Marijuana Motives: Young Adults' Reasons for Using Marijuana

Christine M. Lee[a], **Clayton Neighbors**[b], and **Briana A. Woods**[c]

[a] Department of Psychiatry and Behavioral Sciences, Box 354694, University of Washington, Seattle, WA 98105, leecm@u.washington.edu

[b] Department of Psychiatry and Behavioral Sciences, Box 354694, University of Washington, Seattle, WA 98105, claytonn@u.washington.edu

[c] Department of Psychology, Box 351525, University of Washington, Seattle, WA 98195, bawoods@u.washington.edu

Abstract

Previous research has evaluated marijuana motives among adolescents and emerging adults using a predetermined set of motives, largely adapted from the alcohol literature. This research was designed to identify marijuana motives from the perspective of the user. Recent high school graduates who reported using marijuana (N = 634) provided self-generated reasons for using. The most frequently reported reasons included enjoyment/fun, conformity, experimentation, social enhancement, boredom, and relaxation. Regression analyses revealed that experimentation was consistently associated with less use and fewer problems whereas enjoyment, habit, activity enhancement, and altered perception or perspectives were associated with heavier use and more problems.

Keywords

marijuana; motives; reasons to use; substance use; emerging adult

1. Introduction

Marijuana is one of the most widely used and abused illicit substances by adolescents, emerging adults (those between the ages of 18 and 25), and college students in the United States, with 46% of twelfth graders (Johnston, O'Malley, Bachman, & Schulenberg, 2005) and 53% of those 18–25 reporting lifetime use (Substance Abuse and Mental Health Services Administration, 2005), and 28–35% of college students reporting past year use (Gledhill-Hoyt, Lee, Strote, & Wechsler, 2000; Johnston et al., 2005; Presley, Leichliter, & Meilman, 1998). Although most emerging adults who report using marijuana do not use chronically or become dependent on marijuana, they remain at higher risk for marijuana-related negative consequences which can range in severity and include accidents and injuries, decreased cognitive functioning and poor school performance (Bachman, Wadsworth, O'Malley, & Johnston, 1997; Gledhill-Hoyt et al., 2000). Marijuana initiation and use peaks during emerging adulthood, with college students at increased risk for the initiation and escalation of marijuana

Correspondence concerning this article should be addressed to Christine M. Lee, Department of Psychiatry and Behavioral Sciences, University of Washington, Box 354694, Seattle, WA 98105. E-mail: leecm@u.washington.edu.

use and related consequences (Bachman et al., 1997; Schulenberg, O'Malley, Bachman, & Johnston, 2000).

Understanding the motivations emerging adults have for using marijuana may identify students at risk and inform prevention and intervention programs (Newcomb, Chou, Bentler, & Huba, 1988). Motivational models of substance use suggest that behavior is motivated by different reasons (e.g., social enhancement and affect regulation), leading to theoretically distinct behaviors (Cooper, 1994). These motives are important for helping to understand the context and circumstances of behavior, such as when or where one will use a substance and how frequently or how much one will use, and what consequences may occur (Cooper, 1994). Interventions would be strengthened by knowing these important questions about what motivates an individual to use a particular substance. Moreover, efforts to change others' behaviors without understanding individuals' reasons for engaging in the behavior are short-sighted and likely to be unsuccessful, especially in the emerging adult population.

Motivational models of substance use have primarily focused on understanding the reasons for using alcohol and often focus on the positive and negative motives for drinking along two internal and external dimensions (e.g., Cox & Klinger, 1988). These motivations have been used to distinguish between different patterns of alcohol consumption and alcohol-related negative outcomes (e.g., Cooper, 1994; Cox & Klinger, 1988, 1990). One widely used measure distinguishes four separate motives for consuming alcohol, including drinking for obtaining positive interpersonal rewards (social), to regulate positive affect (affect enhancement), to avoid social rejection (conformity), and to regulate negative emotions (coping) (Cooper, 1994).

The literature on motives for marijuana use has largely been adapted from the alcohol literature and is far less extensive. Newcomb and colleagues (1988) examined motives based on theoretical and conceptual dimensions such as using marijuana to reduce negative affect, enhance positive affect and creativity, social cohesion, and addiction. These four motives were found to be associated with drug use, both cross-sectionally and longitudinally. Simons and colleagues (1998) adapted Cooper's (1994) four factor drinking motives measure by changing "alcohol" to "marijuana". In addition, they added a fifth subscale "expanded experiential awareness", or the enhancement of perceptual and cognitive experiences from marijuana. The addition of the expanded experiential awareness motive based on the drug's psychedelic properties takes into account some of the unique properties of marijuana that distinguish it from alcohol. These motives were associated with more frequent marijuana use and more use related consequences (Simons, Correia, Carey, & Borsari, 1998).

Research suggests that marijuana and alcohol use motives are different in content and in function. Simons et al. (1998) found that both alcohol and marijuana motives contributed unique variance in problems above and beyond what is accounted for by use variables. Further, the marijuana model accounted for greater variance in use-related problems when compared to the alcohol model suggesting that marijuana motives may be stronger predictors/ determinants of marijuana use related problems than alcohol motives are of alcohol use related problems. Additionally, after controlling for enhancement, coping and expansion marijuana motives, social and conformity marijuana motives were not significant predictors of marijuana use in the past 6 months (Simons et al., 1998). Simons et al. (1998) also found that social and conformity motives were significant predictors of marijuana consequences in a full model, but not expansion, enhancement or coping. Not surprisingly, in the Simons et al. study, the expansion motive, created specifically for marijuana, accounts for the most variance in marijuana use. This supports the importance of understanding marijuana use motives and the unique functions associated with use and consequences.

Marijuana use motives measures primarily based and adapted from existing alcohol use motives measures may miss potentially important determinants of marijuana use among emerging adults. The present study was designed to build on previous examination of marijuana motives by examining self-generated reasons emerging adults use marijuana and evaluating the relationship of these motives to marijuana use and consequences.

2. Method

2.1 Participants and Procedures

Participants included a subset of students who were initially recruited to complete an online screening survey the summer (i.e., June and July) immediately following their high-school graduation and prior to beginning their first-year in college. All eligible students were enrolled to attend a large public university in northwestern United States. A total of 2123 incoming college students completed the online survey (response rate = 52.4%, N = 4052 incoming first-year students invited). Our recruitment rate was comparable to other large scale trials in this population (e.g., Marlatt et al., 1998, 54%). Demographic characteristics for the screening sample are presented in Table 1. The sample was relatively representative of the first-year class, but slightly overrepresented women (58.9% vs. 53.2%), and Caucasian students (59.6% vs. 56.6%), and underrepresented African American students (1.2% vs. 2.1%).

Participants received a mailed letter and an email inviting their participation and informing them of the purpose and description of the project, protections for confidentiality, rights as a participant in human subjects' research, and incentives for participation. Participants who provided informed consent completed a battery of measures about their marijuana use, consequences of use, and reasons for use. Participants received ten dollars for the completion of the twenty minute screening questionnaire. Among those screened for marijuana use, prevalence rates were approximately 30% lifetime and 26% past year. Participants for the present analyses included 634 students who indicated having tried marijuana at least once in their lifetime on the screening survey (mean age of 18.00 years, *SD* = .33, see Table 1 for additional demographics). The Institutional Review Board at the university where the research was conducted provided approval for this study.

2.2 Measures

Marijuana Motives—Participants were asked to "think about what motivates you to use marijuana and briefly list the top five reasons in rank order (e.g., 1 = the most important reason, 2 = the second most important reason, etc.). Similar qualitative questions have been used in other studies developing gambling motives (Neighbors, Lostutter, Cronce, & Larimer, 2002).

Marijuana use—Participants were asked "When was the last time (if ever) you used marijuana?" Responses ranged from 0=never; 1=more than 12 months ago; 2=4–12 months ago; 3=1–3 months ago; 4=1–4 weeks ago; 5=3–7 days ago; and 6=within the past 2 days. Students who indicated they used marijuana within the last three months were asked "On how many days did you use any kind of marijuana or hashish?" Items were adapted from the Global Appraisal of Individual Needs-I (GAIN-I: Dennis et al., 2000; Dennis et al., 2002).

Consequences of Marijuana Use was assessed using the Rutgers Marijuana Problem Index (RMPI: White, Labouvie, & Papadaratsakis, 2005). The RMPI is an 18-item measure modeled after the Rutgers Alcohol Problem Index (White & Labouvie, 1989). Respondents are asked to indicate how many times, from 1 (never) to 5 (more than 10 times), during the previous 12 months they experienced negative consequences while using marijuana or as a result of marijuana use (α=.88). Example items include: "Not able to do your homework or study for a

test", "Missed out on other things because you spent too much money on marijuana". Items were summed to create one consequence score.

2.3 Data Management and Analytic Plans

Data management and analyses occurred in two stages, a qualitative/descriptive stage followed by a quantitative/evaluation stage. In the first stage we categorized all open-ended reasons for using marijuana by all participants who reported having ever used (N = 634). We then examined classification reliability and descriptive information regarding the motives identified. In the second stage we employed multiple regression analyses to evaluate the relationships between motives, use, and problems among participants who reported having used at least once in the previous 90 days (N = 490). Participants who did not answer one or more items in a given analysis were excluded from the analysis, thus minor discrepancies in degrees of freedom are due to missing data.

3. Results

3.1 Descriptive Analyses

Among the 634 participants who reported ever having used marijuana, the average number of days they had used in the past 90 was 6.23 (*SD* = 13.93); 16.48% reported using an average of 3 times or more per month. One hundred forty participants (22.15%) reported having used three or more times in one week at least once in the past 90 days. Of the 490 participants who reported having used marijuana at least once in the past year, 67.28% reported experiencing at least one negative consequence related to their marijuana use. The most commonly reported consequences were noticing a change in personality (32.12%), neglecting responsibilities (30.74%), and going to work or school high (23.55%).

3.2 Motive Classification and Reliability

Each of the three authors independently reviewed all 2258 open-ended reasons for using marijuana and provided an initial set of motive categories. Based on these reviews, a tentative list and set of definitions were constructed for 19 distinct marijuana motives. Definitions were provided to five raters who were instructed to classify each of the 2258 statements according to whether they were consistent or inconsistent with each motive. Raters were instructed to assign each open ended statement to a single motive where possible but were instructed that statements could be assigned to more than one motive where appropriate. For example, smoking marijuana "to have fun with friends" might fit both the enjoyment and the social motives. Raters were also instructed to consider and suggest revisions to the proposed list of 19 motives (e.g., combining motive categories and/or suggesting new motive categories). After the rating task, discussions with raters did not indicate necessary revision of the classification system. Inter-rater reliability was assessed by evaluating consistency and intra-class correlation among the five sets of ratings. Results revealed high consistency among raters (alpha = .97, ICC = .85). Final categorizations were determined by assigning statements to motive categories based on majority consensus. For example, if two raters classified a statement as fitting the social motive while the other three coded this statement as fitting the enjoyment motive, the statement was classified as enjoyment. Of the 2258 open-ended reasons, 93.7% were categorized by a majority of raters. Remaining statements either did not fit any of the motive categories or raters did not meet majority consensus in assigning them to one or more motive categories.

3.3 Motive Frequency

Slightly less than half (45.18%) of the participants provided five open ended reasons, 54.34% listed four or five, 70.61% listed at least three, 86.57% provided two or more, whereas

remaining participants listed only one reason. Table 2 presents the frequency of marijuana motives endorsed. Enjoyment/fun motives were the most frequently reported reason, with over half of the participants reporting smoking marijuana for fun or enjoyment. Conformity and experimentation motives were next in frequency with over 40% of participants reporting each, followed by social enhancement, boredom, and relaxation (> 20% for each). With respect to participants' top motivation (or importance rankings) for using marijuana, experimentation was the most frequently endorsed motive, followed by enjoyment/fun, and conformity. It is worth noting that previous research on motivation for marijuana use has not evaluated experimentation, boredom, or relaxation motives.

3.4 Motives and Marijuana Use

Multiple regression analyses (Cohen, Cohen, West, & Aiken, 2003) were employed to examine the relationship between marijuana motives and marijuana use. Simultaneous regression evaluating number of days used in the previous 90 days as a function of all motives revealed that overall the set of all motives accounted for 27% of the variance in use, $F(19, 456) = 8.90$, $p < .0001$. We were also specifically interested in identifying the subset of motives which accounted for the largest proportion of variance in use. Stepwise regression selects the variable accounting for the largest unique proportion of variance in the outcome at each step until no additional predictors account for a significant unique proportion of variance (Cohen et al., 2003). Based on the over-representation of women and under-representation of ethnic minorities in the studied sample and previous research suggesting men and Caucasians tend to report more marijuana use relative to women and ethnic minorities (Anthony, Warner, & Kessler, 1994), sex and ethnicity were also entered in the multiple regression analyses. Both variables were dummy coded (men = 1, ethnic minority = 1). Results indicated that six motives, sex, and ethnicity uniquely accounted for 26% of the variance in use, $F(8, 604) = 23.06$, $p < .0001$. Experimentation accounted for the largest unique proportion of variance in use followed in turn by habit, activity enhancement, altered perception, enjoyment, sex, ethnicity, and relative low risk. Men and Caucasians reported more use relative to women and ethnic minorities. Proportions of variance uniquely accounted for at each step are presented in Table 3. Parameter estimates at the final step are presented in Table 4.

3.5 Motives and Marijuana Related Problems

We followed the same strategy in examining the relationship between marijuana motives and marijuana related problems. Simultaneous regression evaluating problems as a function of all motives revealed all motives combined accounted for 25% of the variance in problems, $F(19, 459) = 7.99$, $p < .0001$. Stepwise regression results indicated that six motives uniquely accounted 23% of the variance in problems, $F(6, 472) = 23.34$, $p < .0001$. Neither sex nor ethnicity accounted for unique variance over and above these six motives. Experimentation again accounted for the largest unique proportion of variance followed in turn by, coping, habit, altered perception, enjoyment, and activity enhancement. Proportions of variance at each step are presented in Table 5 and parameter estimates at the final step are presented in Table 6. Finally, we were interested in examining whether any specific motives were associated with problems over and above use. Repeating the stepwise regression for problems as a function of motives controlling for use revealed that days used accounted for 29% of the variance in problems. Over and above use, both experimentation ($\beta = -.17$, $p < .001$) and coping motives ($\beta = .21$, $p < .001$) were uniquely associated with problems.

4. Discussion

Qualitative responses were elicited from recent college-bound high school graduates to help better understand the reasons why they use marijuana. Recent attention has focused on marijuana motives, however much of this research has adapted motives from the alcohol

literature. While this approach provides important information regarding the relationships among motives selected by the researchers and marijuana use, it also appears to miss a number of important motives as identified by the users themselves. The present study extends the work of Simons and colleagues (1998) by identifying additional motives for consideration in etiology and prevention of problematic marijuana use among emerging adults.

Coding of open-ended reasons resulted in nineteen distinct motive categories with excellent internal reliability. Enjoyment/fun motives were the most frequently reported reason, followed by conformity, experimentation, social enhancement, boredom, and relaxation. In terms of importance rankings, experimentation, enjoyment/fun, and conformity were the top three motives. Experimentation accounted for the most unique variance in use and consequences, while habit and coping were second for use and consequences, respectively.

Our results were consistent in many ways with previous research but also indicated additional motives not previously considered. Using coded open-ended motives, we did find support for each of the five motives used in Simons et al. (1998) as well as the motives in Newcomb et al. (1988). With respect to predicting use and problems, in the present research experimentation was consistently associated with less use and fewer problems whereas enjoyment, habit, activity enhancement, and altered perception or perspectives were associated with heavier use and more problems. Interestingly, altered perceptions or perspectives might be most similar to Simon's expanded awareness motives, and represent unique properties of marijuana. These findings are somewhat consistent with, but not directly comparable to, previous research that has considered fewer motives.

Our study found support for additional unique motives not assessed in previous studies. Experimentation, activity enhancement, rebellion, and relaxation were all significant predictors of use and/or problems and were relatively unique to the present study. Other motives identified in the present research appeared to overlap with items and/or motives assessed in previous research (e.g., celebrations, coping, anxiety), but were identified as distinct domains in our study. Future directions would include creating a new marijuana motives scale, identifying and incorporating important constructs of motives based on the nineteen motives found in this study. Results from factor analytic strategies may suggest which motives are truly distinct and which motives should be collapsed across categories.

An interesting finding in this study, while not surprising given the developmental context, is the importance and role of experimentation motives for this population. Experimentation and exploration in general increase during emerging adulthood and some experimentation with substances such as alcohol or marijuana is seen as normative (Johnston et al., 2005). The present sample included motives of any student who had used marijuana in the last 3 months, which include many non-regular users who have experimented with cannabis. It may not be surprising that these students would report fun and experimentation as prominent motives, while rarely reporting habit as a motive.

Understanding motivations specific to marijuana may improve prediction of use and put forth information useful in the tailoring of interventions to address use-related problems (Simons et al., 2000). Building upon this, the current study identified marijuana motives generated from marijuana users, some of which were previously unacknowledged yet critical in intervention development (i.e., boredom and experimentation). Recognizing the 19 motives generated in this study allows for the development of more relevant and appropriate interventions for marijuana users, as well as more effective preventative interventions for those who have not initiated use.

It is important to note that while motives are generally assumed to causally precede behavior, the reverse is also likely to occur. This point is especially important to consider in cross-

sectional studies such as this one. As suggested by Self-perception theory (Bem, 1972), and given the retrospective self-report of behavior and motives, it is plausible that participants infer their motives based on reflections of their behavior. For example, it seems unlikely that individuals initiate marijuana use in order to establish a habit, but rather infer that they do it out of habit when they perceive themselves as chronic users. Similar logic may apply to the experimentation motive among others.

The present study should be viewed in light of several limitations of the data and design. First, the present study uses self-report measures of participants' marijuana use, related consequences, and reasons for using marijuana. The use of these measures may lend itself to recall bias. Additionally, individuals may be reluctant to report marijuana use, however the present results are from people who reported using marijuana. Research supports the validity of self-report in confidential research contexts when measures with established reliability and validity are utilized. The self-report marijuana use items were adapted from the GAIN-I which have been used with adolescent and adult populations, shows good reliability and validity, and have been found to be relatively consistent with reports obtained from collaterals and urine testing (Dennis et al., 2002). Second, the sample used for the present study is relatively specific, that is, recent college-bound high school graduates who have used marijuana in the prior ninety days. While, generalizability to other populations is cautioned, it should be noted that this population was specifically selected because of the relevant developmental transition these students are about to undergo. The transition from high school to college is a unique time, in that many students experiment with marijuana and those who use may increase their use. Understanding the reasons why emerging adults use marijuana is important for informing interventions targeting this transition. Finally, there appears to be a slight participation bias with more women and Caucasian students completing the screening survey. Recent literature on internet based surveys of random samples has found response rates ranging from 19–63% (McCabe, Boyd, Couper, Crawford, & D'Arcy, 2002; McCabe, Hughes, Bostwick, & Boyd, 2005; Thombs, Ray-Tomasek, Osborn, & Olds, 2005). While our response rate was near the upper end of that continuum (52.4%), response bias may impact generalizability.

This research is the first study we are aware of to qualitatively assess marijuana use motives by asking students their own reasons for using marijuana. Further, this study found that those emerging adult incoming freshmen who use marijuana for habit, altered perceptions, activity enhancement, enjoyment/fun, rebellion, or coping reasons are at greater risk for frequent marijuana use and/or negative consequences. The present research also suggests that some type of marijuana use is seen as normative and experimental. In fact, students who say they use marijuana for experimental reasons appear to report relatively lower levels of marijuana use and marijuana-related problems. Thus, current strategies for intervention may be enhanced by highlighting and understanding the individual reasons a person may choose to use marijuana.

Acknowledgments

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Table 1

Demographics of Original Screening Sample and of Participants in the Present Study

	Screening Sample N=2123	Present Study N=634
Gender		
Female	58.9%	57.9%
Male	41.1%	42.1%
Ethnicity		
Caucasian/White	59.6%	67.5%
Asian	25.4%	17.2%
Hispanic	4.4%	5.5%
African American	1.3%	1.1%
Native American	1.2%	1.4%
Unidentified/Other	8.0%	7.3%

Table 2

Motives for marijuana use

Motive Category	Proportion of participants endorsing motive	Proportion of primary motives
Enjoyment/fun (e.g., be happy, get high, enjoy feeling)	52.14%	24.03%
Conformity (e.g., peer pressure, friends do it)	42.81%	16.40%
Experimentation (e.g., new experience, curiosity)	41.25%	29.36%
Social enhancement (e.g., bonding with friends, hang out)	25.71%	8.66%
Boredom (e.g., something to do, nothing better to do)	25.08%	4.15%
Relaxation (e.g., to relax, helps me sleep)	24.64%	6.97%
Coping (e.g., depressed, relieve stress)	18.14%	5.10%
Availability (e.g., easy to get, it was offered)	13.74%	2.23%
Relative low risk (e.g., low health risk, no hangover)	10.88%	0.95%
Altered perception or perspectives (e.g. to enhance experiences, makes things more fun)	10.58%	1.81%
Activity enhancement (e.g., music sounds better, every day activities more interesting)	5.68%	0.80%
Rebellion (e.g., rebelling against parents, thrill of something illegal)	5.21%	0.32%
Alcohol intoxication (e.g., I was drunk)	4.42%	0.47%
Food enhancement (e.g., enjoy good food, food tastes better)	3.79%	0.00%
Anxiety reduction (e.g., be less shy, feel less insecure)	3.31%	0.00%
Image enhancement (e.g., to be cool, to feel cool)	2.85%	0.32%
Celebration (e.g., special occasion, to celebrate)	1.26%	0.16%
Medical use (e.g., alleviate physical pain, have a headache)	1.26%	0.16%
Habit (e.g., feeling was addictive, became a habit)	0.95%	0.00%

Note. N = 634.

Table 3

Summary of stepwise regression results for marijuana use as a function of motives, sex, and ethnicity.

Step	Predictor	Partial R^2	Model R^2	F partial
Step 1	Experimentation	0.115	0.115	61.64[***]
Step 2	Habit	0.044	0.159	24.75[***]
Step 3	Activity enhancement	0.038	0.197	22.07[***]
Step 4	Altered perception or perspectives	0.020	0.217	12.20[***]
Step 5	Enjoyment/fun	0.019	0.236	11.62[***]
Step 6	Sex	0.012	0.247	7.20[**]
Step 7	Ethnicity	0.010	0.257	6.18[*]
Step 8	Relative low risk	0.006	0.264	3.99[*]

Note.

[***]
$p < .001$.

[**]
$p < .01$.

[*]
$p < .05$.

Table 4

Summary of final step of regression results for marijuana use as a function of motives.

Predictor	B	SE B	β	t
Experimentation	−5.71	1.45	−0.18	−3.93[***]
Habit	36.56	6.79	0.22	5.39[***]
Activity enhancement	10.93	2.48	0.18	4.40[***]
Altered perception or perspectives	7.24	1.93	0.16	3.76[***]
Enjoyment/fun	4.46	1.35	0.14	3.31[***]
Sex	3.43	1.26	0.11	2.71[**]
Ethnicity	−3.34	1.40	−0.10	−2.39[*]
Relative low risk	3.77	1.89	0.08	2.00[*]

Note.

[***] $p < .001$.

[**] $p < .01$.

[*] $p < .05$.

Table 5

Summary of stepwise regression results for marijuana related problems as a function of motives.

Step	Predictor	Partial R^2	Model R^2	F partial
Step 1	Experimentation	0.121	0.121	65.57[***]
Step 2	Coping	0.057	0.178	33.25[***]
Step 3	Habit	0.022	0.200	12.96[***]
Step 4	Altered perception or perspectives	0.010	0.210	6.16[*]
Step 5	Enjoyment/fun	0.010	0.220	6.03[*]
Step 6	Activity enhancement	0.009	0.229	5.22[*]

Note.

[***] $p < .001$.

[*] $p < .05$.

Table 6

Summary of final step of regression results for marijuana problems as a function of motives.

Predictor	B	SE B	β	t
Experimentation	−3.44	0.67	−0.23	−5.15***
Coping	4.09	0.76	0.22	5.41***
Habit	11.98	3.20	0.15	3.75***
Altered perception or perspectives	2.20	0.90	0.10	2.44*
Enjoyment/fun	1.64	0.63	0.11	2.61**
Activity enhancement	2.69	1.16	0.10	2.31*

Note.

***
$p < .001$.

**
$p < .01$.