CUE, MOOD, AND PERSONALITY EFFECTS ON ALCOHOL EXPECTANCIES
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INTRODUCTION

- Drinking is a learned behavior resulting from a complex interaction of individual and environmental stressors.
- Cognitive factors (e.g., alcohol expectancies) play an important role in determining drinking behaviors.
- Expectancies vary according to individual and contextual factors.
- Contextual factors: alcohol cues (e.g., Courey et al., 1987; Dunn & Yagüez, 1999), mood states (e.g., Birch et al., 2004; Hufford, 2001), Personality (e.g., McCarthy et al., 2001; Furr et al., 2005).
- Few studies have examined the effects of cue and mood on alcohol expectancies (e.g., Goldstein et al., 2004; Wall et al., 2008).
- None have examined interactive influences.
- Personality dimensions (e.g., neuroticism) may moderate contextual influences on drinking (Sher et al., 1999).

METHOD: Participants

- Regular drinking college students at a Northeastern U.S. public university
- 46% female (n = 64)
- Average age: 20.2 (SD = 1.6) years old
- Ethnicity: 77% (n = 108) White
- 6% (n = 9) Asian
- 4% (n = 6) Black
- 4% (n = 6) Hispanic
- 6% (n = 8) Other

METHOD: Procedure

- Participants randomly assigned to either a negative or neutral mood induction (MII) and to an alcohol or non-alcohol visual cue presentation (CUE), followed by the expectancy reaction time task (ETASK) and self-report measures.

METHOD: Measures

- Alcohol Expectancy Questionnaire (EAQ)
- Young Adult Alcohol Use Inventory (YAAQ)
- Multidimensional Alcohol Cues Inventory (MACI)
- Big Five Inventory
- Neuroticism subscale of the Big Five Inventory (Goldberg, 1993)
- Personality trait items (included to control for general RT)

RESULTS: Contextual Effects

- Significant main effect of Cue type, F(1,134) = 4.00, p < .05, overall ETASK alcohol expectancy RT increased on trials preceded by alcohol cues (M = 1697ms; SE = 24ms) compared to non-alcohol cues (M = 1626ms; SE = 26ms)
- Cue type main effect significantly moderated by Expectancy type and Mood (i.e., an Expectancy type X Mood X Cue interaction; see Figure below), F(2,280) = 4.81, p < .009
- Decomposition of this interaction revealed:
  - Mood X Cue interaction significant for the tension reduction expectancy items, F(1,134) = 7.84, p < .006
  - Magnitude of the Cue effect varied by Mood on Tension Reduction expectancy trials.
  - Mood X Cue interaction not significant for social facilitation or activity enhancement items.

- Simple effects of Cue type tests for all combinations of Mood and Expectancy type indicated that the pattern of Cue type simple effects differed by Mood for Tension Reduction items.
- Simple effect of Cue type observed for TR expectancies in the stress mood condition, F(1,141) = 15.45, p < .001.
- ETASK expectancy response times increased on trials preceded by alcohol cues (M = 1622ms; SE = 45ms) vs. non-alcohol cues (M = 1556ms; SE = 52ms).
- Simple effect of Cue type not significant for Tension Reduction items in the neutral mood condition.
- Simple effects of Cue type not significant for either of the other expectancy type items (social facilitation and activity enhancement) in either stress or neutral mood conditions.

RESULTS: Bivariate Associations

- An exported, significant zero-order correlation observed between ETASK alcohol RTs and personality RTs, r(139) = .08, p > .05
- Subsequent ETASK analyses control for personality trait item RTs.

- Significant, negative, first-order partial correlation observed for Neuroticism and ETASK RT to all alcohol expectancy items variance were examined using partial correlations that controlled for individual differences in response speed (using response time on personality trait items).
- Mood, cue and expectancy type (tension reduction, social facilitation, activity enhancement) effects on ETASK RTs were tested within a mixed model ANCOVA to examine contextual influences on dynamic alcohol expectancy responding.
- Significant, negative, first-order partial correlation observed between ETASK alcohol RTs and personality trait item RTs.
- Additional ETASK analyses control for personality trait item RTs.

- Significant association between extraversion and ETASK RT was non-significant.
- Significant, negative, first-order partial correlation observed between ETASK and self-reported positive alcohol outcome expectancy items (Tension Reduction, Social Facilitation, Activity Enhancement).
- Participants who endorsed more self-reported expectancies responded faster to ETASK expectancy items. However, neuroticism did not moderate the specific Mood or Cue effects.
- These results underscore the importance of mood, contextual, and personality factors as influences of expectancy processes and offer some insight into mechanisms underlying the activation of expectancies. Results also shed light on a unique dimension of expectancies (i.e., RT controlling for self-reported expectancies) and how this dimension is affected by such contextual factors. Interventions aimed at altering expectancies in attempts to decrease heavy drinking may benefit from taking modifying contextual actors into consideration.

RESULTS: Personality Moderation

- Significant moderation of Mood and Cue effects on ETASK expectancy response times by neuroticism tested within a repeated measures General Linear Model (GLM) analysis.
- Personality trait item RT and self-reported PAE scores again included as covariates.
- Consistent with the earlier reported individual difference analyses, a main effect of neuroticism on overall ETASK alcohol expectancy response time, F(1,119) = 4.32, p < .05.
- Overall alcohol expectancy RT decreased as total neuroticism scores increased.
- No significant interaction between Neuroticism and above observed Mood or Cue effects.

CONCLUSIONS

This study supports the SLT emphasis on individual, contextual, influences on alcohol expectancies. We observed slowing responding to positive alcohol expectancies in the context of alcohol cues. This slowed responding was moderated by (alcohol) Cue type and by (Tension Reduction) Expectancy type, suggesting a specificity of the effects of negative mood and alcohol cues on mood-relevant expectancies. These findings are consistent with mechanisms put forth by information processing models, suggesting that speed of processing may be slowed in circumstances where other salient motivational factors (such as urges or emotions) are present. In addition, individuals higher on neuroticism also showed slower responding to overall alcohol expectancy items. However, neuroticism did not moderate the specific Mood or Cue effects. These results underscore the importance of mood, contextual, and personality factors as influences of expectancy processes and offer some insight into mechanisms underlying the activation of expectancies. Results also shed light on a unique dimension of expectancies (i.e., RT controlling for self-reported expectancies) and how this dimension is affected by such contextual factors. Interventions aimed at altering expectancies in attempts to decrease heavy drinking may benefit from taking modifying contextual actors into consideration.

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