programs described in this review focused on prevention. It was found that programs with more interactive elements and allowed greater opportunities	Varied from Levels 1 to 3	Schools varied in the degree of participation or level of discussion allotted for youth in program.



#	Program	Source	Location	Age Range	Program Description and Main Message	Degree of Youth Participation based on Hart's Ladder of Youth Participation	Nature of Engagement
	(Porath-Waller et al., 2010)				for youth participation were more effective in reducing cannabis use.		
7	<b>Film and facilitation guide for use in classrooms (CYCLES)</b> (Moffat, Haines-Saah & Johnson, 2017)	Peer-reviewed	Canada	High school (14-19 years)	Created in response to the need for harm-reduction strategies that consider how young people perceive both the potential harms and benefits of substance use. Messaging created through balanced discussions with youth to support informed decision making.	Level 3: Adult-initiated, shared decisions with youth	Researchers worked in close collaboration with youth to develop film and supporting materials to ensure the content used relatable language, and the youth perspective was authentically portrayed. Youth also participated in watching the film and subsequently provided feedback.
8	<b>Positive Youth Development (PYD) program</b> (Tebes, 2007)	Peer-reviewed	United States	Youth (ages not specified)	This was a long-term curriculum focused on the prevention of substance use among youth. The main message encouraged adolescents to identify and	Level 1: Assigned, but informed youth of roles	Youth participated in the design and implementation of the program, but descriptions of specific contributions of youth are unclear.



#	Program	Source	Location	Age Range	Program Description and Main Message	Degree of Youth Participation based on Hart's Ladder of Youth Participation	Nature of Engagement
					use effective decision-making skills.		
9	<b>Living the Example</b> (Evans et al., 2017; Mentor Program USA, 2018)	Peer-reviewed	New York	Youth (ages not specified)	In conjunction with other interventions, social media was used as a peer-to-peer prevention strategy for substance use. Youth participants were more likely to post motivational messaging as opposed to prevention messaging.	Level 3: Adult-initiated, shared decisions with youth	Youth were trained to create prevention messages and disseminate these messages via social media platforms to engage with peers in their social networks.
10	<b>Wellness Acceptance Youth Voices Empowerment (WAYVE)</b> (WAYVE, 2018)	Grey	Waterloo, Canada	Youth (ages not specified)	Initially designed as a bullying prevention program, WAYVE expanded its focus to offer education and awareness around wellness in general. WAYVE is now comprised of a wide range of youth-led programs to raise awareness of local resources on topics that matter to youth.	Level 5: Youth-initiated, shared decisions with adults	Emphasis was placed on youth leadership – youth managed the program and decided on what kinds of conversations and messaging are needed. WAYVE provided youth with opportunities to delegate, mentor,



#	Program	Source	Location	Age Range	Program Description and Main Message	Degree of Youth Participation based on Hart's Ladder of Youth Participation	Nature of Engagement
							and motivate each other.
11	<b>Effective Youth Engagement Strategies for Substance Use Interventions</b> (Dunne et al., 2017)	Peer-reviewed	Canada	Youth (ages not specified)	Youth engagement in prevention and treatment interventions for substance use led to better health outcomes.	Varied from Levels 1 to 5	Activities ranged from evaluation surveys to primary decision-making authority at every stage of program delivery.



#	Program	Source	Location	Age Range	Program Description and Main Message	Degree of Youth Participation based on Hart's Ladder of Youth Participation	Nature of Engagement
12	<b>Just Say Know</b> (Baker et al., 2015)	Peer-reviewed	Canada	Individuals up to age 30	Using creative and participatory approaches that employed youth-led messages and products provided insight into the experiences and perspectives of young people living with psychosis as a result of cannabis use.	Level 5: Youth-initiated, shared decisions with adults	Youth were trained as "peer research assistants" to build capacity and allow them to engage with each other without intimidation of adults/researchers. Youth held brainstorming sessions and a workshop with artists to create arts/media resources on cannabis from interview and focus group findings.
13	<b>Keepin' It R.E.A.L. (Refuse, Explain, Avoid, Leave)</b> (Real Prevention, 2018)	Grey	United States	11-18 years	Prevention messaging was based on narrative knowledge, recognition of different social norms and motivators, and modelling of the local community to have applicable experiences, moral choices, and behaviours.	Level 5: Youth-initiated, shared decisions with adults	Youth initiated prevention messaging while sharing decisions, learning from, and working with adults. Youth completed interviews on drug behaviours, attitudes, and strategies used



#	Program	Source	Location	Age Range	Program Description and Main Message	Degree of Youth Participation based on Hart's Ladder of Youth Participation	Nature of Engagement
							to resist drugs to complete a needs assessment. Youth contributed to expert feedback to create lesson plans and effective prevention messaging that encouraged critical thinking.
14	<b>Youth Participatory Action Research Curriculum</b> (Oregon Health Authority, 2014)	Grey	United States	Children and young adults (ages not specified)	The authentic engagement of youth in decision making processes that affect their lives involves the social integration of youth as contributors to youth-targeted programs and initiatives.	Level 5: Youth-initiated, involving shared decision-making with adults	Youth identified specific issues they wanted to address in their community. Youth worked with adults to create methods that would promote messaging. Adult facilitators encouraged youth to present findings from activities, discussions, and research to promote social change.