Published in final edited form as:

Subst Use Misuse. 2020 ; 55(1): 48–55. doi:10.1080/10826084.2019.1654515.

“Hey, I Got to Smoke Some Weed”: Favorable Perceptions of Marijuana Use Among Non-college-educated Young Adult Cigarette Smokers

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Abstract

Introduction—As marijuana legalization progresses in the U.S., this study investigated the perceptions of marijuana use among non-college-educated young adult smokers.

Methods—Twelve focus groups were conducted to explore themes related to marijuana and marijuana use among a racially and ethnically diverse sample of 75 young adult smokers (ages 18–29 years) with <4-year college education and <\$90,000 annual household income living in the Washington D.C. metropolitan area. Thematic content analysis was employed to analyze the transcripts. Data collection and analysis took place in 2017 and 2018, respectively.

Results—Many participants reported smoking cigarettes to boost and maintain the psychoactive effect (“high”) of smoking marijuana; some smoked marijuana to substitute frequent cigarette smoking. Participants generally stated that they believed marijuana smoking was healthier and less addictive than cigarette smoking; many preferred smoking marijuana over cigarettes. Participants also mentioned that cigarette smoking was stigmatized and not socially acceptable but marijuana smoking was “trendy” and “cool.” Some reported that they smoked marijuana to cut down on cigarettes, although most were unsuccessful. Racial and ethnic differences in marijuana use were also identified.

Discussion—Non-college-educated young adult smokers expressed largely favorable views towards smoking marijuana. Such positive views may lead to prolonged and escalated use of cigarettes and marijuana, resulting in exacerbated adverse health consequence of smoking both products as well as worsened outcomes of cigarette smoking cessation. Evidence-based messages

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Conflict of Interest: All authors of this article declare they have no conflicts of interest.

are greatly needed to communicate the harm and risks of marijuana use and marijuana and tobacco co-use among this group.

Keywords

Marijuana Smoking; Cigarette Smokers; Young Adults; Substance Use; Non-college-educated Smokers

INTRODUCTION

In recent years, the legalization of medical and recreational marijuana has rapidly spread across the U.S. As of the end of 2018, 33 states and the District of Columbia (D.C.) had passed laws legalizing marijuana in some form with 11 adopting marijuana legalization for recreational use (Governing, 2018). Co-use of cigarettes and marijuana is popular and has become increasingly prevalent. In 2012, 69.5% of adult marijuana users reported past-month tobacco use and 17.5% of adult tobacco users reported past-month marijuana use in the U.S. (Schauer, Berg, Kegler, Donovan, & Windle, 2015). During 2003–2012, marijuana use prevalence grew significantly among past-month tobacco users from 14.2% to 17.8% in the country (Schauer et al., 2015).

Marijuana use, as well as marijuana and tobacco co-use, are especially prevalent among young adults. One study found that during 2014–2015, 4.5% and 21.3% of U.S. young adults (18–24 years old) used marijuana only and both marijuana and tobacco, respectively (Cohn, Abudayyeh, Perreras, & Peters, 2019). Marijuana and tobacco co-use, including dual use (i.e., use of tobacco and marijuana by the same person) and concurrent use (i.e., use at the same time), has been found to be more prevalent among those who have less than college education background as compared to their more educated counterparts. For example, one study of a nationally representative sample of U.S. adults found that in 2012, as high as 21.5% to 34.4% of U.S. adults with less than college degree used both marijuana and tobacco products within past 30 days (Schauer et al., 2015). This study also observed that a significantly higher percentage of tobacco and marijuana co-users were those with less than college degree compared to marijuana-only users, tobacco-only users, and non-users (Schauer et al., 2015). Additionally, among young adults, those with only high school/GED degree had higher odds of using both tobacco and marijuana as compared to those with higher education attainment such as some college and college degree (Cohn et al., 2019).

Marijuana use may lead to negative health and social consequences such as an increased risk for motor vehicle crashes due to impaired judgment (Li et al., 2011) and adverse respiratory and cardiovascular effects (Aryana & Williams, 2007; Mittleman, Lewis, Maclure, Sherwood, & Muller, 2001). Long-term marijuana use can also lead to addiction, which may result in withdrawal symptoms such as irritability and difficulty sleeping (Volkow, Baler, Compton, & Weiss, 2014). Co-use of tobacco and marijuana is concerning because dual users have a markedly elevated risk of respiratory distress, compared with those who use only marijuana or tobacco (Taylor et al., 2000, 2002). Using marijuana and cigarettes concurrently may lead to additive or interactive effects (Strong et al., 2018; Wang, Ramo, Lisha, & Cataldo, 2016), potentially resulting in more severe health consequences and

increased use of both products, substance dependence, and difficulty quitting either substance (Ramo, Liu, & Prochaska, 2012; Ramo & Prochaska, 2012). Additionally, studies have found that socioeconomically disadvantaged smokers, such as those with less than college education attainment, have a more difficult time quitting cigarettes (Gourlay, Forbes, Marriner, Pethica, & McNeil, 1994; Stapleton, Keaney, & Sutherland, 2009). Therefore, concurrent use of marijuana and tobacco in this population may exacerbate the struggles with smoking cessation.

Little is known, however, about the perceptions and attitudes towards marijuana and marijuana use among non-college-educated young adult smokers. Previous studies examining the perceptions and attitudes related to marijuana (Akre, Michaud, Berchtold, & Suris, 2009; Amos, Wiltshire, Bostock, Haw, & McNeill, 2004; Berg et al., 2015; Bull, Brooks-Russell, Davis, Roppolo, & Corsi, 2017) did not specifically focus on the target population of this study. Therefore, twelve focus groups were conducted among young adult smokers to explore (1) the meaning of cigarette smoking associated with marijuana use, (2) the reasons and motivations for using marijuana, and (3) the perceptions about marijuana use as a smoking cessation method. Differential themes across race/ethnicity and educational attainment levels were also assessed. Discrepancies in marijuana-related perceptions and attitudes were explored among various race and ethnicity groups because mounting evidence has demonstrated race and ethnicity disparities related to marijuana use and its associated consequences in the U.S. (Evans-Polce, Vasilenko, & Lanza, 2015; Golub, Johnson, & Dunlap, 2007; Harris, Gordon-Larsen, Chantala, & Udry, 2006; Wallace Jr et al., 2007), highlighting the importance of investigating the underlying attitudinal discrepancies among these various groups. The study's findings may be useful to inform the development of public health communication messages on marijuana use and cigarette smoking cessation programs for the non-college-educated young adults.

METHODS

Participant Eligibility and Recruitment

Non-college-educated young adult cigarette smokers participated in the study. The inclusion criteria were: (1) between the ages of 18 and 29, (2) self-identified as Non-Hispanic black, Non-Hispanic white, or Hispanic, (3) residing in the Washington D.C. metropolitan area, (4) having received less than a 4-year college education, (5) having an annual household income of less than \$90,000 (the median household income in the Washington D.C. metropolitan area), and (6) having smoked at least 100 cigarettes over one's lifetime and currently smoking cigarettes every day or some days. Shugoll Research recruited participants through their existing research volunteer databases and online postings (e.g., Craigslist and Facebook). Individuals who expressed interest in joining the study were then contacted by the project coordinator for eligibility screening and informed consent.

Data Collection

Participants first completed an online survey on demographics, tobacco use behaviors, and tobacco-related attitudes. Participants were then invited to join one of twelve focus group discussions, organized by participants' racial/ethnic backgrounds (non-Hispanic white, non-

Hispanic black, and Hispanic) and educational attainment (high school education or less, some college education/without a college degree). For each combination of race/ethnic background and educational attainment, two focus group discussions were held at the Shugoll Research's focus group facility located in Bethesda, MD. The research team developed a discussion guide covering three broad topics: (1) the perceived meanings of smoking and smoking cessation, (2) perceptions and beliefs about smoking cessation treatments, and (3) perceptions and attitudes about anti-smoking campaigns. Topics related to marijuana and marijuana use occasionally arose during discussions; in such cases, the moderator invited the participants to offer additional comments on the subject. Discussions on marijuana and marijuana use took place in all twelve focus groups. Focus groups lasted approximately 90 minutes and were audio-recorded. Participants received a \$125 incentive for completing the survey and focus group. The study was determined by the National Institutes of Health Office of Human Subjects Research Protection to be exempted from a review by the Institutional Review Board.

Data Analysis

To analyze the transcripts, the thematic content analysis approach was used to closely examine the coded text and identifying emergent themes or patterns both within and across codes (Rice & Ezzy, 1999). Audio recordings of the focus group discussion were transcribed verbatim. Two members of the research team developed a draft coding scheme after reviewing all transcripts, and two other members of the research team who had also reviewed all transcripts then revised the coding scheme. The research team then applied the revised coding scheme to four transcripts and made further revisions to finalize it. Three coders underwent training through tutorials and sample coding with two transcripts to become familiar with the coding scheme. After reaching full agreement on the two sample transcripts through thoroughly discussing and resolving the discrepancies in coding, each transcript was randomly assigned to two of the three coders for independent coding. Each coder coded 6 to 9 transcripts, using an online qualitative data analysis platform, Dedoose®. The percentage agreement of the marijuana-related codes from a randomly selected set of six transcripts was 78.9%, indicating that the coders reached a close to desired agreement from initial coding (McAlister et al., 2017). Finally, all differences in coding were reviewed and resolved through discussions with the entire research team. Following the coding process, the transcripts were reviewed again to select representative quotes.

RESULTS

Seventy-five young adults (63% Male and 37% Female) participated in twelve focus group discussions. The mean age of participants was 25 years (standard deviation=2.8 years). Approximately 48% of the participants had a high school education or less and 52% had some college education or an associate/vocational degree. Approximately 35% of participants were non-Hispanic white, 37% non-Hispanic black, and 28% Hispanic. About 29% had an annual household income between \$10,000–\$24,999, 47% between \$25,000–\$49,999, and 24% between \$50,000 and \$89,999. Almost all (99%) participants were daily cigarette smokers. Table 1 summarizes the results of the focus groups based on the major themes discussed below. These major themes were also discussed in further detail below

along with the original quotations from the participants whose race/ethnicity backgrounds and education levels were also stated.

Smoking Cigarettes to Boost the “High” of Marijuana

Many participants expressed that they enjoyed the psychoactive effects (i.e., “high”) from smoking marijuana, or generally described marijuana smoking as a positive experience that “brings pleasure,” “stimulates the brain,” or “reduces stress and anxiety.” They also mentioned that they smoked cigarettes to boost and maintain the “high” from smoking marijuana. Specifically, they said that smoking cigarettes immediately after smoking marijuana made the marijuana smoking experience more enjoyable and relaxing and “kept the flow going.” One participant (Hispanic, high school or less) said: “I feel like a lot of people smoke cigarettes because they smoke weed. That’s how you get into it, because it boosts your high.” A few participants believed that the only reason for most people (including their friends and family) to smoke cigarettes was to boost the high of marijuana use. A couple of participants even mentioned that they would not smoke cigarettes at all if they were not using marijuana. Additionally, many participants stated that smoking marijuana and smoking cigarettes went hand in hand. These participants commonly reported that smoking marijuana made them want to smoke cigarettes. One participant (non-Hispanic black, some college) mentioned: “I smoke a lot of other stuff, weed. So that makes me wanna smoke another cigarette.” No participant, on the other hand, mentioned that smoking cigarettes made them want to smoke marijuana. A few participants mentioned that they initially smoked marijuana and later started smoking cigarettes to improve their marijuana use experience.

Perceived Harm and Addictiveness of Marijuana

Many participants expressed their positive perceptions towards marijuana and said that marijuana use was healthy and safe. One participant (non-Hispanic black, some college) said: “Smoking marijuana does no harm to you. How many deaths had marijuana had?” Some specifically compared marijuana smoking to cigarette smoking, saying that marijuana smoking was healthier, safer, and better than cigarette smoking. One participant (non-Hispanic white, high school education or less) mentioned, “I know weed is not as good [as smoking nothing], but it’s still a bit healthier in my eyes [than cigarettes].” Even participants who stated that they were not currently using marijuana or had never used marijuana before, indicated that if they were to quit cigarettes, then they would smoke marijuana instead. A few participants who used marijuana mentioned that they would only smoke marijuana (and quit cigarettes) if marijuana smoking did not produce psychoactive effects so that they could smoke it throughout the day. Some participants expressed that vaping marijuana oil is even healthier than smoking marijuana; they added that there were chemicals and carcinogens associated with smoking marijuana, which is a primary reason why people choose to vape instead.

Some participants thought it was impossible to become addicted to marijuana. A few of these participants further emphasized that marijuana smoking was not an addiction but a choice, while cigarette smoking was more of an addiction. One participant (non-Hispanic black, high school education or less) mentioned: “Weed to me is not like ‘I need this,’ it’s

easy for me to give it up like it's nothing. But smoking cigarettes, it's my outlet. If anything, I want that." Some participants emphasized that they were addicted to the smoking behavior itself (regardless of the substance) and that cigarette and marijuana smoking both satisfied their cravings. Only a couple of participants mentioned that there were harms associated with smoking marijuana; one thought that smoking marijuana damaged the lungs and the other mentioned that marijuana smoking produced carcinogens and chemicals just like cigarettes smoking.

Perceived Social Acceptability of Smoking Marijuana

Participants frequently reported that smoking marijuana was more acceptable by the current social norms than smoking cigarettes. Specifically, cigarette smoking was generally considered a stigmatized behavior while marijuana smoking was considered "trendy" and "cool." One participant (Hispanic, some college) said: "Even [though] marijuana is being legalized, it's kind of not as rebellious. I think just also for the younger generation, smoking [cigarettes] isn't cool like it used to be." Some participants explicitly mentioned that although marijuana use was illegal where they resided, they still felt that marijuana use was more socially acceptable than cigarette smoking. A few participants even mentioned that they felt guilty for smoking cigarettes but were excited to smoke marijuana. One participant (non-Hispanic black, some college) said: "See, for me, when I smoke a cigarette, it's like, 'why are you doing this?' But if I'm smoking weed or something, I'm like, 'hey, I got to smoke some weed.'" Many participants reported that their friends and family members also smoked marijuana and that smoking marijuana often occurred at social gatherings.

Interchangeable Use of Marijuana and Cigarettes

Some participants described that they usually did not smoke too many cigarettes (e.g., less than a pack a day) since they also smoked marijuana, and said that smoking marijuana provided a substitute for frequent cigarette smoking. A few participants explicitly mentioned that they enjoyed the experience of smoking marijuana more than smoking cigarettes, and that when they smoked marijuana, they would forget about smoking cigarettes. One participant (Hispanic, high school or less) said: "I don't know if it's just the act of smoking or what, but when I'm smoking a ton of weed, I don't really care about cigarettes." Additionally, some participants felt that although they would rather smoke marijuana than cigarettes, many had to smoke cigarettes where marijuana use was prohibited (mainly in public spaces). They sometimes opted to smoke cigarettes instead of marijuana because they would "get into trouble" if they smelled like marijuana at work or at home.

Many participants believed that smoking marijuana helped them reduce cigarette consumption and that their friends and family members smoked marijuana for the same purpose. Some of these participants mentioned that smoking marijuana helped significantly with cutting down on cigarettes, while others thought that marijuana smoking did not help with their smoking cessation. A few participants said marijuana smoking helped replace cigarettes because they enjoyed the behavioral resemblance of holding something in their hands. Some participants mentioned that they tried but failed to use marijuana to quit cigarette smoking because the psychoactive effects of marijuana made frequent use impractical. One participant (non-Hispanic white, high school education or less) said: "I

didn't like the way that these things work on your brain because it alters peoples' state of mind and the way that they view the world." Only a couple of participants mentioned that they would quit marijuana sometime in the future.

Racial and Ethnic Differences Across Themes

A few notable differences in the above-discussed themes were observed across racial/ethnic groups. For example, non-Hispanic white participants often mentioned that they experienced cognitive impairments while using marijuana (e.g., marijuana "messed with their mind") and that was the main reason they refrained from exclusive or frequent marijuana smoking. Hispanic and non-Hispanic black participants did not particularly mention their concern about marijuana's psychoactive effects. Non-Hispanic white participants mentioned vaping marijuana or THC oil as an alternative and healthier way of administering marijuana, while non-Hispanic black participants expressed that they liked to smoke blunts (cigars hollowed out and filled with marijuana). Additionally, Hispanic participants often mentioned that they preferred to smoke marijuana more than cigarettes and that they had tried smoking marijuana to cut down on cigarettes in the past. No notable differences in themes were observed by education levels.

DISCUSSION

This is one of the first focus group studies to elicit views on marijuana and marijuana use from a diverse sample of non-college-educated young adult cigarette smokers, in a changing marijuana regulatory environment. Many young adult smokers in this study concurrently smoked marijuana and that they smoked cigarettes to boost the psychoactive effect of marijuana. Many participants reported enjoying smoking marijuana and had more favorable views towards smoking marijuana than smoking cigarettes. Specifically, participants perceived marijuana smoking as healthier, safer, less addictive, and more socially acceptable than cigarette smoking. The overwhelmingly positive perceptions and attitudes towards marijuana and marijuana use by this group may have been influenced by D.C.'s legalization of recreational marijuana, which occurred in 2014, as well as the increasing discussions of marijuana legalization at the national level. Previous research has found the associations between marijuana legalization in local jurisdictions and the growing positive views towards marijuana products among the residents (Keyes et al., 2016; Khatapoush & Hallfors, 2004). Therefore, as marijuana legalization proceeds in the country, such positive views may lead to a growing prevalence of marijuana use among non-college-educated young adult smokers.

This study found that many participants, regardless of their marijuana use history, had positive perceptions of marijuana use. Previous research has shown that marijuana use is one of the most favorably perceived substances among young adults (Berg et al., 2015). Health behavior models and theories (e.g., Health Belief Model and the Theory of Planned Behavior) posit that positive attitudes and beliefs about a health behavior may contribute to behavioral intention and uptake (Ajzen, 1991; Rosenstock, 1974). Therefore, participants' positive perceptions about marijuana may explain their current intentions or behavior of using marijuana products. Additionally, many of the participants' perceptions about marijuana (e.g., one cannot become addicted to marijuana, and marijuana does not cause any

harm to health) contradicted scientific evidence. Specifically, these perceptions of marijuana as low harm or low risk warrant special public health concerns due to the potential adverse health consequences caused by marijuana use (e.g., motor vehicle crashes and respiratory and cardiovascular conditions) (Aryana & Williams, 2007; Li et al., 2011; Mittleman et al., 2001). This research also revealed an emerging pattern in the reasons why marijuana is used by young adult smokers, including “relaxation,” and to “get high.” Previous longitudinal research suggested that such reasons for using marijuana during young adulthood may lead to continued marijuana use and marijuana use-related problems as individuals continue into adulthood (Patrick, Bray, & Berglund, 2016).

A complex relationship was observed between smoking marijuana and smoking cigarettes among non-college-educated young adult smokers, confirming previous research that cigarette smoking and marijuana smoking support and reinforce each other and that cigarette smoking may enhance the rewarding effects of marijuana smoking (Ramo et al., 2012). Two types of cigarette and marijuana dual smokers were also identified in this study. The first type predominantly smokes marijuana and simultaneously smokes cigarettes as a supplement and method to boost the effects of marijuana smoking. For this group, marijuana use might increase their cigarette consumption as well as nicotine addiction. Previous research has found that marijuana use among cigarette smokers contributed to the escalation of cigarette smoking and nicotine addiction (Agrawal, Madden, Bucholz, Heath, & Lynskey, 2008; Patton, Coffey, Carlin, Sawyer, & Lynskey, 2005; Timberlake et al., 2007). The second type of young adult smoker in this study predominately smokes cigarettes but uses marijuana as a way to reduce cigarette smoking consumption. This group may experience difficulties in quitting cigarettes since marijuana use is not a proven method for smoking cessation. Therefore, non-college-educated young adult smokers who also use marijuana may need additional support to quit smoking, given the known association between marijuana use and lower success rate in smoking cessation (Ford, Vu, & Anthony, 2002). The dual users in this study also expressed a much stronger interest in quitting smoking cigarettes than in quitting marijuana. Given that young adults with lower educational attainment are already experiencing low rates of cigarette smoking cessation (Gourlay et al., 1994; Stapleton et al., 2009) and marijuana use cessation (Moore & Budney, 2002; Zvolensky et al., 2018), it is suggested that public health efforts should be directed at helping these young adults quit both substances. Moreover, cessation efforts for young adult cigarette and marijuana dual users should incorporate co-use-oriented intervention strategies to improve cessation outcomes for both products.

Cigarette and marijuana prevention and treatment efforts targeting this group should also take into account racial and ethnic differences in the methods of administering the substances and perceptions towards marijuana. Non-Hispanic white participants in this study may be more likely to prefer marijuana intake through vaping, while non-Hispanic black participants may opt to use cigars or cigarillos to smoke marijuana (i.e., smoking blunts). The perceived “healthier” method of administering marijuana through vaping may escalate the frequency and amount of marijuana intake among non-Hispanic white young adult smokers. The disproportionate use of blunts among non-Hispanic black smokers may worsen health disparities already experienced by this group given that blunt smoking may produce higher levels of carcinogens (Meier & Hatsukami, 2016) and dependence on

nicotine and marijuana as compared to single product use (Schauer, Rosenberry, & Peters, 2017). Additionally, Hispanics may be more inclined to believe that marijuana smoking can help them to quit cigarette smoking. Thus, treatment efforts may focus on changing Hispanic young adults' preference for using marijuana to quit smoking and promote FDA-approved or other evidence-based smoking cessation therapies, medications, and programs. Future large-scale survey studies are needed to further explore racial and ethnic differences in the psychosocial risk factors for marijuana use and methods of administration.

Findings from this study should be viewed with the following limitations. First, the focus groups were conducted among a purposive sample of young adults in the Washington D.C. metropolitan area, where laws on marijuana use differ from other cities and states. Thus, participants' perceptions of marijuana may differ from non-college-educated young adult smokers residing in other areas of the country. Second, the discussion guide originally did not include specific questions about marijuana or marijuana use. Discussions surrounding marijuana use were either organically brought up by participants or probed by the experienced moderator when marijuana was mentioned during the discussion. Future qualitative studies that focus specifically on marijuana use are warranted to gather more data and gain further understanding of the perceptions and behaviors of young adult smokers.

In conclusion, with the growing positive social norms surrounding marijuana and marijuana use, as well as the increasing prevalence of marijuana marketing in states that have legalized recreational marijuana (Fiala, Dilley, Firth, & Maher, 2018; Krauss et al., 2017), this study's findings suggest that marijuana use may become increasingly popular among non-college-educated young adult smokers. In order to correct widespread misconceptions, the public health community should communicate strong and clear messages that accurately and effectively convey the evolving public health research on the risks and consequences of marijuana and tobacco and marijuana co-use. Development of evidence-based cessation treatments that are tailored to the needs of non-college-educated young adult cigarette and marijuana dual users may be warranted. Future research is very much needed to assess the health risks and addictive nature of cigarette and marijuana dual use and to evaluate efforts to communicate such risks to young adults amidst a changing marijuana regulatory landscape.

Acknowledgments:

Efforts of JCC, KC, BJJ, and DAD were supported by the National Institute on Minority Health and Health Disparities Division of Intramural Research.

Financial Disclosure: All authors have no financial relationship to disclose.

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Table 1.

Focus Group Main Themes and Subthemes

Theme	Subthemes
Smoking Cigarettes to Boost the “High” of Marijuana	<ul style="list-style-type: none">• The psychoactive effects (i.e., “high”) of cigarettes increases the pleasure of smoking marijuana• One of the main reasons to smoke cigarettes is to boost and maintain the “high” from marijuana
Perceived Harm and Addictiveness of Smoking Marijuana	<ul style="list-style-type: none">• Marijuana is “healthy” and “safe” and there is little harm associated with marijuana smoking• Marijuana smoking is healthier, safer, and less addictive than cigarette smoking• It is impossible to become addicted to marijuana
Perceived Social Acceptability of Smoking Marijuana	<ul style="list-style-type: none">• Smoking marijuana is more socially acceptable than smoking cigarettes, even when marijuana use is illegal• Smoking cigarettes makes you feel guilty but smoking marijuana is “cool” and “trendy”
Interchangeable Use of Marijuana and Cigarettes	<ul style="list-style-type: none">• Marijuana smoking is a substitute for cigarette smoking• Smoking cigarettes is an acceptable option where marijuana smoking is prohibited• Smoke marijuana helps to reduce or quit cigarette smoking
Racial and Ethnic Differences in Perceiving Marijuana Smoking	<ul style="list-style-type: none">• Non-Hispanic white participants experience cognitive impairments from using marijuana and vape marijuana oil• Non-Hispanic black participants frequently smoke marijuana by placing it inside of cigars (smoking blunts)• Hispanic participants intend to cut down on smoking cigarettes through smoking marijuana