

UNDERGRADUATE PERCEPTIONS OF MARIJUANA USE

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## Abstract

The current study investigated how undergraduates perceive marijuana use beyond the college environment and within a professional setting. A resume audit design was utilized, where participants were asked to evaluate the hirability of three fictional job candidates upon examining each applicant's resume and HR background report. While the resumes depicted equivalent credentials and experience for each candidate, the HR reports indicated a different substance use behavior for each applicant –marijuana use, alcohol use, and abstinence from substance use entirely. It was hypothesized that participants would rank marijuana-using applicants as the least hireable individuals. Results indicated that marijuana users were rated as significantly less hireable than control candidates, but no other groups showed significant differences. Therefore, implications exist for the future of the American workforce as our cultural narrative potentially becomes more permissive towards marijuana use.

*Keywords:* marijuana, substance use, employment, undergraduates

### **Introduction**

For individuals emerging into adulthood, entering college is a challenging endeavor full of new opportunities, responsibilities, and choices to make. Some of these decisions carry greater weight than others, however, such as whether to do drugs. Research has shown that young adults indulge in the greatest use of illicit substances compared to other age groups (National Institute on Drug Abuse, 2015), and the National Institute on Drug Abuse cites marijuana as one of the most frequently abused substances in the nation (National Institute on Drug Abuse, 2018). Furthermore, a longitudinal study conducted by Miech, Patrick, O'Malley, and Johnston (2017) found that over time, college enrollment has become a large contributing factor to first-time marijuana use. In 2013, undergraduates were 31% more likely than peers not enrolled in a college program to use marijuana for the first time. In 2015, college students were 51% more likely. Miech et al. posit that this growth has occurred due to the authorization of recreational marijuana within several states during this time period (Miech et al., 2017).

Alongside these patterns of marijuana use is the preexisting trend of collegiate alcohol use. Alcohol consumption is deeply embedded within the American college system, with 53.6% of college students in 2017 reporting alcohol use in the past month (Substance Abuse and Mental Health Services Administration, 2017). Although these findings show that both marijuana and alcohol have a strong foothold in the recreational habits of college students, it remains to be found whether both modes of substance use are perceived as equally appropriate beyond one's undergraduate experience.

The college years appear to be fertile ground for experimentation and familiarization with marijuana. What remains to be known, however, is whether college students expect these illicit habits to persist beyond graduation. This thesis aims to investigate undergraduate perceptions of

marijuana use among adults in the workforce to understand how students imagine the trajectory of their own marijuana use. A resume audit experiment was utilized, which required undergraduates to judge the suitability of individuals for a fictitious job position. To tease out the role substance use may play in making such a decision, the researcher manipulated one candidate application to indicate recent marijuana use.

### **Literature Review**

#### *Motivations for Collegiate Marijuana Use*

Research endeavors have documented that the college environment is uniquely conducive to regular marijuana use, thereby leaving undergraduates particularly vulnerable to incorporating drug use into their everyday lives. For example, a study conducted by Jennifer Coleman and Joseph Trunzo (2015) established an association between degree of stress, neuroticism, and drug usage, suggesting that students exhibiting neurotic qualities and experiencing high levels of psychological tension are more likely to use illicit drugs (Coleman & Trunzo, 2015). With the pressure of academic obligations coupled with everyday stressors, it becomes clear that college students exist at a crux of high-stress responsibilities which may culminate in marijuana use.

Likewise, anxiety oftentimes accompanies social interactions, a significant aspect of the typical college experience. Through interviewing and administering questionnaires to undergraduate students who had recently used marijuana, Buckner and Schmidt (2009) found social anxiety to be uniquely linked to this substance use as opposed to other anxiety disorders (Buckner & Schmidt, 2009). Students who do not feel comfortable in social situations may turn to marijuana to ease the burden of painful interpersonal exchanges, as it could potentially be more acceptable for an individual to rely upon marijuana than for them to skip out on parties entirely. In a similar vein, college students whose social group is comprised of marijuana users

have been found to exhibit seven times the likelihood of using marijuana as compared to those without marijuana users in their social circle (Vidourek et al., 2018).

New students are vulnerable to begin using marijuana simply because they exist in the context of a college environment (Miech et al., 2017), which is bolstered by the collegial expectation to work hard and play hard (Buckner & Schmidt, 2009; Coleman & Trunzo, 2015; Vidourek et al., 2018). To carry this use beyond mere initiation, however, students must endorse their own continued substance use.

#### *Justifications for Collegiate Marijuana Use*

Why do college students turn to marijuana? In examining the justifying factors behind continued marijuana use, it is important to point out that much of the current literature revolves around high school users' perceptions, as opposed to college students. While limiting, these findings should be consistent with college-aged students.

Several rationalizations for using marijuana persist across various studies. Young people appear to situate themselves as "responsible" users compared to other teens who indulge, citing their marijuana use as a sensible remedy for various medical and psychological concerns (Bottorff, Johnson, Moffat, & Mulvogue, 2009). Furthermore, users perceive their peers to possess greater access to marijuana and to use more frequently than themselves (Pearson, Liese, Dvorak, & Marijuana Outcomes Study Team, 2017). Users also dismiss the status of marijuana as an actual drug by contrasting it from harder substances, such as narcotics. Consequently, they experience a sense of safety while ingesting marijuana (Bottorff et al., 2009; Friese, 2017). It quickly becomes clear how complex the web of marijuana-related rationalizations is. Perhaps an intricate, multi-layered scaffolding of justifications serves as a form of armor from the negative

implications of consistently engaging in such substance use, allowing teenagers and young adults to do so without experiencing psychological discomfort.

*Perceptions of Alcohol Use vs. Marijuana Use*

While alcohol is also associated with the college experience (Lipari & Jean-Francois, 2016), young adults conceptualize their use of this substance differently than marijuana use. For example, a 2016 study found negative drinking experiences to directly impact undergraduates' future decisions to consume alcohol (Fairlie, Ramirez, Patrick, & Lee, 2016). However, a study conducted by Friese (2017) indicated that unenjoyable experiences with marijuana did not immediately effect students' desires to use, as they would continue to experiment with the drug (Friese, 2017). This distinction in the acknowledgement of repercussions from using either substance illuminates a different understanding of alcohol and marijuana among young people. On the one hand, they appear to consider their alcohol use as directly correlated with negative consequences. On the other hand, marijuana use is handled much more leniently, creating a permissive drug culture.

The incongruence between the seriousness of alcohol and marijuana extends into risky behaviors exhibited by young people, such as driving under the influence. McCarthy, Lynch, & Pedersen (2007) found 47% of undergraduate marijuana users sampled at an American university to have driven a motor vehicle after getting high. Regardless of how often college students used marijuana, they perceived driving under its influence as safer and more socially acceptable than drunk driving. Generally, college students who used marijuana more often, perceived stronger peer approval of substance use, and considered driving while high to be less dangerous than drunk driving were associated with a greater tendency to drive under the influence of marijuana (McCarthy et al., 2007).

The perception that driving while high on marijuana is a safe way to operate a motor vehicle is not supported by empirical evidence, however. A meta-analysis conducted by Asbridge, Hayden, and Cartwright (2012) found that individuals who drive while high almost double their potential for getting in a serious or fatal car accident. The researchers note that this data reflects experimental findings of cognitive deficits associated with marijuana use that can greatly disrupt driving abilities (Asbridge et al., 2012).

Survey data collected by the American Addiction Centers summarizes this conflict. Their study reiterates the greater concern towards negative consequences of using alcohol as opposed to marijuana. However, data indicate a greater level of social disapproval towards those who use marijuana. Individuals appear more critical of marijuana users than alcohol consumers, even though alcohol is perceived to have greater repercussions (American Addiction Centers, 2019).

#### *Consequences of Using Marijuana*

The overwhelmingly tolerant impression college-aged students have towards marijuana is, in fact, wrong. Although users may feel justified in their habitual use of the drug, there are direct consequences to doing so.

According to the National Institute on Drug Abuse, marijuana elicits dependency and abuse behaviors in approximately five times more Americans than cocaine does. Notably, marijuana only ranks below alcohol in establishing these levels of reliance (National Institute on Drug Abuse, 2015). Past work has also shown that younger marijuana users possess a higher likelihood than older users of experiencing marijuana use disorder (MUD) (Richter, Pugh, & Ball, 2017). The National Institutes of Health describe MUD as involving negative consequences to one's personal or workplace life, feelings of withdrawal or desire for marijuana, and a

diminished sense of control. Furthermore, they reiterate that those in their teens to early adult years are most at risk for MUD (National Institutes of Health, 2016).

The detrimental health effects of marijuana use beyond MUD can be exhibited in several ways. Marijuana use can cause mucus overproduction, long-term psychological detriments, issues with cognition and healthy brain development, and can impair both cardiovascular and respiratory health (Centers for Disease Control and Prevention, 2018). Research has shown that those who experience a steady increase in marijuana use while in college experience greater psychological and physical health issues than other types of marijuana users. That being said, individuals who previously used marijuana regularly but have abstained for several years still exhibit significantly more health impairments than those who have refrained from using marijuana overall (Caldeira, O'Grady, Vincent, & Arria, 2012).

Not only may college-aged users encounter potential health complications from using marijuana, they may experience long-term detriments in terms of academic and workplace achievement. Arria et al. (2015) examined the relationship among college students' marijuana use, classes skipped, GPA, and the length of time it took these individuals to graduate. They found an association between poor first-year academic habits and greater marijuana use, which may persist throughout the undergraduate experience (Arria et al., 2015). Although the researchers note an inability to determine causation among these variables, this discovery begs the question of whether such diminished work ethic exists solely within the college environment or could persist into further adulthood.

Christer Hyggen's (2012) research indicates the possibility of this carryover, as individuals who had consistently smoked marijuana into later adulthood were found to exhibit lower levels of dedication to their occupations (Hyggen, 2012). As it becomes apparent that the



detrimental habits bred from marijuana use can linger into middle adulthood, it seems necessary to examine whether students expect to continue their use of marijuana. America's cultural and legislative transformation regarding marijuana use only further complicates these phenomena, as the accessibility and acceptability of using marijuana increases.

### *The American Shift*

Thirty-three US states have legislatively authorized some form of marijuana use (Governing, 2018). Regardless of the aim of these legal efforts, each contributes to the growing normalcy and social acceptance of using marijuana. Amid this transition, Phillips, Lalonde, Phillips, and Schneider (2017) evaluated motivating factors for drug use in Colorado college students. These students serve as a glimpse into drug-related attitudes in the context of legitimized recreational marijuana use, something that is especially pertinent as new legislation sweeps the nation. Freshmen were one of the student bodies observed to use marijuana significantly more often than other students. This led Phillips' team to suggest that drug-related behaviors may be encouraged by the legal availability of marijuana and bolstered by the novel experience of entering college (Phillips et al., 2017). These findings reflect Miech, O'Malley, and Johnston's (2017) suggestion that college attendance serves as an initiating factor into marijuana use. Once more states begin to accept marijuana use, open access to this substance will only perpetuate such illicit indulgences.

The influence of individual states' legislative acceptance of recreational marijuana on the overall culture of marijuana use in America is underlined by the research of Moreno et al. (2016). Incoming college freshmen in Washington, where recreational marijuana use had recently been legalized at the time of data collection, and in Wisconsin, where it was not legal, displayed a similar degree of approval towards the substance. The researchers argue that the

overall positive cultural narrative towards marijuana use is what shapes young adults' opinions of marijuana and its legalization, rather than whether or not it is legal in one's own state.

Furthermore, students' belief systems regarding marijuana use appeared more influential than any past use in determining their position on whether to vote for legalization (Moreno et al., 2016).

Mechanisms are at play that enable college students to regularly use marijuana without defying cultural norms or alienating themselves from peers. As it becomes clear that such substance use may impair individual functioning on multiple planes, it becomes imperative to examine the perceived trajectories these students possess regarding their marijuana use. The current study will investigate these trajectories by asking undergraduates to assess the suitability of various job candidates who differ in substance use habits.

### *Resume Audit Design*

The current project uses a resume audit design to investigate undergraduate attitudes towards substance use. This experimental manipulation has been utilized many times in psychological research since the 1940s. Resume audits seek to capture unspoken biases among those in a position to select or hire others. This is done either through conducting a correspondence audit, in which application materials are sent to a real-life third party for evaluation, or by completing in-person interactions between experimental confederates and outside evaluators. Additionally, audit studies can vary in the number of candidates presented to evaluators; when multiple applicants are shown, it is called a paired-test design (Gaddis, 2018). The current study utilized a paired-test correspondence design, where several candidates were depicted on paper applications to participants.

The second element of an audit study is the manipulation of a relevant variable to illuminate biases towards that variable. Audit studies require researchers to control for all candidate characteristics besides the manipulation in question (Gaddis, 2018). Existing studies have examined a wide variety of these variables, such as ethnicity, sexual orientation, and gender (Derous, Ryan, & Nguyen, 2012; Mishel, 2016; Quadlin, 2018). The ability to extract the oftentimes hidden nature of biases has been cited as a key strength of this design, as opposed to survey or interview-based methods (Gaddis, 2018). The current study manipulated the variable of marijuana use to examine its effect on hirability.

A final component of contemporary audit studies is the inclusion of follow-up measures to collect additional data. These findings can help fill in the blanks of *why* participants display the biases they do, as audit studies by themselves have been criticized for leaving the underlying justifications unexamined (Gaddis, 2018).

The current study employed a paired-test correspondence audit design. The application materials of three job candidates were presented to participants for evaluation. The key manipulation was the indication of marijuana use in one candidate's profile, compared to alcohol use and a clean record among the remaining candidates.

As discussed above, illicit marijuana use has grown unquestionably embedded within the typical undergraduate experience. When students incorporate regular drug use into their everyday lives, it becomes necessary to examine whether they expect to continue using into later adulthood. Young adults are our society's future parents, businesspeople, and lawmakers. However, we do not yet know if today's college students will remain under the influence as they get married, have children, and climb the corporate ladder. It is crucial to investigate how young

adults perceive marijuana use in the context of the workforce to understand how they envision their own futures.

### *Hypothesis*

It is hypothesized that participants will rate marijuana users as less hireable than candidates in the other conditions. This reflects findings of greater social disapproval towards marijuana than alcohol (American Addiction Centers, 2019).

## **Method**

### **Participants**

A total of 15 subjects between the ages of 18 and 21 participated in the study. Eight participants identified as female, six as male, and one preferred not to identify their gender. All subjects were white. They were gathered from the University of Hartford's Introduction to Psychology courses and were able to sign up for the experiment through the Sona participant pool. Each session was conducted with one subject at a time. For participating in the study, subjects were granted one credit towards their research participation requirement.

### **Materials**

#### *Job Advertisement*

An advertisement for a job at a fake company was constructed for this study. The ad outlined potential job responsibilities, required skills, and relevant characteristics of prospective candidates. This was meant to orient participants to the criteria their evaluations would be based upon.

#### *HR Background Reports*

Each of the three candidates were given a fake HR background report. These had been created as a composite of several models found on Google Images. Each report depicted the

applicant's personal information, a criminal records search, a sex offender search, a substance use screening, and a driving record report. None of the applicants possessed a criminal record, a history of sex offender membership, or any driving citations as these components served to distract from the variable of interest. The substance use screening portion of the report indicated recent marijuana use for one candidate and recent alcohol use for another candidate. An interpretation of screening results was included to indicate the severity of substance use to participants, describing their use of alcohol or marijuana as "regular." The term "regular" was decided upon by comparing the rate at which undergraduates perceive their peers to use marijuana (American College Health Association, 2017) to Friese's (2017) categorization of marijuana use. The majority of undergraduates assessed by the American College Health Association (2017) estimated that their peers use marijuana 10-19 days a month, which is regarded by Friese as an indication of regular use (Friese, 2017). All candidates were portrayed as male to control for any potential differences in how substance users of different genders are perceived.

### *Resumes*

Fake resumes were constructed to depict the job candidates as equally qualified for the position. This competitiveness was meant to allow participants to focus on the influence of substance use on hirability. Each job applicant had an approximately equivalent length of work experience at fabricated companies and had graduated with a finance-related degree from a US college. The selected institutions were of similar academic standing and placed between 121 and 139 on U.S. News' 2020 National University Rankings list (U.S. News & World Report, n.d.). Additionally, each resume was assigned to each condition (i.e., marijuana use, alcohol use, or control), counterbalancing for potential variation in resume strength.

*Evaluations of Candidates*

After viewing each resume/HR report combination, participants were asked to rate the candidate's suitability for the advertised job position on a scale of 1-10. Subjects were also asked to rate their perception of the candidates' professionalism, responsibility, and character on a five-point Likert-type scale. At the end of the resume task, the researcher had subjects give a rank order of candidates from most to least suitable. Space was provided for subjects to list each candidate's strengths and weaknesses, allowing them to state the reasoning behind the ranking process.

*Recall Task*

After completing the resume task, participants were asked to recall whatever information they could regarding the job candidates. The purpose of the free recall was partially to allow the researcher insight as to participants' decision-making process in ranking the candidates. At the beginning of each session, subjects were made aware of the impending memory test to preserve their concentration and attention to detail.

*Marijuana Use Beliefs*

To accompany the data collected from the resume task, participants were asked to anonymously disclose their own beliefs regarding marijuana use. This offers valuable insight as to why participants may have made specific choices on candidate suitability. Marijuana-related attitudes were assessed using the Perceived Importance of Marijuana to the College Experience Scale (PIMCES) (Pearson, Kholodkov, & Gray, 2017). By including this inventory, each participant's existing opinion of marijuana within the college environment can be examined, which may or may not correspond to their stance on marijuana in the workplace. If subjects' PIMCES responses indicate a high degree of acceptance towards collegiate marijuana use but

marijuana-using candidates are ranked as unsuitable for employment, perhaps a limitation on the appropriateness of marijuana among different contexts exists.

### **Procedure**

Upon completing an informed consent, the researcher explained to participants that they would be evaluating the hirability of three competitively qualified job candidates. It was emphasized that although the researchers recognize that participants are still in college, their insight is valuable as they will likely one day be in the position of hiring employees. Subjects were told that at the end of the study they would be asked to recall information about candidates, ensuring their attention to the task. Each subject evaluated one applicant who tested positive for marijuana use, one who tested positive for alcohol use, and one who had a clean record. Participants were permitted to revisit and amend their responses throughout the assessment process, which involved the ranking of candidates and indication of their strengths and weaknesses. Once this was completed, the packet was collected and the free recall portion began. Subjects were given space to write whatever they could remember about candidates A, B, and C. It was emphasized that subjects were not required to remember each candidate's name as the researchers were mostly interested in the qualities that stood out as most significant to the participant. Finally, subjects were administered the PIMCES (Pearson et al., 2017), subsequently debriefed, and allowed to ask questions.

### **Results**

A repeated-measures analysis of variance (ANOVA) was conducted to examine the effect of substance use on candidate hirability. Results indicated statistical significance,  $F(2,28) = 3.54$ ,  $p < .05$ , showing that hirability scores were significantly different across the marijuana ( $M = 6.6$ ,

$SD = 1.68$ ), alcohol ( $M = 7.13$ ,  $SD = 1.51$ ), and control conditions ( $M = 8.07$ ,  $SD = 1.53$ ). The differences across condition means are depicted in Figure 1.

To determine which groups differed significantly, Fisher's least significant difference test was run. Results showed that control candidates ( $M = 8.07$ ,  $SD = 1.53$ ) scored significantly higher on hirability than marijuana-using candidates ( $M = 6.6$ ,  $SD = 1.68$ ). No other groups were found to be significantly different on hirability.

A Pearson correlation was conducted to examine the relationship between PIMCES scores (Pearson, Kholodkov, & Gray, 2017) and the hirability scores of marijuana-using job applicants. As discussed earlier, the PIMCES was administered to assess participants' marijuana use beliefs. Higher PIMCES scores indicate a greater acceptance towards marijuana use during the college years. Results showed a moderately strong, statistically significant positive correlation between PIMCES scores and the hirability scores of marijuana users,  $r(13) = .58$ ,  $p = .024$ . In other words, the participants who reported greater acceptance of marijuana use during college tended to rate marijuana-using job applicants as more hireable. The results of the Pearson correlation are reported in Figure 2.

Regarding the free recall, 93% of participants remembered some form of candidate substance use. However, the terms used to indicate substance use varied. While some participants referred to a candidate's substance use as a behavior by stating "marijuana use," others qualified the substance use as a trait, calling the candidate a "smoker." A similar pattern existed among subjects' recollections of the alcohol-using candidates. For example, some participants recalled "alcohol use" while others listed "alcoholic" as how they remembered the applicant.



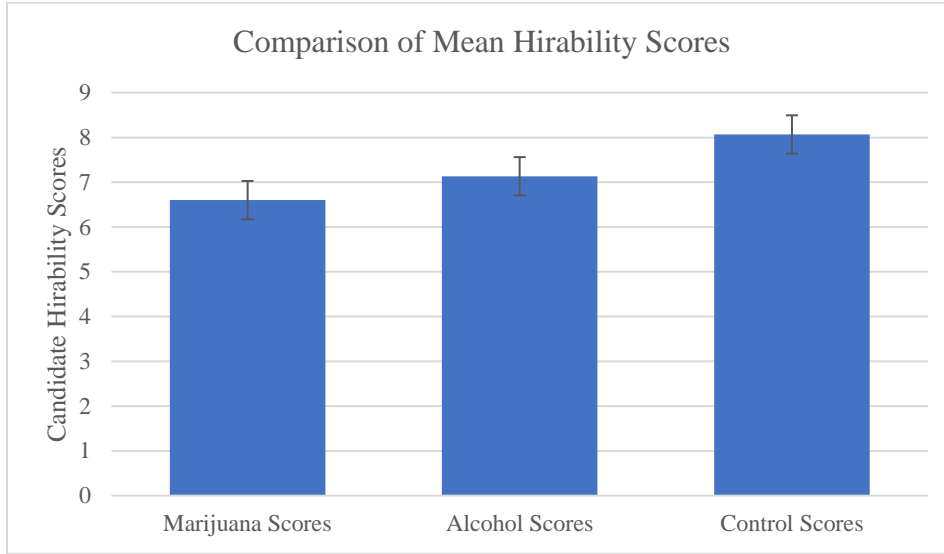


Figure 1. This graph depicts the difference in mean scores across all three candidate conditions.

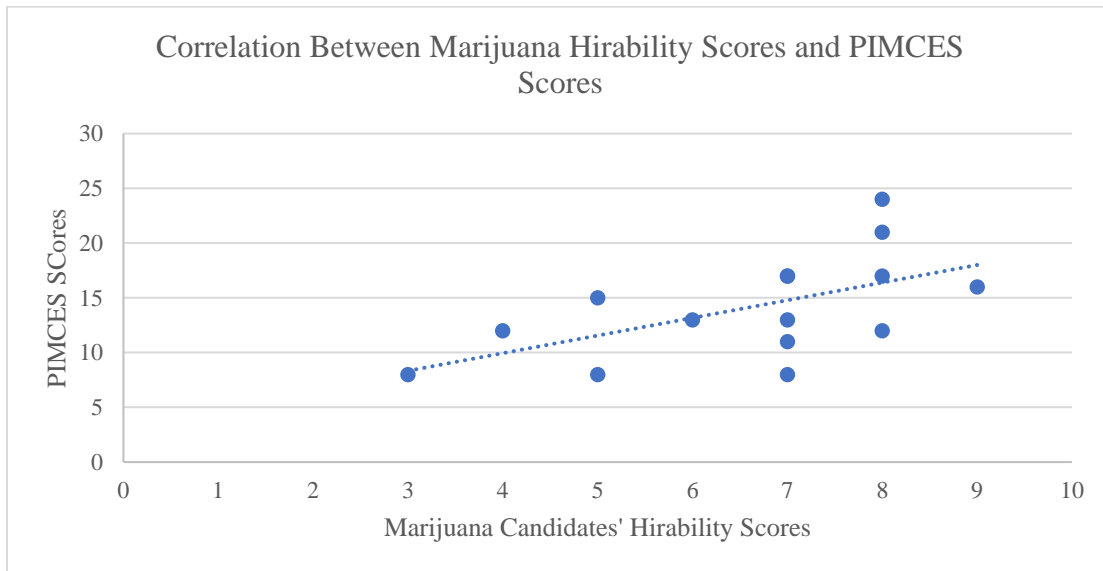


Figure 2. This scatterplot shows the correlation between hirability scores of marijuana-using job applicants and participant PIMCES scores (Pearson, Kholodkov, & Gray, 2017).

**Discussion**

It was hypothesized that participants would rate marijuana users as less hireable than other candidates, including alcohol users and control applicants. Results showed that marijuana users

were rated as significantly less hireable than candidates with no history of substance use. It was additionally found that participants with greater approval towards collegiate marijuana use tended to rate marijuana-using applicants as more hireable. Undergraduates appear to perceive individuals in the workforce who indulge and abstain from marijuana use differently.

It is important to note that there was no significant difference found between the hirability of marijuana users and alcohol users. This could reasonably suggest that both substances are perceived as equally inappropriate within the work environment. However, marijuana users were rated as significantly less hireable than control candidates, where candidates with a history of alcohol use were not found to be significantly more or less hireable than control applicants. Although our findings are limited due to the small sample size, the general trend suggests that marijuana use has a deleterious effect on one's hirability. Future studies with a greater number of participants could help tease out the differences between marijuana and alcohol use among working adults and further inform this issue.

These are intriguing findings, given the acceptance and saturation of marijuana use among undergraduates and in the college culture (National Institute on Drug Abuse, 2019). Previous research has shown that marijuana use, regardless of whether it is medical or recreational, persists within many occupational fields. This forces employers to remain informed about the implications and consequences of marijuana use, as their employees' marijuana use may impact the workplace (Rineer, Clarke, Cluff, & Peiper, 2018). The results of the current study suggest that an awareness of marijuana's influence – and perhaps inappropriateness – within the workplace is already a part of how college students view the professional world.

There are conflicting findings regarding the trajectory of how college students plan to continue or abstain from marijuana use beyond their undergraduate careers. A 2019 study found

that young adults who came of age alongside the legalization of recreational marijuana exhibited higher levels of marijuana use than those who experienced emerging adulthood before legalization occurred. The researchers found no other significant risk factors to have influenced this difference in marijuana use, solidifying the impact of legalization on increased use behaviors. While young adults both before and after legalization typically exhibited similar patterns of use frequency – either several times per day or only a few times per month – the amount of individuals engaging in marijuana use overall increased after recreational marijuana use became legal (Stormshak, Caruthers, Gau, & Winter, 2019).

Conversely, several studies have supported the idea that substance use will decline after one's college graduation. Rudzinski et al. (2014) interviewed college students engaging in high levels of marijuana use on their expectations for use beyond the undergraduate years. Most participants perceived their marijuana use as limited to the college experience. Furthermore, many cited the social normalization of marijuana use within the college culture as a factor that bolstered their own use. Although most subjects did not cite potential health consequences as a reason to eventually cease marijuana use, they identified the eventual responsibilities of professional goals, marriage, and children as reasons to stop using marijuana down the road (Rudzinski et al., 2014). In a similar vein, research has shown that the psychological maturation of adulthood is associated with growing out of the excessive consumption of alcohol, a hallmark of the college years. It has been argued that as individuals become more emotionally stable and exhibit less impulsivity, they are less inclined to drink as a coping mechanism (Littlefield, Sher, & Wood, 2010). While this study examined alcohol consumption, perhaps psychological maturity could also impact marijuana use in adulthood.

Despite these mixed findings, clear repercussions exist for those who engage in marijuana use during the college years. Fergusson and Boden (2008) have found that individuals who have exhibited increasing marijuana use by age 21 tend to experience several consequences by the time they are 25 years old. These outcomes include lower income, greater welfare reliance, lower satisfaction with relationships and life in general, and lower academic achievement (Fergusson & Boden, 2008). With these findings, it becomes evident that intervention is required before, during, and even after one's undergraduate career to educate individuals on the oftentimes hidden ramifications of frequent marijuana use.

The current literature on marijuana use intervention indicates a differing level of effectiveness among various treatment delivery methods. For example, it has been generally found that online intervention materials fail to significantly change college students' use behaviors (Elliott, Carey, & Venable, 2014; Lee et al., 2010). However, in-person counseling may be more useful. A consensus was found among clinicians involved in treating substance use and young marijuana users, where both endorsed intervention methods that combine in-person counseling sessions with digitally-delivered support messages (Shrier et al., 2014). Lee et al.'s (2013) work reiterates the increased support for intervention methods that are delivered face-to-face. It is imperative to devote time and resources to continuing research within intervention strategies. These findings emphasize that there are effective methodologies out there, but innovation is required to further develop them.

The current study possesses many strengths. Firstly, marijuana use is an emerging and relevant field of psychological inquiry – between 2013 and 2019, CBS News found American acceptance of marijuana legalization to have jumped from 45% to 65% (De Pinto, 2019). As social approval for marijuana grows, it is imperative to investigate various facets of such

substance use. Furthermore, the present study assessed a relevant demographic of individuals within the marijuana use movement, as the 2018 National Survey on Drug Use and Health cites 1.2 million young people from the ages of 18 to 25 to have used marijuana for the first time in 2018 (Substance Abuse and Mental Health Services Administration, 2018). The incorporation of descriptive measures, such as the PIMCES (Pearson, Kholodkov, & Gray, 2017), and the decision to not overtly ask participants to divulge their own usage behaviors serves as an additional strength, as this strengthened our attempt to subtly tease out marijuana-related perceptions.

Although the present study exhibits several strengths, there are weaknesses to be acknowledged. Most notably, the sample size is quite small with only 15 participants. While statistical significance was achieved, a larger sample size with a greater degree of racial diversity would certainly benefit the study. Another weakness involves the difficulties encountered while attempting to identify correct wording for the indication of drug use – while “regular use” was ultimately decided upon and is empirically justifiable (American College Health Association, 2017; Friese, 2017), it was challenging to ascertain a level of substance use that captures what undergraduates would consider to be an inappropriate or disruptive amount. Furthermore, it may have been incorrect to assume that regular use of marijuana and alcohol are perceived as equivalent in the eyes of college students. Contemporary research is attempting to determine a standardized unit of marijuana, similarly to how alcohol intake is quantified (Romm, 2016). Finally, the decision to utilize a within-subjects design may have tipped participants off to the fact that they were evaluating different modes of substance use, whereas a between-groups design could help shield participants from this awareness. Overall, future research is needed to expand upon these issues.

Various directions can be taken by future researchers in examining marijuana use. Further studies could investigate where the line between socially acceptable and problematic marijuana use lies. In a similar vein, it would be illuminating to determine how individuals perceive the appropriateness of marijuana use among different age groups. Future research could also assess how young adult marijuana users expect their substance use trajectories to change or remain the same as they enter middle adulthood in light of broader legalization, as Rudzinski et al.'s (2014) findings are a few years old. Additionally, it would be interesting to investigate how gender impacts the perception of substance use, as the current study only examined how male users are viewed. There are ample opportunities to deepen our collective understanding of marijuana's impact on the larger culture, and these potential findings will pave the way for a more conscious awareness of such substance use.

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