Short communication

The effect of alcohol on body size discrepancy and self-awareness in young women

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Abstract

Research has repeatedly verified high co-prevalence rates for bulimia and alcohol abuse. Two heuristics may help explain this co-occurrence. The self-inflation component of Steele and Josephs’ myopia model has been evaluated and results have indicated that alcohol consumption results in decreased self-discrepancy. Research on Hull’s self-awareness model also has largely found that alcohol decreases self-awareness among highly self-conscious individuals. Body size discrepancy and high self-awareness are believed to be core features of bulimia. Therefore, evidence that alcohol decreases body size discrepancy and self-awareness might clarify high rates of alcohol use in this population. A placebo-control design was used to examine the effect of alcohol on changes in body size discrepancy and self-awareness among female participants (N=57). However, results did not show a significant effect of alcohol on body size discrepancy or self-awareness, regardless of bulimic symptom severity.

Keywords: Alcohol; Eating disorders; Self-discrepancy; Self-awareness; Body dissatisfaction

1. Introduction

Although there has been much speculation about the co-occurrence of bulimia and alcohol abuse/dependence, a lack of experimental research has made it difficult to draw firm conclusions about the functional relationship between these behaviors (Wolfe & Maisto, 2000). Two models appear to be particularly relevant for guiding empirical research in this area. Steele and Josephs’ (1990) alcohol myopia model suggests that alcohol would be reinforcing for individuals whose self-concept is invested in

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an evaluative dimension with a large discrepancy between the ideal self and the real self. Such qualities would seem to be characteristic of individuals with bulimia, who typically perceive a discrepancy between their ideal body, which is frequently thinner than an average or healthy body, and their perception of their own body, which is often estimated to be larger than it really is. The self-awareness (SA) model (Hull, 1981), however, proposes that alcohol consumption impairs SA, resulting in decreased sensitivity to self-relevant cues. One outcome is a decrease in aversive affect in situations prompting negative self-evaluation. Heatherton and Baumeister’s (1991) review suggests that bulimics are vulnerable to states of aversive SA (ASA), that situations causing ASA precipitate bingeing, that eating disordered individuals are less self-aware during bingeing, and that the negative mood accompanying ASA is decreased after a binge–purge episode. If bingeing results in a decrease in ASA, then bulimic individuals may experience the same effect from alcohol. If alcohol decreases ASA, it follows that it may be used at high rates among bulimic individuals.

We hypothesized that the findings of this experimental study would replicate the results of past research, such that body size discrepancy (BSD) and SA would be reduced after alcohol consumption. Moreover, this effect was expected to be more pronounced for participants with higher levels of bulimic symptoms, which would provide initial support for the premise that bulimic individuals’ relatively higher rates of alcohol problems are due to the use of alcohol to decrease ASA and body dissatisfaction.

2. Methods

2.1. Participants

Fifty-seven female university students participated in the study (mean age 21.4 years, 90% Caucasian, 77% heavy drinkers). About 39% of the sample reported previous involvement with psychiatric treatment. Furthermore, 68% of participants reported past dieting behavior, 40% reported past bingeing behavior, and 33% reported past induced vomiting for weight loss.

2.2. Materials and procedure

2.2.1. Session 1

Prior to the session, participants were told not to consume alcohol or other drugs for 24 h before their appointment, or to eat or consume beverages other than water for 3 h before their appointment. A breathalyzer test was used to establish a BAC of zero. Next, participants were asked to complete the Self-Focus Sentence Completion task (SFSC; Exner, 1973) to provide a baseline measure of global SA. Participants were then instructed to select their perceived body size by increasing and decreasing nine different body parts of a female body shape using the IBM-based Body Image Testing System (BITS; Schlundt & Bell, 1993). Response time for selection of perceived body size on the BITS was used as a measure of body SA. After the perceived body size was selected, the screen was cleared and the participant was instructed to follow the same procedure to select her ideal body size. Next, participants provided satisfaction ratings for each body part and were asked to rate how important their body’s appearance was in determining how they felt about themselves. Following the BITS task, screening and assessment measures were administered (see Table 1). Next, participants were weighed to determine the dose necessary for individuals assigned to the alcohol condition to reach a BAC of .08% using a ratio of .65 gm alcohol/kg body weight. At the close of Session 1, participants who were not screened out were
scheduled for Session 2 (approximately a week later). Similar instructions regarding pre-session alcohol/drug use and food/beverage consumption were given as for Session 1. Prior to Session 2, participants were randomly assigned to one of the three beverage conditions: water (control), vodka and tonic, or flat tonic mixed with carbonated tonic (placebo).

2.2.2. Session 2

All procedures in the second session other than those related to beverage administration and post-beverage consumption BAC assessment were conducted by a female research assistant unaware of the participants’ beverage condition. Participants were given a breathalyzer test to establish a BAC of zero and were asked to self-administer a pregnancy test. Participants then were asked to provide ratings for the anxiety and depression subscale items of a shortened version of the Profile of Mood States (POMS; Nagoshi & Wilson, 1988). Although assignment to condition had been previously conducted, a coin was flipped in front of the participant to emphasize that the chance results of the coin toss would determine condition assignment. Beverages were mixed in front of the participant, divided into two glasses, and consumed over a 10 min period per drink. Next, a breathalyzer test was conducted and was re-administered every 15 min. Until participants in the alcohol condition reached an estimated peak BAC of .08%, they were asked to engage in a distracting activity. Control and placebo participants engaged in the same activity for a duration equivalent to the average absorption time for a moderate alcohol dose. At the end of this period, participants were asked to again complete the SFSC and the BITS tasks. Finally, the POMS anxiety and depression items were re-administered, followed by manipulation checks regarding condition and the study hypotheses.

3. Results

Before completing the primary analyses, factor analyses verified the subscale structure of the POMS and the SCS, inter-rater reliability was established for the SFSC task, and all data were examined for outliers/skewness and transformed as necessary. Preliminary analyses also showed that participants in the beverage conditions were not remarkably different.

Primary analyses consisted of a series of regression analyses. First, a hierarchical regression analysis examined the effect of beverage condition on change in BSD (the difference between body sizes selected...
for the perceived and ideal BITS tasks). Body mass index was force-entered into the regression model. BULIT scores were entered next, followed by condition, and the BULIT by condition interaction. Results yielded no significant main effects or interactions. Another way to measure BSD is through assessment of body satisfaction ratings. A regression analysis was used to assess the effect of BULIT scores, condition, and the BULIT by condition interaction on change in total body satisfaction ratings. No significant main effects or interactions were found.

Regression analyses also were conducted to assess the effect of beverage condition on change in SA. Variables were entered in the following order: BULIT scores, condition, and the BULIT by condition interaction, and this model was used to predict change in reaction time, change in total self-focused responses on the SFSC task, and change in self-focused/physical responses on the SFSC task, respectively. These regression analyses yielded no significant main effects or interactions.

Finally, the regression models were re-run with the addition of testing the main and moderating effects of perceived body size, baseline discrepancy, and private self-consciousness. Each of these factors was positively correlated with bulimia symptoms but did not interact with beverage condition.

4. Discussion

The data confirmed that bulimic symptomatology is positively associated with body size importance ratings, baseline BSD, and private self-consciousness scores. Nonetheless, bulimic symptomatology did not interact with beverage condition in producing a change in the dependent variables. It was expected that previous findings on the self-inflating and SA reducing effects of alcohol would be replicated. However, our data do not support that prediction. It is possible that earlier findings do not hold up when alternative (i.e., computer versus paper and pencil) methods of assessing the constructs of interest are used.

There are limitations of the design of this study. First, the sample size may not have provided sufficient power to sensitively test the hypotheses. However, if lack of power were a problem, then a trend consistent with hypotheses should have been evident. This was not the case. Second, this study used a sample of college women with varying levels of bulimic symptomatology. While eating disorder behaviors are prevalent among college-age women, it is possible that changes in BSD and SA only occur at more severe symptom levels. Finally, in addition to the intra-personal moderating variables accounted for in this investigation, certain inter-personal moderating variables may be important that were not incorporated in its design.

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