


MAJOR ARTICLE



## A qualitative examination of college students' perceptions of cannabis: insights into the normalization of cannabis use on a college campus

Tess M. Kilwein, PhD<sup>a</sup>, Emma Wedell, BS<sup>b</sup>, Luke Herchenroeder, BA<sup>b</sup>, Adrian J. Bravo, PhD<sup>b</sup> , and Alison Looby, PhD<sup>a</sup>

<sup>a</sup>Department of Psychology, University of Wyoming, Laramie, Wyoming, USA; <sup>b</sup>Department of Psychological Sciences, William & Mary, Williamsburg, Virginia, USA

### ABSTRACT

**Objective:** This study aimed to qualitatively examine how perceptions of cannabis differ among college students in an effort to better understand the changing landscape of cannabis on college campuses. **Participants:** Forty-six predominantly male (69.9%;  $M_{\text{age}} = 23.15$ ,  $SD = 4.11$ ) college students attending a border state university (i.e., a state that has not yet legalized cannabis but borders a state that has). **Methods:** Participants engaged in facilitated focus group discussions ( $N = 5$ ) about cannabis-related issues. **Results:** Thematic analysis uncovered three primary themes and six subthemes. Main themes included: 1) User Heterogeneity and Identity, 2) Relative Benefits and Harms of Cannabis, and 3) Social Position of Cannabis on Campus Culture. **Conclusions:** Cannabis has quickly integrated into the college social environment, with social stigmatization and identification with cannabis impacting decisions to use. Findings inform existing college health programs on how to approach conversations about cannabis with students.

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While cannabis remains a Schedule I controlled substance under United States (U.S.) federal law,<sup>1</sup> many states have legalized cannabis for recreational and/or medicinal use. As of 2020, 11 U.S. states, the District of Columbia (D.C.), Guam, and the Northern Mariana Islands have legalized cannabis for adult recreational use, while 33 states, D.C., Guam, Puerto Rico, and U.S. Virgin Islands have legalized cannabis for medicinal use.<sup>2</sup> Data from the most recent National Survey on Drug Use and Health indicates that approximately 43.5 million people in the U.S. ages 12 and older (15.9% of this age group) reported using cannabis within the past year in 2018, with rates highest among young adults ages 18–25 years.<sup>3</sup> Specifically, more than a third of young adults in this age group reported using cannabis within the past year, with 5.9% meeting criteria for a cannabis use disorder in the past year.<sup>3</sup> College students, who recently reached a 30-year peak in past-year cannabis use at 43%,<sup>4</sup> may be particularly at-risk for cannabis use and related consequences. Research has demonstrated that, among students who entered college never having tried cannabis, approximately a quarter will initiate cannabis use at some point during their college career, with initiation rates increasing to 50% among students who are offered cannabis by peers.<sup>5</sup> Cannabis use among this population is associated with a range of health consequences, including altered brain development, chronic bronchitis, and increased risk for psychosis.<sup>6</sup> College students specifically may experience unique academic consequences of lower GPA, higher dropout rates, and delayed graduation as a result of cannabis

use.<sup>6,7</sup> Thus, research on issues surrounding cannabis use among college-aged adults remains imperative.

To date, research has examined a variety of factors related to cannabis use and associated consequences among college students, including: motivations for use,<sup>8,9</sup> social norms (i.e., perceptions of how often one's peers use cannabis<sup>10,11</sup>), perceived harms and availability of cannabis,<sup>12</sup> and identification with being a cannabis user.<sup>13,14</sup> Notably, recent research suggests that use among college students has increased in states that have legalized recreational cannabis,<sup>15,16</sup> and a steep decline in perceptions of cannabis-associated risk among young adults is attributed to legalization of both recreational and medicinal cannabis.<sup>17–20</sup> As such, some college students may perceive the use of cannabis as part of the college experience, and this perception has been linked to higher use patterns and more negative cannabis-related consequences.<sup>21,22</sup>

While changes in college students' norms, attitudes, and risk perceptions of cannabis are well-documented in the literature, little research has been devoted to understanding *why* these shifts in perceptions toward cannabis and related harms are occurring and *why* students are increasingly identifying as cannabis users. Accordingly, the current study aimed to take a broad, exploratory, qualitative approach to provide further context for why these shifts are taking place, how they may differ among college students with varied histories of use, and what might be unique to the increasing number of college students residing in border states (i.e., states that have not yet legalized cannabis for recreational or

medical use but border a state that has). Specifically, we aimed to examine why cannabis use is increasingly being viewed as an integral aspect of the college experience, as well as what these well-documented shifts in perception look like among both users and nonusers attending a border-state university. As research has demonstrated that perceptions toward and experiences with cannabis differ among never, current, and former users of cannabis,<sup>23,24</sup> obtaining this knowledge from both users and non-current users will identify themes and recommendations to guide college health initiatives with tailoring cannabis-related prevention and intervention efforts toward a variety of students attending university in the US, including border states.

## Materials and methods

### Recruitment and design

Students enrolled at a border state university were recruited for focus groups examining perceptions toward and experiences with cannabis. Recruitment occurred via campus flyers, handouts, and e-mails. Those who expressed interest in participating were contacted to provide study information, obtain their cannabis use history (i.e., lifetime use, length of use, and frequency of use), and facilitate scheduling. Current (past-month) and non-current users were recruited to obtain a distribution of perceptions toward and experiences with cannabis. The university Institutional Review Board approved this study and all participants provided informed consent and were compensated with a meal during the focus groups.

The present study aimed to interpret the focus group interviews inductively through implementing a thematic analysis approach following Braun & Clarke's guidelines.<sup>25</sup> Specifically, we strove to design a study that would identify common meanings of cannabis among the lived experiences of the participants and to identify what perceptions these individuals had in common, despite different experiences with cannabis. Questions were intentionally designed as broad, general, and open-ended so the participants could construct their own meanings of cannabis through discussions and interactions with peers. We aimed to gain insight into the attitudes and perceptions of students; thus, focus groups, rather than individual interviews, were conducted to allow for interaction between participants, gather a more representative sample of attitudes and perceptions, and obtain data from a larger number of students.<sup>26,27</sup>

### Participants and data collection

Five focus groups were conducted, involving between 8 and 11 participants per group ( $M = 9.00$ ). Participants were 46 undergraduate (78.3%) and graduate (21.7%) college students enrolled in a border state university in the U.S. Mountain West. Among undergraduate students, 8.7% were freshmen, 28.4% were sophomores, 13.0% were juniors, and 28.3% were seniors. The sample included 32 male (69.6%) aged 18 to 33 ( $M = 23.15$ ,  $SD = 4.11$ ) years. Participants in

the sample identified as White (75%), Asian/Pacific Islander (4.5%), Hispanic/Latino (4.5%), American Indian (2.3%), and mixed race (13.6%).

Upon enrollment, students were assigned to focus groups based on availability and current user status in an attempt to ensure that current (i.e., past-month) cannabis users and students who were not current users were distributed throughout groups. Teams of two researchers who were initially blind to participants' user status facilitated the focus groups, which took place in a university classroom. The researchers obtained informed consent, discussed confidentiality, and explained the format and rules of the focus group before participants completed a brief survey online assessing demographics and user characteristics then engaged in a semi-structured, audio-recorded discussion about cannabis for approximately one hour. Two of the authors developed the focus group questions (see [Appendix](#)).

### Data analysis

Following transcription of the focus groups, two advanced undergraduates and two graduate student coders analyzed the focus group data through standard guidelines for thematic analysis. As outlined by Creswell,<sup>28</sup> the researchers moved from narrow units of analysis (e.g., significant responses), on to broader units (e.g., themes), then on to detailed descriptions for each theme. The researchers coded themes independently and then met collectively to resolve the codes.<sup>29</sup> From a master code list, another graduate student coder, blinded to the original coding, selected representative responses from participants based on how well they exemplified the themes. This data was interpreted through a social constructivist lens, as we aimed to collectively understand participants' subjective meanings of their experiences with cannabis. It is important to note that theoretical saturation of the data was reached after the fifth focus group, with significant repetition and minimal novelty of ideas emerging.<sup>30,31</sup>

## Results

Participants included both current (65.22%; i.e., past-month) and non-current users (34.78%). Non-current users were comprised of individuals who have never used or used between one and six ( $M = 2.80$ ,  $SD = 1.69$ ) times in their lifetime. Current users reported using cannabis between 1 and 70 ( $M = 17.90$ ,  $SD = 17.34$ ) times in the past month; and within their lifetime they reported using cannabis for between 1 to 16 years ( $M = 5.37$ ,  $SD = 4.00$ ). Based on prompts related to pros and cons of cannabis use, motives for use, availability, perceptions of peer users, prevalence, legalization, and education, findings from the student focus groups can be summarized under three major themes: 1) User Heterogeneity and Identity, 2) Relative Benefits and Harms of Cannabis, and 3) Social Position of Cannabis on Campus Culture. For a summary of these themes and example quotes, see [Table 1](#).

**Table 1.** Summary of final themes based on student's responses regarding cannabis use.

Themes	Summary	Sample quotes
User heterogeneity and identity	Participants perceived cannabis users as diverse, often focusing on behavioral characteristics rather than physical ones.	"... stoners are more open minded than ... a group of people who didn't smoke."
	Students expressed that policy implications may factor in to the identity of users.	"... it depends on the individual. So, if you're a stickler for always following the rules then it being illegal would then keep you away from it. Whereas, if it was legal, you'd be more open to it."
Relative benefits and harms of cannabis	Potential harms mentioned by students included relationship disruption, mental impairment, addiction, and legal consequences.	"I didn't like how it changed my mental state ... and I kind of like how I am normally..."
	Benefits of cannabis use that were discussed included physical and mental health benefits (e.g., relaxation and anxiety management), as well as increased creativity and/or productivity.	"... I know people who have like high anxiety, that it helps them come down to kind of a normal functioning level instead of being hyped up, constantly, all the time."
	Students consistently expressed a desire to receive factual information on the benefits and harms of using cannabis.	"I think that if people were educated about responsible ways to use cannabis then that would make a huge stride to reducing the negative impact of cannabis abuse."
Social position of cannabis on campus culture	Many students identified cannabis as a social facilitator.	"It's always a social activity in my opinion. Bunch of people getting together and hanging out."
	Some students viewed cannabis as a potential source of community and a distinct subculture.	"... I feel like it can kind of create a culture sort of, almost like different users kind of have a closeness."

### Theme 1: user heterogeneity and identity

Participants described their perceptions of characteristics of cannabis users. Frequently referenced as part of this discussion were participants' attitudes toward derogatory, stereotypical views of users and the implications of the stigma associated with cannabis usage on different populations' propensity for using the substance.

#### Perceptions of cannabis users as diverse

In more than one focus group, participants commented on how they were unable to distinguish current users from non-current users in the group until participants self-identified their status. This was an experience shared by the focus group facilitators, who were generally unable to differentiate current and non-current users until they self-identified. When participants did discuss their perceptions of cannabis users, it more often reflected behavioral characteristics of being laid back, creative, and more open-minded; rather than traditional and physical stereotypes (e.g., long hair, clothing adorned with cannabis leaves). For example, one participant who self-identified as a user expressed that, "... stoners are more open minded than ... a group of people who didn't smoke."

Instead, participants generally met a consensus that anyone that they encountered on campus could be a cannabis user, including students, staff, and faculty. Some even commented on how stereotypes can have negative repercussions due to the social stigma associated with cannabis in a state that has yet to legalize for medical or recreational purposes. "There are some people where if you smoke weed it's a deal breaker. We're not going to be friends. We're not going to talk," stated one participant who believed that a lack of education about cannabis at the university contributed to stigmatization of cannabis users. Despite frequent discussions about social stigma, throughout focus groups, acceptance of cannabis use/users was generally high among all participants.

#### Policy implications on user identity

Although most participants endorsed the belief that schemas are generally unhelpful in predicting groups with greater than average likelihoods of using cannabis, many stated that cannabis's legal status in the state of residence may differentially influence different groups' interest in using cannabis. Specifically, illegality and the associated taboo may solely deter some who would otherwise consider using cannabis from doing so. As one participant said, "... I think a huge factor in [choosing not to use] is that it's criminalized. Like, I don't think that it's necessarily because they think that it's bad for them or that it will cause adverse effects, or that it's dangerous, but that if they get caught, that is like one of the worst things that can happen, because you get in a lot of trouble." Conversely, participants frequently expressed concern that the criminalization of cannabis contributes a "coolness factor" increasing usage among some groups, particularly adolescents and young adults. For example, as one participant stated, "... if the goal is to make less people smoke marijuana, [legalization] would probably be the best way to do it, because it takes away the coolness factor a little bit if you can do it without getting in trouble."

In addition to influencing the intrinsic motivators for or deterrents against using cannabis, a common theme across groups was the association between state-level policies and the prevalence of cannabis use through accessibility of suppliers. Participants described an ostensibly counterintuitive process by which the legalization of cannabis decreases availability for minors. In opening avenues for lawful access to cannabis, legalization stifles black market trade. Whereas underground suppliers are unlikely to deny selling to those under 21 years of age, legal suppliers enforce age limits on buyers. Consequently, participants believed that legalizing cannabis would further decrease underage use by decreasing the ease of access. One participant posited, "... if it's legal like alcohol, you ask for age limit, right ... but you know if I go and find a drug dealer who's gotten it from a grower in Colorado or he grows it himself or he's gotten it from a

dispensary, or however, he is not going to ask my age. He doesn't care, it's all a black market and that's how the black market works ...”

## **Theme 2: relative benefits and harms of cannabis**

Throughout focus groups, participants readily acknowledged both the perceived benefits and harms of cannabis use. In sum, cannabis was largely discussed in relatively positive terms, both in conversations about the proportion of benefits to harm to the user and in relation to other substances.

### **Absolute benefits**

Both current and non-current users identified benefits and harms throughout the discussions, suggesting that students may independently weigh the costs and benefits and make decisions about their own cannabis use accordingly. Examples of adverse side effects identified by participants included relationship disruption, cognitive impairment (e.g., difficulty focusing, memory loss), reduced motivation, and addiction (e.g., psychological dependence, physical withdrawal). “... I didn't like how it changed my mental state ... and I kind of like how I am normally ...,” stated one participant who self-identified as a lifetime but not recent user, as well as another who reflected on reduced motivation (i.e., “Definitely laziness, especially after you smoke. It's really hard to get stuff done.”). However, only a few participants were able to identify more sophisticated consequences of cannabis, such as the impact on lung health (e.g., “It hurts my lungs”), and no participants identified the potential risk for psychotic symptoms or altered brain development. Though participants acknowledged some deleterious health, academic, and economic consequences, they frequently framed legal consequences as the most devastating. In addition, participants primarily perceived the potential benefits of cannabis use to outweigh the potential negative consequences of use.

Among the positive perceived outcomes participants reported of cannabis use were numerous benefits to users' mental and physical health. One participant stated, “It can be helped to treat many medical disorders. People too stressed can use it. People who can't sleep can use it. There are many positives I believe in using cannabis.” Some cited descriptions of their peers' experiences and perceptions, including a participant who believed that there are, “a lot of the positives that we're starting to see now, like you said with kids with seizures and I know people who have like high anxiety, that it helps them come down to kind of a normal functioning level instead of being hyped up, constantly, all the time.” Relaxation and anxiety management were commonly mentioned reasons for using among participants who self-disclosed current or past cannabis use. Others mentioned positive influences regarding their creativity or productivity and reported using cannabis to aid a wide range of activities such as school work, including a participant who said, “So, if I am focusing on something like homework, or studying, or even if it is just recreational, like, I'm kinda weird. I like, uh,

mathematical applications and stuff... I trade stocks and all of this stuff so if I get high before I do those things, it kinda slows down my rate of thinking elsewhere and allows me to really hone in on whatever it is that I want to focus on.” Overall, those who self-identified as non-current users often discussed the benefits experienced by their friends and defended the use of cannabis in accordance with how they perceived it to help others in social and medical ways, despite their own choice to abstain.

### **Position relative to other substances**

Discussions about the benefits of cannabis were often conducted in the context of comparisons to other drugs. One participant stated, “The side effects aren't as bad as alcohol,” a notion expressed in some capacity in each of the five focus groups. Further, one participant expressed support for legalization in saying, “... I think it's hypocritical that alcohol is legal and cannabis isn't. I've seen a lot more destructive behavior due to alcohol than zero destructive behavior from marijuana.” Many participants, current and non-current users alike, identified cannabis as a safe alternative to risky alcohol use. Similarly, students identified cannabis as an alternative to illicit drugs and prescription medications used for conditions like epilepsy, anxiety, and insomnia: “I think it's an alternative to a bunch of prescription medications that are being manufactured and given out.” A minority identified cannabis as a gateway drug to more severe substances (e.g., cocaine, hallucinogens), such as one participant who argued that cannabis gives people the idea of: “I might as well try another drug because I tried pot and I liked it and I'm still fine. My grades are fine. My athletics are fine.” However, the majority of participants, dominated by self-identified users, dissented with the idea that cannabis was a gateway drug.

Finally, throughout discussion of the consequences of cannabis, participants consistently expressed a desire to receive factual information on the pros and cons of cannabis use from their university, including harm reduction (e.g., “I think that if people were educated about responsible ways to use cannabis, then that would make a huge stride to reducing the negative impact of cannabis abuse.”). While it was apparent that many students had independently sought out information about cannabis, this was generally not information they had received from formal education or university resources. While non-current users were more likely to discuss the importance of prevention programming for cannabis early in or before college, a vast majority of participants of all user statuses desired some form of educational programming early and throughout college. For example, one participant stated that the university should “... provide real information and real statistics, and even more importantly, real studies on the long-term effects [of cannabis].”

## **Theme 3: social position of cannabis on campus culture**

The social position of cannabis on campus was frequently discussed throughout focus groups. Estimated percentages of

fellow students who use cannabis with regularity varied substantially but many believed that cannabis has a prominent presence on campus, particularly in social environments.

### **Social interaction facilitator**

In many participants' experiences cannabis acts as a social facilitator, with one stating, *"It's always a social activity in my opinion. Bunch of people getting together and hanging out."* Participants consistently expressed agreement with this notion, describing cannabis as *"bridging the gap"* between a variety of students, suggesting that social enhancement may be the essence of why most young people engage in cannabis use. According to some, cannabis functions as a social lubricant similarly to alcohol at parties and social gatherings, such that *"Some people have said when they use cannabis then sometimes they are more talkative, and so then they feel more comfortable in certain social environments."*

Some participants also reported experiencing pressure to conform to their peers. While this was not an overly prevalent view and appeared to be more implicit (i.e., the perception that "everyone does it") rather than explicit (i.e., peers directly pressuring one to use), it does suggest the normalization of cannabis as a part of campus life may result in some students using simply to fit in with their peers. Notably, it was often observed that the self-identified users who strongly advocated for cannabis in general were often the first to defend the importance of it being a personal choice and reject the idea of pressuring others to use, including one participant who stated, *"It all comes down to personal choice, we should all have the opportunity to do with it or not with it what we choose,"* and another who stated, *"There's that whole peer pressure idea that doesn't exist [in the smoking community]. If someone even questions it like: 'Pot?' You just let it happen. If they ask to take a hit, then they can if they want, but you're not necessarily like: 'Here man, just do it, just try it, just whatever.' It doesn't work like that."*

### **Subculture and source of community**

While some participants or their peers use cannabis as a tool to enhance social engagement, others viewed cannabis as a distinct subculture and potential source of community for those who consider their usage to bond them with other users. As one participant stated, *"I think the sense of community is really good because there definitely is like kind of a stoner community and it's really easy to get along with people that kind of share that interest I guess."* This subculture seemed to be especially salient at gatherings such as concerts where strangers may bond over shared subcultural experiences. Another participant said, *"...I feel like it can kind of create a culture sort of, almost like different users kind of have a closeness,"* demonstrating how the shared experience of cannabis use produces a sense of relative proximity between users.

## **Discussion**

The current study collected qualitative data on cannabis use perceptions from students to guide college health initiatives on how to best approach discussions surrounding cannabis with students. Participants included students attending university in a border state, providing an opportunity to examine cannabis use from students who experience unique challenges with respect to increased availability of cannabis accompanied by greater legality risks. Throughout the focus group discussions, three reoccurring themes emerged, including perceptions (or lack thereof) of "typical" cannabis users on college campuses, acknowledgment of both benefits and harms of cannabis use, and identification of the social position of cannabis on college campuses.

Participants echoed sentiments expressed in previous qualitative research that young people often negotiate their identification as a user in the context of stigma/condemnation.<sup>32-34</sup> While some students may be apprehensive about using and/or identifying as a cannabis user due to the illegal nature of the substance, the social stigmatization of cannabis on college campuses may be decreasing over time regardless of legalization status of the larger state. This was apparent as participants overwhelmingly described cannabis users as diverse and contextually positive (e.g., "open-minded"). It is likely that stereotypes are dissolving on this particular campus and the perception of the "typical" cannabis user has evolved, despite living in a state where cannabis remains illegal. Further, students may perceive this decrease in the stigmatization of cannabis users (who are their peers) as a more important goal for university culture than the harms that may result from increased normalization (e.g., increased cannabis use and related consequences). This is consistent with qualitative research in Canada and Scandinavian countries demonstrating that cannabis has become normalized among young people, as attitudes toward cannabis are largely positive and accepting.<sup>35,36</sup>

In addition, normalization of cannabis use appeared to extend toward legalization, where most students identified external reasons to support legalization (e.g., reducing access and underage use via stifling the black market), and at the same time demonstrated that their choice to engage in cannabis use is informed by legalization. Notably, results suggest that many students perceive cannabis as easier to obtain when underage in an illegal state because verification of identification/age is atypical when accessed illegally. This precarious situation may make students attending university in a border state particularly at-risk for both use and negative consequences, as the geography of a border state may simultaneously increase both access to cannabis and legal risks. Overall, it is clear that while cannabis use is quickly integrating itself into college campuses, risks, particularly for border students, continue to exist.

Recent research suggests that expanding legalization has increased the proportion of young adults who perceive few or no negative health or legal risks associated with recreational cannabis use.<sup>17,20,23</sup> In contrast, participants in the current study consistently highlighted legal consequences associated with cannabis use, as these consequences may be

more salient among students residing in a border state. In addition, consistent with previous research,<sup>36</sup> many students drew a hard line between cannabis and other illicit drugs by identifying cannabis as a safer alternative despite its known risks. However, it is also apparent that participants in this study were less likely to identify more sophisticated risks associated with cannabis use, such as health-related consequences. Rarely did students discuss the well-documented impacts of cannabis use on brain development, psychosis, or lung damage/disease,<sup>6</sup> highlighting how students may not be fully informed on the potential consequences of their behavior when ultimately weighing decisions to engage in cannabis use. Finally, findings also suggest that college students may be perceiving less frequent use as low-risk, despite evidence that even infrequent and short-term use is associated with health consequences.<sup>6</sup> It is possible that greater concern regarding legal consequences in comparison to health consequences expressed in this study are directly tied to border state geography, where greater legality risks may be accompanied by reduced access to harm reduction-based education.

Finally, the focus groups revealed that cannabis is quickly integrating into the college social environment where it now holds a unique social position regardless of the user status of individual students and legalization status of the state in which they reside. Research outside the U.S. has similarly described this cultural normalization of cannabis among young people, suggesting that it was supported by the increase in acceptance of illegal drug use by nonusers.<sup>34,36</sup> It is likely that as negative stereotypes decrease and acknowledgement of benefits increase, cannabis will become increasingly normalized among students with a variety of personal experiences with cannabis. Further, cannabis appears to have taken on an important community-based role in that it is providing an important source of shared experience. Students who find that cannabis eases social interactions, who are more susceptible to conform to peers, and/or who experience difficulties finding a sense of community on campus, may find cannabis culture to be particularly appealing.

### **Limitations and credibility**

It is important to interpret our results in light of the limitations of this study. Participants were predominantly White with no Black/African American identifying students. Additionally, combining undergraduate and graduate limited our ability to identify differences in cannabis culture between these two groups of students. Results from this study are limited by self-selection bias and the use of a non-probability sample of college students with a greater proportion of current cannabis users than never or non-current users participating in the focus groups. Similarly, collapsing never and past users into “non-current users” due to the smaller sample of never users limits our ability to identify variability between these two groups. While the number of focus groups conducted and diverse opinions expressed suggest saturation was obtained for both current and non-

current users, the large proportion of current users, as well as the social component of focus groups, may have affected disclosure and selective reporting (e.g., reluctance to express disagreement). This may be particularly relevant given that cannabis use is a predominantly social activity and norms are broadly considered to influence use. Future research may benefit from examining similar cannabis-related attitudes among focus groups that separate users and non-users, as there are likely meaningful differences between conversations that would be generated among each group.

Further, though group facilitators and participants were initially blind to other participants’ user history, most ultimately identified their user status, which may have influenced other participants’ responses. Finally, and due to the subjective nature of qualitative research, there may be concerns with generalizability. Although the present research did have an appropriate sampling technique based on the research question and research tradition, it is important to enhance other credibility criteria (e.g., dependability) to determine the substantive validation of the findings.<sup>37</sup> To increase credibility of the present research study, it would be important to determine: transferability of the findings via replicating this study at another border state university, dependability of the findings via replicating this study longitudinally, and confirmability of the findings via collecting data from college student cannabis users from states with varying legal cannabis policies.

### **Clinical implications and recommendations**

Increasing the awareness of the potential risks of cannabis use and providing options to mitigate them through harm-reduction programming (e.g., education about cannabis protective behavioral strategies<sup>38–41</sup>) and awareness campaigns (e.g., marketing information to students via social media, campus posters, and/or peer educators) may ultimately impact cannabis use, as reported reasons for quitting cannabis often include social pressures and potential legal consequences.<sup>23</sup> Cannabis interventions that incorporate science-based information, promote an understanding of legal consequences and social context, and emphasize safer and moderate use of cannabis already exist (e.g., Cannabis eCHECKUP TO GO (e-TOKE) for Colleges and Universities<sup>42</sup>) and have demonstrated reductions in cannabis use, consequences, and norms.<sup>43–46</sup>

Findings from this study more specifically suggest that college health initiatives should take care not to rigidly apply cannabis stereotypes, as students overwhelmingly reject them (both with regard to themselves and others). Given the diversity of students who engage in cannabis use on college campuses, a “one size fits all” approach is bound to be less effective than personalized and adaptable programming when it comes to prevention efforts targeting specific subgroups of college students and/or intervention strategies. However, with most college students using cannabis to enhance social interactions,<sup>8,24,47</sup> and social factors being strongly implicated in initiating, maintaining, and quitting use,<sup>23</sup> broad prevention messaging efforts targeting entire campuses may

aim to target social motives and norms. Emphasizing alternative ways to fulfill social needs or find supportive communities may decrease use, as may providing accurate social norms of cannabis use on campus, particularly for those who may be susceptible to conformity motives.

In addition, discussions surrounding the legalization status of cannabis are warranted, as students appear to be negotiating their decisions to engage in cannabis use based on perceived legal consequences. An open discussion of benefits and harms of use is likely to be the most effective, such as acknowledging that there are both risks associated with legal consumption and benefits associated with illegal consumption. More importantly, however, as legalization continues to evolve throughout the nation, practitioners should be prepared to discuss these changes and how they may influence students' decisions to use.

Finally, the overarching take-away from this study is that college health initiatives tasked with developing education and prevention materials should acknowledge students generally desire more information about cannabis use. Providing accurate, research-informed information about benefits and harms of use in a non-judgmental manner is likely to be most appealing and effective for a population in the time of their lives rich with identity exploration. Students desire access to information on both the benefits and harms of cannabis to make an informed choice about it, and students should be encouraged to and assisted in making harm reduction-based decisions about their use (e.g., how students can maintain low-risk use, find effective alternatives). Simply acknowledging potential benefits of use will not increase student's susceptibility to use; instead, students will be given the autonomy to weigh benefits and harms on their own.

## Conclusions

This study provides useful insight into perceptions of and experiences with cannabis from a sample of college students attending university in a border state. This information suggests important recommendations for college health educators throughout the U.S. who are looking for ways to effectively discuss cannabis with their students. When considering how to talk to students about cannabis within this rapidly changing legal landscape, college health educators and administrators should look toward evidence-based harm reduction strategies for cannabis. This is particularly relevant giving the increasing normalization of cannabis and student preference for this type of education. In addition, based on the themes identified in this study, when talking to students about cannabis, strategies that may be particularly effective are those that provide factual education about cannabis, acknowledge the strong social position of cannabis on college campuses, and are tailored to user status and perceptions of harm. In addition, future research should further examine the most preferred and effective prevention, intervention, and education strategies among subgroups of college students (e.g., current vs. non-current users, freshman vs. nontraditional students), which can be informed by the

themes identified in the present study and directly from students within these subgroups.

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## ORCID

Adrian J. Bravo  <http://orcid.org/0000-0002-4630-6449>

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## Appendix

### *Questions used in focus group interviews*

What comes to mind when you think about cannabis use?

What are some positives?

What are some negatives?

Why do you think people use cannabis?

What are the top deciding factors in using or not using cannabis?

What would make it easier or harder to avoid cannabis?

How available do you think cannabis is?

What does a typical cannabis user look and act like?

How many students on campus do you think use cannabis?

Do you think cannabis should be legal? Why?

Recreationally? Medically? Both?

Do you think the University should be educating people about cannabis?

How should UW approach these conversations? What type of marketing is most effective? What educational components are currently lacking?

Is there anything else anyone wanted to mention that we did not ask about today?

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