Motivations for Alcohol and Marijuana Use

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Abstract

Motives for alcohol and marijuana use (e.g. social, coping) are similar for both substances. This study examined differences in motives between participants who use both alcohol and marijuana and those who use only alcohol. 347 participants were recruited from Amazon Mechanical Turk and undergraduate classes. They completed the Drinking Motives Questionnaire, the Alcohol, Smoking, and Substance Involvement Screening Test, and demographic items. Differences in magnitude of motivation to use varied across motives and by substance. Results indicated that participants who use both substances reported higher motivations for use overall than those who use only alcohol. This study also investigated adding an additional motivational dimension: expansion. Motivation for expansion motives was low for alcohol use supporting the theory that expansion motives are more closely related to marijuana use. These findings expand on existing substance use literature and suggests implications for future research such as investigating the relationship between expansion motives and other substances.

Keywords: alcohol, marijuana, substance use, motivations, motives

Introduction

Commonly Used Substances

- Marijuana (Phillips, Lalonde, Phillips, & Schneider, 2017; Ter Bogt & Engels, 2005)
- Alcohol (AddictionCenter, 2019)

Motivational Model of Alcohol Use (Cooper, 1994)

- Type of reinforcement (positive, negative) and (internal, negative)
  - Social (positive, external)
  - Enhancement (positive, internal)
  - Conformity (negative, external)
  - Coping (negative, internal)
- Used to crate the Drinking Motives Questionnaire – Revised (DMQ-R; Cooper, 1994)

Motives for Use (Previous Studies)

- The DMQ-R has been used for a multitude of substances
  - Marijuana (Bonn-Miller, Zvolensky, & Berstein, 2007)
  - MDMA (Ter Bogt & Engels, 2005)
  - Alcohol (Bentea, 2014; Cooper, 1994)
- Some researchers proposed a fifth motivational dimension known as expansion for drug use (Newcomb, Chou, Bentler, & Huba, 1998; Simons, Correia, Carey, & Borsari, 1998)

How This Study Differs

- Investigates differences in motives to use between groups of individuals who use both alcohol and marijuana and those who use only alcohol
- Investigates differences in motives to use alcohol and marijuana among individuals who use both substances
- Looks at expansion motives as a fifth motivational dimension

Method

Participants

Participants were recruited from Amazon Mechanical Turk and undergraduate students at a small, Catholic, liberal arts and sciences college in Southwestern Pennsylvania

- Initial sample was 378, but data for 31 participants were deleted for failure to pass attention check questions and being outside the restricted age range
  - Age range restricted to 18-23
- 147 Amazon Mechanical Turk, 200 undergraduate students
- 347 between the ages of 18 and 23 (M = 20.48, SD = 3.24)
- 115 male, 232 female, no participants reported other genders
- 82.00 % White/Caucasian, 7.20% Hispanic/Latino, 9.80% Black/African American, 1.70% Native American/American Indian, 5.20% Asian/Pacific Islander, 0.30% "other"
- 153 both alcohol and marijuana, 131 only alcohol, 4 only marijuana
  - Of the 153 who use both, 119 use another substance
    - Of those 119, over 50% (68) use tobacco

Materials and Procedure

1. Informed consent

2. The Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST; World Health Organization, 2002)
   - 8 item self-report measure
   - Assessed over 9 substances

3. Drinking Motives Questionnaire-Revised (DMQ-R; Cooper, 1994)
   - 20 item self-report measure
   - Additional 5 questions to assess expansion motives (Newcomb et al., 1998; Simons et al., 1998)
   - Taken twice: Once for alcohol use, once for marijuana use
     - Questions randomized within each version

4. Demographics

5. Compensation
   - 85 cents in United States Dollars (Amazon Mechanical Turk)
   - Extra credit if the professor offered (undergraduate students)

6. Debriefing
   - Directed to resources for mental health and substance use problems if needed

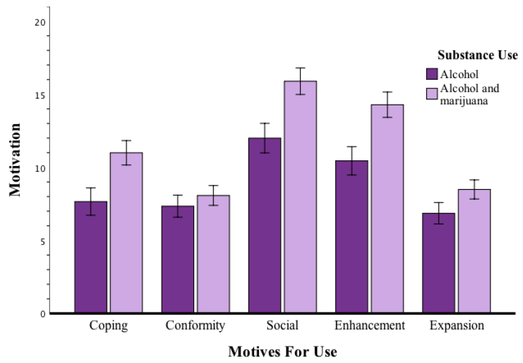

Figure 1. Motivation by Substance Use and Motives for Use. Error bars represent 95% Confidence Intervals.

Results

Alcohol Only Users vs. Alcohol and Marijuana Users

- 2x5 mixed-factorial ANOVA
  - Between-subject factor of substance (use both alcohol and marijuana, use only alcohol)
  - Within-subject factor of motive (coping, conformity, social, enhancement, expansion)
- Main Effect of Substance $F(1, 221) = 36.44$, $p < .001$, $\eta_p^2 = .14$
  - Participants who use both substances reported higher motivations for use (M = 11.54, SD = 4.42) than those who use only alcohol (M = 8.86, SD = 4.94)
- Main Effect of Motive $F(3.24, 715.82) = 151.83$, $p < .001$, $\eta_p^2 = .41$
  - Social (M = 13.94, SD = 5.14), Enhancement motives (M = 12.36, SD = 4.94), and Coping motives (M = 9.32, SD = 4.76) differed from each other and from the other two motives (all p's < .001)
  - Conformity (M = 7.71, SD = 3.85) and expansion (M = 7.76, SD = 3.72) motives were lowest and did not differ from each other (p = .89)
- Interaction Between Motive and Substance $F(3.24, 715.82) = 9.64$, $p < .001$, $\eta_p^2 = .042$
  - See Figure 1

Alcohol Use vs. Marijuana Use (For Those Who Use Both Substances)

- 2x5 repeated measures ANOVA
  - Within-subject factors of:
    - Substance (alcohol, marijuana)
    - Motive (coping, conformity, social, enhancement, expansion)
- No Main Effect of Substance $F(1, 123.00) = 1.09$, $p = .30$
  - Alcohol (M = 11.54, SD =3.55)
  - Marijuana (M =11.87, SD = 4.18)
- Main Effect of Motive $F(3.50, 430.47) = 73.74$, $p < .001$, $\eta_p^2 = .38$
  - All five motives were significantly different from each other ($p < .001$), except for social and enhancement ($p = .54$):
    - Social (M = 14.04, SD = 4.68)
    - Enhancement (M = 14.23, SD = 4.40)
    - Coping (M = 11.57, SD = 5.24)
    - Expansion (M = 9.74, SD = 4.33)
    - Conformity (M = 8.97, SD = 3.27)
- Interaction Between Motive and Substance $F(3.62, 445.09) = 46.69$, $p < .001$, $\eta_p^2 = .28$
  - See Figure 2

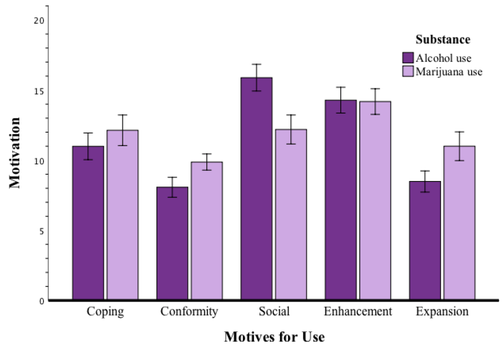

Figure 2. Motivation by Substance and Motives for Use. Error bars represent 95% Confidence Intervals.

Discussion

Support for Previous Findings

- Social motives are common for both alcohol and marijuana use (Bentea, 2014; Bonn-Miller et al., 2007; Simmons et al., 2011)
  - Highest motivation for alcohol use was reported for social motives
    - For participants who use both alcohol and marijuana For participants who use only alcohol
  - For participants who use both substances, social motives for marijuana use received the second highest reported motivation for use (tied with coping motives)

Support for Expansion as a Fifth Dimensional Motive

- Support adding expansion motives as a fifth motivational motive when investigating marijuana use (Newcomb et al., 1998; Simons et al., 1998).
- Higher motivation for expansion motives for marijuana use than alcohol use among participants who use both substances

Future Research

- Investigate correlation between problematic use and motives
- Investigate correlation between life experiences/predictors of use and motives
- Investigate expansion motives for other substances

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This project has been funded by an A.J. Palumbo Student Research Grant