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Generalization of Social Anxiety to Sporting and Athletic Situations: Gender, Sports Involvement, and Parental Pressure

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Abstract

Although researchers have documented that social anxiety may occur in a wide range of interpersonal and performance situations, little attention has been paid to the potential influence of social anxiety on participation in athletics or physical activity. The performance demands of sport and potential social evaluative nature of exercise make it likely that social anxiety would generalize to these situations. Given the physical and psychological benefits of engaging in regular physical activity, avoidance of such activities by socially anxious individuals may have profound health consequences. One-hundred and eighty undergraduate university students completed a battery of standardized social anxiety measures, and a series of 5-point Likert-type questions examining fear and avoidance of sporting and athletic situations. Results indicated that social anxiety and fear of negative evaluation were generally related to social-evaluative fears in sporting or athletic situations, particularly for women. Furthermore, social anxiety was positively correlated with avoidance of individual sporting activities, but not with avoidance of team activities. Further analyses revealed social anxiety did not differ by competition level. However, for men, familial pressure to play sports during high school was associated with higher fear of negative evaluation. Implications for the assessment and treatment of social anxiety disorder are discussed.

Keywords: social phobia, physical activity, assessment, avoidance

Introduction

Social anxiety disorder, excessive anxiety in social and performance situations arising from the fear of embarrassment or negative evaluation, has been suggested to be the third most prevalent psychological disorder [Kessler et al., 1994], occurring in 7.1% [Stein et al., 1994] to 13% [Kessler et al., 1994] of the population. The essential feature of social anxiety disorder—fear of negative evaluation—is clearly delineated in DSM-IV [American Psychiatric Association, 1994]; however, the specific situations in which social anxiety should be assessed remains relatively undefined. The Anxiety Disorders Interview Schedule (ADIS-IV) [Brown et al., 1994], for example, queries fear and avoidance in 12 social situations, while the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) [First et al., 1997] notes only three global situations. Commonly used self-report

and clinician-rated measures cover a broader range of situations, such as the 24 situations assessed by the Liebowitz Social Anxiety Scale (LSAS) [Liebowitz, 1987] and the 76 interactions assessed by the Social Phobia and Anxiety Inventory [Turner et al., 1989].

Following a review of the pertinent empirical literature, Rapee [1995] concluded that the most prevalent situations in which social anxiety is reported are public speaking, parties, meetings, and speaking to individuals in a position of authority. In an attempt to understand how social anxiety generalizes across situations, Holt et al. [1992] clustered the feared situations assessed by the LSAS into four general categories of social interaction: Formal Speaking or Interaction, Informal Speaking or Interaction, Assertive Interaction, and Observation of Behavior. Data from participants meeting DSM-III criteria for social phobia suggested formal speaking or interaction, endorsed as at least moderately

anxiety-provoking by 70.3% of the sample, was the most common focus of social anxiety. Informal speaking or interaction was the second most commonly endorsed situation (46.2%), followed by assertive interaction (30.8%), and observation of behavior (22.0%). More recently, Saffren et al. [1999] examined the factor structure of social fears assessed by the LSAS. Confirmatory factor analysis failed to support the original two-factor (Performance and Social Interaction) structure proposed by Liebowitz [1987]. However, a subsequent exploratory factor analysis revealed a stable four-factor solution: social interaction, public speaking, observation by others, and eating and drinking in public [Saffren et al., 1999].

Despite the abundance of research examining situational characteristics of social anxiety, anxiety in sporting or athletic situations is not assessed in any of the common measures of social anxiety. Furthermore, there are no known empirical studies directly examining whether social anxiety generalizes to sporting or athletic situations, despite clinical reports indicating that treatment for social anxiety disorder sometimes includes exposures to playing individual and team sports, jogging, and working out at a health club [e.g., Chambless and Hope, 1996]. This paucity of research is surprising given that athletic and sporting situations are frequently outcome-oriented and lend themselves to perceptions of negative evaluation. Moreover, many non-competitive physical activities, such as aerobic exercise classes, still require performance where one might be observed and evaluated by others.

Thus, the primary purpose of the study was to investigate whether individuals who tend to experience social-evaluative anxiety in the performance and social situations that are commonly assessed, may also report distress in sporting and athletic situations. The intent is to identify a clinically significant domain to which individuals' fears may have generalized, not to define a new subtype of social anxiety.

Certainly, distress in sporting or athletic situations may occur for a variety of reasons. For example, individuals with eating disorders are concerned about being negatively evaluated based on their weight or shape. However, for social anxiety, the anxiety would center on fears of performing the activity correctly or self-consciousness about being observed by others. Social anxiety may play an important role in some eating disorders [Schwalberg et al., 1992].

Participation in physical activity holds numerous significant physical and mental health implications, while a non-active lifestyle is associated with numerous physical conditions and disease states. A joint position statement from the World Health Organization and the International Federation of Sports Medicine, noted that a sedentary lifestyle is a pronounced risk factor for heart disease, diabetes, hypertension, and several types of cancer [Fédération Internationale de Médecine Sportive, 1989]. As well, the International

Society of Sport Psychology issued a position statement that engaging in regular physical activity produces psychotherapeutic benefits including decreased depression and stress, and improved self-esteem [International Society of Sport Psychology, 1992]. Therefore, assessment of fear and avoidance in physical activity and athletic situations would be valuable in planning treatment for the socially anxious patient, as avoidance of such activities has implications beyond impairment of social functioning.

Social Anxiety and Competitive Athletics

Participation in athletic activities frequently starts early in life through organized opportunities in school and community leagues. Parents may influence whether a socially reticent child participates in such activities. Parental encouragement may provide opportunities for repeated exposure to feared situations, resulting in a reduction in social anxiety around participating in sports for the child. Conversely, parental pressure to perform well at sports may lead to greater concern about performance or fears of being negatively evaluated in such situations. Although there is little research examining these hypotheses, Scanlan and Lewthwaite [1984] demonstrated that parental pressure to compete is positively correlated with precompetitive stress among adolescent male wrestlers. Other research on pressure to engage in exercise [Taylor et al., 1999] noted that being forced to exercise as a teen or preteen and being encouraged to exercise as a preteen were negatively related to adult physical activity levels.

Anxiety in competition and performance has been addressed repeatedly in the sport psychology literature [for recent reviews see Jones, 1995; Smith and Smoll, 1990]. However, the vast majority of these studies have examined the effects of anxiety on performance. A small number of studies have examined the role anxiety plays in sport non-participation or discontinuation among children and adolescents. While the evidence is limited, studies by Orlick and Botterill [1975] and Pierce (unpublished) suggested that many nonparticipants would like to compete in sports but do not because of fears of poor performance, failure, or not making the team. In addition, Scanlan [1984] theorized that competitive anxiety among athletes stems from fears of negative social evaluation of the athlete's performance. This notion is supported by findings of Simon and Martens [1979] who demonstrated greater competitive stress among athletes in individual sports, where they are the sole focus of an observer's attention, than among athletes participating in team sports, where the observer's attention is diffused among multiple participants. However, a variety of other factors, such as goal orientation and motivational climate [e.g., Ntoumanis and Biddle, 1998; Williams, 1998], have been noted to impact the degree of anxiety experienced in sport or athletic situations.

Hypotheses

The purpose of the current study is to present a preliminary examination of the relationship between social anxiety, and anxiety and avoidance of sporting or athletic activities among a sample of undergraduate university students. This population was deemed appropriate, as athletics and physical activity are common aspects of college life and help establish health and fitness habits for later in life. First, it was hypothesized that anxiety in and avoidance of sporting and athletic situations would be positively related to measures of social anxiety. Second, it seemed likely that socially anxious individuals would avoid the performance demands of intercollegiate athletics. Severe social anxiety may also interfere with athletic performance, thus eliminating socially anxious individuals from the higher levels of competition. Therefore, it was hypothesized that individuals engaging in intercollegiate sports would be less socially anxious and less anxious in sporting situations than individuals in intramural sports or non-participants. Third, it was hypothesized that current and past familial pressure to participate in athletics would be associated with higher social anxiety and higher anxiety in sporting situations.

Methods

Participants

One hundred and eighty Introductory Psychology students (66.5% women) provided data for this study. One hundred and thirty-eight participants (63% women) were recruited directly for the purposes of this study, while 42 (78% women) were recruited for a separate information processing study [Burns and Hope, 1998] but also provided data for this study. The majority of the participants were Caucasian (91.6%); 5.0% were African American, 1.1% Hispanic or Latino, 1.1% Asian or Pacific Islander, 0.6% Native American, and 0.6% reported their ethnicity as "Other." Of the sample, 67.5% were freshmen, 17.5% were sophomores, 5% juniors, and 10% seniors. Participants received partial course credit for participation.

Measures

Each participant completed a battery of questionnaires, including demographic and background questions, and three measures of social anxiety selected to assess a range of social fears: the Brief Fear of Negative Evaluation (BFNE) [Leary, 1983a], the Interaction Anxiousness Scale (IAS) [Leary, 1983b], and the Social Avoidance and Distress Scale (SADS) [Watson and Friend, 1969]. These three social anxiety measures were selected to assess a broad range of social fears in a variety of situations. Furthermore, with clinical and non-clinical populations, these measures have been shown to be significantly correlated with other measures of social anxiety, including the LSAS [see Heimberg et al.,

1999; Safren et al., 1999] and the Mattick and Clarke [1998] Social Interaction Anxiety Scale and Social Phobia Scale [see Heimberg et al., 1992].

The BFNE [Leary, 1983a], an adaptation of the Fear of Negative Evaluation Scale (FNES) [Watson and Friend, 1969], is a 12-item scale assessing fear of negative evaluation stemming from perceived loss of social approval. The BFNE correlates nearly perfectly to the original FNES, and both have demonstrated good psychometric properties [Leary, 1983a].

The IAS [Leary, 1983b] is a 15-item measure that assesses social anxiety, not avoidance, for situations in which the individual is directly interacting with others, as opposed to being observed by others. Interactions include social gatherings and communication with members of the opposite sex or authority figures. The IAS is reported to hold satisfactory reliability and validity [Leary, 1983b].

The SADS [Watson and Friend, 1969] evaluates avoidance of, and anxiety in social situations. It consists of 28 statements, each of which is endorsed as either true or false. The SADS has demonstrated adequate psychometric properties, particularly with non-clinical populations [see Heimberg et al., 1988; Turner et al., 1987].

Participants rated the degree to which they currently feel pressure to compete in sports and the degree they felt pressure from their parents to compete in sports during high school. Ratings were made on separate 5-point scales (1 = no pressure; 5 = a lot of pressure).

Finally, participants completed a series of questions on 5-point Likert-type scales (1 = Not at all characteristic of me; 5 = Extremely characteristic of me) assessing social anxiety and avoidance of participating in sporting or athletic situations. Questions were developed and selected based upon face validity and reflect various aspects of social anxiety, including fear of negative evaluation, cognitive and somatic complaints, and perceived competence. These questions and associated univariate summary statistics appear in Table 1. When possible, questions used similar wording to items on standardized scales such as the BFNE and IAS.

Procedure

Participants recruited for the direct purposes of this study were recruited by means of posted sign-up sheets for a study entitled "Reactions to Socializing, Working Out, and Athletics." Participants were tested in groups and only completed the questionnaire battery. Participants in the information processing study, entitled "Shape-Naming Task" [Burns and Hope, 1998], completed the questionnaires before or after a Stroop task, in a counterbalanced fashion. Participants were recruited in an identical manner via sign-up sheets on a departmental research participation bulletin board, and the project titles and descriptions were worded neutrally to avoid sampling biases. The two data collection periods occurred during different academic semesters.

Thus, unless a participant enrolled in Introductory Psychology during two consecutive semesters and signed up for these studies in both semesters, they could not have provided data twice. Due to technical errors, responses to the sport anxiety questions were not provided by 40 participants. These participants, however, did not differ from the remainder of the sample on the standardized measures of social anxiety (all P s > .57).

Results

Preliminary Analyses

A Multivariate Analysis of Variance (MANOVA) indicated that the two samples differed significantly on the BFNE ("Shape-Naming" Sample: $M = 36.60$, $S.D. = 10.84$; "Reactions" Sample: $M = 33.82$, $S.D. = 10.80$), IAS ("Shape-Naming" Sample: $M = 35.54$, $S.D. = 11.22$; "Reactions" Sample: $M = 40.90$, $S.D. = 12.73$) and SADS ("Shape-Naming" Sample: $M = 4.43$, $S.D. = 4.48$; "Reactions" Sample: $M = 7.30$, $S.D. = 6.19$), $F(3,166) = 5.75$, $d = .372$, $P = .001$, Pillai's = .094. These differences were in different directions and only accounted for only a small proportion (9.4%) of the variance between the samples. Therefore, the two samples were combined for all subsequent analyses. The sample means obtained in this study were similar to published student sample norms for the BFNE ($M = 35.7$) [Leary, 1983a] and IAS ($M = 38.1$) [Leary, 1983b]. The "Reactions" sample approximated published SADS norms ($M = 7.3$) [Rapee and Lim, 1992], although the "Shape-Naming" sample was somewhat lower.

A second MANOVA compared men and women on the questions assessing social anxiety in sporting situations. No omnibus effect of gender was found, $F(10,63) = 1.41$, $d = .299$, $P = .197$, Pillai's = .183. Three sets of analyses are

provided. First, relationships between the standardized measures of social anxiety and the questions assessing anxiety in sporting and athletic situations are presented. Secondly, participants of different levels of athletic competition are compared on the measures of social anxiety, including questions assessing anxiety in sporting and athletic situations, as well as current and past familial pressure to participate in athletics. Finally, relationships between familial pressure to compete in sports and measures of social anxiety are noted, with an emphasis on the relationships among intercollegiate athletes.

Overall Social Anxiety And Anxiety And Avoidance Of Sporting Situations

Overall correlations between the BFNE, SADS, and IAS, and the specific questions assessing fear and avoidance of sport or physical activity situations are provided in Table 2. The BFNE was significantly correlated with each of the sport anxiety questions, with the exception of Question 6 (I am constantly focusing on myself while playing sports). Additionally, the IAS was significantly correlated with all of the sport anxiety questions. Interestingly, correlations between the SADS and sport anxiety only achieved statistical significance for Question 1 (I am frequently worried about living up to others' expectations while playing sports), Question 2 (I am so nervous playing sports that it interferes with how well I play), and Question 6 (I am constantly focusing on myself while playing sports). Question 9, avoidance of individual sport activities, was correlated significantly with the BFNE and the IAS, but not the SADS. Question 10, avoidance of team sports activities, however, was not related to either the BFNE, IAS, or SADS.

Correlational analyses were then calculated separately by gender (see Table 3). Consistent with their proportion

Table 1. Questions assessing social anxiety and avoidance in athletics

	Overall sample Mean (S.D.)	Men Mean (S.D.)	Women Mean (S.D.)
Anxiety questions			
1. I am frequently worried about living up to others' expectations while playing sports	2.68 (1.17)	2.37 (1.00)	2.82 (1.22)
2. I am so nervous playing sports that it interferes with how well I play	1.41 (.76)	1.20 (0.45)	1.51 (0.86)
3. I feel that I will humiliate myself when I play sports	1.60 (.94)	1.24 (0.57)	1.76 (1.03)
4. I rarely worry that I will embarrass myself when playing sports (r) ^a	2.96 (1.46)	2.57 (1.44)	3.15 (1.44)
5. Playing sports makes me feel better about myself (r)	2.14 (1.13)	1.72 (0.83)	2.34 (1.21)
6. I am constantly focusing on myself while playing sports	2.27 (1.17)	2.33 (1.32)	2.23 (1.10)
7. I am conscious of others watching me when I play sports	2.61 (1.13)	2.39 (1.00)	2.72 (1.18)
8. I am so self-conscious when I play in front of people that it interferes with how well I play	1.52 (.90)	1.26 (0.57)	1.65 (1.01)
Avoidance questions			
9. In the past year, I have refused opportunities to play on a sports team because I would feel nervous and uncomfortable when I played	1.56 (1.05)	1.29 (0.75)	1.71 (1.16)
10. In the past year, I have refused opportunities to play individual sports such as tennis because I would feel nervous and uncomfortable when I played	1.63 (1.15)	1.32 (0.79)	1.78 (1.27)

^a(r), reverse-scored question. Overall n's range from 199 to 140 due to missing data.

in the sample, female participants demonstrated a pattern similar to that of the overall sample. The BFNE was significantly related to each of the sport anxiety questions, except Question 6 (I am constantly focusing on myself while playing sports) and Question 5 (Playing sports makes me feel better about myself). The IAS was significantly related to each of the sport anxiety questions, except Question 5 (Playing sports makes me feel better about myself), while

the SADS was significantly related only to three questions, Question 1 (I am frequently worried about living up to others' expectations while playing sports), Question 2 (I am so nervous playing sports that it interferes with how well I play), and Question 6 (I am constantly focusing on myself while playing sports). Additionally, women showed an identical relationship pattern to the sport avoidance questions, as did the full sample.

Table 2. Correlations between social anxiety measures and sport anxiety questions

	BFNE ^a	SADS	IAS
SADS	.405**		
IAS	.554**	.770**	
1. I am frequently worried about living up to others' expectations while playing sports	.515**	.248**	.356**
2. I am so nervous playing sports that it interferes with how well I play	.224**	.172*	.213*
3. I feel that I will humiliate myself when I play sports	.293**	.084	.259**
4. I rarely worry that I will embarrass myself when playing sports	-.342**	-.065	-.225**
5. Playing sports makes me feel better about myself	-.277**	-.106	-.198*
6. I am constantly focusing on myself while playing sports	.163	.173*	.262**
7. I am conscious of others watching me when I play sports	.324**	.119	.272**
8. I am so self-conscious when I play in front of people that it interferes with how well I play	.310**	.053	.245**
9. In the past year, I have refused opportunities to play on a sports team because I would feel nervous and uncomfortable when I played	.145	.057	.023
10. In the past year, I have refused opportunities to play individual sports such as tennis because I would feel nervous and uncomfortable when I played	.222**	.168	.193*

a. BFNE, Brief Fear of Negative Evaluation Scale; SAD, Social Avoidance and Distress Scale; IAS, Interaction Anxiousness Scale. n's range from 116 to 174 due to missing data on sport anxiety questions.

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).

Table 3. Correlations between social anxiety measures and sport anxiety questions by gender

	BFNE ^a			SADS			IAS		
	Women (n)	Men (n)	Z	Women (n)	Men (n)	Z	Women (n)	Men (n)	Z
SADS	.424**	.397**	0.147						
IAS	.560**	.556**	0.000	.810**	.680**	1.813			
1. I am frequently worried about living up to others' expectations while playing sports	.508**	.492**	0.214	.280**	.178	0.565	.351**	.344**	0.059
2. I am so nervous playing sports that it interferes with how well I play	.248*	.036	1.149	.244*	-.091	1.787	.240*	.054	1.038
3. I feel that I will humiliate myself when I play sports	.318**	.083	1.349	.044	.185	0.812	.273**	.152	0.672
4. I rarely worry that I will embarrass myself when playing sports	-.264*	-.417**	0.976	-.043	-.087	0.268	-.208*	-.226	0.112
5. Playing sports makes me feel better about myself	-.189	.394**	1.178	-.065	-.197	0.711	-.169	-.224	0.277
6. I am constantly focusing on myself while playing sports	.197	.158	0.225	.250*	.057	1.042	.255*	.279	0.117
7. I am conscious of others watching me when I play sports	.373**	.159	1.218	.093	.169	0.439	.297**	.176	0.684
8. I am so self-conscious when I play in front of people that it interferes with how well I play	.250*	.430**	1.100	.045	.059	0.054	.206*	.360*	0.876
9. In the past year, I have refused opportunities to play on a sports team because I would feel nervous and uncomfortable when I played	.159	-.079	1.205	.091	-.075	0.848	.067	-.162	1.150
10. In the past year, I have refused opportunities to play individual sports such as tennis because I would feel nervous and uncomfortable when I played	.257*	-.048	1.583	.260*	-.152	2.080*	.274*	-.118	1.985*

a. BFNE, Brief Fear of Negative Evaluation Scale; SAD, Social Avoidance and Distress Scale; IAS, Interaction Anxiousness Scale. Z, Significance test of the difference between correlations for men and women. n for men ranges from 40 to 60 and n for women ranged from 75 to 114 due to missing data.

* Correlation or z-test of correlation is significant at the .05 level (2-tailed).

** Correlation or z-test of correlation is significant at the .01 level (2-tailed).

Male participants, however, showed few statistically significant relationships between the social anxiety measures and the sport anxiety and avoidance questions. Although few of the correlations were statistically significant for males, it appears that these differences between men and women are related to differential power across the groups. Comparisons of *z*-transformed correlational coefficients (see Table 2) revealed no significant differences between men and women in the magnitude of the bivariate relationships (all *P*s > .05), with the exception of the relationships between avoidance of individual sports and the SADS and IAS, wherein women showed moderate positive relationships but men demonstrated non-significant relationships.

Social Anxiety and Current Level of Competition

Multiple 3 (competition level: not participating, intramural only, intercollegiate) \times 2 (gender) ANOVAs were computed to examine differences on social anxiety measures by gender and by current level of competition (not participating [men: *n* = 27; women: *n* = 53], intramural only [men: *n* = 20; women: *n* = 50], and intercollegiate [men: *n* = 12; women: *n* = 16]).

Standardized social anxiety measures. A 3 \times 2 ANOVA with BFNE scores as the dependent variable revealed no significant main effect of level of competition, $F(2,168) = 1.40$, $d = .183$, $P = .251$. A main effect of gender was present, $F(1,168) = 8.77$, $d = .457$, $P = .004$, wherein women ($M = 36.37$, $S.D. = 10.60$) reported significantly higher BFNE scores than did men ($M = 30.56$, $S.D. = 10.13$). The gender by level of competition interaction was not significant, $F(2,168) = 2.77$, $d = .257$, $P = .066$. When IAS scores were examined in a 3 \times 2 ANOVA, no significant main effects of level of competition, $F(2,170) = 0.23$, $d = .074$, $P = .792$, or gender, $F(1,170) = 0.84$, $d = .141$, $P = .362$, were found, and the interaction effect did not achieve statistical significance, $F(2,170) = 0.17$, $d = .063$, $P = .841$. No main effects of competition level, $F(2,166) < .01$, $d = .007$, $P = .998$, or gender, $F(1,166) = 0.52$, $d = .112$, $P = .473$, were found when SADS scores were included as the dependent variable in a 3 \times 2 ANOVA and no interaction effect was found, $F(2,166) = 0.94$, $d = .151$, $P = .394$.

Social anxiety in sporting situations questions. Multiple 3 (level of competition) \times 2 (gender) ANOVAs were then conducted for each of the questions assessing anxiety in and avoidance of sporting situations. The main effect for gender is redundant with the previous multivariate analyses, which was not significant, so it will not be interpreted here to protect against alpha inflation. A significant main effect of current level of competition was found only for Question 4 [I rarely worry that I will embarrass myself when playing sports (*r*), $F(2,132) = 6.37$, $d = .439$, $P = .002$]. Tukey's posthoc analysis indicated that intercollegiate

athletes ($M = 2.11$, $S.D. = 1.19$) reported significantly less worry than did intramural athletes ($M = 3.16$, $S.D. = 1.45$) and non-athletes ($M = 3.21$, $S.D. = 1.44$), who did not differ from each other. No other main effects for level of competition were significant (all *P*s > .09).

Finally, significant gender by current level of competition interactions were found for Question 7 [I am conscious of others watching me when I play sports, $F(2,132) = 3.09$, $d = .306$, $P = .049$], and Question 8 [I am so self-conscious when I play in front of people that it interferes with how well I play, $F(2,132) = 3.11$, $d = .307$, $P = .048$]. Simple effects analyses were used to further examine these significant interactions. The pattern of the interaction for Question 7 was such that, for women, intercollegiate athletes ($M = 2.13$, $S.D. = 1.20$) reported less self-consciousness than intramural athletes ($M = 2.67$, $S.D. = 1.01$) and non-participants ($M = 3.01$, $S.D. = 1.30$), who did not differ from each other. For men, no differences emerged between participants at each level of competition (intercollegiate $M = 2.64$, $S.D. = 1.36$; intramural $M = 2.44$, $S.D. = 0.78$; non-participants $M = 2.25$, $S.D. = 0.93$). The pattern of the interaction for Question 8 was such that, for women, both intercollegiate ($M = 1.31$, $S.D. = 0.87$) and intramural ($M = 1.50$, $S.D. = 0.84$) athletes did not differ from each other, but both reported significantly less performance decrement due to self-consciousness than non-participants ($M = 2.03$, $S.D. = 1.20$). For men, no differences between levels of competition emerged (intercollegiate $M = 1.18$, $S.D. = 0.40$; intramural $M = 1.44$, $S.D. = 0.78$; non-participants $M = 1.12$, $S.D. = 0.34$).

Familial Pressure And Social Anxiety

Current familial pressure to compete and familial pressure to compete during high school were strongly related for both men ($r = .510$, $d = 1.19$, $P < .001$) and women ($r = .738$, $d = 2.19$, $P < .001$), although significantly more so for women ($Z = 2.386$, $P < .05$).

Standardized measures of social anxiety. Current and past familial pressure to participate in athletics were not related to standardized measures of social anxiety (BFNE, IAS, and SADS) for the overall sample (all *P*s > .11). When correlations were examined by gender, for men the BFNE was positively related to familial pressure to play sports in high school ($r = .261$, $d = .541$, $P = .044$), but not current familial pressure ($r = .179$, $d = .364$, $P = .171$). No other correlations were significant for men (all *r*'s < .21). For women, no significant relationships emerged between current or past familial pressure and the BFNE, IAS, SADS (all *r*'s < .08).

Next, we restricted our focus to only intercollegiate athletes to further explore the relationships between familial pressure to participate in athletics and social anxiety among this distinct sub-population. Caution should be taken in interpreting null findings, as the sample size of intercollegiate athletes was small (*n* = 28). Although none of the

relationships achieved conventional statistical significance, the effect sizes of the relationships between the BFNE and both current and past familial pressure were strong (current pressure: $r = .356$, $d = .762$, $P = .068$; past pressure: $r = .380$, $d = .822$, $P = .056$). The relationships of current and past familial pressure to the IAS (current pressure: $r = .276$, $d = .574$, $P = .163$; past pressure: $r = .218$, $d = .447$, $P = .285$) and SADS (current pressure: $r = .230$, $d = .473$, $P = .248$; past pressure: $r = .076$, $d = .152$, $P = .714$) were of moderate to low effect sizes. These effects were larger for men ($n = 12$), as strong positive effects were noted between current familial pressure and the BFNE ($r = .522$, $d = 1.224$, $P = .082$), IAS ($r = .543$, $d = 1.293$, $P = .084$), and SADS ($r = .661$, $d = 1.762$, $P = .019$), as well as past familial pressure and the BFNE ($r = .686$, $d = 1.886$, $P = .014$), IAS ($r = .521$, $d = 1.221$, $P = .101$), and SADS ($r = .561$, $d = 1.355$, $P = .058$). However, for female intercollegiate athletes ($n = 16$), there was little relationship between standardized measures of social anxiety and current and past familial pressure to participate in sports (all r 's $< .16$).

Social anxiety in sporting situations. Separate correlations were computed for men and women examining relationships between current familial pressure to compete in sports, familial pressure to compete in high school, and the questions regarding social anxiety in and avoidance of sporting situations. Neither men nor women showed a significant relationship between current familial pressure to compete in and any of the sport anxiety or avoidance questions (all r 's $< .29$). For women, familial pressure to compete during high school was unrelated to any of the sport anxiety or avoidance questions. For men, however, familial pressure to compete during high school was positively correlated with feelings of humiliation when playing sports (Question 3), $r = .364$, $d = .782$, $P = .013$, and the thought that playing sports makes one feel better about himself (Question 5-reverse scored), $r = .375$, $d = .809$, $P = .010$. Furthermore, the two significant relationships for men were significantly stronger ($Z = 3.058$ and $Z = 3.074$, respectively, $P < .01$) than the non-significant relationships between past familial pressure and the same questions for women.

Familial Pressure and Level of Competition

A 3×2 (level of competition \times gender) ANOVA with current familial pressure to compete in sports as the dependent variable revealed a significant main effect of level of competition, $F(2,172) = 9.62$, $d = .473$, $P < .001$, wherein intercollegiate athletes ($M = 2.54$, $S.D. = 1.32$) reported significantly greater current familial pressure than did intramural athletes ($M = 1.86$, $S.D. = 1.15$) and those not participating in athletic activities ($M = 1.53$, $S.D. = 0.81$). In addition, intramural athletes reported significantly greater current familial pressure than did non-participants. A main effect of

gender was also found, $F(1,172) = 4.91$, $d = .338$, $P = .028$, with women ($M = 1.92$, $S.D. = 1.14$) reporting greater familial pressure than men ($M = 1.59$, $S.D. = 0.95$). The level of competition by gender interaction was not significant, $F(2,172) = 1.31$, $d = .175$, $P = .273$. When familial pressure to compete during high school was the dependent variable in the ANOVA, neither a main effect of gender, $F(1,170) < 0.01$, $d = .007$, $P = .961$, main effect of level of competition, $F(2,170) = 2.46$, $d = .241$, $P = .088$, nor a gender by level of competition interaction, $F(2,170) = 0.86$, $d = .142$, $P = .424$, was found.

Discussion

Does Social Anxiety Generalize To Sporting and Athletic Situations?

The primary purpose of this study was to examine whether social anxiety, as it has traditionally been assessed via self-report measures, generalizes to anxiety and avoidance in sporting and athletic situations. The results indicated that participants reported varying levels of social anxiety, avoidance, anxiety-related performance deficits, and self-consciousness in athletic situations. With the exception of the avoidance items, responses were generally correlated in the expected direction with more general fears of negative evaluation and interaction anxiety, with little difference by gender. Avoidance of individual, but not team sports, was associated with greater fear of negative evaluation and interaction anxiety, but only for women. Surprisingly, the SADS demonstrated a different pattern of relationships with the individual sport anxiety items than the BFNE or the IAS. SADS scores were not related to fears of humiliation, embarrassment, or public self-consciousness, unlike the BFNE and the IAS. Perhaps the heterogeneity of the items on the SADS diluted the effect, as the SADS and IAS were highly correlated in the overall sample. It appears social anxiety does generalize to sporting and athletic situations.

Social Anxiety And Competitive Athletics

The second purpose was to examine differences in social anxiety and sport anxiety/avoidance among participants at different levels of competition. Somewhat surprisingly, when participants not competing in sports, competing in intramural sports, and competing in intercollegiate sports were compared, few differences were found on the measures of social anxiety and sport anxiety and avoidance. These findings were unexpected in that it was anticipated that individuals with social anxiety would be less apt to expose themselves to the highly evaluative environment of intercollegiate sports. Due to its social nature, it was

expected that socially anxious individuals would also be less likely to participate in intramural sports. One possible explanation for the lack of expected differences between individuals competing at different levels could be the context from which they based their responses to the questions. For example, intercollegiate football players could be basing their responses on the context of thousands of fans in a stadium, while intramural football players could be basing their responses on the context of a few observers.

The results of this study further suggest that, for males, perceived parental pressure to participate in athletics during high school was significantly related to fear of negative evaluation as assessed by the BFNE. This finding supports the work of Scanlan and Lewthwaite [1984, 1988] who noted that familial pressure to participate in athletics is related to elevated precompetitive state anxiety among male adolescent wrestlers. The lack of a relationship for males between perceived parental pressure to participate in athletics during high school and either the IAS or the SADS may relate to the nature of these measures. The BFNE queries fears of negative evaluation independent of the situation, whereas the IAS and SADS place greater emphasis on specific situations and interaction. For women, no relationships were found between perceived parental pressure and any of the social anxiety measures. This discrepancy between men and women may relate to differential parental and societal attitudes towards men and women participating and excelling in sports. When male intercollegiate athletes were specifically examined, the correlations between both current and past familial pressure and the BFNE, IAS, and SADS demonstrated large effect sizes. For female intercollegiate athletes, however, the correlations between these variables were of moderate to low effect sizes.

Interestingly, there was no difference between nonparticipants, intramural athletes, and intercollegiate athletes in perceived family pressure to compete in high school. However, when examining current familial pressure to compete, intercollegiate athletes reported feeling significantly greater familial pressure to compete than did either non-participants or intra-mural athletes. Continued research is necessary to elucidate the nature of the relationship between parental or familial pressure to participate in sports or athletics and actual patterns of physical activity.

Finally, the relationships between familial pressure to compete in sports and the questions assessing anxiety in sporting situations were examined. Neither men nor women showed any significant correlations between current pressure to compete and any of the sport anxiety questions. Additionally, for women, no significant relationships were noted between pressure to compete during high school and any of the sport anxiety questions, while for men only two significant relationships were detected. The absence of significant relationships between parental pressure and sport anxiety was unexpected, and

runs somewhat contrary to the conclusions of Scanlan and Lewthwaite [1984, 1988] who noted that familial pressure to participate in athletics was related to elevated precompetitive state anxiety among male adolescent wrestlers. While it is possible that parent pressure is unrelated to social fears in sporting or athletic situations, it must also be considered that the general absence of relationships between parental pressure and social anxiety in sporting or athletic situations may be a consequence of the single items used in this study. Our ongoing development of a measure of social anxiety in sport and exercise situations may help to clarify this question. An additional explanation, however, is that mediating variables such as athletic ability may be suppressing the relationship. For example, an individual who is low in athletic ability but under high levels of parental pressure may develop greater anxiety in sporting or athletic situations than would an individual with superior athletic ability who is experiencing the same parental pressures. Indeed, the mediating impact of ability or other variables may explain the finding that higher athletic attainment was associated with greater current familial pressure. Thus, the athletic ability to perform at an intercollegiate level may have buffered these participants from the stress associated with parental pressures.

The finding that social anxiety is related to avoidance of individual sports, but not team sports converges with other studies [e.g., Simon and Martens, 1979] which have shown that participants report greater levels of competitive stress during individual sports. Scanlan [1984] suggests that in individual sports, focus is directed towards the performance of the individual, thereby producing greater feelings of social evaluation. Although not discussed from the perspective of social anxiety, Scanlan's hypothesis holds direct relevance for the understanding of athletic behavior of individuals with social anxiety disorder. The feelings of social evaluation when engaged in individual sports may prove to be highly anxiety-producing for the socially anxious individual who doubts his/her ability to live up to those expectations [Leary and Kowalski, 1995]. Such anxiety would likely result in greater avoidance of such activities, as demonstrated in this study for individual sports.

Subtypes of Social Anxiety Disorder

Given the preliminary nature of this research, no effort was made to identify whether or not social fears in athletic and sporting situations represent either a distinct situational subtype of social anxiety disorder or another set of situations to which social fears may generalize. Given that social fears were noted to manifest in sporting and athletic situations, further research is needed to further explicate the nature of the fears. However, it seems likely that anxiety in sporting and athletic situations may fall under the domain of fears related to observation by others [Holt et al., 1992; Saffren et al., 1999]. Regardless, given the results

provided here and the implications of a sedentary lifestyle, the clinical assessment of fears in sporting and athletic situations is clearly warranted.

Limitations

There are several design and methodology limitations of the current study, given that it is the initial examination of social anxiety in sporting and athletic situations. Most notably, this study relied heavily on single-item questions that have no established reliability or validity. However, as noted earlier, a self report scale assessing social anxiety in sporting and athletic situations is currently under development and psychometric evaluation. As well, this study employed a sample of college students who experienced varying degrees of social anxiety. The extent to which these results will generalize to other populations, including individuals with social anxiety disorder, is unclear and requires further examination. Finally, this study employed self-report measures exclusively. Thus, some of the observed relationships may partially reflect shared-method variance. Multi-method assessment techniques will be required to overcome this limitation in future studies.

Implications

The results obtained from this study hold valuable implications for the assessment and treatment of social anxiety and social anxiety disorder. As noted earlier, a physically active lifestyle holds numerous health benefits, while a sedentary lifestyle significantly increases risk of numerous disease states and health problems [Fédération Internationale de Médecine Sportive, 1989]. If individuals with elevated social anxiety avoid engaging in physical activities, the social and occupational interference of social anxiety disorder may further compound health problems. Furthermore, these potential health issues could create physical conditions that the socially anxious individual believes are being negatively evaluated by others. For example, an individual who is sedentary due to social anxiety surrounding physical activities or athletics, might fear that others are negatively evaluating their physique, body size or shape, or physical endurance (e.g., perspiration and shortness of breath after a mild activity). As well, avoidance of physical activity situations would create a negative cycle wherein the socially anxious person avoids athletic situations, leading to diminished physical capacities and decreased skills that would, in turn, diminish future performances and amplify fears of negative evaluation by others.

There is also evidence suggesting that physical activity holds psychological benefits, including decreased depression and stress and improved self-esteem [International Society of Sport Psychology, 1992]. Avoidance of physical activity is therefore preventing the socially anxious individual from participating in a situation that may help ameliorate psychological distress or comorbid depression. There

is no direct evidence that physical activity has any specific positive psychological effect on social anxiety per se.

In summary, this study provides preliminary evidence that social anxiety generalizes to sport and physical activity situations. Further research is clearly warranted. Fear and avoidance of these situations should be assessed with the socially anxious client, and treatment protocols may need to incorporate components designed to reduce such fears, as active lifestyles hold many physical and psychological benefits. Indeed, as noted earlier, some cognitive-behavioral treatments for social anxiety have adapted exposures incorporating sport and physical activity [Chambless and Hope, 1996].

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