Anxiety Sensitivity, Alcohol Misuse, and Expectancies

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Background and Significance

✸ Anxiety sensitivity (AS) refers to the belief that anxious bodily sensations (e.g., fast beating heart, shaking or trembling, shortness of breath) have harmful or negative social, psychological, and or physical consequences (Reiss & McNally, 1985; Reiss, Peterson, Gursky, & McNally, 1986).

✸AS has been shown to be a factor that contributes to the later development of panic attacks (Schmidt et al., 1997).

✸Panic disorder and panic attacks have been found to be more prevalent among women (Reed & Wittchen, 1998) and it has also been found that a diagnosis of panic disorder may be a risk factor for substance use disorders (Wittchen & Essau, 1993).

✸In addition to being a risk factor for panic, other theorists have also argued that AS contributes to alcohol misuse and abuse (Stewart et al., 1999).

✸Stewart et al. (2001) found that elevated AS levels were associated with increased drinking behavior and frequency, but not quantity.

✸When examining the different motives for drinking between men and women among varying levels of AS, it was found that women tended to drink more to avoid negative emotional states, whereas men drank to escape aversive external consequences (e.g., social awkwardness).

✸Drinking to relieve a negative affective state is one of the hallmarks of tension reduction theory (Conger, 1956).

✸Tension reduction can also be an expectancy that an individual may have due to negative reinforcement from previous situations (Morris et al., 2005).

✸Alcohol outcome expectancies (AOEs; Goldman et al., 1987) have been posited as beliefs that individuals have for the effects of using alcohol that influence actual drinking behaviors

✸MacLatchy-Gaudet and Stewart (2001) found that positive AOEs were more strongly related to drinking in positive social and sexual contexts when compared to the negative tension context in a sample of women, while only relaxation expectancies were strongly endorsed across all three contexts (i.e., social/sexual enhancement and negative tension).

✸Thus, women with high AS may be more likely to use alcohol to alleviate negative affective states due to beliefs about the tension reducing effects of alcohol.

✸The present study examined the moderating effect of AOEs regarding relaxation in the relations between AS and problematic drinking among female college students.

Further Analyses

• As the product term in the original model was not significant, the model was trimmed. As such, the product term was removed from the model and the data was re-analyzed. One of the path coefficients was then found to be statistically significant.

• Figure 2 presents the parameter estimates for the model, not including the product term.

•Standardized coefficients appear for each parameter of interest, with unstandardized coefficients in parentheses. The residual indicates the proportion of unexplained variance in the endogenous variables (i.e., they are error variances in standardized form).

• The variables were able to account for approximately 15% of variance in problematic drinking. One of the path coefficients were statistically significant. For every one unit increase in tension reduction, problematic drinking is predicted to increase by .38 units.

Fig. 1 Hypothesized Model

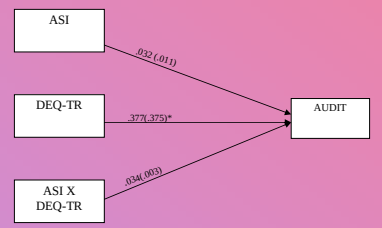
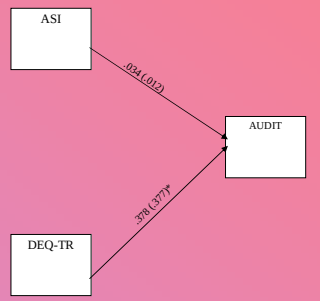


Fig. 2 Trimmed Model



Method

Participants

•Participants were 434 undergraduate female volunteers who attended Florida International University. Each participant completed a questionnaire packet.

Measures

•Drinking Expectancy Questionnaire (DEQ; Young & Knight, 1989)

•Tension Reduction Subscale (DEQ-TR) only

•Anxiety Sensitivity Index (ASI; Peterson & Reiss, 1987)

•Alcohol Use Disorders Identification Test (AUDIT; Babor et al., 1992).

Table 1.
Summary of Sample Demographic and Study Variables. (*N* = 434 women)

Age	*M* = 18.86 (*SD* = 1.70)
DEQ	*M* = 9.27 (*SD* = 3.65)
ASI	*M* = 20.34 (*SD* = 10.28)
AUDIT	*M* = 3.58 (*SD* = 3.63)

Data Analyses and Results

• The fit of the models in Figure 1 and 2 were evaluated with AMOS 5.0 using the sample covariance matrix as input and a maximum likelihood solution. The model is statistically just identified.

• Prior to analyses, the data for the covariance matrix were evaluated for multivariate outliers by examining leverage indices for each participant and defining an outlier as a leverage score four times greater than the mean leverage score.

•Sixteen outliers were identified and checked for accurate coding. There were no coding errors and the 16 outliers proved to be inconsequential for the analysis (i.e., all major conclusions remained intact when they were omitted from the analysis). Results are reported so as to include the outliers. There was no missing data.

•Assessment of Normality

•Multivariate normality was evaluated using Mardia's index (31.73; p < .01)

• Examination of univariate indices of skewness and kurtosis revealed no skewness above an absolute value of 1.828 but two values of kurtosis were greater than 2.0 (4.544 for the AUDIT total scores and 7.865 for the product term of the mean centered ASI scores and DEQ-TR scores).

• Due to non-normality, the models were evaluated using bootstrapping with 2000 bootstrap replicates. We also estimated the models using traditional maximum likelihood criteria and the results of both analyses yielded comparable conclusions. The results reported here are from the bootstrap analyses.

• Preliminary correlations indicated that relaxation AOEs and problematic alcohol use was significantly correlated (r = .38, p > .01).

• Figure 1 presents the parameter estimates for the model including the product term of the ASI and the DEQ-TR reflecting the interaction between anxiety sensitivity and tension reduction.

• Standardized coefficients appear for each parameter of interest, with unstandardized coefficients in parentheses.

• The variables in the model were able to account for approximately 15% of variance in problematic drinking (as measured by the AUDIT). As the product term in the proposed model was not significant, the model did not support the original hypothesis that anxiety sensitivity would moderate the relationship between tension reduction expectancies and problematic drinking.

Discussion and Conclusions

• Anxiety sensitivity has been previously linked to problematic drinking (e.g., Samoluk & Stewart, 1996) however, in this sample this relationship was not found in the trimmed model once the interaction term was removed. There are some reasons why this relationship might not have held in our sample.

• When examining the sample, it was found that there was variability in the ASI scores. Scores ranged from 0-59.

• It could also be that the majority of the sample were classified in the moderate to low ASI group (scoring at the mean or one standard deviation below the mean; as classified in previous studies according to gender; e.g., MacDonald et al., 2000, MacDonald et al., 2001).

•Only 76 participants scored in the high AS group.

•Thus, the AS rates were low for this sample.

• The trimmed model showed a significant relationship between tension reduction expectancies and problematic drinking. This further supports many of the current drinking theories, specifically expectancy theory.

•This is then important as no theory of problematic drinking and anxiety has fully explained the relationship between those two constructs therefore, there is need for a more encompassing theory for treatment and prevention strategies.

•This is also an important finding as this sample was predominately Hispanic and comprised only of females as there are often mixed findings about women and alcohol (e.g., Abrams & Wilson, 1979; Caudill, Wilson, & Abrams, 1987; De Boer, Schippers, & Van Der Staak, 1993) and little research on Hispanic women in particular.

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Reference for the ASI poster

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