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Conformity motives for alcohol use are associated with risky sexual behavior among alcohol-dependent patients in residential substance abuse treatment

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Abstract

Alcohol misuse is associated with a variety of negative outcomes, including risky sexual behavior (RSB). In an attempt to better identify the subset of individuals at greatest risk for these negative outcomes, a growing body of research has begun to examine the role of alcohol use motives in risk for alcohol use-related negative outcomes. Although the majority of research in this area has focused on coping motives, conformity motives may be particularly relevant to outcomes such as RSB. Specifically, conformity motives may operate as a proxy risk factor for RSB, reflecting the tendency to engage in interpersonally-oriented risk behaviors in order to avoid rejection, interpersonal conflict, or social ostracism. Therefore, the current study examined the relation between conformity motives for alcohol use and RSB in a sample of 94 patients in a residential substance abuse treatment center. Results indicated that conformity motives were associated with RSB above and beyond other motives for alcohol use, as well as relevant covariates. Findings support the notion that conformity motives may operate as a proxy risk factor that could assist in identifying individuals at elevated risk for engaging in RSB.

Keywords

Alcohol Dependence; Alcohol Misuse; Alcohol Use Motives; Risk Factors; Risk-Taking; Substance Dependence

Within the United States, approximately 17 million adults ages 18 and older have a current alcohol use disorder (AUD) and approximately 25% of alcohol users reported hazardous patterns of alcohol use (i.e., binge drinking) in the past month (Substance Abuse and Mental Health Services Administration, 2013). Alcohol misuse is also associated with a range of negative outcomes. Not only is it the 5th leading cause of premature death and disability (Lim et al., 2010), it is associated with increased risk for other psychiatric disorders (Grant et al., 2004), functional impairment (Berglund & Ojehagen, 1998; Salloum & Thase, 2000; Swartz et al., 1998), and frequent risk-taking behavior (Marcotte, Bekman, Meyer, & Brown,

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2012; McMurran, 2012). In an attempt to better identify the subset of alcohol users at greatest risk for these negative outcomes, a growing body of research has begun to examine the role of alcohol use motives in risk for alcohol use-related negative outcomes. Cooper's (1994) dimensional approach posits a four-factor model of motives for alcohol use: positive, internal motives (enhancement); positive, external motives (social); negative, internal motives (coping); and negative, external motives (conformity).

To date, research examining the relation between motives for alcohol use and negative outcomes has primarily focused on coping motives. Coping motives have been found to be associated with poorer self-care, greater engagement in risk-taking in general (e.g., drinking and driving), and more academic/occupational problems (e.g., Merrill & Read, 2010). However, additional research examining the relation between other alcohol use motives and alcohol-related negative outcomes is needed. In particular, given evidence that alcohol misuse is associated with increased risk for risky sexual behavior (RSB; Brown & Vanable, 2007; Cooper, 2002; Stoner, George, Peters, & Norris, 2007; Kaly, Heesacker, & Frost, 2002; Testa, Livingston, & Hoffman, 2007), research is needed to examine the relation of specific alcohol use motives to RSB.

Broadly speaking, RSB refers to any sexual behaviors that increase the risk for unintended pregnancy, sexually transmitted infection (STI), or other adverse outcomes (Caldeira et al., 2009), including having multiple sexual partners and having sex without a condom or under the influence of alcohol and/or drugs. Past research has identified a number of risk factors for RSB, including age (inversely related; Lopez, Krueger, & Walters, 2010; Xia et al., 2006), male gender (Browne, Clubb, Wang, & Wagner, 2009; Hittner & Kryzanowski, 2010), and the presence of certain psychiatric disorders, especially borderline personality disorder (BPD; Chen, Brown, Lo, & Linehan, 2007; Tull, Gratz, & Weiss, 2011) and substance use disorders (Browne et al., 2009; Lejuez, Simmons, Aklin, Daughters, & Dvir, 2004). However, no studies to date have examined whether specific alcohol use motives are associated with RSB.

Relative to other alcohol use motives, conformity motives, defined as using alcohol to avoid aversive social consequences (i.e. peer rejection), may be particularly relevant to RSB. Similar to coping motives for alcohol use, conformity motives have been found to relate positively to numerous negative alcohol-related outcomes, including poor self-care, diminished self-perception, and impaired control (Merrill & Read, 2010). With regard to their relation to RSB in particular, conformity motives may operate as a proxy risk factor (see Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001) for RSB, reflecting the tendency to engage in other interpersonally-oriented risk behaviors in order to avoid rejection, interpersonal conflict, or social ostracism. For example, people who drink to avoid potential exclusion by their peers may also have a tendency to engage in other maladaptive behaviors (e.g., RSB) to reduce the likelihood of rejection. In support of this idea, Stewart and colleagues (2006) found that conformity motives explained the relation between fear of negative evaluation from others and alcohol-related problems. Thus, individuals who drink alcohol with the aim of avoiding negative social consequences may also be more likely to engage in RSB.

The current study sought to extend previous research by examining the relations between motives for alcohol use and RSB among a high-risk sample of alcohol dependent patients in residential treatment. It was hypothesized that conformity motives would be associated with RSB at a zero-order level, as well as above and beyond other motives for alcohol use and relevant covariates.

Method

Participants

A sample of 94 adults ($M_{age} = 35.09$, $SD = 10.34$; 51.1% male) with an AUD (i.e., alcohol dependence or abuse) were derived from a larger sample ($N = 226$) of patients in a residential substance use disorder (SUD) treatment program. The majority of participants identified as White (66.0%), with the remainder identifying as Black/African-American (31.9%), Native American (1.1%), and Asian American (1.1%). Almost half of the participants reported an annual income under \$10,000 (49.5%), and 57.4% had no higher than a high school education.

Measures

Clinical Interviews.

The SUD module of the research version of the Structured Clinical Interview for DSMIV Axis I Disorders (SCID-I/NP; First, Spitzer, Gibbon, & Williams, 2002) was used to assess for the presence of current and lifetime SUD. The SCID has demonstrated excellent inter-rater reliability (Lobbetael, Leurgans, & Arntz, 2011) and good validity in SUD populations (Kranzler, Kadden, Babor, & Tennen, 1996).

The MINI-International Neuropsychiatric Interview (MINI; Sheehan et al., 1998) was used to assess for the presence of Axis I disorders, including psychotic disorders. The MINI has demonstrated high specificity for each evaluated disorder, as well as excellent inter-rater reliability (Sheehan et al., 1998). Finally, the BPD module of the Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV; Zanarini, Frankenburg, Sickel, & Yong, 1996) was used to assess for the presence of current (i.e., past 2 years) BPD. Past research indicates that the DIPD-IV demonstrates good inter-rater and test-retest reliability for the assessment of BPD (Zanarini et al., 2000), with an inter-rater kappa coefficient of .68 and a test-retest kappa coefficient of .69.

All interviews were conducted by bachelors- or masters-level clinical assessors trained to reliability with the principal investigator (MTT) and/or co-investigator (KLG). All interviews were reviewed by the principal investigator, with diagnoses confirmed in consensus meetings.

Self-report measures.

The Drinking Motives Questionnaire (DMQ-R; Cooper, 1994) is a 20 item self-report measure that evaluates four empirically distinct motives for alcohol use (i.e., coping, social, conformity, and enhancement). Individuals rate each item on a 5-point Likert-type scale (1 = Almost Never/Never; 5 = Almost Always/Always). The DMQ-R has been found to have

good construct validity and high internal consistency (Cooper, 1994). Internal consistency in the current sample was good for all subscales: coping ($\alpha = .86$), social ($\alpha = .86$), conformity ($\alpha = .81$), and enhancement ($\alpha = .83$).

The Texas Christian University HIV/AIDS Risk Assessment (TCU; Camacho, Bartholomew, Joe, & Simpson, 1997) is a self-report measure of HIV risk behaviors in the domains of drug use (e.g., sharing “works”) and sexual behavior (e.g., unprotected intercourse). A composite variable comprised of five items from the TCU was utilized to evaluate RSB more broadly than single item analyses would allow (for a similar approach, see Lejuez, Bornovalova, Daughters, & Curtin, 2005; Weiss, Tull, Borne, & Gratz, 2013). Participants were asked to report the number of times in the month prior to treatment they engaged in unprotected sex with: a) someone who was not their spouse or primary partner, b) someone who shoots drugs with needles, c) someone who smokes crack/cocaine, and d) while they or their partner were “high” on drugs or alcohol.

Procedure

All procedures were reviewed and approved by the relevant Institutional Review Boards. Data were collected as part of a larger study examining risky behaviors among SUD patients. To be eligible for inclusion in the larger study, participants were required to: 1) be dependent on cocaine and/or alcohol; 2) have a Mini-Mental Status Exam (Folstein, Folstein, & McHugh, 1975) score of ≥ 24 ; and 3) have no current psychotic disorder. Eligible participants were recruited for this study no sooner than 72 hours after entry into the facility (to limit the possible interference of withdrawal symptoms on study engagement). Those who met inclusion criteria were provided with information about study procedures and associated risks, following which written informed consent was obtained. Participants were then administered the diagnostic interviews and a questionnaire packet. Participants were reimbursed \$25 for this assessment session.

Results

Data Analytic Strategy

Relevant covariates were selected for analysis a priori on the basis of their theoretical or empirical relations to the outcome variable, RSB (see Sauer, Brookhart, Roy & VanderWeele, 2013; Tabachnick & Fidell, 1996; Steiner, Wroblewski, & Cook, 2009). Specifically, age, biological sex, number of current substance use disorder diagnoses, and BPD were included as covariates in primary analyses.

A hierarchical regression analysis was used to examine the unique relation between conformity motives and RSB, above and beyond other motives for alcohol use and relevant covariates. Covariates were entered in Step 1 of the analysis, coping, social, and enhancement motives for alcohol use were entered in Step 2, and conformity motives were entered in Step 3. Effect size was indexed via squared semi-partial correlations (sr^2).

Primary Analyses

Table 1 provides descriptive data for each of the variables of interest, as well as their intercorrelations. As predicted, conformity motives were the only set of alcohol use motives significantly associated with RSB at a zero-order level ($r = .22, p < .05$). Table 2 provides the results of the regression analysis. The covariates entered in the first step of the model did not significantly predict variance in RSB. Alcohol use motives entered in the second step (i.e., coping, social, and enhancement motives) also did not significantly predict variance in RSB. Consistent with hypotheses, the inclusion of conformity motives significantly improved the model, accounting for an additional 5% of the variance in RSB. Moreover, in the final model, conformity motives emerged as the only significant predictor of RSB ($\beta = .24, t = 2.09, p = .03$).

Discussion

The current study represents one of the first examinations of the relation between conformity motives for alcohol use and RSB among AUD patients in residential substance abuse treatment. Conceptually, individuals who utilize alcohol to avoid social rejection or other negative interpersonal consequences may also be more likely to engage in other risky behaviors that involve peer/social pressure to conform, such as RSB. The findings from the current study support this conceptualization, demonstrating that conformity motives for alcohol use are uniquely associated with engagement in RSB above and beyond other risk factors for RSB and alcohol use motives.

These results are consistent with past research demonstrating that peer influences can affect RSB (Lewis, Patrick, Mittmann, & Kaysen, 2014), as well as evidence that ostracism, rejection, and rejection sensitivity are associated with greater risk-taking behaviors, including RSB (Buelow & Wirth, in press; Edwards & Barber, 2010; Kopetz et al., 2014). The results of this study are also consistent with those of MacPherson and colleagues (2012), who found that alcohol use conformity motives were significantly associated with negative reinforcement-based risk-taking as assessed through a behavioral task. Together, these findings suggest that the systematic assessment of conformity motives may aid in the identification of individuals at heightened risk for engagement in risky behaviors (particularly in the context of rejection or ostracism concerns).

Several limitations of this study warrant mention. First, it is important to note that the proxy risk factor model examined in this study does not assume a particular temporal order or causal relation between the variables; thus, we are not suggesting that conformity motives preclude RSB or increase the risk for these behaviors in the context of alcohol use. Our results simply highlight a positive relation between these variables. Future research utilizing experimental or prospective designs would be needed to examine the extent to which conformity motives for alcohol increase the risk for RSB directly. Research should also examine the correspondence across alcohol use motives and motives for RSB. Second, this study relied exclusively on self-report measures of RSB and alcohol use motives, responses to which may be limited by the willingness and/or ability of participants to report on these phenomena. For example, the perceived negative consequences of reporting RSB may have resulted in underreporting of this behavior. Likewise, given our use of a SUD sample, it is

possible that some participants may have engaged in RSB in the context of substance use, thereby limiting their ability to provide an accurate report of past RSB. However, it warrants mention that there is evidence that self-report methods may result in more valid reports of RSB than other assessment methods (e.g., interviews; Fenton, Johnson, McManus, & Erens, 2001). Nonetheless, future studies would benefit from the inclusion of other RSB assessments, including timeline followback procedures (Weinhardt, Carey, & Carey, 2000). Finally, the characteristics of the current sample may limit the generalizability of the results to nonclinical populations or non-SUD clinical populations. Future research examining the relation between conformity motives and RSB among individuals with more normative alcohol use and/or those with alcohol-related problems not seeking treatment for AUD would help speak to the robustness of this relation. In particular, research examining this relation among college student and other young adult community samples would be useful.

Despite these limitations, the current study represents an initial step in determining clinically-relevant correlates of conformity motives for alcohol use. A psychosocial framework of alcohol use that includes evaluation of individual motives may inform treatment. The utilization of interventions targeting the reduction of specific alcohol use motives or focused on improving assertiveness more generally may enhance specific treatment outcomes for individuals who may be particularly vulnerable to exposure to negative peer influences posttreatment. In particular, given both the demonstrated effectiveness of alcohol refusal skills in reducing alcohol consumption (Witkiewitz, Donovan, & Hartzler, 2012) and evidence that sexual non-assertiveness is associated with RSB (Stoner et al., 2008), interventions that enhance one's self-efficacy to refuse to participate in risky behavior may decrease conformity-motivated alcohol use and RSB.

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Table 1

Correlations among Risky Sexual Behavior and Motives for Alcohol Use

	Mean (SD)	Range	1	2	3	4	5
1. TCU RSB	13.01 (17.71)	1-75	-	.22*	.07	.10	.12
2. DMQ Conformity	10.08 (4.84)	5-25	-	.23*	.26**	.43**	
3. DMQ Cope	17.42 (5.45)	5-25	-	-	-	.60**	.48**
4. DMQ Enhancement	18.04 (4.94)	5-25	-	-	-	-	.63**
5. DMQ Social	18.12 (5.03)	5-25	-	-	-	-	-

Note. $n = 94$.* $p < .05$;** $p < .01$.

TCU = Texas Christian University HIV/AIDS Risk Assessment (Camacho et al., 1997). RSB = Risky Sexual Behavior. DMQ = Drinking Motives Questionnaire (Cooper, 1994).

Table 2

Hierarchical Regression Analysis Examining the Unique Contribution of Conformity Motives to Risky Sexual Behavior Above and Beyond Covariates and Other Alcohol Use Motives.

	R²	t	β	sr²
<i>Step 1</i>	.04			
Age		-1.63	-.17	.02
Gender		0.11	.01	.00
BPD		-0.23	-.02	.00
Current Number of SUDs		1.05	.11	.01
<i>Step 2</i>	.05			
DMQ-Cope		-0.05	-.00	.00
DMQ-Enhancement		0.03	.00	.00
DMQ-Social		0.74	.10	.00
<i>Step 3</i>	.10 *			
DMQ-Conformity		2.09	.24	.04 *

Note. $n = 94$. β = standardized beta weight. sr^2 = Squared semipartial correlation.

* $p < .05$;

SUD = Substance Use Disorder. BPD = Borderline Personality Disorder.