Alcohol Outcome Expectancies and Drinking to Cope with Social Situations

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Abstract

Repeated use of alcohol as a coping strategy to reduce anxiety or discomfort increases one's risk of developing alcohol dependence. Previous studies have found alcohol outcome expectancies (AOE) strongly predict drinking behavior, in general, and also are related to drinking to cope. The purpose of the current study was to examine AOE that may be related to drinking to cope with discomfort in social situations. It was hypothesized that positive AOE, especially related to assertion and tension reduction, would be most associated with drinking to cope with social situations. Fifty-six community volunteers from a larger study on attentional bias and drinking to cope were divided into high ($n = 36$) and low ($n = 20$) drinking to cope groups following completion of a questionnaire battery. Findings indicated AOE were well able to classify drinking to cope status, with 91% of cases correctly classified. As hypothesized, assertion and tension reduction AOE uniquely contributed to the discriminant function in classifying drinking to cope groups. These findings have implications for the prevention and treatment of alcohol use disorders and suggest that AOE should be further investigated as potential moderators of the relationship between social anxiety and alcohol use disorders.

Keywords

Alcohol expectancies; Drinking to cope; Social anxiety; Alcohol consumption

Many individuals report the frequent and deliberate use of alcohol to cope with social discomfort (e.g., Thomas, Randall, & Carrigan, 2003), a behavior that is known to increase one's risk of developing alcohol dependence (Kushner, Sher, & Beitman, 1990). Coping motives for drinking emerged as important predictors of drinking behavior for college students with moderate or high levels of social anxiety (Ham, Bonin, & Hope, 2007). Consistent with this self-report data, socially anxious participants self-administered more alcohol following a speech challenge versus a neutral task (Abrams, Kushner, Medina, & Voight, 2002). Additionally, college students consumed more alcohol during a socially stressful session than during a neutral session, particularly those with high trait social anxiety and males who expected alcohol to increase assertiveness (Kidorf & Lang, 1999).

The beliefs people hold about the effects of consuming alcohol are referred to as alcohol outcome expectancies (AOE; Goldman, Del Boca, & Darkes, 1999). It has been established that AOE correlate with alcohol consumption (e.g., Goldman et al., 1999), account for variance in symptoms of alcohol dependence above and beyond current drinking level (Williams & Ricciardelli, 1996), and are related to drinking to cope behavior. In one study, drinking to cope was found to be predictive of alcohol abuse status only when drinkers had strong beliefs regarding the positive outcomes of alcohol use (Cooper, Russell, & George, 1988). Further, Cooper, Frone, Russell, and Mudar (1995) demonstrated that individuals who experienced negative affect and who had high tension reduction expectancies were more likely to drink to cope.

Studies have also investigated AOE related to social anxiety. Social anxiety was found to be positively related to social assertiveness expectancies (e.g., Brown & Munson, 1987; Burke & Stephens, 1997) and tension reduction expectancies (e.g., O'Hare, 1990) in college student samples. Social assertiveness and tension reduction AOE were also found to predict increased alcohol consumption in individuals seeking treatment for social anxiety disorder (Ham, Hope, White, & Rivers, 2002). Additionally, socially anxious individuals have been shown to have stronger AOE related to social situations than nonsocially anxious individuals from the community (Ham, Carrigan, Moak, & Randall, 2005; Tran & Haaga, 2002).

The purpose of the current study was to examine the utility of AOE in discriminating those who drink to cope with social situations from those who do not. Revealing the types of AOE that are associated with drinking to cope with anxiety elicited by social situations may help identify individuals who are at risk of developing alcohol problems and may have implications for treatment. Based on prior evidence that AOE are related to drinking to cope and data indicating a link between certain beliefs about alcohol's effects and social anxiety, we hypothesized that AOE related to tension reduction and increased social assertiveness would be predictive of drinking to cope with discomfort in social situations.

Method

Participants

The current study is a secondary analysis of the sample reported by Carrigan, Drobes, and Randall (2004) in their study of attentional bias and drinking to cope. Participants between the ages of 21 and 62 were recruited from community newspaper advertisements and flyers posted throughout the medical campus. Individuals with the full range of alcohol usage patterns (current abstainers to heavy drinkers) and all levels of social anxiety were invited to participate. Most of the ads were generic in nature; however, some specifically targeted heavy drinkers and individuals with social anxiety to ensure that there was some representation at the higher ends of the spectrums. Of the 79 volunteers described in the original study, 56 participants (52% female; mean age = 31.88, SD = 95.3; 80% Caucasian, 18% African American) could be classified by drinking to cope status (described below). Participants' alcohol dependence ranged from "low" to "high," with mean levels in the "low" range according to the Short Alcohol Dependence Data questionnaire (SADD; Gorman, Duffy, Raine, & Taylor, 1989).

Procedures and Measures

Upon arrival, all participants provided written informed consent following breathalyzer readings of zero. Following completion of a computerized Stroop task, participants were administered a questionnaire battery (counterbalanced), then debriefed and compensated for their participation. The study protocol was approved by the university Institutional Review Board.

Drinking to cope—A two-step strategy was used to classify participants into high (DTC) and low (NDTC) drinking to cope groups. First, the Drinking for Anxiety Management (DAM; Kushner, Abrams, Thuras, & Hanson, 2000) scale was used to classify participants. The DAM is a reliable, 8 item self-report instrument that measures individuals' tendencies to use alcohol to reduce anxiety on a 7-point scale (i.e., *Strong Agreement* to *Strong Disagreement)*. Examples of items are "I am most likely to drink too much when I am afraid I am going to be very anxious" and "Drinking helps me stop having scary or anxiety-provoking thoughts." It is reverse scored so that higher scores indicate stronger endorsement of drinking to manage anxiety symptoms. One item of the DAM was modified such that the original reference to panic attacks was removed for its use in the current study. The modified DAM possessed very good internal consistency (Cronbach's alpha = .89). In the second step, responses to a question about how often individuals drank to cope with social anxiety (i.e., "What percentage of the time would you use alcohol to feel more comfortable or less anxious in social situations where alcohol is available?") were used to ensure that those classified as DTC drank to cope to reduce social discomfort. This item was scored on an 11-point scale, where 0 = never and 10 = 100 percent of the time. Participants (*n* = 36) were classified as DTC if they scored above the mean of the current sample on the DAM scale *and* endorsed drinking to cope in social situations at least 10% of the time. Participants (*n* = 20) were classified as NDTC if they scored below the mean of the current sample on the DAM scale *and* endorsed drinking to cope in social situations less than 10% of the time.

Alcohol expectancies—The Drinking Expectancy Questionnaire (DEQ; Young & Knight, 1989) is a 43-item self-report measure of global alcohol expectancies. The DEQ consists of six subscales assessing four positive expectancies (i.e., increased social Assertiveness, Sexual Enhancement, Cognitive Enhancement, and Tension Reduction) and two negative expectancies (i.e., negative Affective Change and Dependence, a loss of control over alcohol consumption). The DEQ has demonstrated adequate construct validity and internal consistency (Young & Knight, 1989).

Drinking measures—The Quantity Frequency Variability Index (QFV; Cahalan, Cissin, & Crossley, 1969) and the SADD were used to measure drinking quantity and frequency and symptoms of alcohol dependence, respectively. Reliability and construct validity have been demonstrated (Davidson & Raistrick, 1986; Gorman et al., 1989).

Social anxiety—The Social Interaction Anxiety Scale (SIAS) and Social Phobia Scale (SPS) (Mattick & Clarke, 1998) were used to describe the level of social anxiety of the DTC and NDTC groups. Both measures have demonstrated good internal consistency, test-retest reliability, and validity (Heimberg et al., 1992).

Results

See Table 1 for summary demographic information. The DTC and NDTC groups did not differ in terms of gender, race/ethnicity, or educational attainment. Those in the DTC group tended to be younger and were more likely to have never married than those in the NDTC group; thus, we controlled for age and marital status in subsequent analyses. Not surprisingly, the DTC group had higher levels of alcohol consumption, dependence symptoms, and social anxiety than the NDTC group. The DTC group had higher levels of all AOE than did the NDTC group.

Discriminant analyses were conducted to determine if AOE were effective predictors of DTC status. We had hypothesized that positive AOE, particularly Assertiveness and Tension Reduction, would be greater for the drinking to cope group than the non-drinking to cope group. Results indicated that there was a significant multivariate difference between the DTC groups in AOE, λ =.37, $R^2_{canonical}$=.32, $\chi^2(7)$=56.93, *p*<.001. Using a fairly conservative cutoff of .4

(Dalgleish, 1994), examination of structure weights and standardized coefficients of the discriminators in this function revealed that Tension Reduction and Assertion uniquely contributed to the multivariate effect (see Table 2). Participants in the DTC group had higher Assertion and Tension Reduction AOE. There was a 91% correct classification (51 out of 56) based on this function (93% correct classification when covariates were excluded).

Discussion

The primary goal of the current study was to evaluate the utility of AOE in classifying individuals according to drinking to cope status. AOE were very well able to predict those who drank to cope with anxiety related to social situations, with 91% of cases correctly classified, while controlling for age and marital status. As hypothesized, results of the discriminant analyses indicated that AOE related to increased assertion and tension reduction were significant and unique contributors to the discriminant function. When examined individually, the DTC group demonstrated elevated levels of all AOE compared to the NDTC group.

The DTC group also had higher levels of social anxiety and heavy drinking than did the NDTC group, which raises the possibility that our findings were not specific to drinking to cope with social situations. To address this concern, post-hoc discriminant analyses were conducted to attempt to classify drinking and social anxiety status using AOE. The results of these analyses indicated that AOE were not able to classify social anxiety status, and while AOE were able to classify heavy drinking status, none of the AOE uniquely contributed to the function when controlling for age and marital status. This provides some evidence for the specificity of the obtained results.

The current study represents a novel approach to enhance understanding of the phenomenon of drinking to cope with social situations. Use of multiple measures to classify drinking to cope is an additional strength of the study. A limitation of the study is the relatively small sample size; however, we found significant effects with moderate to large effect sizes. In addition, gender differences were not examined due to small cell sizes. Previous studies suggest that men and women may differ in AOE endorsement and drinking-related behavior (e.g., Cooper, Russell, Skinner, Frone, & Mudar, 1992); thus, future research should consider gender in the association between AOE and drinking to cope with social situations. The present study utilized a measure of AOE that focused primarily on positive beliefs concerning alcohol consumption. Individuals' beliefs about the negative consequences of alcohol use (e.g., Jones & McMahon, 1996) may also prove to be useful in discriminating those that drink to cope with social situations from those that do not; more research with negative AOE is needed. An additional limitation is that although we found AOE to be predictive of drinking to cope, it should be noted that "someone can expect an effect but not drink to obtain that effect" (Leigh, 1990, p. 92). In other words, drinking motives are inferred in the present study rather than tested directly. Another shortcoming is the use of a cross-sectional design to investigate AOE and drinking. Prospective designs would optimally answer questions concerning the prediction of drinking behavior by AOE (e.g., Pastor & Evans, 2003).

The above limitations notwithstanding, the findings of the present study indicate that Assertion and Tension Reduction AOE are associated with drinking to cope with discomfort involving social situations. The observed strong associations of AOE and drinking to cope, evidenced by the high percentage classification of the DTC group, make it likely that the findings are theoretically and clinically meaningful as well as statistically significant. Thus, the results add to the evidence indicating that individual difference variables are important considerations when investigating the anxiety-reducing properties of alcohol. As previous research indicates that AOE develop prior to actual drinking behavior (e.g., Goldman, et al., 1999), the current findings suggest that assessment of AOE may be a valuable tool for the early identification of

socially anxious individuals who may be especially at risk for the development of alcohol use disorders. In addition, the expectancy challenge paradigm (e.g., Wiers & Kummeling, 2004) may be an effective technique to integrate into treatment for socially anxious individuals who drink to cope. In light of the current findings, further examination of AOE and drinking to cope with social situations should help us better understand the well documented connection between social anxiety and alcohol use disorders (e.g., Chambless, Cherney, Caputo, & Rheinstein, 1987; Himle & Hill, 1991).

Acknowledgements

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Table 1

Summary Demographics and Study Variables by Drinking to Cope Group Status.

	DTC (*n=36*)	NDTC (*n=20*)	
Age	30.25 *(SD = 9.8)*	37.60 *(SD = 11.6)*	$F(1,54) = 6.34$, *p* = .02
Gender			$\chi^2(1)=1.73$, *p*=.19
Men	21 *(58.3%)*	8 *(40.0%)*	
Women	15 *(41.7%)*	12 *(60.0%)*	
Racial/Ethnic Group			$\chi^2(1) = 0.00$, *p* = 1.00 (Compared *Caucasian* to *racial/ethnic minority group*)
African American	8 *(22.2%)*	4 *(20.0%)*	
Caucasian	27 *(75.0%)*	15 *(75.0%)*	
Hispanic/Latino	1 *(2.7%)*	0 *(0.0%)*	
Asian American	0 *(0.0%)*	1 *(5.0%)*	
Marital Status			$\chi^2(1) = 4.61$, *p* = .03 (Compared *Ever married* to *Never married*)
Never Married	25 *(69.4%)*	8 *(40.0%)*	
Married	2 *(5.6%)*	8 *(40.0%)*	
Separated	4 *(11.1%)*	0 *(0.0%)*	
Divorced	3 *(8.3%)*	3 *(15.0%)*	
Widowed	2 *(5.6%)*	1 *(5.0%)*	
Education Level			$\chi^2(1) = 1.24$, *p* = .27 (Compared *Bachelor's degree or beyond* to *Did not complete Bachelor's degree*)
High School/GED	2 *(5.6%)*	4 *(20.0%)*	
Some College	14 *(38.9%)*	4 *(20.0%)*	
Associates Degree	4 *(11.1%)*	0 *(0.0%)*	
Bachelor's Degree	4 *(11.1%)*	7 *(35.0%)*	
Some Graduate	7 *(19.4%)*	1 *(5.0%)*	
Graduate Degree	5 *(13.9%)*	4 *(20.0%)*	
Employment Status			$\chi^2(1) = 0.21$, *p* = .64 (*Full time employment* compared to *Less than full time employment*)
Full Time	23 *(63.9%)*	14 *(70.0%)*	
Part Time	4 *(11.1%)*	2 *(10.0%)*	
Unemployed	8 *(22.2%)*	4 *(20.0%)*	
Retired	1 *(2.7%)*	0 *(0.0%)*	
DAM	4.09 *(SD = 0.9)*	1.61 *(SD = 0.6)*	$F(1,54) = 120.11$, *p* < .001
Drinking to Cope Frequency	6.75 *(SD = 2.85)*	0.20 *(SD = 0.4)*	$F(1,54) = 103.44$, *p* < .001
DEQ Affective Change	28.28 *(SD = 8.1)*	20.00 *(SD = 7.6)*	$F(1,54) = 14.05$, *p* < .001
DEQ Assertion	37.73 *(SD = 3.7)*	25.30 *(SD = 9.0)*	$F(1,54) = 53.58$, *p* < .001
DEQ Cognitive Enhancement	9.50 *(SD = 2.9)*	5.20 *(SD = 2.0)*	$F(1,54) = 33.77$, *p* < .001
DEQ Dependence	22.03 *(SD = 6.1)*	11.35 *(SD = 4.1)*	$F(1,54) = 48.22$, *p* < .001
DEQ Sexual Enhancement	18.17 *(SD = 3.1)*	16.35 *(SD = 2.4)*	$F(1,54) = 5.12$, *p* = .03
DEQ Tension Reduction	14.89 *(SD = 2.0)*	9.15 *(SD = 3.8)*	$F(1,54) = 54.43$, *p* < .001
QFV[*]	4.17 *(SD = 3.3)*	12.85 *(SD = 6.2)*	$F(1,54) = 47.10$, *p* < .001
SADD	11.25 *(SD = 7.3)*	1.75 *(SD = 3.1)*	$F(1,54) = 30.35$, *p* < .001
SPS	26.06 *(SD = 13.9)*	13.05 *(SD = 14.7)*	$F(1,54) = 10.78$, *p* = .002
SIAS	32.33 *(SD = 15.9)*	21.70 *(SD = 15.9)*	$F(1,54) = 4.94$, *p* = .03

Note.

[*] *Lower* scores are indicative of greater drinking levels. DTC = High Drinking to Cope group. NDTC = Low Drinking to Cope group. DAM = Drinking for Anxiety Management. DEQ = Drinking Expectancy Questionnaire. QFV = Quantity Frequency Variability Index. SADD = Short Alcohol Dependence Data questionnaire. SPS = Social Phobia Scale. SIAS = Social Interaction Anxiety Scale.

Table 2

Structure Weights and Standardized Canonical Coefficients from the Discriminant Model Classifying Drinking to Cope Status by Alcohol Outcome Expectancies (N = 56).

	Structure Weight	Std. Canonical Coefficient
DEQ Affective Change	.35	.13
DEQ Assertion	.68	.41
DEQ Cognitive Enhancement	.54	.13
DEQ Dependence	.65	.36
DEQ Sexual Enhancement	.21	.17
DEQ Tension Reduction	.69	.41

Note. DEQ = Drinking Expectancy Questionnaire.