Short Communication

Negative urgency, problem drinking and negative alcohol expectancies among members from one First Nation: A moderated-mediation model

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ABSTRACT

Problematic alcohol use is a major health concern for many Native communities in both Canada and the United States (Spillane & Smith, 2007, 2010; Spillane, Smith, & Kahler, in press). Because health disparities related to alcohol use are pronounced in this population (Beauvais, 1996; Whitesell et al., 2007), it is important to study factors that may contribute to risk for this set of problems. Alcohol expectancies represent a well known risk factor for alcohol use in non-Natives. This study sought to examine the relationship between negative urgency and negative alcohol expectancies, and to determine if this relationship is influenced by problem drinking behaviors. We hypothesized that negative urgency's effects on the development of negative alcohol expectancies would be mediated by negative urgency's influence to increase drinking behaviors in a First Nation sample (see Spillane & Smith, 2010). We also hypothesized that this relationship would be moderated by sex. We administered measures of alcohol use, negative urgency, and negative alcohol use expectancies to a total of 209 First Nation people (96 men; 113 women). Following the steps of moderated mediation outlined by Preacher, Rucker, and Hayes (2007), we found that the relationship between negative urgency and negative alcohol expectancies was significantly mediated by problem drinking for males ($\beta = 0.42$, $p < 0.001$), but not for females ($\beta = 0.13$, $p = 0.32$). The current study suggests that for males in this First Nation sample, negative urgency's effects on development of negative alcohol expectancies is mediated by problem drinking behavior.

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1. Introduction

Problematic alcohol use is a major health concern for many Indigenous People (IPs) living in Native communities, including American Indians living in the United States and members of First Nation groups living in Canada (Spillane & Smith, 2007). Reported rates of alcohol dependence (Spicer, Novins, Mitchell, & Beals, 2003) and binge drinking are higher for IPs compared to non-IPs in national samples (SAMSHA, 2010). Similar to what is observed for other groups, binge drinking or problematic drinking is associated with significant impairments in functioning and well-being in IPs (Robin, Long, Rasmussen, Albaugh, & Goldman, 1998). IPs who engage in binge drinking behavior are more likely to meet criteria for alcohol dependence and experience other social, health, and legal problems related to alcohol compared to those IPs that do not binge drink (Aad et al., 2012; Robin et al., 1998). A better understanding of problematic drinking will lead to improved prevention/intervention programs by highlighting appropriate targets for intervention.

1.1. Problem drinking and alcohol expectancies

Alcohol expectancies are expectations about the effects of alcohol consumption and reflect one's learning history relevant to the consequences of drinking behavior (Christiansen & Goldman, 1983). While research has shown that positive alcohol expectancies are related to alcohol use behaviors in IPs (Garcia-Andrade, Wall, & Ehlers, 1996; Mitchell & Beals, 2006; Spillane & Smith, 2010), less is known about the role of negative alcohol expectancies and their relation to problematic drinking among IPs. Studying potential ways in which negative expectancies develop in a high risk population such as IPs might allow us to develop better prevention/intervention programs. Therefore, the goal of the current study was to begin evaluating a model for the development of negative alcohol expectancies using a cross-section sample of adult First Nation members.

Negative alcohol expectancies may develop through observation or modeling as social learning theory suggests or through direct drinking experience (Christiansen & Goldman, 1983; Leigh & Stacy, 2004; Miller, Smith, & Goldman, 1990). Leigh and Stacy (2004) argue that negative alcohol expectancies change as drinking experience is accumulated.

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In this way, experiencing some alcohol-related problems influences negative expectancy formation, which leads to a decrease in alcohol consumption (Jones & McMahon, 1998).

1.2. Impulsivity and problem drinking

Impulsivity-related traits, have received much attention in the substance use research literature in non-IPs, especially for their role in affecting both alcohol consumption and the development of alcohol expectancies. However, the term impulsivity is overly broad and subsumes at least five different traits that are modestly correlated with each other (Cyders et al., 2007; Smith et al., 2007; Whiteside & Lynam, 2001). The current papers focuses on negative urgency because it has been found to predict alcohol use and problem drinking in both Caucasians and IPs (Cyders & Smith, 2008; Fischer, Anderson, & Smith, 2004; Magid, Maclean, & Colder, 2007; Spillane & Smith, 2010). Negative urgency has been conceptualized as the propensity to engage in risk behaviors in response to negative affect (Cyders & Smith, 2008; Magid et al., 2007). Individuals higher on negative urgency are thought to be more likely to consume alcohol in general, and especially in situations that are hazardous, because of their tendency to react impulsively when faced with distress (Cyders & Smith, 2008).

1.3. Conceptual model: negative urgency, problem drinking, and the development of negative alcohol expectancies

Based on learning theory, we propose that individuals who are likely to act rashly when experiencing negative affect will be more likely to drink alcohol, and to experience negative consequences related to this consumption (Cyders, Flory, Rainer, & Smith, 2009; Cyders & Smith, 2008; Fischer, Smith, & Cyders, 2008; Fischer et al., 2004; Smith et al., 2007; Spillane & Smith, 2010; Spillane, Smith, & Kahler, 2010). Subsequently, the experience of these negative consequences will make it more likely that an individual will learn that alcohol will cause negative consequences. After experiencing repeated negative consequences from alcohol consumption, negative alcohol expectancies would be expected to increase, as negative alcohol expectancies can be strengthened in adulthood as individuals experience repeated problems from their drinking (Jones & McMahon, 1998; McMahon & Jones, 1994; McMahon, Jones, & O'Donnell, 1994). Therefore, we hypothesized that negative urgency influences the formation of negative alcohol expectancies through the experience of problem drinking behaviors. Individuals who act out when distressed are more likely to experience drinking problems and develop negative alcohol expectancies. Because prior studies with Native youth have shown the sensation seeking relationship with risky behavior differs by sex (Spillane et al., 2012), we will include sex as a moderator of the mediated model.

2. Method

2.1. Participants

Participants were reservation-dwelling First Nation members who belonged to a tribe in New Brunswick, Canada. A total of 209 First Nation people (96 men, 113 women) completed measures related to alcohol use, negative urgency, and negative expectancies. Fifty percent of males and 41% of females reported that they consumed alcohol at least once a week and a third of males and females reported that when they drank, they typically consumed 8 or more drinks per occasion. The sample ranged in age from 18 to 70 years old ($M = 35$, $SD = 13.1$), and 71% of the sample's income was below $20,000.

2.2. Measures

2.2.1. Demographics questionnaire

Participants were asked to complete a demographics questionnaire that included questions related to their age, gender, level of educational attainment, and occupation.

2.2.2. Drinking style questionnaire

The Drinking Style Questionnaire (DSQ; Smith, McCarthy, & Goldman, 1995) contains two subscales that measure alcohol consumption and problematic drinking behavior. The subscales have evidenced internal consistency, test–retest reliability, and construct validity (Smith et al., 1995). There is also evidence that the scales have the same factor structure in an American Indian population as in a Caucasian population (Spillane & Smith, 2010) and similar reliability. The coefficient alpha for the current sample was 0.69. The DSQ was used to assess level of alcohol use and problem drinking in the study participants.

2.2.3. Negative alcohol outcome expectancy questionnaire

The negative effects items of the Alcohol Outcome Expectancy Questionnaire (AOEQ; Leigh & Stacy, 1993) were used to assess for negative alcohol expectancies. The 15-item negative effects scale measures perceived negative consequences from alcohol consumption that are organized into four domains: negative social behavior, negative emotions, physical discomfort, and cognitive/performance impairment. The AOEQ negative effects scale's coefficient alpha for the current sample was 0.84, which is consistent with previous samples (Leigh & Stacy, 1993).

2.2.4. UPPS-R

The UPPS-R contains four scales that measure separate aspects of impulsivity: negative urgency, sensation seeking, lack of planning/premeditation, and lack of perseverance (Whiteside & Lynam, 2001). The UPPS-R negative urgency scale was used in this study, which consists of 11 items. The coefficient alpha for the current sample was 0.77, which is consistent with other samples of non-Natives (Whiteside & Lynam, 2001). The factor structure of the UPPS-R has also been found to be consistent in Caucasian and American Indian samples (Spillane & Smith, 2010).

2.3. Procedure

2.3.1. Data collection

Two weeks prior to data collection, a flyer was sent out to each tribal member describing the research project; fliers were also posted around the reservation. The fliers described the investigator, the purpose of the study, when they would be approached to consider participating, and how much they would be paid ($10 USD). The first author went door-to-door to recruit potential participants. When an individual agreed to participate, he/she completed consent forms and then the investigator left a packet of questionnaires with him or her and scheduled a return visit to pick up the completed materials. Participants were also provided a phone number they could use to contact the investigator.

3. Results

3.1. Preliminary analyses

There were no significant differences between males and females on negative alcohol expectancies ($t(1, 207) = -1.50$, $p = 0.13$) or problem drinking ($t(1, 207) = 1.45$, $p = 0.15$). However, a significant difference was observed for negative urgency with the mean males' scoring less than females' ($t(1, 207) = -2.11$, $p = 0.036$). Sex was positively associated with negative urgency ($r = 0.15$, $p = 0.04$), negative urgency is positively related to problem drinking ($r = 0.26$,