



Full length article

Differences in alcohol cognitions, consumption, and consequences among first-time DUI offenders who co-use alcohol and marijuana

Rosanna Smart*, Karen Chan Osilla, Lisa Jonsson, Susan M. Paddock

RAND Corporation, 1776 Main Street, PO Box 2138, Santa Monica, CA 90407-2138, United States

ARTICLE INFO

Keywords:

Marijuana
Cannabis
Alcohol
Alcohol cognitions
Driving under the influence

ABSTRACT

Background: A significant portion of alcohol-related DUI offenders engage in co-use of alcohol and marijuana (AM). Given expanding marijuana legalization and the impaired driving risks associated with co-use, it is of increased importance to understand how characteristics of AM co-users compare to those who use alcohol only (AO) in order to inform DUI interventions and prevent recidivism.

Methods: Participants were 277 first-time DUI offenders enrolled in a first-time DUI offender program across three locations. Using well-established measures, we evaluated differences in alcohol-related cognitions (positive expectancies and self-efficacy), frequency and quantity of alcohol consumption, and alcohol-related consequences between AO users and AM co-users by running a series of multivariate generalized linear models.

Results: Compared to AO users, AM co-users reported lower self-efficacy to achieve abstinence and avoid DUI. Differences in abstinence self-efficacy largely explain higher relative rates of average and peak drinking quantity and higher odds of binge drinking among AM co-user. Despite lower self-efficacy and higher drinking quantity, there were no significant differences between AM and AO-users on alcohol-related consequences and past month reports of drinking and driving.

Conclusions: Our results provide preliminary evidence that DUI offenders who co-use alcohol and marijuana have higher alcohol use and lower self-efficacy than AO-users, and long-term consequences for this group should be monitored in future research. DUI programs may screen and identify co-users and consider tailoring their interventions to build self-efficacy to address the risks associated with AM co-use uniquely.

1. Introduction

Driving under the influence (DUI) is a significant public health issue, with alcohol-related crashes accounting for nearly one-third of traffic fatalities (National Academies of Sciences Engineering and Medicine, 2018; National Highway Traffic Safety Administration, 2016) and generating estimated economic costs of \$52 billion in 2010 (Blincoe et al., 2015). While most DUI offenders are arrested for driving under the influence of alcohol, a significant proportion of offender's co-use other substances, most commonly marijuana (Logan et al., 2014; Maxwell, 2012; Pilkinton et al., 2013), and co-occurring drug use significantly increases the likelihood of DUI recidivism (Mullen et al., 2015; Nochajski and Stasiewicz, 2006) and motor vehicle crashes (C'de Baca et al., 2009). Marijuana is the most frequently detected drug other than alcohol among crash-involved drivers (Brady and Li, 2014; Dubois et al., 2015; Walsh et al., 2005) and the general driving population (Berning et al., 2015). Among DUI offenders in treatment, research has shown those with marijuana as their primary substance problem are

least likely to complete treatment, despite reporting less impairment and mental health disorders compared to offenders who use other drugs (Maxwell, 2012).

There is growing concern over the co-use of alcohol and marijuana (AM) because their combined effects on psychomotor and cognitive functions have additive or possibly synergistic effects on impairment (Dubois et al., 2015; Hartman et al., 2015; Ramaekers et al., 2000; Ronen et al., 2010; Sewell et al., 2009), significantly increasing crash risk compared to the use of either substance alone (Bramness et al., 2010; Chihuri et al., 2017; Li et al., 2017; Ramaekers et al., 2000). These effects underscore the importance of evaluating the prevalence of co-use among those who drive while under the influence, as well as the extent to which the underlying cognitive or behavioral risk factors contribute to these associations. Unfortunately, very little is known about the characteristics and outcomes associated with AM co-use among DUI offenders. However, in the general population, those reporting AM co-use have greater likelihood of alcohol-related problems, consequences, and unsafe driving behavior relative to alcohol-only

* Corresponding author at: RAND Corporation, 1776 Main St., Santa Monica, CA 90407, United States.

E-mail address: rsmart@rand.org (R. Smart).

<https://doi.org/10.1016/j.drugalcdep.2018.07.005>

Received 29 March 2018; Received in revised form 4 June 2018; Accepted 9 July 2018

Available online 15 August 2018

0376-8716/ © 2018 Elsevier B.V. All rights reserved.

(AO) users (Arterberry et al., 2017; Lipperman-Kreda et al., 2017; Magill et al., 2009; Shillington and Clapp, 2001; Subbaraman and Kerr, 2015; Terry-McElrath et al., 2014; Yurasek et al., 2017a). Clinical outcomes have also been shown to differ among co-users in alcohol treatment, who report greater levels of medication nonadherence and non-planning impulsivity (Peters et al., 2012), higher alcohol consumption and consequences (Yurasek et al., 2017b), and lower likelihood of alcohol abstinence (Mojarrad et al., 2014; Subbaraman et al., 2017) relative to their AO-using counterparts.

Understanding whether DUI offenders who co-use AM exhibit distinct underlying psychosocial or behavioral risk factors is key for the development of successful DUI intervention strategies for this group. The DUI population is heterogeneous and unique from both general population and alcohol treatment samples (LaBrie et al., 2007; Lapham et al., 2001; Mullen et al., 2015; Nochajski and Stasiewicz, 2006; Osilla et al., 2017). DUI offenders exhibit higher rates of alcohol use disorders, co-occurring drug use problems, and psychiatric comorbidities relative to the general population (Lapham et al., 2006, 2001), but are less likely to meet criteria for severe substance use disorders than those in alcohol treatment programs (Caetano and McGrath, 2005; DiStefano and Hohman, 2007). DUI offenders may be more reluctant to change than those in residential substance use treatment programs because they generally report less alcohol-related consequences as well as fewer financial, labor market, emotional, and relationship problems (Carruth et al., 2016; Cavaiola and Wuth, 2002). DUI interventions traditionally focus on addressing factors such as alcohol expectancies and abstinence self-efficacy as they are established predictors of alcohol use, DUI recidivism, and responsiveness to treatment (Litt et al., 2009; Oei and Morawska, 2004; Schell et al., 2006; Shaw and DiClemente, 2016). Evaluating how these factors are similar or different between AM-users and AO users would fill significant research gaps.

This study examines the characteristics of AM co-users (i.e., those who report the use of both alcohol and marijuana in the past month) and AO users in a diverse sample of first-time DUI offenders. We compare patterns of alcohol- and DUI-related cognitions (expectancies and self-efficacy), alcohol and marijuana use, and alcohol-related behaviors (consequences and DUI behaviors) between participants who do and do not report marijuana co-use in the past month, controlling for individual characteristics.

2. Methods

2.1. Participants and procedures

Participants were part of a randomized controlled trial evaluating cognitive behavioral therapy (CBT) in three first-time DUI offender program sites in Ventura County (Osilla et al., 2016). Eligible individuals were 21 and older entering a DUI program for a first-time offense who screened positive for at-risk drinking in the past year (AUDIT-C score above 3; Dawson et al. (2005)) and reported fifth grade education or higher. Research staff approached individuals awaiting their intake appointment, described the study, screened interested clients for eligibility, and consented interested and eligible individuals. After eligibility screening, participants were randomized to CBT or usual care and completed a baseline paper survey, for which they received \$25 remuneration. Surveys were completed at the DUI program, which has a zero-tolerance policy to ensure clients were not intoxicated during survey completion.

Over the 50-week recruitment period from July 2016 to June 2017, staff approached 793 DUI clients at intake for eligibility screening (10% refused to be screened). Of the 402 (57%) eligible, 351 (87%) completed a baseline survey, and a total of 346 were retained (five were excluded due to study ineligibility). For this study, we included participants if they reported in the baseline survey that they used alcohol within the past 30 days, yielding a final analytic sample of 277 individuals. Procedures were approved by the institution's Internal

Review Board and each of the three programs. We also obtained a certificate of confidentiality from the funding institute.

2.2. Measures

2.2.1. Sociodemographic characteristics

Background characteristics included age, gender, race and ethnicity, relationship status, labor market participation, total income, and education level.

2.2.2. Alcohol- and DUI-related cognitions: expectancies and self-efficacy

We measured positive alcohol expectancies using items from the Health Attitudes and Practices Scale (Perrine, 1993). For each of five emotional states (relaxed, sad, moody, argumentative, happy), participants rated "How often do you generally feel each of the following effects when you are drinking?" on a five-point scale ("Never" to "Always"). Positive alcohol expectancy scores were computed by subtracting each participant's average response for *sad*, *moody*, and *argumentative* from their average response to *happy* and *relaxed* (Schell et al., 2006). The scale could range from -4 to 4, with higher scores indicating more positive alcohol expectancies; scale reliability was fair as calculated by Cronbach's α ($\alpha = 0.61$).

Two measures of self-efficacy were obtained. Alcohol abstinence self-efficacy was assessed using the brief Abstinence Self-Efficacy Measure (McKiernan et al., 2011), a shortened version of the Alcohol Abstinence Self-Efficacy Scale (AASE; DiClemente et al. (1994)). The brief measure consists of 12 items measuring a respondent's perceived confidence in their ability to avoid drinking in high-risk situations (Confidence) and the degree to which a respondent feels tempted to drink in such situations (Temptation). For each item, respondents used a five-point rating scale ranging from 1 (not at all confident or tempted) to 5 (extremely confident or tempted). Following prior work (Litt et al., 2009; Shaw and DiClemente, 2016), we calculated abstinence self-efficacy scores by subtracting the temptation score from the confidence score for each item and then summing over items. Total abstinence self-efficacy scores could range from -16 to 16, with higher scores corresponding to higher self-efficacy ($\alpha = 0.84$). Situation-specific abstinence self-efficacy scores were also calculated separately for the four AASE subscales: negative affect, social situations and positive emotions, physical and other concerns, and withdrawal and urges.

Self-efficacy for avoiding DUI was assessed using a subset of measures from the Behaviors & Attitudes Drinking & Driving Scale (BADDS), which has demonstrated retest reliability and internal consistency (Jewell et al., 2004; Jewell and Hupp, 2005; Jewell et al., 2008). Specifically, we used items assessing the likelihood of driving a short distance after drinking, asked separately for various levels of drinking and rated on a five-point Likert scale ("very unlikely" to "very likely"). Given the distribution of responses, we operationalized self-efficacy for avoiding DUI as a binary variable equal to one if the respondent endorsed being "very unlikely" to drive after a given number of drinks.

2.2.3. Alcohol and marijuana use

Alcohol and marijuana use frequency was assessed using participants' self-reported number of days of use over the preceding 30 days (Center for Behavioral Health Statistics and Quality, 2017). Alcohol-only (AO) use was defined as reporting days of drinking in the past month but no days of marijuana use. Alcohol and marijuana (AM) co-use was defined as reporting both alcohol and marijuana use in the past 30 days.

A typical number of drinks per week in the past month was calculated by summing participant responses for a typical number of drinks consumed each day of a typical week (Collins et al., 1985). Peak drinking quantity was defined as the largest number of standard drinks consumed on a given day during a typical week of the past month (Center for Behavioral Health Statistics and Quality, 2017). Binge

Download English Version:

<https://daneshyari.com/en/article/7502718>

Download Persian Version:

<https://daneshyari.com/article/7502718>

[Daneshyari.com](https://daneshyari.com)