

Introduction

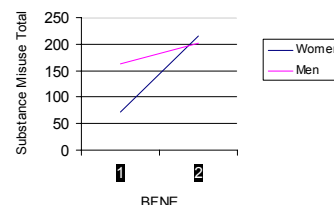
- Social anxiety disorder (also known as social phobia) is a common, debilitating disorder
 - Social anxiety disorder is the fourth most prevalent disorder, with lifetime prevalence rates of 12.1% (Kessler et al., 2005).
 - Socially anxious individuals have demonstrated impairments in academic, occupational, and social functioning (Stein, Torgrud, & Walker, 2000)
- Social anxiety and substance abuse appear to be related.
 - Substances may be used to reduce distress in social situations (e.g. Tran Haaga, & Chambless, 1997; Goodwin, Fergusson, & Horwood, 2004; Ham, Hope, White, & Rivers, 2002)
 - Kushner, Sher, and Erikson (1999) concluded that regardless of whether a substance use problem occurred first or an anxiety problem occurred they feed into each other reciprocally.
- Previous research has suggested that young adult women experience social anxiety to a greater extent than men, and that anxiety and substance use are more strongly linked for women than for men.
 - In the National Center on Addiction and Substance Abuse survey, girls with alcohol use disorders had higher rates of anxiety symptoms and anxiety disorders than boys (CASA, 2003).
- Although, there is research that examines alcohol use, social anxiety, and gender, most is either outdated or the studies have contrary findings.
- This study was designed to investigate the links between social anxiety (by fear of negative evaluation), substance use, and gender among emerging adults.
 - As there is evidence to suggest that gender could serve as a moderator the relationship between social anxiety and substance abuse, the current study was an exploratory investigation of gender as a moderator.

Table 2.
Means, Standard Deviations, and Gender Differences in Study Variables (N = 115).

	Male		Female		F
	μ	SD	μ	SD	
Substance Misuse Total	189.42	31.7	195.13	26.0	ns
BFNE	2.62	0.8	2.93	0.8	4.48*

Note: * $p < .05$. ns = no significant difference found.

Figure 1. Gender X Fear of Negative Evaluation
Plotted Interaction on Substance Misuse.



Results

- As shown in Table 2, women reported more social anxiety than men. Women and men did not differ in substance misuse total scores.
- Social anxiety (as operationalized as fear of negative evaluation) was significantly positively correlated with the substance misuse total (FVA + FVOD + SYM + OAT subscales of the SASSI) ($r = .28, p < .01$).
- To examine the moderating effect of gender on social anxiety with substance use, an interaction term was generated by multiplying gender by social anxiety. The three variables (gender, BFNE X gender, and the interaction term) were entered into hierarchical regression analyses. Analyses revealed that the model including the interaction between gender and fear of negative evaluation accounted for a significant proportion of the variance in substance use ($R^2 = .33, F(3,109) = 4.56, p < .01$).
- The product term was statistically significant ($\beta = -12.95, t(109) = -1.94, p = .05$), suggesting that the slope of substance misuse on fear of negative evaluation differed for males and females.
- Examination of slopes indicated that for women ($b = 17.55, p = .001$), as fear of negative evaluation increased, so did substance misuse.
- Conversely, substance misuse did not change across levels of fear of negative evaluation for men ($b = 4.60, p = ns$).

Method

• Data was collected in a multiethnic sample of 115 college students ages 17-28 currently attending FIU (see Table 1). Each student completed a questionnaire packet that included the measures below.

Table 1.
Summary of Sample Demographic and Study Variables (N = 115).

Gender	
Male	50 (43.5%)
Female	65 (56.5%)
Age	18.7 (SD = 1.99)
Ethnicity	
Hispanic/Latino	83 (72.1%)
White	8 (7%)
Black	3 (2.6%)
Caribbean	3 (2.6%)
Asian/Pacific Islander	2 (1.7%)
Other	6 (5.2%)
SASSI (substance misuse total)	192.6 (SD = 28.6)
BFNE	2.8 (SD = 0.8)

• The Substance Abuse Subtle Screening Inventory-3

- This assessment is a 93-item test with ten scales. It is printed on two sides; one side includes the face valid alcohol (FVA) and face valid other drugs (FVOD), the other side with 67 true/false questions which creates eight different subscales. The four scales used in this study were the FVA, FVOD, symptoms of substance misuse (SYM); obvious attributes (OAT). The random answering pattern scale was used to exclude invalid responses. For this study a substance misuse total variable was created (FVA+FVOD+SYM+OAT). The Cronbach's alpha for the substance use total was .72.

• Brief Fear of Negative Evaluation

- The BFNE (Leary, 1983) is 12-item questionnaire that assesses fear of negative evaluation, a core element of social anxiety. Respondents rate items on five-point scale ranging from "not at all" to "extremely." Scores in this study represent the means across all 12 items.

Discussion and Conclusions

- As expected, substance misuse was significantly associated with social anxiety as measured by fear of negative evaluation in college students.
 - This supports the view that young adults may use substances as self-medication for social anxiety.
- Women were more socially anxious than men, but did not differ in substance misuse.
- However, gender was a moderating variable in the relationship between social anxiety and substance misuse. When examining slopes there was an indication that substance misuse increased with social anxiety for women, but not for men.
 - Thus, young women may be more likely than men to try to cope with social anxiety by using substances.
- Taken together, these findings suggest that there may need to be different approaches to assessment and treatment of young women with social anxiety than for young men.
- Future research may need to examine this relationship in an older population. One of the limitations to this study is the relative youth of the sample. Typically, drinking escalates in college and as this sample was mostly comprised of first-year students, further research is needed with more seasoned college students, where problem drinking may escalate.
- Because problem drinking tends to "telescope", and may become more quickly problematic for females than males, a longitudinal study would be helpful in delineating trajectories over time, especially with females who experience social anxiety.