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Life Goal Appraisal and Marijuana Use Among College Students

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Abstract

The current study was designed to examine the motivational context of marijuana use among college students using idiographic and nomothetic goal assessment approaches. One hundred and ninety-eight introductory psychology students completed a questionnaire that included measures of life goals and marijuana use behavior. Forty-three percent of students surveyed reported the use of marijuana in the past 90 days. Students rated a set of five personally salient, self-generated and five normative life goals on a series of dimensions using the personal projects methodology (Little, 1983). Goal meaning and goal efficacy ratings for each type of assessment were studied in relation to the likelihood of marijuana use and the frequency of use among current users. Logistic regression analyses showed that levels of meaning for self-generated life goals and normative academic life goals were independent predictors of whether students used marijuana in the past 90 days. Students who reported high levels of meaning were less likely to have used marijuana in the past 90 days. For students who used marijuana, higher meaning ratings related to involvement in groups/organizations and fitness were correlated with decreased frequency of use. Moreover, ratings of efficacy related to self-generated goals were associated with less frequent use among smokers. These results suggest that meaning related to life goal pursuit may be associated with students' decisions to use marijuana. Potential implications for interventions are discussed.

Keywords

marijuana; college student; goal appraisal; personal projects; motivation

1. Goal Appraisal and Marijuana Use Among College Students

Marijuana is the most widely used illicit substance, both in the general population and among college students (Johnston, O'Malley, Bachman, & Schulenberg, 2010, 2011; Substance Abuse and Mental Health Services Administration [SAMHSA], 2010). Results from the Monitoring the Future Study suggest that marijuana use among college students is common, with lifetime prevalence estimates of 47.5%, past year use at 32.8%, and past

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Contributors
Leslie Wright and Tibor Palfai designed the study and wrote the protocol. Leslie Wright conducted literature searches and provided summaries of previous research studies. Tibor Palfai conducted the statistical analysis. Leslie Wright wrote the first draft of the manuscript and both authors contributed to and have approved the final manuscript.

Conflict of Interest
Both authors declare that they have no conflicts of interest.

month use at 18.5% (Johnston et al., 2010). Emerging evidence suggests that marijuana use is on the rise in this population (Glendhill-Hoyt, Lee, Strote, & Wechsler, 2000; Johnston et al., 2010; Mohler-Kuo, Lee, & Wechsler, 2003). This trend is concerning in light of the fact that marijuana use has been associated with a variety of other risk behaviors including binge drinking, cigarette smoking, using other illicit drugs, and having multiple sexual partners (Bell, Wechsler, & Johnston, 1997; Glendhill-Hoyt et al., 2000). Furthermore, those who have used marijuana five times or more in the past year show high rates of problems such as difficulty concentrating, driving while under the influence of marijuana, placing oneself at risk for physical injury, and missing class (Caldeira, Arria, O'Grady, Vincent, & Wish, 2008). Given the prevalence of marijuana use in college students and the high rate of associated risky behavior and consequences, it is important to gain a better understanding of the underlying factors which place students at greater risk of marijuana use.

Decisions about the use of alcohol and other substances are made both consciously and nonconsciously in the context of other motivational factors in students' lives (Cox & Klinger, 1988, 2004). Individuals make decisions about substance use based on the affective sequelae of use versus abstaining in the context of broader life goals and reinforcement from alternate activities (Cox & Klinger, 1988, 2004). The college years are a period of transition in which students develop new skills and means of pursuing life goals (Cantor, Norem, Niedenthal, Langston, & Brower, 1987) and seek to define and establish their identity and social network in an environment of increasing independence (Borsari, Murphy, & Barnett, 2007). Students must prioritize and pursue their life goals in a less structured environment than high school, and this period of transition is marked by an increase in risk behaviors such as heavy episodic drinking (Borsari et al., 2007; Schulenberg & Maggs, 2002; White et al., 2006) and substance use (White, Labouvie, & Papdaratsakis, 2005).

Moreover, the way that students organize and appraise their life goals has been linked to alcohol use and problems among college students in a number of studies (e.g. Cox et al., 2002; Hosier & Cox, 2011; Lecci, MacLean, & Croteau, 2002; Palfai & Weafer, 2006). For instance, among students who have experienced problem drinking in the past, having an adaptive motivational structure characterized by attaining personally meaningful goals is associated with less current alcohol use (Cox et al., 2002). Furthermore, recent work has shown that having a maladaptive motivational structure, characterized by indifference or lack of satisfaction about achieving personal goals, predicts negative consequences from alcohol use above and beyond levels of consumption in heavy-drinking college students (Hosier & Cox, 2011). Students who binge drink report lower levels of reinforcement from substance-free activities (Correia, Carey, Simons, & Borsari, 2003), and engagement in substance-free activities has been linked with decreased substance use both in the natural environment (Correia, Carey, & Borsari, 2002; White et al., 2006) and in response to intervention (Correia, Benson, & Carey, 2005). This work suggests that engagement in substance-free activities and goals may reduce the risk for substance use and associated problems among college students (Borsari et al., 2007; Correia et al., 2005).

The importance of understanding the motivational context of substance use among students has been illustrated by research on goal constructs. Investigators have used a variety of methods to assess how students think about their important life goals including personal concerns (Klinger, 1977; Klinger, Barta, & Maxeiner, 1980), life tasks (Cantor et al., 1987), personal projects (Little, 1983), and personal strivings (Emmons, 1986). These approaches may be broadly categorized into nomothetic approaches in which the goals are defined based on normative, or developmentally important, life tasks such as "doing well in school" (Cantor et al., 1987; Maggs, 1997; Rhoades & Maggs, 2006; Schulenberg & Maggs, 2002) and idiographic approaches, in which students themselves generate the goals that are most salient in their lives (Emmons, 1986; Little, 1983). In both approaches to goal assessment,

participants are asked to rate their goals across several dimensions (i.e., importance, difficulty, commitment), thus allowing researchers to examine different aspects of life goal appraisal. Following the work of Little (1983), this study defined personal projects as "an interrelated sequence of action intended to achieve some personal goal." Personal strivings and life goals have been found to be associated with subjective well-being, affect, and life satisfaction (Emmons, 1986; Palys & Little, 1983). Evidence using both these strategies suggests that the types of goals and the way in which individuals appraise those goals is linked with drinking patterns and associated consequences, but there is considerably less research on motivational context and marijuana use in this population.

Nomothetic approaches to goal assessment offer the ability to focus both on specific goals that are considered to be normative for most college students as well as those that are particularly important developmental tasks faced by students. For example, goals such as academic achievement (i.e. getting good grades), socializing (i.e. making new friends) and self-image goals related to achievement and friendships tend to be particularly important for college students as they develop new roles and identities (Cantor et al., 1987; Cantor et al., 1991; Maggs, 1997; Moeller & Crocker, 2009; Rhoades & Maggs, 2006). From this perspective, substance use may be understood as a form of purposeful action towards developmentally normative goals (Maggs, 1997). Research using a nomothetic approach to goal assessment has shown that students who perceive academic goals as less important and more stressful and difficult have heavier drinking patterns, while students who believe that social goals are more important also tend to drink more frequently and drink more alcoholic beverages per occasion (Rhoades & Maggs, 2006). Furthermore, evidence suggests that the frequency of endorsing various self-image goals predicts both heavy-episodic drinking and related problems, both independently and through coping motives (Cooper, 1994; Moeller & Crocker, 2009). Thus, both the way that one appraises life goals and specific types of goals are related to substance-related outcomes.

While the nomothetic approach offers the advantage of assessing developmentally salient life goals that may be applicable to all students, this method may not adequately capture specific life goals that are of particular importance to the daily lives of individual students. A given student may derive positive reinforcement from the pursuit of specific goals that are not represented through a nomothetic approach. Idiographic approaches to goal assessment offer an alternative by asking participants to generate the goals that are most important in their lives and to rate each of these self-generated goals across a variety of dimensions (Emmons, 1986; Little, 1983). Utilizing an idiographic approach allows researchers to tap into goals that are most salient to the individuals under study, providing for an assessment that is considered ecologically valid and concurrently allows investigators to evaluate these personally salient goals across a series of dimensions (Emmons, 1986).

Evidence suggests that meaningfulness of personally-relevant goals, in particular, may serve as a protective factor for drinking and alcohol-related problems in college students (Lecci et al., 2002; Palfai & Weafer, 2006). For instance, students with lower goal meaning ratings across their self-identified current life goals exhibit more heavy drinking episodes and endorse more alcohol-related consequences (Palfai & Weafer, 2006).

Although there are a number of studies that have explored the relation between life goal pursuit and alcohol use (e.g. Cox et al., 2002; Hosier & Cox, 2011; Lecci et al., 2002), considerably less is known about how the pursuit of life goals may be associated with marijuana use among college students. Among college students, those who endorse lifetime marijuana use perceive less conflict between use and personal strivings than those who had never tried marijuana (Simons & Carey, 2003). Similarly, the content of the personal strivings appears to be associated with marijuana use (Simons, Christopher, Oliver, &

Stanage, 2006); in particular, the number of affect regulation strivings is associated with greater frequency of marijuana use. To our knowledge, no studies have explored the association between the appraisal of life goals and marijuana use incorporating both idiographic and normative goal assessment. Gaining knowledge about marijuana use behavior using a novel assessment strategy may provide unique information about various patterns of use, which has the potential for informing both prevention and intervention efforts in the college setting.

The goal of the present study is to gain a better understanding of the association between goal appraisal (i.e. meaning and efficacy) and marijuana use by examining the unique value of nomothetic and idiographic approaches to goal assessment for predicting marijuana use behavior. Based on the alcohol literature, we hypothesized that individuals who endorse lower meaning ratings across idiographic goals would be more likely to use marijuana and use more frequently (Palfai & Weafer, 2006). Furthermore, we hypothesized that, with the exception of the goal of socializing (Rhoades & Maggs, 2006), lower meaning ratings for normative goals (i.e. academics, fitness, etc) would also be correlated with lower likelihood of marijuana use and less frequent use among those who did smoke marijuana. Using regression models, we examined whether normative and idiographic goal meaning ratings would have unique contributions to marijuana use behavior. Given that previous work on the association between goal efficacy and alcohol use patterns has been mixed (Lecci et al., 2002; Palfai & Weafer, 2006), we also explored the association between goal efficacy and marijuana use patterns in secondary analyses.

2. Method

2.1 Participants

One hundred and ninety-eight students in an introduction to psychology course participated in this cross-sectional questionnaire research project for course credit. Females comprised 59.6% of the sample, and the majority of participants were White (66.2%) with 15.2% Asian, 8.5% Hispanic, 2.5% Black, and 7.1% who identified themselves as “other”. The mean age was nineteen; 60.1% of the sample were in their first year, and sophomores, juniors, and seniors made up 29.8%, 7.1%, and 2.5% of the participants, respectively.

2.2 Procedure

Participants completed a series of questionnaires individually in the laboratory. The questionnaire order was consistent for all students. Participants signed informed consent upon arriving at the laboratory. The University Institutional Review Board approved the study and all procedures.

2.3 Measures

2.3.1 Life goals—Life goals were assessed using the Personal Projects Analysis methodology (Little, 1983), a goal assessment method that has been adapted to measure both personally-salient and normative life goals in previous work (e.g. Lecci et al., 2002; Moeller & Crocker, 2009; Palfai & Weafer, 2006; Rhoades & Maggs, 2006). Participants were asked to generate a list of goals that they were working towards, including projects related to any aspect of their daily life, university, work, home, leisure, and community, among others. They were then asked to narrow down the list to the five most important goals that characterize what they “typically try to do” over the next several months. In addition to the five idiographic goals, students were asked about five normative goals for college students (doing well in school, socializing, having a good romantic relationship, being involved in groups/teams/organizations, and being physically fit). Students were asked to rate each goal on a series of dimensions using a 0–10 Likert-type scale (e.g., “not at all” to “extremely”).

The goal appraisal subscales of "goal meaning" (i.e. commitment, importance, trademark) and "goal efficacy" (i.e. likelihood of achievement, perceived progress) were computed based on previous work (McGregor & Little, 1998; Palfai, Ralston, & Wright, 2011; Palfai & Weafer, 2006). These two goal appraisal indices have been derived and empirically validated in a number of previous studies that have utilized personal projects analysis methodology (Lecci et al., 2002; Little, 1989; McGregor & Little, 1998; Palfai et al., 2011; Palfai & Weafer, 2006) as well as other goal measures (e.g., Cox & Klinger, 2004). Goal meaning and efficacy were computed for each individual normative goal, whereas for idiographic goal ratings, individual subscale scores were collapsed into a composite score reflecting overall meaning and efficacy for personally salient goals (McGregor & Little, 1998; Palfai et al., 2011; Palfai & Weafer, 2006).

2.3.2 Marijuana use—To assess marijuana use, students were asked whether they had used marijuana in the past 90 days and if so, on how many days in the past 90 they had smoked marijuana (Dennis, 1999).

3. Results

3.1 Descriptive Statistics

Forty-three percent of the sample reported the use of marijuana in the past 90 days. Of those who reported marijuana use in the past 90 days, the mean number of days of use was 19.7 ($SD = 24$).

3.2 Partial Correlations Between Goal Appraisal Dimensions and Marijuana Use

Partial correlations (controlling for gender) between the use of marijuana in the past 90 days (yes/no) and the goal appraisal dimensions for the composite idiographic goals and the five normative goals were first examined. As previous work has shown that marijuana use appears to be more common among males (Johnston et al., 2011), these and all subsequent analyses were conducted adjusting for gender. Results indicated that idiographic goal meaning was negatively associated with marijuana use (yes/no) in the past 90-days ($pr = -.26$, $p < .001$). On ratings of normative goals, students who reported greater meaning for the goal of "doing well in school" were less likely to use marijuana in the past 90-days ($pr = -.29$, $p < .001$) while meaning ratings of "socializing" were associated with an increased likelihood of marijuana use ($pr = .15$, $p = .03$). Conversely, idiographic goal efficacy ratings were not significantly correlated with past 90-day marijuana use. Only higher efficacy ratings for social goals were associated with an increased likelihood of use in the past 90-days ($pr = .15$, $p = .04$).

3.3 Partial Correlations Between Goal Appraisal Dimensions and Frequency of Marijuana Use Among Smokers

To explore the association between goal appraisal and frequency of use among marijuana smokers, we examined partial correlations between goal appraisal dimensions for idiographic and normative goals and number of days of use in the past 90 days among the subset of the sample who reported marijuana use. To address the moderate positive skewness in the frequency data, the variable of marijuana use frequency among smokers was log-transformed (Tabachnick & Fidell, 1996). In contrast to the dichotomous measure of marijuana use, idiographic goal meaning was not associated with the number of days of use among smokers. Only the normative meaning ratings of involvement in groups/ organizations ($pr = -.28$, $p = .01$) and fitness ($pr = -.22$, $p = .04$) were significantly associated with fewer days of marijuana use. However, for appraisal of goal efficacy, the composite idiographic goal ratings were associated with fewer days of marijuana use ($pr =$

−.23, $p = .04$) whereas the normative goal efficacy appraisal ratings were not significantly correlated with marijuana use frequency.

3.4 Normative and Idiographic Goal Meaning Ratings as Predictors of Marijuana Use

To examine whether normative and idiographic assessments had unique predictive value for marijuana use, a series of logistic regression analyses were conducted in which gender was entered in Block 1, the five normative goal meaning appraisals were added in Block 2, and the composite idiographic meaning rating was added in Block 3. Results are presented in Table 1. Gender was not a significant predictor in this model. The models for Blocks 2 and 3 showed non-significant Hosmer-Lemeshow statistics and significant omnibus chi-squares, indicating good model fit. In Block 2, among the normative goals, higher ratings of achievement goal meaning predicted a decreased likelihood of past 90-day marijuana use ($OR = .85$; $p < .001$) whereas social goal meaning predicted an increased likelihood of past 90-day marijuana use ($OR = 1.09$; $p = .01$). In Block 3, the model remained significant, and idiographic goal meaning predicted lower likelihood of smoking marijuana ($OR = .57$; $p < .01$). Furthermore, among the normative goals, achievement goal meaning remained significant ($OR = .88$; $p = .01$) as did social goal meaning ($OR = 1.12$; $p < .01$). This demonstrates that students who had greater meaning in their idiographic life goals were less likely to smoke marijuana even when controlling for normative goal ratings.

3.5 Normative and Idiographic Goal Meaning Ratings as Predictors of Use Frequency Among Marijuana Smokers

To explore the relationship between goal meaning and number of days of marijuana use in the past 90-days among recent smokers, a hierarchical linear regression using log-transformed data was performed in which gender was entered in the first step, goal meaning sub-scores for each normative goal in the second, and idiographic goal meaning in the third. Results are presented in Table 2. Overall, the normative goal meaning ratings were significant predictors of marijuana use frequency (*R-squared change* = .12, $p = .05$), but the idiographic meaning ratings were not (*R-squared change* = .00, $p = .62$: ns). In particular, the normative goal meaning rating for involvement in groups/organizations ($\beta = -.28$; $p = .01$) was inversely related to the number of days of marijuana use for those who were smokers.

3.6 Normative and Idiographic Goal Efficacy Ratings as Predictors of Marijuana Use

Similar to the analyses of goal meaning, a series of logistic regression analyses were conducted with goal efficacy ratings, and largely replicated findings from partial correlations. Results are presented in Table 3. Efficacy ratings for the normative goals of "socializing" ($OR = 1.13$; $p = .01$) and "being part of organizations" ($OR = .94$; $p = .04$) were associated with use of marijuana in the past 90 days. Idiographic goal efficacy was not associated with past 90-day marijuana use.

3.7 Normative and Idiographic Goal Efficacy Ratings as Predictors of Use Frequency Among Marijuana Smokers

Hierarchical linear regression using log-transformed data was also used to explore the relationship between goal efficacy and number of days of marijuana use in the past 90 days among smokers. Results are presented in Table 4. Interestingly, only idiographic goal efficacy ($\beta = -.29$; $p = .02$) inversely predicted frequency of use. This suggests that higher goal efficacy for the life tasks that are personally important for students is associated with less frequent marijuana use among students who smoke.

4. Discussion

The current study was designed to explore the association between life goal appraisal and marijuana use among college students. Overall, the results indicate that both idiographic and normative methods of goal assessment provide useful and unique information about predictors of marijuana use behavior among college students. Results from logistic regression analyses for likelihood of marijuana use were largely consistent with previous work on life goals and alcohol (Lecci et al., 2002; Palfai & Weafer, 2006; Rhoades & Maggs, 2006). Meaning (i.e., commitment, importance, trademark) related to academic achievement, in particular, was associated with a decreased likelihood of using marijuana, whereas meaning ratings for the goal of socializing was linked with an increased likelihood of use. As expected, students with greater levels of investment in doing well academically were less likely to use marijuana. Furthermore, higher levels of goal meaning for personally salient life goals were associated with lower likelihood of using marijuana, even when controlling for normative goal ratings. Interestingly, the goal appraisal factors that appear to be most strongly associated with frequency of use among students who smoke marijuana appear to be distinct. Although the set of normative goal ratings predicted frequency of use, only the meaning rating for goals related to involvement in groups/organizations was significantly associated with fewer days of smoking in the past 90 days. Thus, among students who choose to smoke marijuana, engagement in organizations may act to temper the frequency with which they use. Moreover, secondary analyses of idiographic goal efficacy ratings (e.g. likelihood of success, perceived progress) suggest that efficacy related to the pursuit of personally salient goals also significantly predicts lower frequency of use among smokers.

These results are consistent with motivational perspectives on substance use (e.g. Cox & Klinger, 1988, 2004), which propose that decisions about substance use are made in the context of life goal pursuit. These findings begin to identify the types of goal appraisals and types of goals that may be associated with decisions about marijuana use among students. Students who experience higher levels of meaning related to both normative goal pursuits, in particular academic goal pursuit, as well as idiographic goal pursuits are generally less likely to use marijuana. Among those who choose to smoke, it is other factors, namely involvement in groups and organizations that emerge as a crucial buffer for more frequent use. Although fitness goals were not significant in the regression analyses, partial correlations suggest that among marijuana smokers, fitness goal meaning may also be associated with fewer days of smoking. This finding is consistent with research that indicates that being less physically active is associated with marijuana use (Pate, Heath, Dowda, & Trost, 1996), and provides support for the potential value of exercise interventions to reduce drug and alcohol use behaviors (Werch et al., 2003; Werch, Moore, DiClemente, Bledsoe, & Jobli, 2005).

The current study suggests that meaning in life goals may be a protective factor for decisions to use marijuana, indicating the potential value of enhancing meaning in life goal pursuits for prevention efforts. Understanding the particular life goal factors that buffer the frequency of use, in particular meaning related to involvement in organizations, may inform harm reduction or intervention efforts. Previous research suggests that various intervention strategies may be effective in enhancing meaning in the context of life goal pursuit (Cox & Klinger, 2004; Sheldon, Kasser, Smith, & Share, 2002). Utilizing various strategies to help students link goals to core values and enhance internal motivation for goal-related means have been used to increase student well-being and success in goal pursuit (Sheldon et al., 2002). Similarly, motivational counseling approaches to substance use (see Cox & Klinger, 2004) seek to promote change in substance use by helping individuals identify goals that

will provide greater levels of meaning and improve meaning-related appraisals for goals that are central to individuals' lives.

While the study contributes knowledge to a small but growing area of research, certain limitations deserve mention. Due to the cross-sectional design, further longitudinal research needs to be conducted in order to clarify whether goal appraisals have causal influences on marijuana use patterns. As this study was correlational in nature, the question of causation remains an open question; we cannot know if life goals influence use patterns, or if use patterns impact life goal dimensions of meaning and efficacy. While the study provides frequency data, one limitation is that the quantity of marijuana use is unknown, as this was not assessed and tends to be more difficult to measure compared to alcohol, for which there are guidelines for standardized measurement (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2008). It is also possible that other factors may account for the observed relationship, for example individuals who are high in conscientiousness may find high levels of meaning when pursuing academic goals and also may use less marijuana. Also, the prevalence of marijuana use in this sample is higher than the national averages among college students and same-aged peers more generally (Johnston et al., 2010, 2011), although other recent studies have also shown high prevalence rates in the college student population (Krank, Schoenfeld, & Frigon, 2010; Simons & Carey, 2003). This may be due to regional differences in use (urban center in which marijuana is decriminalized) or the methodological features of the anonymous survey.

Despite the limitations, this study is the first to use a novel assessment strategy employing both normative and idiographic goal appraisals in the prediction of marijuana use behavior in an at-risk population. Specifically, results indicate that both methods contribute independent predictive value in marijuana use behavior when examining the likelihood of use and the frequency of marijuana use among smokers. While the literature on alcohol use is rich with evidence from both normative and idiographic goal assessment strategies, little is known about marijuana use and goal appraisal, and this study is the first to our knowledge to utilize a combined assessment procedure. Future research is needed to explore potential mediators and moderators of the associations between goal appraisal and marijuana use patterns. The results of the study have potential implications for prevention and intervention strategies for marijuana use in the college student population. Studies have shown that involvement in activities and pursuing important life goals reduces the risk for substance use and associated problems in college students (Borsari et al., 2007; Correia et al., 2005; White et al., 2006). Prevention and intervention efforts may be enhanced by increasing the meaning of typical goal pursuits, as well as encouraging ways to gain meaning from the pursuit of academic and substance-free social goals.

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Highlights

- Examines motivational context of marijuana use using novel assessment approach.
- Higher normative goal meaning is associated with lower likelihood of marijuana use.
- Meaning for involvement in groups/organization goals is associated with lower frequency among users.
- Idiographic and normative methods have unique predictive power for marijuana use.

Table 1

Logistic Regression: Goal Meaning Appraisals as Predictors of Marijuana Use

Predictor	*B*	*S.E.*	Adjusted *OR* [95% *CI*]	Wald Chi^2*p*
Block 1				
Gender	.26	.30	1.30 [.73, 2.31]	.38
Block 2				
Gender	.05	.32	1.05 [.56, 1.97]	.89
Achieve	−.16	.05	.85 [.78, .93]*	<.001
Social	.08	.03	1.09 [1.02, 1.15]*	.01
Romantic	−.01	.02	1.00 [.96, 1.04]	.82
Groups	−.04	.02	.97 [.93, 1.01]	.09
Fitness	−.01	.02	.99 [.94, 1.04]	.62
Block 3				
Gender	.08	.33	1.08 [.57, 2.07]	.81
Achieve	−.12	.05	.88 [.81, .97]*	.01
Social	.11	.03	1.12 [1.04, 1.19]*	<.01
Romantic	.01	.02	1.01 [.97, 1.05]	.69
Groups	−.04	.02	.96 [.92, 1.00]	.06
Fitness	.00	.03	1.00 [.95, 1.05]	.87
Idiographic	−.57	.19	.57 [.39, .83]*	<.01

Notes: *B* = unstandardized coefficient; *S.E.* = standard error; *OR* = odds ratio; *CI* = confidence interval

Table 2

Linear Regression: Goal Meaning Appraisals as Predictors of Use Frequency Among Marijuana Smokers

Variable	*B*	*S.E.*	β	*t*	Sig	*F* for Δ R^2	Δ R^2	Sig *F* Δ
Step 1						4.77	.05	.03*
Gender	.25	.12	.23	2.18	.03*			
Step 2						2.35	.12	.05*
Gender	.23	.12	.21	1.93	.06			
Achieve	.00	.02	.00	.03	.98			
Social	.02	.01	.16	1.50	.14			
Romantic	.00	.01	.04	.32	.75			
Groups	−.02	.01	−.28	−2.52	.01*			
Fitness	−.01	.01	−.18	−1.61	.11			
Step 3						.25	.00	.62
Gender	.23	.12	.21	1.95	.06			
Achieve	.00	.02	−.02	−.15	.88			
Social	.02	.01	.15	1.36	.18			
Romantic	.00	.01	.02	.20	.84			
Groups	−.02	.01	−.28	−2.51	.01*			
Fitness	−.01	.01	−.18	−1.58	.12			
Idiographic	.04	.07	.06	.50	.62			

Notes: *B* = unstandardized coefficient; *S.E.* = standard error; β = standardized coefficient

Table 3

Logistic Regression: Goal Self-Efficacy Appraisals as Predictors of Marijuana Use

Predictor	*B*	*S.E.*	Adjusted *OR* [95% *CI*]	Wald Chi^2*p*
Block 1				
Gender	.22	.30	1.24 [.70, 2.22]	.46
Block 2				
Gender	.28	.31	1.32 [.72, 2.43]	.36
Achieve	−.04	.05	.96 [.87, 1.06]	.41
Social	.12	.04	1.13 [1.04, 1.23]	.01*
Romantic	.00	.03	1.00 [.95, 1.06]	.93
Groups	−.06	.03	.94 [.89, 1.00]	.04*
Fitness	−.02	.04	.98 [.91, 1.06]	.57
Block 3				
Gender	.29	.32	1.34 [.72, 2.49]	.36
Achieve	−.04	.05	.96 [.87, 1.06]	.45
Social	.12	.04	1.13 [1.04, 1.23]	.01*
Romantic	.00	.03	1.00 [.95, 1.07]	.89
Groups	−.06	.03	.94 [.89, 1.00]	.04*
Fitness	−.02	.04	.98 [.91, 1.06]	.61
Idiographic	−.02	.13	.98 [.76, 1.27]	.87

Notes: *B* = unstandardized coefficient; *S.E.* = standard error; *OR* = odds ratio; *CI* = confidence interval

Table 4

Linear Regression: Goal Self-Efficacy Appraisals as Predictors of Use Frequency Among Marijuana Smokers

Variable	*B*	*S.E.*	β	*t*	Sig	*F* for Δ R^2	Δ R^2	Sig *F* Δ
Step 1						4.00	.05	.05*
Gender	.23	.12	.22	2.00	.05*			
Step 2						.49	.03	.78
Gender	.24	.12	.22	1.99	.05*			
Achieve	.00	.02	−.01	−.13	.90			
Social	.02	.02	.11	.93	.35			
Romantic	.00	.01	.01	.06	.95			
Groups	−.02	.01	−.14	−1.25	.22			
Fitness	−.01	.02	−.07	−.60	.55			
Step 3						5.38	.06	.02*
Gender	.27	.12	.26	2.36	.02*			
Achieve	.00	.02	.00	.01	.99			
Social	.03	.02	.19	1.55	.13			
Romantic	.01	.01	.09	.72	.48			
Groups	−.01	.01	−.12	−1.04	.30			
Fitness	.00	.02	−.01	−.05	.96			
Idiographic	−.12	.05	−.29	−2.32	.02*			

Notes: *B* = unstandardized coefficient; *S.E.* = standard error; β = standardized coefficient

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