

Social and Academic Anxiety and Alcohol Abuse

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Abstract

A correlational study was performed to determine the relationship between social anxiety, academic anxiety, and alcohol abuse. The proposed relationship was that social anxiety would have a greater influence than academic anxiety on alcohol abuse. A survey was administered to students at Miami University using iterations of the SIAS scale, PAS scale, and AUDIT. After correlations were run using SPSS software, nonsignificant results were obtained for the relationship between social anxiety and alcohol abuse and between academic anxiety and alcohol abuse. A significant relationship was obtained between social anxiety and academic anxiety. Further research should be conducted with a larger sample size to find other factors of coping mechanisms for anxiety.

Keywords: anxiety, alcohol abuse, academic, university, undergraduates, students, stress

Social and Academic Anxiety and Alcohol Abuse

Alcohol consumption among college students is a cultural phenomenon in the United States, with many students encountering the freedom to explore these substances for the first time without the supervision of their parents. Binge drinking is defined by the CDC as exceeding the legal limit of 0.08 grams blood alcohol content (U.S. Department of Health and Human Services, 2018). Stress also tends to increase in college due to many factors including social and academic pressures. Social anxiety, academic anxiety, and alcohol abuse all become prevalent among college students, and the current study seeks to define which constructs have a greater impact on the others. More than finding a relationship, the researchers in this study were hoping to contribute to useful applications of these results in understanding the underlying causes of alcohol abuse in college students. With a knowledge of how these factors of mental health can influence the unhealthy behaviors in their student body, administrators and other college faculty can adapt preventative programs to more closely target these causes.

This section will focus on defining the constructs chosen to guide this experiment. Concerning the research question of the relationships between social anxiety and academic anxiety with alcohol abuse, these three areas are the main focus. The research sought to determine whether social anxiety has a larger impact on alcohol abuse than academic anxiety. In the order first presented, these constructs will be defined as they were operationalized after examination of previous literature.

Social anxiety was chosen by the researchers as prevalent on college campuses due to the nature of peer pressures and the desire to fit in with new cliques; students wish to assimilate to the new environment of college and may experience discomfort in new situations. Schlenker and Leary (1982) describe the pressures as seeking to impress their peers, in audiences real or

imaginary. This coincides with the fable described in developmental psychology as the imaginary audience, where adolescents believe everyone is attuned to their flaws (Kuther, 2017).

Ham, Bonin, and Hope (2006) found that in a study of the motives behind drinking behaviors measured against anxiety level in college students, those with high and moderate social anxiety had increased use as a coping mechanism. They did not find a correlation between social anxiety and alcohol use at a weekly frequency. This may guide us to think that specifically binge-drinking, or alcohol abuse as we define it using the AUDIT scale, is not necessarily associated with these types of anxiety. This study did not focus on the abuse of alcohol, however.

For this study the aim in selecting a scale to measure social anxiety was to find one that included items to measure interpersonal relationships and comfort in social situations. The SIAS scale, known as the Social Interaction Anxiety Scale, has items that follow along these lines as applicable to young adults. Mattick and Clarke (1998) pioneered this research as they defined social anxiety scale items for accuracy against diagnosed patients. They choose to define the construct along the lines of stress upon interacting with other people and fears include being ignored, sounding stupid, or being considered boring (Mattick & Clarke, 1998). As the researchers in the current research would anticipate social situations relating to students, those items were selected.

Social anxiety is considered important in college students' lives because of its prevalence in college students. Potter and colleagues (2016) conducted a study with students of low and high anxiety levels. They sought to find the relationship between level of anxiety and problem drinking, without specifying the type of anxiety to social or academic stressors in particular. Despite this lack of specification, the study's results parallel this current research nicely. They found that those students with high levels of anxiety were more likely to turn to alcohol as a

coping mechanism after social interaction. This brings in another variable of time, considering if there is a link between the anxiety source and the time that the problem drinking occurs in relation to the event. The current study does not take this into account, but an experiment may be useful in further research to determine interest in alcohol after a stressor event. As daily interactions in college may introduce stressors, the prevalence of these interactions and their perceived magnitude may also be taken into account.

Academic anxiety is a term referring to the anxiety surrounding academic pressures. This includes attributes such as time, which includes the amount of time allotted for the student take a test, the perceived amount of time to complete all coursework, the perception that they spend enough time studying, or if there seems to be enough time to relax. Other areas would include pressures from their parents or family surrounding their grades and plans after graduation, as well as their confidence in their ability to succeed in classes and post-graduation life.

Grover and Smith (2006) explored the relationship between academic anxiety and achievement in medical students, citing that the coping mechanisms again may account for some level of achievement. Without focusing on alcohol specifically, the duo explored the interplay of various factors impacting academic stress, which lowered achievement. The theme continues to play out in previous research revolving around academic stress and its impact on several spheres of a student's health and well-being.

Bedewy and Gabriel (2015) created the Perceptions of Academic Stress scale, or PAS scale, which the researchers in the current study adapted for the final survey to fit the situations they supposed applied most directly to college students. Bedewy and Gabriel studied academic anxiety as seen in medical students as well, indicating that this demographic seems the standard for studiously-minded subjects. In relation to alcohol, the defining of academic anxiety as it

relates to this demographic may not map onto the demographic or scholarly-mindedness of heavy drinkers on Miami University's campus in particular, but the sample items themselves are general enough to apply situationally across majors. Barker, Howard, Villemare-Krajden, and Galambos (2018) performed a longitudinal study across two samples of undergraduate students to assess the correlation between perceived academic stress and levels of depression. Depression was reported to peak in December, and they also found that the peaks in depression were associated with higher levels of academic stress. The December peak coincides with end-of-semester finals, which are typically a stressful time associated with increases in intensity of studying and time dedicated to schoolwork. This time also takes away from socializing, which may increase loneliness or other factors influencing depression. In any case, the importance of academic anxiety is rooted in its detriment to the mental health of college students, and is keenly felt by many.

Alcohol abuse is defined operationally in this study by using the AUDIT scale. The scale is used clinically to identify harmful behavior, which is rated as a sum of 8 or higher (Babor, de la Fuente Saunders, and Grant, 1989). The scale creators defined this hazardous consumption as drinking alcohol to the point of causing physiological and/or psychological harm. As stated earlier, it is a cultural phenomenon in the United States for college students to drink in excess. Perkins (2002) found that most students do not have the perception that they are drinking at a hazardous level. Drinking also causes harm in relationships for females and may lead males to public deviance (Perkins, 2002).

Alcohol abuse was selected as a construct for this study due to its concerning prevalence in the Miami University community as well as its use as a coping mechanism, which was posited to be a possible factor in correlation with the types of anxiety discussed. Both social and

academic anxiety, by their definitions alone, are likely to be found on college campuses and have been perceived anecdotally by the researchers. Stress may lead students to turn to coping mechanisms, and alcohol's status as a possible coping mechanism was a large factor in positing the relationship. Since college students have been exposed to varying levels of academic stressors and social-interactional stressors in life up through college, it is reasonable to suggest that these factors may contribute to their increasing use of alcohol. All three factors become heightened in the university setting, yet social anxiety is hypothesized to have a greater relationship with alcohol abuse due to the increased importance of relational ties due to students having been detached from their family and friends back home.

This study exposes a research gap in studying the inconsistent findings relating academic anxiety and alcohol abuse. Current research focuses on the relationship between social anxiety and alcohol abuse with little consistency in reports concerned with academic stress. In previous research it was found that "maladaptive coping" was a mediator in the relationship between academic stress and alcohol abuse, which is a proposed reason that Miami university students with academic anxiety would turn to alcohol (Metzger et al, 2017).

Methods

Participants

Participants for this study were recruited from the campus of Miami University and the Miami University regional campuses in Middletown and Hamilton. 40 total participants were included in the sample, including 36 females and 4 males of primarily Caucasian background. This number of participants was selected to increase the possibility of statistical significance in any findings demonstrating a relationship among our selected variables. Fifty-seven participants took part in the survey, but those reports were excluded which did not complete the entire survey,

with a final count of forty. The survey selected for college students by automatically sending participants who reported that they were not currently taking college classes to the end of the survey.

Measures

To examine the constructs of academic anxiety, social anxiety, and alcohol abuse in Miami University students, a survey was created in the form of self-reported behavior and questionnaires. The research design included sending out a self-questionnaire survey using the online platform of Qualtrics, whereupon the results would be scored and analyzed for correlation between the variables of social anxiety, academic anxiety, and alcohol abuse among Miami University students. Instead of forming our own questions, we sought out existing, published scales to increase the validity of the survey. Research in the areas of those fields led us to the PAS scale for academic stress, the SIAS scale for social anxiety, and the AUDIT scale for alcohol abuse. The two anxiety scales are Likert scales asking participants to report how they feel the items relate to them on a scale from agree to disagree. The AUDIT scale asks about consumption based on quantifiable measures such as number of drinks or occurrences of drinking.

The Perceptions of Academic Stress (PAS) scale was developed by Bedewy and Gabriel in 2015. After research over the factors that contributed to stress among medical students, they created an 18-point Likert scale focusing on the effects of pressures to perform, perceptions of workload, academic self-perception, and time restraints. Each of the factors had an internal consistency of 0.5 or higher, and the scale overall had a reliability of 0.7 in a study with 160 psychology students (Bedewy and Gabriel, 2015). The scale was chosen based on its questions' relevance to college students, including items such as "The size of the curriculum (workload) is

excessive” (Bedewy and Gabriel, 2015). Answers were reported using a Likert scale from 0 meaning Strongly Disagree to 4 meaning Strongly Agree. Three of the eighteen items were reverse-coded for our survey.

The Social Interaction Anxiety Scale (SIAS) was used to score participants for social anxiety. It was developed in 1998 by Mattick and Clarke to evaluate general fear of social interaction among college students as compared to people with clinically diagnosed social phobia. Each item of the scale was significant under trial (Mattick and Clarke, 1998). This scale fit our construct of social anxiety as it pertains to fear of social interactions. Three of the items from a twenty-point segment of the scale were reverse-coded, including “I am at ease meeting people at parties, etc.” Answers were reported using a Likert scale from 0-4 ranging from “Not at all characteristic or true of me” to “Extremely characteristic or true of me” (Mattick and Clarke, 1998).

The AUDIT, or Alcohol Use Disorders Identification Test, was chosen as an objective scoring to determine whether participants’ drinking behaviors constituted alcohol abuse. A sum score of 8 corresponds to “hazardous or harmful alcohol use,” and items include questions such as the following: “How often do you have a drink containing alcohol?” (Babor et al, 1989). Answers included “Never,” “Once a month or less,” “2-4 times a month,” “2-3 times a week,” and “4 or more times a week.” Each question contained five possible responses, so the questions were scored as if a 0-4 Likert scale was used. There were four types of responses, depending on the question asked. Another question type counted the number of drinks This scale was selected to find a clinically defined measure of harmful use of alcohol, and we are utilizing ten items from the scale. In the instructions for this section we stated that the responses would be confidential and asked participants to be as honest and accurate as they could.

Procedure

The survey was developed online via the Qualtrics program, and shared with participants by email and over social media. The survey had an expected duration of 9.6 minutes and included 18 items for social anxiety, 20 items for academic anxiety, and 10 items for alcohol abuse. The survey also included an informed consent, demographic section, and debrief section. The informed consent section was followed by a forced response question asking whether the participant was currently enrolled and taking college courses. If they reported that they were not, the program was designed to redirect them to the end of the survey to eliminate their responses from consideration. The only deception involved was in not disclosing the expected relationship prior to the debrief section. Participants were not offered compensation for their time.

Results

A directional hypothesis proposed that the correlation would be positive between social anxiety and alcohol abuse, as well as between academic anxiety and alcohol abuse. Cronbach's alpha was first determined for each scale to determine the internal consistency of each measure. The Cronbach's alpha for the Perception of Academic Stress Scale (PAS) was $\alpha=0.667$, the Social Interaction Anxiety Scale had $\alpha=0.906$, and the Alcohol Use Disorders Identification Test (AUDIT) had $\alpha=0.791$. The threshold we sought was 0.7, so an inter-item correlation was run for the PAS scale. None of the items was significant to eliminate, so each was retained. A one-tailed t-test was used for the evaluation of our results. Using Pearson's Correlation Coefficient of R, we found a moderate positive significant correlation between academic anxiety and social anxiety with an R of 0.398, $df=38$, $p=0.011$. The correlation between academic anxiety and alcohol abuse was nonsignificant with $R = 0.250$, $df=38$, $p=0.120$, and the correlation between social anxiety and alcohol abuse was nonsignificant with $R = -0.119$, $df=38$, $p=0.465$.

We determined whether there was a relationship between social and academic anxiety and alcohol abuse. The proposed relationship was that social anxiety would be more strongly correlated with alcohol abuse than academic anxiety, and that this relationship would be in a positive direction. A correlation was run with each of the three constructs. Academic anxiety as reported by the PAS scale had a Pearson's r of 0.250, $p = 0.120$ with alcohol abuse, as reported by the AUDIT scale. This is a nonsignificant correlation since $p > 0.05$. Social anxiety as generated using the SIAS scale had a Pearson's r of -0.119, $p = 0.465$ with alcohol abuse, as reported by the AUDIT scale. This is also a nonsignificant correlation since $p > 0.05$. The PAS scale and SIAS scale had a correlation of $r = 0.398$, $p = 0.011$. This is a significant, moderate positive relationship.

Discussion

General Discussion

The researchers expected to find a positive relationship between the PAS scale and AUDIT scale, and that this relationship would be stronger than the correlation between the SIAS scale and AUDIT scale. While the p -value for the correlation between the PAS and AUDIT was smaller and Pearson's r was stronger than the correlation between the SIAS and AUDIT, the nonsignificant results limit the conclusions that can be made. The social anxiety scale had a less significant relationship than academic anxiety and was in a weak negative relationship with alcohol abuse. The nonsignificant findings between the anxiety scales and AUDIT scale were unexpected. This indicates that alcohol abuse is not related to academic or social anxiety in Miami University students.

Social anxiety and academic anxiety were found to have a moderate positive relationship ($r(38)=0.398$, $p=0.011$). This relationship was not posited among the hypotheses generated by the

researchers at the beginning of this study. The findings suggest that someone with social anxiety may also have academic anxiety. While it was determined that each scale had internal consistency to an acceptable degree, these findings suggest that our hypotheses were not supported in this sample of students. Further study is needed to generate more conclusive results.

Limitations

The sample of participants in this study likely affected the obtained results. Our participants were mostly Caucasian females, and a population of only 40 participants further limited the chances that this would be a representative sample. This was convenience sampling conducted via email, social media, and group messaging. The ethnic, gender, and age makeup of the sample was not reflective of Miami University as a whole, nor does it generalize to other colleges or populations of students. This limits the external reliability of the study. The study had forty-eight total items, which may have been overly long and turned away some potential participants. The Perceptions of Academic Stress scale did not have the internal consistency we were hoping to meet of $\alpha=0.7$, so this dampens the strength of the conclusions we can make. Eliminating a few items to shorten the study as well as recruiting a larger sample would help to increase the generalizability of the study.

Future Directions

The constructs of anxiety and alcohol abuse are relatable issues for college campuses, our demographic under study. The anticipated relationship is that alcohol abuse may be a coping mechanism for students under stress, although we found nonsignificant relationships from our sample. One of the questions we had in forming the hypothesis was which factors drive students to drink. Future studies could assess the level to which certain factors impact drinking behavior,

such as academic anxiety level, peer pressure, sleep quantity, perceptions of alcohol, and engagement in other healthy behaviors such as exercising and eating well.

It could be interesting to expand our population to include all adults, by which we would look for a relationship between anxiety associated with work and alcohol abuse. This would be an adjustment of the academic anxiety scale to fit the performance pressures of non-students. Our original hypothesis would suggest that the higher the work anxiety, the higher the occurrence of alcohol abuse.

Conclusion

We sought to find the relationship between academic anxiety, social anxiety and alcohol abuse among a sample of Miami University students. Academic anxiety as reported using the PAS scale had a nonsignificant relationship with alcohol abuse as reported using the AUDIT. Social anxiety and alcohol abuse also had a nonsignificant relationship. Academic anxiety and social anxiety had a significant moderate positive relationship. While the relationships proposed in our hypothesis were nonsignificant within our sample, we hope to alter the study in the future to identify motivations driving alcohol abuse in Miami University students in a larger sample.

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Tables

Table 1.

Internal Consistency of PAS, SIAS, and AUDIT.

Scale	Cronbach's Alpha
PAS scale	0.667*
SIAS scale	0.906
AUDIT scale	0.791

Note: Cronbach's alpha was determined for each scale, representing the internal consistency of each scale. The PAS scale is the Perception of Academic Stress scale, which had a sub-threshold alpha of 0.667. An inter-item correlation was performed, but none of the items were found to be significant, so none were excluded and the scale was retained. The SIAS scale is the Social Interaction Anxiety Scale, and the AUDIT scale is the Alcohol Use Disorders Identification Test.

Table 2.

Constructs	Correlation
PAS x AUDIT	Pearson's $R = 0.250$, $p = 0.120$
SIAS x AUDIT	Pearson's $R = -0.119$, $p = 0.465$
PAS x SIAS	Pearson's $R = 0.398$, $p = 0.011^*$

Note: Bivariate correlations were run between each construct to determine the strength and direction of each relationship. The PAS and AUDIT scales had a nonsignificant relationship (p -value=0.120, $R(38)=0.250$). The SIAS and AUDIT scales had a nonsignificant relationship (p -value=0.465, $R(38)=-0.119$). The PAS and SIAS scales had a significant mild positive relationship of $R(38)=0.398$, p -value=0.011. This indicates that academic anxiety is positively correlated with social anxiety among a sample of Miami University students.