

Social Anxiety, Gender, and Drinking: Comparison of Social Anxiety Measures

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Introduction

- Epidemiological studies have found lifetime alcohol dependence prevalence rates of 24% among those with social anxiety disorder (Magee et al., 1996) with this relationship more strongly linked for women than for men.
- Examination of the different social anxiety facets in this relationship have yielded some mixed findings, particularly with dissimilarities in gender.
 - Recent work by Garcia et al. (2005a) found that women with higher social anxiety had more alcohol use disorder symptoms than women with lower social anxiety, whereas no such differences were observed for men.
 - However, in an even more recent study, when Garcia et al. (2005b) examined the interaction of gender and social anxiety on problem drinking among college students who self-identified as Hispanic ($N = 247$), the results were quite different. Contrary to Garcia et al., preliminary analyses revealed no significant interactions between gender and social anxiety with alcohol usage.
 - This could be due to the different measures of social anxiety used across studies.
- The purpose of the current study was to examine the moderating effects of gender in the relationship between social anxiety and problem drinking using a more comprehensive approach including three social anxiety facets within one study.
 - We hypothesized that gender would generally serve as a moderator in the relationship between social anxiety and alcohol use.
- In addition, given the subtle though critical different facets of social anxiety these measures represent and the mixed findings, an exploratory analyses of potential differences in examining gender and social anxiety in relation to alcohol use among individual measures were conducted.

Method

- Participants were 442 undergraduate student volunteers attending Florida International University (see Table 1). Each participant completed a web-based questionnaire battery.
- Social Phobia Scale (SPS)**
 - The SPS is composed of 20 self-report items intended to measure fears associated with scrutiny of being criticized during everyday activities (Mattick & Clarke, 1989).
- Social Interaction Scale (SIAS)**
 - The SIAS is composed of 19 self-report items intended to measure fears associated with social interactions (Mattick & Clarke, 1989).
- Brief Fear of Negative Evaluation (BFNE)**
 - The BFNE is composed of 12 self-report items and intended to measure the degree to which people fear being evaluated with negativity and disapproval (Leary, 1983).
- Alcohol Use Disorders Identification Test (AUDIT)**
 - The AUDIT is composed of 10 self-report items in order to assess the level of hazardous drinking of students (Saunders et al., 1992)
- Rutgers Alcohol Problem Index (RAPI)**
 - The RAPI is composed of 23 self-report items in order to assess the level of problem drinking and consists of regarding frequency of experiencing specific alcohol-related negative consequences (White & Labouvie, 1989).

Table 1
Summary of Demographics and Self-Report Measures for Overall Sample and Gender Groups

Variable	Overall Sample ($N = 442$)	Male ($n = 143$, 32.4%)	Female ($n = 299$, 67.6%)
Age	$M = 20.19$ ($SD = 2.46$)	$M = 20.27$ ($SD = 2.54$)	$M = 20.15$ ($SD = 2.42$)
Social Phobia Scale	$M = 19.63$ ($SD = 11.48$)	$M = 18.66$ ($SD = 11.56$)	$M = 20.09$ ($SD = 11.43$)
Social Interaction Anxiety Scale	$M = 18.93$ ($SD = 13.06$)	$M = 19.09$ ($SD = 13.88$)	$M = 18.86$ ($SD = 12.69$)
Brief Fear of Negative Evaluation	$M = 19.50$ ($SD = 8.96$)	$M = 18.47$ ($SD = 8.35$)	$M = 20.00$ ($SD = 9.22$)
Rutgers' Alcohol Problems Inventory	$M = 11.51$ ($SD = 13.17$)	$M = 15.22$ ($SD = 15.27$)	$M = 9.75$ ($SD = 11.67$)
Alcohol Use Disorders Identification Test	$M = 6.51$ ($SD = 5.09$)	$M = 8.47$ ($SD = 5.33$)	$M = 5.59$ ($SD = 4.70$)

Results

- To evaluate our primary hypothesis regarding the interaction, gender, social anxiety (SPS, SIAS, or BNFE), and the associated interaction term were entered into a series of hierarchical regression models with a drinking variable as the criterion (RAPI or AUDIT). Due to their quantitative properties, all social anxiety measures were centered prior to analysis. Moreover, gender was dummy coded as 1 for women and 0 for men. The process for centered interaction terms and moderating variable analyses followed the recommendations of Aiken and West (1991) and Baron and Kenny (1986).
- The majority of the analysis revealed no interaction between gender and social anxiety in its relationship to hazardous drinking and drinking problems. However, consistent with hypothesis, for the overall model with the RAPI as the criterion [$F(3,402) = 14.01$, $p < .001$], the gender X SPS interaction added significant variance in RAPI scores above and beyond the main effects of gender and SPS [$R^2 = .1$; $F_{\text{change}}(1, 402) = 7.08$, $p = .008$] and was a significant contributor to the model ($\beta = -.22$, $t = -2.66$, $p < .01$) (see table 2). All other tests for interactions were non-significant.
- The regression equation from the model testing the interaction of SPS and gender with the RAPI was used in order to plot results at one standard deviation above and below the SPS mean (see Figure 1). Upon examination of slopes, results indicated that for men, as SPS level increased, so did the frequency of alcohol-related negative consequences, while drinking problems had little fluctuation across SPS level for women.

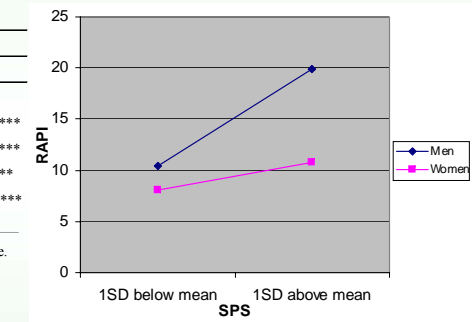
Table 2

Summary of Regression Analyses for Main Effects Model and Main Effects plus Interactional Model ($N = 442$)

	Main Effects			Main Effects and Interaction		
	ΔR^2	β	t	ΔR^2	β	t
1. RAPI & SPS	.08***			.02**		
Gender		-.21***	-4.30***		-.22***	-4.51***
SPS		.20***	4.20***		.38***	4.65***
Gender X SPS					-.22**	-2.66**
	$R^2 = .08$, $F(2,403) = 17.21$ ***			$R^2 = .1$, $F(3,402) = 14.01$ ***		

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. RAPI = Rutgers Alcohol Problem Index. SPS = Social Phobia Scale.

Figure 1. Relationship of performance anxiety between men and women.



Discussion

- The purpose of the study conducted was to comprehensively investigate whether gender serves as a moderator in the relationship between social anxiety and drinking.
 - In most cases, contrary to hypothesis gender was not acting as a moderator. However, there was one case in which gender did moderate social anxiety and alcohol use, but in the opposite direction than expected. Men tended to report more alcohol-related negative consequences as performance-related anxiety increased at a significantly higher rate than women.
 - These results indicate that there may be fundamental differences in specific aspects of social anxiety that may influence the relationship with drinking problems differently for men and women.
 - It is important to be aware as suggested by this study as well as previous studies that measurement differences related to social anxiety as well as drinking due indeed exist (Ries et al., 1998) and may be overlooked without appropriate measurement.
- Due to mixed results when using identical social anxiety measures, it is still difficult to say whether measurement differences were indeed responsible for mixed conclusions in previous research.
- This study supports the idea that social anxiety is extremely complex (Brady & Lydiard, 1993) and needs more attention when being assessed as well as when developing future measures for its assessment.

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References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage Publications.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 52, 1173-1182.
- Garcia, T. A., Benavides, D., Crook, B. C., & Ham, L. S. (2005, March). *Social anxiety, gender, and alcohol use: The relations among Hispanic young adults*. Poster session presented at the annual meeting of the Anxiety Disorders Association of America, Miami, FL.
- Garcia, T. A., Ham, L. S., Montgomery, M., & Hernandez, L., (2005, March). *An initial examination of the role of gender in social anxiety and self-medication*. Poster session presented at the annual meeting of the Anxiety Disorders Association of America, Miami, FL.
- Leary, M. R. (1983). A brief version of the Fear of Negative Evaluation. *Personality and Social Psychology Bulletin*, 9(3), 371-375.
- Mattick, R. P., & Clarke, J. C. (1989). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. Unpublished manuscript.
- Magee, W. J., Eaton, W. W., Wittchen, H., McGonagle, K. A., & Kessler, R. C. (1996). Agoraphobia, simple phobia, and social phobia in the national comorbidity survey. *Archives of General Psychiatry*, 53(2), 159-168.
- Saunders, J. B., Aasland, O.G., Babor, T. F., De La Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction*, 88, 791-804.