The Relation Between Positive and Negative Alcohol Expectancies and Alcohol Use in College Students

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Positive and negative alcohol expectancies, as measured by the Comprehensive Effects of Alcohol questionnaire (CEOA; Fromme, Stroot, & Kaplan, 1993), were observed among alcohol drinkers and abstainers in a sample of 47 college students. We divided the sample into 5 levels of drinking: abstainers who had no intention of ever drinking (permanent abstainers), abstainers who presently do not drink but postulate that they will consume alcohol in the future (temporary abstainers), light drinkers, moderate drinkers, and heavy drinkers. As hypothesized, temporary abstainers and light drinkers possessed significantly lower positive expectancies than did heavy drinkers. Temporary and permanent abstainers possessed significantly higher negative expectancies than did moderate and heavy drinkers, which we hypothesized for permanent abstainers but not for temporary abstainers.

Alcohol consumption is an integral part of the collegiate social structure. According to a survey administered to 12,000 university students in 1994, “72% [of college students] consumed alcohol at least once a year and 20.6% were heavy drinkers (consuming five or more drinks per occasion once a week or more)” (Engs, Diebold, & Hanson, 1996, p. 13). The rising incidence of problematic drinking among college students is a strong impetus to conduct research on the correlates and causes of college student drinking. An important line of research derives from expectancy research in the form of the alcohol expectancy theory (Goldman, Brown, & Christiansen, 1987). The alcohol expectancy theory proposes that people’s alcohol drinking behavior (hereafter, simply “drinking”) is contingent on the reinforcements they expect from drinking (Goldman et al., 1987). Research on alcohol expectancies has consistently demonstrated a relation between drinking and expectancies (e.g., Brown, 1985; Johnson, 1994; Thombs, 1993). The present study sought to replicate and extend previous research about the relation between alcohol expectancies and drinking among college students, with particular attention to some deficiencies prevalent in previous studies.

Alcohol expectancies are defined as “...beliefs people have about the behavioral, cognitive, and emotional effects of drinking alcohol” (Sher, Wood, Wood, & Raskin, 1996, p. 561). Fromme, Stroot, and Kaplan (1993) identified seven expected drinking outcomes. Four outcomes are positive expectations: (a) sociability, (b) tension reduction, (c) liquid courage, and (d) sexuality. Three outcomes are negative expectations: (a) cognitive and behavioral impairment, (b) risk and aggression, and (c) self-perception (e.g., how the participant expects to feel, such as moody or guilty).

The majority of alcohol expectancy research has focused on positive expectancies with the exclusion of negative expectancies. A popular view among alcohol expectancy researchers, that the strength of positive expectancies is related to how much and how often the participant drinks, has been supported by a number of studies (e.g., Chen, Grube, & Madden, 1996). Fromme, Stroot, and Kaplan (1993) identified seven expected drinking outcomes. Four outcomes are positive expectations: (a) sociability, (b) tension reduction, (c) liquid courage, and (d) sexuality. Three outcomes are negative expectations: (a) cognitive and behavioral impairment, (b) risk and aggression, and (c) self-perception (e.g., how the participant expects to feel, such as moody or guilty).

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For example, in a study of college students, medical patients, and alcoholics, Brown, Goldman, and Christiansen (1985) found that increased levels of consumption were associated with increased positive expectancies as measured by the Alcohol Effects Questionnaire (AEQ; Brown, Christiansen, & Goldman, 1987). Also, in a study measuring changes in beer consumption of 1st-year college students over a 2-month period, the social assertion and global positive change expectancy subscales of the AEQ were found to correlate positively with increased drinking for male participants (Kidof, Sherman, Johnson, & Bigelow, 1995).

Positive expectancies are generally considered more closely correlated to drinking because positive outcomes are reported by participants as occurring sooner after drinking than are negative outcomes (Rohsenow, 1983). That is, the immediate effects of drinking are usually positive (e.g., social facilitation) whereas negative effects are often delayed consequences (e.g., hangover). Rohsenow (1983) found that light drinkers held lower positive expectancies than did moderate and heavy drinkers whereas negative expectancies were not found to vary between light, moderate, and heavy drinkers. From these results, Rohsenow postulated that positive expectancies are more predictive than are negative expectancies of alcohol consumption, which supports the concentration on positive expectancies in alcohol expectancy research.

The AEQ is the most commonly used measure for assessing alcohol expectancies. Nevertheless, despite the extensive utilization of the AEQ, it has received much criticism for two reasons: It excludes negative expectancies (e.g., Fromme et al., 1993; Young & Knight, 1989) and it includes both general and personal beliefs about alcohol (Bauman, 1985–86; Farber, Khavari, & Douglass, 1980; Maisto, Connors, & Sachs, 1981; Southwick, Steele, Marlatt, & Lindell, 1981). The AEQ global positive change subscale assesses the participant’s general beliefs about the effects of alcohol. General beliefs are about how the participant believes alcohol would affect anyone. Personal beliefs, on the other hand, concern how the participant believes alcohol would affect oneself. The AEQ’s incorporation of both general and personal beliefs makes it difficult to determine whether the participant’s expectancy score is a reflection of the participant’s expectation regarding the effects of alcohol on the participant or on others.

In response to criticism of the AEQ, Fromme et al. (1993) developed the Comprehensive Effects of Alcohol questionnaire (CEO). The CEOA has two major advantages over the AEQ. First, it measures negative as well as positive expectancies. Leigh (1987) found that the evaluation of positive and negative expectancies together was more predictive of the quantity of alcohol consumed than were positive expectancies evaluated alone. Second, the CEOA focuses only on personal beliefs about alcohol by only including items that refer to “self” and eliminating general (global) beliefs (Fromme et al., 1993). The CEOA possesses internal consistency, temporal stability, and construct validity (Fromme et al., 1993).

Because researchers have argued that negative alcohol expectancies are an important object of research (Adams & McNeil, 1991; Hittner, 1997), the CEOA promises to be a valuable assessment instrument. Supporting the CEOA’s inclusion of positive and negative alcohol expectancies, factor analyses by Schafer and Leigh (1996) demonstrated the empirical validity of the distinction between positive and negative alcohol expectancies. Schafer and Leigh found in a study of adolescents and adults that “factor solutions for the two groups corresponded closely in that each solution contained a general positive and general negative alcohol effect expectancy construct” (p. 406).

In support of the empirical difference between positive and negative alcohol expectancies, Johnson (1994) found that negative expectancies correlated negatively with frequency of drinking in a sample of college students. Finally, Buelow and Harbin (1996) found that participants who had experienced blackouts from drinking had higher positive and negative expectancies than did participants who had not experienced blackouts. Blackouts may, of course, be understood to indicate a heavy level of drinking.

Research on the alcohol expectancies of adults has not been limited to participants who drink. In examining abstainers’ expectancies, Leigh (1987) found that they often hold positive and negative alcohol expectancies similar to those of heavy drinkers and that their positive and negative alcohol expectancies differed greatly from those of moderate drinkers. The abstainers and heavy drinkers possessed higher positive expectancies than did low-to-moderate drinkers. In a study of expectancies in Hispanics and non-Hispanic Whites, Marin, Posner, and Kinyon (1993) found that abstainers reported negative expectancies for any situation in which alcohol would be consumed. Jones and McMahon (1996) found that participants who had experienced blackouts from drinking had higher positive and negative expectancies than did participants who had not experienced blackouts. Blackouts may, of course, be understood to indicate a heavy level of drinking.

The present study utilizes the CEOA to measure the positive and negative alcohol expectancies of col-
College students in relation to their drinking habits. The hypothesized ordinal relations are shown graphically in Figures 1 and 2. In an attempt to replicate the findings of Brown et al. (1987), we hypothesized that among the drinkers positive alcohol expectancies will covary positively with the level of drinking of the participant: the higher the level of drinking, the higher the positive alcohol expectancies. The present study diverges from prior research by distinguishing between two types of abstainers: permanent abstainers and temporary abstainers. Temporary abstainers should hold higher positive expectancies than permanent abstainers, but lower positive expectancies than all current drinkers do.

Because temporary abstainers might be considered future drinkers (drinkers who currently have a consumption rate of zero), temporary abstainers might be placed on the drinking continuum at the lowest level of drinking. Therefore negative expectancies are hypothesized to increase from temporary abstainers to light drinkers to moderate drinkers to heavy drinkers. The negative expectancies of permanent abstainers are hypothesized to be comparable to those of heavy drinkers (i.e., greater than those of moderate drinkers, light drinkers, and temporary abstainers).

**Method**

**Participants**

The participants were 47 undergraduate students (30 women, 16 men, 1 did not indicate sex) from a small midwestern college. The mean age was 18.9 years. Participation in the study was one means of fulfilling an introductory psychology research requirement.

**Measures**

Positive and negative alcohol expectancies were measured using the CEOA (Fromme et al., 1993). The CEOA “. . . measures expectations of physiological, psychological, and behavioral outcomes associated with drinking alcohol” (Fromme et al., 1993, p. 19). The CEOA contains seven factors that are divided into
two groups: positive and negative alcohol expectancies. The positive factors include sociability, tension reduction, liquid courage, and sexuality. The negative factors are described as cognitive and behavioral impairment, risk and aggression, and self-perception. Of the 38 questions, 20 measure positive alcohol expectancies and 18 measure negative alcohol expectancies. Assessment of expectancies begins with “If I were under the influence from drinking alcohol” and ends with a statement such as “I would be friendly.” The responses were checked on a 4-point Likert scale (1 = disagree, 4 = agree). The positive and negative alcohol expectancy scores were calculated separately for each participant from their answers to the 20 positive alcohol expectancy questions and the 18 negative alcohol expectancy questions. The expectancy score was calculated by dividing the sum total of the positive and negative alcohol expectancy answers by 20 and 18 respectively. Therefore, the lowest score was 1 and the highest score was 4 for both positive and negative alcohol expectancies.

We used Cahalan’s Quantity–Frequency Index (CQFI; Cahalan, Cisin, & Crossley, 1969) to determine level of drinking. The CQFI divides respondents into abstainers, light drinkers, moderate drinkers, and heavy drinkers. The CQFI also contains a category termed “infrequent drinkers,” but in the present study “infrequent drinkers” were included with the light drinkers. The CQFI determines a respondents’ drinking level by measuring how often they drink and how many drinks they typically have on one drinking occasion. The CQFI is divided into three sections: wine, beer, and whiskey or liquor. Each section begins with a question about how often the participant drinks alcohol. The answers range from never to three or more times a day. The remaining five questions in each section concern how many drinks the participant consumes on one drinking occasion.

A third measure, completed only by the abstainers, divided the abstainers into two groups: those participants who abstain from drinking with no intention of ever drinking (permanent abstainers) and
those participants who presently do not drink but postulate that they will consume alcohol in the future (temporary abstainers). The permanent abstainers were distinguished from the temporary abstainers by the question “Do you expect ever to drink alcohol?” Reasons for abstaining (religious, moral, or legal) were also assessed. We also recorded sex, age, year in school, grade point average, ethnicity, membership or nonmembership in a fraternity or sorority, political preference, and religion for all participants.

**Procedure**

We tested the participants as a group in a classroom. The questionnaire packets were administered so that half of the participants completed the CEOA first and the CQFI second (Packet A); the remaining participants completed the CQFI first and the CEOA second (Packet B). The abstainer sheet and the demographic sheet followed the CEOA and CQFI in each packet. Before the experimenter instructed the participants to begin, she read the instructions as the participants followed along in their questionnaire packet. The instructions assured the participants of their anonymity.

**Results**

We used CQFI scores to categorize participants according to level of drinking. Nine percent \((n = 4)\) were permanent abstainers, 11% \((n = 5)\) were temporary abstainers, 28% \((n = 13)\) were light drinkers (1–17 drinks/month), 11% \((n = 5)\) were moderate drinkers (18–44 drinks/month), and 43% \((n = 20)\) were heavy drinkers (45 or more drinks/month).

Mean positive expectancies by level of drinking are shown in Figure 3. The analysis of variance (ANOVA) main effect of the level of drinking on positive expectancies was significant, \(F(4, 42) = 3.1, p = .03\). Pairwise comparisons using Fisher’s protected least significant difference (PLSD) method found that temporary abstainers had significantly lower positive expectancies than did heavy drinkers.

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**Figure 3**

Actual mean positive alcohol expectancy scores in relation to level of drinking.

<table>
<thead>
<tr>
<th>Level of Drinking</th>
<th>Actual Mean Positive Expectancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent Abstainer</td>
<td>4.0</td>
</tr>
<tr>
<td>Temporary Abstainer</td>
<td>3.5</td>
</tr>
<tr>
<td>Light</td>
<td>3.0</td>
</tr>
<tr>
<td>Moderate</td>
<td>2.5</td>
</tr>
<tr>
<td>Heavy</td>
<td>2.0</td>
</tr>
</tbody>
</table>

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(\(p = .004\)), and light drinkers also had significantly lower positive expectancies than did heavy drinkers (\(p = .02\)).

Mean negative expectancies by level of drinking are shown in Figure 4. The ANOVA main effect of the level of drinking on negative expectancies was significant, \(F(4, 42) = 3.2, p = .02\). Pairwise comparisons using the PLSD method found that temporary abstainers had significantly higher negative expectancies than both moderate drinkers (\(p = .01\)) and heavy drinkers (\(p = .04\)). Permanent abstainers also had significantly higher negative expectancies than both moderate drinkers (\(p = .01\)) and heavy drinkers (\(p = .02\)).

Three unpaired \(t\) tests were used for comparison of order of completion and positive alcohol expectancies, negative alcohol expectancies, and level of drinking. There were no significant order effects between the participants who completed Packet A and participants who completed Packet B, all \(t(2, 46) < 0.66; all \ p > .51\).

**Discussion**

A trend consistent with the hypotheses for positive expectancies was shown in the significant main effect, with the exception that the permanent abstainers’ positive expectancies were not as hypothesized. The hypothesis that heavy drinkers would possess the highest positive expectancies was partly supported in that they possessed significantly higher positive expectancies than did light drinkers and temporary abstainers. The hypothesis that the temporary abstainers would possess lower positive expectancies than all levels of drinkers was not supported, as there was only a trend in the predicted direction. There were no significant relations found for either moderate drinkers or permanent abstainers. We predicted that the permanent abstainers would have the weakest positive expectancies; we rejected this hypothesis because they actually held some of the strongest positive alcohol expectancies, second only to the heavy drinkers. This result may suggest that for permanent abstainers, alcohol has the attraction of a forbidden fruit.
Through negative expectancies significantly varied between groups, the results did not generally support the initial prediction. Both permanent and temporary abstainers held significantly stronger negative expectancies than did moderate and heavy drinkers. We hypothesized strong negative expectancies for permanent abstainers but not temporary abstainers.

Among drinkers, the present study found the same general trend that past researchers have found; that is, the heavier the drinker, the higher the positive expectancies. The present study also found significant differences between the negative expectancies of drinkers and abstainers. The negative expectancy findings suggest an important distinction between the negative expectancies of abstainers and drinkers; the abstainers had higher negative expectancies than moderate and heavy drinkers did. However, there were no significant differences in negative expectancies between light, moderate, and heavy drinkers. Rohsenow (1983) reported similar data.

The present study is distinguished from prior research by its inclusion of a distinction between temporary and permanent abstainers. Because permanent and temporary abstainers differed in terms of positive expectancies, this distinction appears important, and the method we used to operationalize abstention may be valid. However, this suggestion must be taken with caution because the difference is a trend and not a significant difference. Because few abstainers participated in this study, future research on positive and negative expectancies should use larger samples of abstainers.

Finally, future researchers might reconsider the CQFI's method of measuring level of drinking. Although previous researchers have used the CQFI successfully, it suffered from a ceiling effect in the present study. The maximum quantity of alcohol consumption on the CQFI is five to six alcoholic beverages in a sitting. Because a large proportion of our participants indicated they had consumed alcohol at this level, future researchers may want to make additional distinctions between drinkers at the high end of the drinking continuum.

Because the present study found significant differences in both the positive and negative expectancies of drinkers and abstainers, it lends support to the claim that negative expectancies are important to expectancy research (Adams & McNeil, 1991; Hittner, 1997). However, the negative expectancies did not differ between the levels of drinking but did differ between abstainers and drinkers. Overall, the present study found distinctions between both positive and negative expectancies of abstainers and drinkers and offers new categories of abstainers for future research.

References


Schafer, J., & Leigh, B. C. (1996). A comparison of factor struc-