BELIEFS ABOUT DRINKING BEHAVIOR PREDICT DRINKING CONSEQUENCES†

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Abstract

Cognitions about drinking, such as positive expectancies and self-efficacy, have been found to profoundly influence drinking behavior. Although the relationship of self-efficacy and positive expectancies with drinking consumption has been established, the relationship of self-efficacy and alcohol expectancies with the number of reported drinking related consequences has not been examined. One hundred thirteen participants who met criteria for alcohol abuse or dependence were administered the Situational Confidence Questionnaire, the Alcohol Expectancies Questionnaire, the Drinker Inventory of Consequences-Recent, and the Losses of Significance Self-report Questionnaire-Revised. As predicted, lower self-efficacy and greater positive alcohol expectancies predicted greater recent drinking consequences beyond those accounted for by alcohol consumption alone. Greater numbers of positive alcohol expectancies also predicted greater numbers of recent important alcohol related losses. Correcting errant assumptions about alcohol expectancies and strategies designed to increase self-efficacy may reduce harmful drinking consequences even if a client is unwilling to reduce consumption.

Keywords

alcohol; drinking; expectancies; harm reduction; negative consequences

Negative consequences associated with alcohol abuse represent an enormous problem in the United States. A recent national estimate on the cost of alcohol-related consequences is $184.6 billion (Harwood 2000). This figure includes negative consequences such as the cost of healthcare, loss of work productivity, alcohol-related crimes, and motor vehicle accidents. Prevention and treatment strategies have tended to focus exclusively on encouraging reduction in alcohol consumption in order to reduce consequences, intuitively viewing the chemical agent as the direct source of the aversive consequences.

However, cognitions have been found to profoundly influence drinking behavior. Expectancies about situations and their outcomes seem to have a profound impact on the actual outcome of the events (e.g., Kirsch 1999). Indeed, decades of behavioral research have found that beliefs about what will happen next are often associated with ultimate behavioral outcomes (e.g., Merton 1948). For people using alcohol and other substances, expected behavior often consists of beliefs about the substance and beliefs about a person's self-efficacy to control substance use. Using this cognitive model, one might expect that people who had very positive beliefs (or expectancies) about the effects of substances and who had poor confidence or lacked a sense of mastery for successfully coping with high-risk situations without substance use might indeed have problems with excessive consumption. However, the model also would predict that these beliefs about drinking and using behavior may be contributing to negative consequences independent of the amount being consumed.

In a classic study, Marlatt and colleagues (1973) found that people's beliefs about drinking influenced their behavior, regardless of whether they were drinking or not. Participants who believed they were drinking alcohol but in actuality were not exhibited more intoxication behavior than people who were truly intoxicated but believed they were not drinking alcohol. The balanced placebo experiment illustrated that beliefs about drinking may have an independent effect upon drinking behavior above and beyond the actual chemical affects of alcohol.

Since Marlatt and colleagues identified that cognitions may predict social behavior in drinking situations, other researchers have explored the relationship of cognitions about drinking and consumption patterns. For instance, several more recent studies have found that greater positive alcohol expectancies and lower self-efficacy have been associated with higher consumption (Brown et al. 1998; Oei, Fergusson & Lee 1998; Oei & Baldwin 1994).

Although the relationship of self-efficacy and positive expectancies with drinking consumption has been explored, the authors are not aware of studies that have explored the relationship of self-efficacy and alcohol expectancies with the number of reported drinking-related consequences a person may have experienced. Although it is generally accepted that higher consumption is associated with greater numbers of drinking related consequences, important cognitions about drinking, such as self-efficacy in high-risk drinking situations and positive alcohol expectancies, may account for independent amounts of observed variance above and beyond that accounted for by alcohol consumption alone.

Heavy drinking participants who had experienced alcohol-related consequences in the past year were recruited over a two-year period to explore this study question. It was hypothesized that lower self-efficacy and greater numbers of positive alcohol expectancies would account for greater numbers of drinking-related consequences, after controlling for baseline drinking rates. Support of the study hypothesis would suggest that there may be more contributing to drinking-related consequences than alcohol consumption alone.

METHOD

Subjects

The sample included 113 participants (Mean age = 26.94; SD = 9.07) of both genders who met *Diagnostic and Statistical Manual of Mental Disorders-IV* (DSM-IV; American Psychiatric Association 1994) criteria for alcohol abuse or dependence. The participants were recruited by means of advertisement in a local community newspaper and by means of posted fliers listing a research assistant to contact if interested in the study. A majority of the participants were men (N = 66; 58.4%) and were White (N = 87; 77.0%). The typical participant had completed nearly three years of college education (Mean years of education = 14.80; SD = 1.90) and

approximately 4% of the sample was unemployed at the time of the assessments (N = 5). Most of the study participants met DSM-IV criteria for alcohol dependence (N = 74; 65.5 %) rather than alcohol abuse. Nine of the participants had experienced previous alcohol treatment (8.0 %) and three had been in treatment twice.

Measures

The Structured Clinical Interview for DSM-IV (SCID; First et al. 1995) was used to screen for current or historic psychotic disorders and non-alcohol substance abuse or dependence, and to verify alcohol abuse or dependence. In order to test the study hypotheses, the following well-known drinking measures were utilized to assess the pertinent domains. The Steady Pattern Chart (SP) from the Comprehensive Drinker Profile (Marlatt & Miller 1984), a structured interview that assesses total standard drinks consumed during the previous three months, was utilized to determine baseline drinking rates. To assess self-efficacy to resist heavy drinking in high-risk situations, the Situational Confidence Questionnaire-42 was used (SCQ-42; Annis & Davis 1988). The SCQ-42 is a well-known measure which yields a total score concerning self-efficacy for coping with high-risk situations without heavy alcohol consumption, measuring confidence to avoid heavy drinking in each situation. The Alcohol Expectancy Questionnaire (AEQ; Brown, Goldman & Christiansen 1985) is a well-known validated instrument measuring positive expectancies associated with alcohol. The Global Positive Changes (GPC) scale scores were used in analyses.

Finally, two instruments were used to assess recent drinking related negative consequences: the Drinker's Inventory of Consequences-Recent (DrInC-R; Miller, Tonigan & Longabaugh 1995) and the Losses of Significance Self-report Questionnaire-Revised (LOSS-QR; Blume & Marlatt 2000). The DrInC-R is a well-known measure which includes a total consequences score. The instrument asks about drinking-related consequences that have occurred within the last three months, and the total consequences score was used as a predictor variable to test the hypothesis of the study. The LOSS-QR yields a total recent important loss score used in this study as a dependent variable to test the study hypothesis. The total recent important loss score represents a composite value derived from frequency of the experience of alcohol-related losses in 27 different areas in the last year, as well as the self-reported importance of said losses. The LOSS-QR has been found to have excellent internal consistency as an instrument (Blume & Marlatt 2000).

Although the DrInC-R and LOSS-QR both assess alcohol-related consequences, they differ in significant ways. The DrInC-R assesses a wide variety of consequences in five different domains (physical, interpersonal, intrapersonal, impulse control, and social responsibility) whereas the LOSS-QR focuses on 27 general areas of loss, and how important and related to drinking alcohol the loss is perceived to be by the respondent on a Likert type scale (0 to 5 for each domain for each of the 27 questions). Although there is some similarity in the types of consequences being asked about on the two measures, there are also some major differences. As an example of differences in content between the two measures, the LOSS-QR asks about homelessness and about loss of contact with children specifically (the DrInC-R does not) whereas the DrInC-R asks about hangovers and fighting (the LOSS-QR does not). The LOSS-QR assesses consequences that may be described as severe and perhaps more permanent or long-term, whereas the DrInC-R assesses some consequences that may be more transitory. In addition, the LOSS-QR assesses consequences over a longer period (one year) than the DrInC-R (three months).

Procedure

Participants were screened for inclusion and exclusion criteria by means of the SCID screen. After informed consent was obtained, the SP was administered to determine alcohol

consumption patterns during the last three months. Next, participants completed the SCQ, AEQ, DrInC-R, and LOSS-QR questionnaires. Upon completion of the questionnaires, participants were paid $50 by check and thanked for their time. This research protocol was reviewed and approved by an IRB committee at the University of Washington, Seattle.

Data Analytic Plan

In order to test the study hypothesis, two multiple regression procedures were utilized. The covariate of baseline consumption rates from the SP was entered, followed by block entry of the total SCQ and GPC scores to first predict total DrInC-R scores. Next, the same dependent variables were used to predict total recent important LOSS-QR scores.

RESULTS

The typical participant consumed an average of 331.10 standard drinks in the previous three months as assessed by the SP. Furthermore, the study participants were experiencing negative drinking-related consequences in the past three months as assessed by the DrInC-R (M = 24.50; SD = 16.73) and important drinking-related losses in the last year as assessed by the LOSS-QR (M = 364.05; SD = 445.13). Participants had a mean item score on the SCQ of 69.52 % (SD= 17.31) for confidence in successfully avoiding heavy drinking in the high risk situations assessed and an average of 8.57 (SD = 4.48) affirmative responses to GPC positive alcohol expectancies items.

The first multiple regression model found that both lower total SCQ and higher GPC scores significantly predicted higher total DrInC-R scores after controlling for SP consumption rates (full model R^2 = .58, $p < .001$; see Table 1). Total SCQ and GPC scores accounted for approximately 12% of the observed variance of DrInC-R total scores above the variance explained by consumption alone. The second multiple regression model found that higher GPC scores predicted higher total LOSS-QR scores (full model R^2 = .39, $p < .001$; see Table 2), after controlling for baseline SP consumption rates. The GPC scores accounted for approximately 5% of the observed variance in total LOSS-QR scores above the variance explained by consumption alone. Total SCQ scores were not a significant predictor in the regression model.

DISCUSSION

As predicted, greater numbers of positive alcohol expectancies as assessed by the AEQ and lower self-efficacy as measured by the SCQ predicted greater numbers of drinking-related consequences (DrInC-R) beyond those accounted for by the amount of alcohol consumed. Furthermore, greater numbers of positive alcohol expectancies also predicted greater numbers of recent important alcohol-related losses experienced in the last year above those accounted for by the amount of recent alcohol consumption. These findings suggest that a significant portion of recent consequences experienced by the participants of the study were not necessarily related to drinking per se, but rather were related to cognitions: namely, the expected effects of alcohol and the participant's self-efficacy for successfully negotiating high-risk situations without drinking heavily. Furthermore, since consumption rates accounted for greater amounts of observed variance in consequences than either expectancy or self-efficacy scores, the regression models indicate that both chemical effects and beliefs about the use of alcohol may be important predictors of numbers of consequences.

Interestingly, positive alcohol expectancies predicted consequences for three months and one year before the assessment session, but self-efficacy significantly predicted consequences at three months only. Greater numbers of positive alcohol expectancies may be associated with greater drinking behavioral consequences (DrInC-R) and with experiencing greater numbers

of self-reported important losses (LOSS-QR) whereas lower self-efficacy may be associated with greater numbers of behavioral consequences. On the other hand, self-efficacy may be more strongly associated with recent behavior than alcohol expectancies.

However, the results suggest that cognitions related to drinking behavior, specifically expectancies and self-efficacy, may predict drinking-related consequences independent of alcohol consumption. Although these results are preliminary and further investigation of the relationship of expectancies and self-efficacy with the experience of drinking-related consequences is warranted, therapists may consider using cognitive restructuring strategies in addition to use of behavioral strategies to reduce the harm of drinking-related behavior. Correcting errant assumptions about the expected results of alcohol and utilizing strategies designed to increase self-efficacy may reduce harmful consequences related to drinking even if a client is unwilling to reduce consumption, given the findings of this study.

These results should be interpreted with caution because of the cross-sectional design of the study and the volunteer sample, and until replication of results occurs. It would be helpful to know whether expectancies and self-efficacy predict longitudinal changes in consequences among a randomly selected sample. Although the measures of the study are highly utilized in alcohol research, they are self-report instruments. Collateral information about drinking behavior was not obtained in this study, although there is reason to believe that self-report data may be as accurate in drinking studies as collateral information (Babor et al. 2000). In spite of the shortcomings, these findings suggest that cognitions about drinking may not only predict consumption patterns, but also may predict the experience of negative drinking consequences otherwise unaccounted by drinking rates alone.

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TABLE 1

Regression Model Predicting Total DrInC-R Scores (N = 113)

Predictors:	Cum R^2	ΔR^2	Betas	t	95% C. I.
Block One:					
Consumption	.46	.46	.55	8.24**	.022 to .036
Block Two:					
SCQ scores	.55	.09	−.27	−3.95**	−.009 to −.003
GPC scores	.58	.03	.18	2.61*	.159 to 1.164

Notes: Cum = cumulative. Consumption = baseline consumption rates of alcohol. F(3, 109) = 49.69, $p < .001$ for the full model. Betas, t values, and 95% confidence intervals listed are for the full model.

*
Indicates $p < .05$ for t value within full model.

TABLE 2

Regression Model Predicting Total LOSS-QR Scores (N = 113)

Predictors:	Cum R²	ΔR²	Betas	t	95% C. I.
Block One:					
Consumption	.32	.32	.46	5.82**	.436 to .887
Block Two:					
SCQ scores	.34	.02	−.11	−1.29	−.163 to .035
GPC scores	.39	.05	.24	2.97*	8.005 to 40.048

Notes: Cum = cumulative. Consumption = baseline consumption rates of alcohol. F(3, 109) = 49.69, $p < .001$ for the full model. Betas, t values, and 95% confidence intervals listed are for the full model.

*
Indicates $p < .05$ for t value within full model.

**
Indicates $p < .001$ for t value within full model.