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Cannabis Use Frequency and Use-Related Impairment among African American and White Users: The Impact of Cannabis Use Motives

Julia D. Buckner¹, Sonia M. Shah¹, Kimberlye E. Dean¹, and Michael J. Zvolensky²

Julia D. Buckner: jrbuckner@lsu.edu; Sonia M. Shah: sshah23@lsu.edu; Michael J. Zvolensky: mjzvolen@central.uh.edu

¹Department of Psychology, Louisiana State University; 236 Audubon Hall, Baton Rouge, LA 70803. Telephone: 1-225-578-4096

²Department of Psychology, University of Houston 126 Heyne Building, Houston, TX 77204. Telephone: 1-713-743-8056

Abstract

Objectives—Cannabis use motives are differentially related to cannabis-related impairment and coping motives appear to have the strongest relation to use-related impairment. However, it is currently unknown whether African American individuals differ from White persons in reasons for using cannabis. It is also unknown whether motives' relations to cannabis use and related impairment vary as a function of race. The present study examined the role of race on cannabis use motives and tested whether motives' relations with cannabis use and related impairment differed by race.

Design—The sample consisted of 111 (67.6% non-Hispanic White, 32.4% African American) current cannabis-using adults.

Results—African American participants did not significantly differ from White participants on cannabis use frequency or use-related impairment. African American participants endorsed more social motives than White participants. Race interacted with social, coping, and conformity motives to predict cannabis-related impairment such that these motives were positively related to cannabis impairment among African American, but not White, participants.

Conclusion—Although African American and White participants do not differ in their cannabis use frequency or cannabis-related impairment, they appear to use cannabis for different reasons. Further, conformity, coping, and social motives were differentially associated with cannabis-related impairment as a function of race. Findings suggest motives for cannabis use should be contextualized in the context of race.

Keywords

African American; White American; cannabis; marijuana; cannabis use motives; social motives

Correspondence to: Julia D. Buckner, jrbuckner@lsu.edu.

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Cannabis is the most commonly used illicit drug in the U.S. and more than one in four users experiences distress and/or impairment related to use that is substantial enough to warrant a diagnosis of cannabis use disorder (CUD; Substance Abuse and Mental Health Services Administration [SAMHSA]; 2010). Further, rates of cannabis use and daily use are on the rise (Substance Abuse and Mental Health Services Administration 2013) despite evidence that cannabis use has been linked to numerous negative health and psychological consequences (see Sussman et al. 1996). Yet, little attention has been paid to the impact of race on cannabis-related outcomes and data regarding whether African American and White people differ with respect to cannabis use and use-related impairment are mixed. Indeed, some studies have found being African American is associated with less frequent cannabis use and CUD (Chen, Kandel, and Davies 1997, Stinson et al. 2006), whereas others report greater frequency of cannabis use and CUD amongst African American persons (Wu et al. 2014).

One possible explanation for disparate findings regarding the impact of race on cannabis use and use-related impairment is failure to assess reasons for use (i.e., cannabis use motives). It may be that African American people use cannabis for different reasons than White individuals and that reasons for use act synergistically with race to predict frequency of use or use-related impairment. Cannabis use motives include using for social (to facilitate or improve social relationships or to enhance enjoyment of a social event), enhancement (to improve positive affectivity), coping (to manage negative affect), conformity (to avoid scrutiny from cannabis-using peers), and expansion (to expand awareness) motives (Simons et al. 1998). Negative motives (conformity, coping) are the most apt to be related with cannabis-related impairment, whereas positive motives are related to less use-related impairment and less frequent use (Zvolensky et al. 2007). In fact, coping motives are among the strongest predictors of cannabis use and use-related impairment (Buckner 2013). A major limitation of this corpus of work is that it has been conducted with primarily White samples (Zvolensky et al. 2007, Buckner 2013, Buckner et al. 2007, Buckner, Zvolensky, and Schmidt 2012, Potter et al. 2011, Comeau, Stewart, and Loba 2001, Bonn-Miller, Vujanovic, and Zvolensky 2008, Bonn-Miller and Zvolensky 2009, Bonn-Miller, Zvolensky, and Bernstein 2007, Lee, Neighbors, and Woods 2007, Bujarski, Norberg, and Copeland 2012) with little attention to race other than reporting demographic variables. In fact, no studies have tested whether African American individuals differ from White persons in reasons for using cannabis. It is also unknown whether motives' relations to cannabis use and related impairment vary as a function of race.

There is good reason to posit racial differences in motives for cannabis use. Specifically, African American persons may be especially vulnerable to coping motivated cannabis use. Acculturative stress, lack of family cohesiveness, and lack of social support are related to greater drug use among African American persons (Vega et al. 1993). Further, numerous race-discrimination-health pathway models have been developed (Mays, Cochran, and Barnes 2007) that outline ways in which discrimination against African American persons has resulted in harmful effects on health. For example, in addition to the disproportionate levels in disease morbidity, mortality, and disability that African American people's experience (Centers for Disease Control and Prevention 2005) African American people report lower levels of life satisfaction, happiness, and quality relationships and higher levels

of chronic stress and mistrust compared to Whites (Hughes and Demo 1989). Despite race-based improvements in the U.S. over the past 50 years, these disparities continue to increase (Walker, Stern, and Landis 2004). It therefore follows that African American persons may be especially vulnerable to using substances to cope with stress.

African American persons may also be vulnerable to socially motivated cannabis use. Consistent with race-discrimination-health pathway theories, social support plays an important role in the impact of discrimination on poor health outcomes for African American persons (Subramanian, Acevedo-Garcia, and Osypuk 2005, Williams and Collins 2001). It follows that individuals who experience race-related stress may attempt to seek out social support in an attempt to minimize the detrimental effects of chronic stressors. In fact, vascular reactivity was found to decrease when African Americans who experienced perceived racism sought out social support (Clark 2006). Thus, African American persons may use cannabis as a means to engage socially with other cannabis users to attempt to alleviate chronic stress.

The present study sought to contribute to understanding of the role of race in cannabis use, use-related impairment, and cannabis-related vulnerability factors (in this case, cannabis use motives) in several ways. First, in a community sample of current cannabis users, we tested whether African American and White cannabis users differed on endorsement of cannabis motives. Based on race-discrimination-health pathway models (Mays, Cochran, and Barnes 2007), it was hypothesized that African American participants would report more coping- and socially-motivated cannabis use as a result of experiencing greater stress and seeking out social support to manage stress. Second, we tested our hypothesis that race would act synergistically with cannabis use motives in the prediction of more frequent cannabis use and use-related impairment, such that African American participants who engaged in more use for coping and/or social motives would evince more frequent and more problematic use.

Method

Participants and procedures

The sample was comprised of current cannabis users recruited from the greater Baton Rouge, LA community via advertisements (e.g., flyers, internet and newspaper ads) posted throughout the city for a study on psychosocial factors related to cannabis use. Interested participants completed an on-line screening to determine eligibility. The current study is based on secondary analyses of a larger study of psychosocial factors related to cannabis use (Buckner et al. in press). Eligible participants were invited to the laboratory to complete study measures which were administered via www.surveymonkey.com. To discourage participants from driving to the laboratory while intoxicated as well as to encourage them to be sober for study participation, participants were asked to refrain from cannabis use the day of their appointment. Participants were compensated \$25 for completion of these measures. Study procedures received Institutional Review Board approval and informed consent was obtained prior to data collection.

Eligibility criteria included being between 18–45 years old, current cannabis use (confirmed via urine sample using a 50 ng/ml positive cutoff, which detects cannabis use up to 78 hours

post-ingestion), cannabis as drug of choice, and no interest in, or current receipt of, substance abuse treatment. Of the 154 that attended an appointment, 37 identified as African American and 85 as non-Hispanic White. Of those, 11 were excluded for the following reasons: cannabis not drug of choice (non-Hispanic White $n = 1$), history of hallucinations or delusions (non-Hispanic White $n = 2$, African American $n = 1$), other illicit substance dependence (non-Hispanic White $n = 2$), negative urine samples (non-Hispanic White $n = 4$), and self-reported cannabis the day of appointment (non-Hispanic White $n = 1$). Thus, the final sample was comprised of 36 African American and 75 non-Hispanic White participants. Sample descriptive information by race appears in Table 1. African American participants did not significantly differ from White participants on age, gender, marital status, family income, or student status. White participants were more likely to be employed and to smoke tobacco cigarettes than African American participants.

Measures

Marijuana Problems Scale (MPS)—The MPS is a 19-item list of negative consequences related to cannabis use (e.g., memory loss, financial difficulties, legal and medical problems) in the past 90 days (Stephens, Roffman, and Curtin 2000). Participants rate cannabis use problems on a 0 (*no problem*) to 2 (*serious problem*) scale. The MPS has demonstrated adequate internal consistency (Buckner, Ecker, and Cohen 2010, Stephens et al. 2004, Lozano, Stephens, and Roffman 2006, Stephens, Roffman, and Curtin 2000). Endorsed items (i.e., scores of 1 or 2 on each item) were summed to create an index of total number of cannabis-related problems. In the present sample, the MPS demonstrated adequate internal consistency among African American ($\alpha = .81$) and White ($\alpha = .79$) participants.

Marijuana Use Form (MUF)—The MUF was used to assess cannabis use. Given that the MPS assesses problems experienced in the past three months, participants indicated whether they had used cannabis in the past three months (yes/no). Frequency of current use was assessed on a 0–9 rating scale (Buckner et al. 2007). Scores of 0–3 indicated infrequent (less than weekly) use and scores of 4–9 indicated frequent (at least weekly) use. Similar questionnaires have been successfully used to assess cannabis use (e.g., Buckner and Schmidt 2008, Buckner, Heimberg, and Schmidt 2011).

Marijuana Motives Measure (MMM)—The MMM is a 25-item measure assessing the following cannabis use motives: enhancement (e.g., to get high), coping (e.g., to forget my worries), social (e.g., to be more sociable), conformity (e.g., to fit in with a group I like), and expansion (e.g., to expand my awareness) (Simons et al. 1998). Participants indicate on a 1 (*almost never/never*) to 5 scale (*almost always/always*) the degree to which they have smoked cannabis for particular reasons. MMM subscales have demonstrated acceptable internal consistency in prior work (Chabrol et al. 2005) and in the present sample among African American participants (conformity $\alpha = .62$; enhancement $\alpha = .63$; social $\alpha = .88$; coping $\alpha = .89$; and expansion $\alpha = .95$) and White participants (conformity $\alpha = .72$; enhancement $\alpha = .57$; social $\alpha = .85$; coping $\alpha = .84$; and expansion $\alpha = .92$).

Other substance use—*The Daily Drinking Questionnaire* (DDQ; Collins, Parks, and Marlatt 1985) assessed past-month drinking frequency from 0 (*I did not drink at all*) to 6 (*once a day or more*) as well as past-month drinking quantity (number of drinks consumed on typical and peak drinking occasions). The DDQ has demonstrated good convergent validity (Collins, Parks, and Marlatt 1985) and test-retest reliability (Collins, Carey, and Sliwinski 2002). Participants were also asked whether they currently smoke cigarettes as per the *Smoking History Questionnaire* (SHQ; Brown et al. 2002).

Analyses

First, analysis of variance (ANOVA) and chi-square analyses were conducted to test whether racial groups differed on relevant variables (Table 1). Second, a multivariate analysis of variance (MANOVA) was conducted to test whether African American and non-Hispanic White participants differed on cannabis use motive endorsement. Third, bivariate correlations were examined separately by race to examine motives' relations to cannabis-related impairment and use (Table 2). Fourth, a series of hierarchical linear regression analyses was conducted to examine whether race moderated the relation of cannabis use motives to cannabis use frequency or cannabis-related problems. Separate regressions were conducted for each motive paired with each cannabis outcome variable. Predictor variables were: Step 1: the covariates employment status and tobacco smoking status; Step 2: the main effects of race, motive; and Step 3: the race X motive interaction. Cannabis use frequency was entered as a covariate in Step 1 of the cannabis-related impairment models. Motives were standardized and race was coded 0=*non-Hispanic White*, 1=*African American*. This strategy ensured that effects at Step 3 cannot be attributed to variance shared with variables in Steps 1–2 (Cohen and Cohen 1983).

Results

Relations among race and substance use patterns

Race was unrelated to age of first cannabis use, frequency of cannabis use, and number of cannabis-related problems. The most common cannabis-related problems reported by African American participants were procrastination (69.4%), memory loss (55.6%), and lower energy (44.4%). The most common problems reported by White participants were procrastination (78.7%), lower productivity (57.3%), and memory loss (56.0%). A MANOVA was conducted to test whether African American and non-Hispanic White participants differed on cannabis use motive endorsement. The overall model was significant, $F(5, 105) = 2.43, p = .040$. Results from post-hoc mean comparisons indicate that the two groups significantly differed on social motives endorsement, such that African American participants endorsed more social motives than White participants (Table 1).

Relations between cannabis use motives and cannabis use/impairment by race

Among African American participants, social, coping, and expansion motives were significantly correlated with cannabis use frequency whereas social, coping, and conformity motives were significantly correlated with cannabis-related problems (Table 2). Among White participants, no motive was significantly correlated with cannabis use frequency or cannabis-related problems.

Moderational analyses

No race X motive interaction significantly predicted cannabis use frequency ($ps > .192$). As evidenced in Table 3, social, coping, and conformity motives interacted with race to predict number of cannabis-related problems. No other race X motives interaction significantly predicted cannabis-related problems ($ps > .329$). The forms of the significant interactions (Figure 1) were examined by inserting ratings of motives (one standard deviation above and below each motives' mean) for African American and White participants (Cohen and Cohen 1983). Further, 38.9% of African American and 13.3% of White participants endorsed higher social motives, 27.8% of African American and 13.3% of White participants endorsed higher coping motives, and 5.6% of African American and 10.6% of White participants endorsed higher conformity motives.

To probe the nature of these interactions, tests of simple slopes of the regression lines were conducted (Aiken and West 1991). Social motives were positively related to cannabis impairment African American participants, $\beta = .48$, $t = 3.10$, $p = .003$, but unrelated to cannabis impairment among White participants, $\beta = .03$, $t = .23$, $p = .819$. Similarly, coping motives were positively related to cannabis impairment among African American participants, $\beta = .50$, $t = 3.46$, $p = .001$, but unrelated to cannabis impairment among White participants, $\beta = .09$, $t = 0.72$, $p = .472$, and conformity motives were positively related to cannabis impairment among African American participants, $\beta = .55$, $t = 3.20$, $p = .002$, but unrelated to cannabis impairment among White participants, $\beta = .14$, $t = 1.27$, $p = .206$.

Discussion

This is the first known study to investigate whether race impacts the relations of cannabis use motives to cannabis use and use-related impairment. Consistent with prior work (Substance Abuse and Mental Health Services Administration 2010, Lee et al. 2010, Finlay et al. 2012), African American participants did not differ from White participants on age of onset of cannabis use or cannabis use frequency. Although prior reports have been mixed regarding whether African American users were more or less likely to meet criteria for CUD (Wu et al. 2014, Stinson et al. 2006), this is the first known study to test whether African American cannabis users differ from White users on number of cannabis-related problems. Race was unrelated to number of cannabis problems in the current sample. Interestingly, race was related to using cannabis for social reasons, such that African Americans endorsed more social motivated cannabis use than White participants. This difference is particularly important in light of the moderational data indicating that among African American participants, endorsement of social motives was related to experiencing more cannabis-related impairment; a relationship that was not observed among White participants. Indeed, although African American participants were more likely to endorse social motives than White participants, low social motive endorsement appears to serve as a protective factor among African American cannabis users.

Data regarding whether social motives are related to cannabis use and use-related impairment have been mixed in prior work. Although some studies have found social motives to be related to cannabis use (Zvolensky et al. 2007, Simons et al. 1998, Bonn-Miller, Vujanovic, and Zvolensky 2008, Buckner 2013, Bonn-Miller, Zvolensky, and

Bernstein 2007) and use-related impairment (Simons et al. 1998, Bonn-Miller and Zvolensky 2009, Buckner 2013, Buckner et al. 2007, Fox et al. 2011), others found social motives to be unrelated to cannabis use (Buckner et al. 2007, Simons, Correia, and Carey 2000, Fox et al. 2011) and use-related impairment (Simons, Correia, and Carey 2000, Chabrol et al. 2005). These disparate findings may be due, in part, to lack of attention to race, given that social motives were related to more severe cannabis impairment among African American, but not White, users in the current sample. An important next step in this line of work will be to test the hypothesis that this relation is due, in part, to socially motivated cannabis use in an attempt to gain social support to help cope with negative affectivity. This is especially important given that some items of the MMM-social motives scale reflect potential desire to seek social support (“I use marijuana to be sociable”, “I use marijuana because I feel more self-confident and sure of myself”) whereas others refer to use to enjoy social gatherings (e.g., “I use marijuana because it helps me enjoy a party”). African Americans who engage in socially motivated cannabis use may continue to use cannabis, despite experiencing cannabis-related impairment, if they believe their cannabis use provides social support to help them deal with negative affect and race-based stress.

Contrary to expectation, African American and White participants did not differ on coping-motivated cannabis use. However, race moderated the relation between coping motives and cannabis-related impairment such that African American (but not White) participants who endorsed more coping motivated cannabis use reported a greater number of cannabis use-related problems. One prominent theory suggests that coping motivated alcohol use is associated with greater alcohol related problems and escaping one’s problems (Martin, Tuch, and Roman 2003). This in turn becomes more common when an individual perceives he or she lacks control over outcomes (Folkman 1984). As African American individuals often have little control over their sources of stress (e.g., racial biases and discrimination in addition to daily life stressors), it is postulated that coping motivated drinking (and subsequent alcohol-related impairment) is more likely to occur when tied to these stressors (Huselid and Cooper 1992). Thus, it may be that coping motivated cannabis use amongst African American participants may have been influenced by the perception of a lack of control which thus resulted in more cannabis-related impairment. Future work testing the impact of perceptions of control and stress, as well as prospective work, will be important to test this hypothesis among African American cannabis users.

Race also moderated the relationship between conformity motives and cannabis-related impairment such that African American (but not White) participants who endorsed more conformity motives reported experiencing more cannabis-related impairment. This finding is consistent with accumulating data among predominantly White samples that conformity motives tend to not be linked to cannabis-related impairment (Buckner et al. 2007, Chabrol et al. 2005, Simons et al. 1998, Simons, Correia, and Carey 2000) and others finding that the relation between conformity motives and cannabis-related impairment is not robust (Buckner 2013, Lee et al. 2009) or consistent (Fox et al. 2011). Notably, none of these studies examined the impact of race. Importantly, all moderational effects were observed after controlling for differences in employment status and tobacco smoking status, suggesting that observed moderational relations were not simply due to differences in these relevant variables.

Although not the primary aims of the current study, two other findings warrant comment. Among our current cannabis users, White participants were more likely to smoke cigarettes (tobacco) than African American participants. Given that polysubstance use is associated with more substance-related impairment (e.g., Shillington and Clapp 2001, Rhodes et al. 2008), future work examining racial differences in polysubstance use and the consequences of such use will be an important avenue for future research. Second, we know of no studies reporting the psychometric properties of the MPS or MMM scales for African Americans specifically. Two (enhancement and conformity) of the five subscales evidenced low internal consistency among African American participants. Enhancement motives demonstrated low internal consistency among both racial groups, but conformity motives' internal consistency appeared to vary as a function of race. Thus, future work testing the psychometric properties of this measure with larger samples of African American cannabis users will be an important step in determining the suitability of this measure to assess cannabis use motives among African American cannabis users. Further, future work testing the suitability of another measure of cannabis motives (i.e., Comprehensive Marijuana Motive Questionnaire; Lee et al. 2009) among African American participants will be important, as this measure includes several additional motives that were not assessed in the current study.

Findings have important clinical implications. For instance, the majority of cannabis use (Buckner et al. 2012, Buckner et al. in press) and use during a quit attempt (Buckner, Zvolensky, and Ecker 2013) occurs in social situations. Situations involving others use are among the most difficult to remain abstinent among individuals attempting cannabis cessation (Hughes et al. 2008) and among African American users, friends' cannabis use is robustly related to one's own use (Pugh and Bry 2007). Given that they are especially likely to use cannabis for socially-oriented reasons, additional research is necessary to test whether African American patients undergoing cannabis cessation treatment may particularly benefit from cognitive behavioral skills to manage craving and peer pressure in social situations. Additionally, given that coping motivated use was especially associated with cannabis-related impairment among African American participants, additional research is necessary to test whether treatment-seeking African American individuals may also benefit from cognitive behavioral skills to manage negative affect. Further, the results also demonstrate interesting implications for preventative programs. Given that less socially motivated cannabis use is associated with less cannabis-related impairment among African American cannabis users, additional research is necessary to test whether it is beneficial to increase therapeutic attention to social reasons for cannabis use, teaching African American cannabis users problem-solving skills to reduce socially motivated cannabis use.

There are limitations of this study that suggest avenues for future research. First, the cross-sectional design of the present study limits causal inferences and future work is necessary to test whether using cannabis for social motives leads to cannabis-related impairment among African American persons or whether those who experience more cannabis-related impairment begin to use cannabis for more social motives. Second, the sample was primarily comprised of younger adults. Given evidence that racial differences in cannabis use can fluctuate as a function of age (Chen and Jacobson 2012), an important next step will be to test whether racial differences in cannabis use motives also changes as a function of age.

Third, future research could benefit from a multi-method, multi-informant approach. Fourth, future work with a larger sample of African American participants will be important to compare within-race differences in cannabis-related vulnerability factors. Fifth, future research on this topic would benefit from inclusions of measures of perceived discrimination and social stressors. Sixth, the urinalysis employed in the current study to confirm current cannabis use detected use up to 78 hours post-ingestion. Although only four potential participants were excluded based on the results of this test, future work that includes more infrequent cannabis users could be useful to determine whether results generalize to more diverse patterns of use.

Despite these limitations, the current study provides novel data regarding racial differences in motivational processes related to cannabis use and use-related impairment. Overall, the results of the current study highlight the importance of race in examining the relations of cannabis use motives and cannabis-related impairment.

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Figure 1. Interaction of race X motives (social, coping, conformity) predicting number of cannabis-related problems.

Table 1

Sample descriptives by racial group.

	African American	White	F or χ^2	p	d or Cramer's phi
	M (SD) or % (n)				
Age	21.39 (3.74)	21.11 (3.24)	0.17	.683	.08
Gender (% female)	33.3% (12)	37.3% (28)	0.17	.681	.04
Marital status (% single/never married)	94.4%	89.3%	0.76	.379	.08
Family income	104,545 (125,445)	141,430 (246,398)	0.62	.434	.00
Employment status (% employed)	38.2% (13)	65.3% (49)	7.00	.008	.25
Undergraduate or graduate student (% student)	91.7% (33)	85.3% (64)	0.89	.347	.09
Smoke tobacco cigarettes	11.1% (4)	36.0% (27)	7.49	.006	.26
Past-month drinking frequency	2.47 (1.32)	2.87 (1.17)	2.55	.113	.33
Typical past-month weekend drinking quantity	4.97 (4.95)	4.96 (4.70)	0.00	.990	.00
Heaviest past-month drinking quantity	7.36 (6.49)	7.93 (5.98)	.21	.647	.09
Age of first cannabis use	16.47 (2.26)	16.16 (1.95)	0.56	.456	.15
Cannabis use frequency	7.36 (2.11)	7.96 (1.93)	2.20	.141	.30
Number of cannabis-related problems	4.89 (3.70)	5.16 (3.47)	0.14	.707	.08
Social motives	17.25 (6.04)	14.81 (4.69)	5.42	.022	.48
Coping motives	13.33 (6.32)	12.91 (4.61)	0.16	.688	.08
Enhancement motives	21.97 (3.34)	21.00 (2.70)	2.70	.103	.34
Conformity motives	5.89 (1.80)	5.91 (1.91)	0.00	.963	.01
Expansion motives	12.94 (7.34)	14.53 (6.09)	1.45	.232	.25

Note. African American $n = 36$, White $n = 75$. Drinking was assessed with the *Daily Drinking Questionnaire* (DDQ; Collins, Parks, and Marlatt 1985); past three-month cannabis use frequency was assessed on a 0–9 rating scale in which scores of 0–3 indicated infrequent (less than weekly) use and scores of 4–9 indicated frequent (at least weekly) use (Buckner et al. 2007); number of cannabis-related problems was assessed with the *Marijuana Problems Scale* (MPS; Stephens, Roffman, and Curtin 2000); cannabis use motives were assessed with the *Marijuana Motives Measure* (MMM; Simons et al. 1998).

Table 2

Bivariate correlations of cannabis use motives with cannabis use frequency and related problems by race.

	1	2	3	4	5	6	7
1. Cannabis use frequency		.32	.38*	.39*	.08	.18	.35*
2. # Cannabis problems	-.10		.50**	.56**	-.01	.53**	.24
3. Social motives	.11	.01		.68**	.37*	.33*	.65**
4. Coping motives	.20	.07	.50**		.14	.46**	.56**
5. Enhancement motives	-.01	.14	.41**	.11		.11	.26
6. Conformity motives	-.03	.13	.27*	.22	.19		.38*
7. Expansion motives	.11	-.03	.30**	.40**	.14	.21	

Note. Correlations for African American participants ($n = 36$) are presented above the diagonal, correlations for White participants ($n = 75$) are presented below.

* $p < .05$;

** $p < .01$.

Table 3

Hierarchical linear regression of the interaction of race X cannabis use motive in the prediction of number of cannabis-related problems.

	R ²	F	β	t	P	sr ²
Step 1	.014	0.49			.692	
Employment status			−0.09	−0.89	.377	0.01
Cannabis use frequency			0.07	0.71	.477	0.00
Smoking status			−0.06	−0.58	.562	0.00
Social motives						
Step 2	.045	1.74			.089	
Social motives			0.21	2.09	.039	0.04
Race			−0.14	−1.31	.194	0.02
Step 3	.045	3.65			.027	
Race X Social motives			0.29	2.25	.027	.04
Coping Motives						
Step 2	.071	3.99			.021	
Coping motives			0.27	2.72	.008	0.07
Race			−0.09	−0.92	.361	0.01
Step 3	.040	4.67			.033	
Race X Coping motives			0.27	2.16	.033	.04
Conformity Motives						
Step 2	.074	4.20			.018	
Conformity motives			0.26	2.79	.006	0.07
Race			−0.08	−0.84	.401	0.01
Step 3	.034	3.93			.050	
Race X Conformity motives			0.22	1.98	.050	.03

Note. African American $n = 36$, White $n = 75$. Race was coded 0 = White, 1 = African American; β = standardized beta coefficient.