

The Efficacy of Self-Report Measures in Predicting Social Phobia in African American Adults

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Abstract: Empirical literature pertaining to anxiety in African Americans has been relatively sparse. More recent studies indicate that the construct of social fear is different in African Americans than in non-Hispanic Whites. Although some of these studies have examined factor structure utilizing self-report measures of anxiety in African American samples, none to date have examined the clinical utility of these measures in predicting anxiety diagnoses, particularly social phobia. A total of sixty-five African American adults from the community completed the Fear Survey Schedule-Second Edition (FSS-II), Social Anxiety Interaction Scale (SIAS), Social Phobia Scale (SPS), and Albany Panic and Phobia Questionnaire (APPQ). The Anxiety Disorder Interview Schedule- Fourth Edition (ADIS-IV) was administered to all participants to specify differential diagnoses of anxiety and related disorders. Twenty-three African American adults were diagnosed with social phobia leaving 42 diagnostic controls. Results suggest that the social anxiety factors were highly predictive of a social phobia diagnosis (AUC = .84 to .90; CI .73-.98, $p < .01$) and sensitivity and specificity rates revealed optimal cutoff scores for each measure. The optimal cutoff scores reveal the clinical utility of the social fear factor from these measures in screening for social phobia in African Americans. Future direction and implications are discussed.

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Keywords: African Americans ■ Anxiety Disorders ■ Clinical Utility ■ Receiver Operating Characteristic Analysis ■ Social Phobia

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INTRODUCTION

Historically, the empirical literature pertaining to the cross-racial and ethnic generalization of anxiety and related constructs has been relatively sparse, although there is a growing body of literature pertaining to African American samples. Previous work in this area indicates that African Americans may significantly differ in the endorsement of anxiety and fear symptoms from their non-Hispanic White counterparts.¹⁻⁶ Specifically, more recent findings suggest that African Americans may endorse more social and animal fears than their non-Hispanic White counterparts.⁷⁻¹¹ These recent studies underscore the need for continued assessment of anxiety in ethnic minority samples. Similarly, they consistently suggest two areas for future study this area: (1) delineating evidence that empirically supported treatments for anxiety disorders generalize to diverse populations and (2) the exploration of anxiety disorder factor variance in ethnic minority samples, which would suggest components for culturally sensitive interventions.¹² For example, the most

recent empirical literature pertaining to anxiety in African Americans indicates that some related constructs appear to diverge from what has been found in studies examining anxiety in non-Hispanic White samples (e.g., perceived control, psychological distress, and worry;⁸ cognitive and somatic symptoms on Beck Anxiety Inventory;⁹ social and animal phobia domains).¹³ This further underscores the need for continued exploration of culturally sensitive assessment of anxiety disorders in African American samples; that is, the utility of instruments, which were developed in majority populations, in minority populations.

SOCIAL PHOBIA IN AFRICAN AMERICANS

Historically, the empirical literature pertaining to social anxiety and social fear has yielded mixed results. For instance, Brown and Eaton¹⁴ noted in their community-based work that African Americans experienced a higher prevalence of social phobia (5.6%) as compared to their non-Hispanic White counterparts (2.6%). However, findings from the National Comorbidity Survey-Replication yielded disparate results from the earlier Brown and Eaton¹⁴ study. Specifically, results from the National Comorbidity Survey-Replication (NCS-R) indicated that African American adults have lower odds of social phobia and less endorsement of social fears.¹⁵ However, results from the NCS-R had a number of shortcomings worth noting. First, the interviews in the NCS-R were administered by a “professional survey interviewer,” and little information was provided as to whether the interviewers were clinically trained. Second, the ethnic match of the trained interviewers is not reported in the NCS-R, making the reliability of the interviews difficult to ascertain. Moreover, these shortcomings are important for at least two reasons. First, African Americans (and others) could have potentially underreported symptoms of social anxiety in the NCS-R due to the aforementioned concerns. Presumably, probing for further questions that may be culturally relevant to ethnic minority participants may have been avoided due to the hierarchical structure of the interviews. Second, self-report anxiety symptoms along with diagnostic information administered by both African American and non-Hispanic White clinically trained researchers was not reported in the

NCS-R study.¹⁵ Although these results are meaningful, these shortcomings would need to be addressed in future studies in order for definitive conclusions to be drawn pertaining African Americans and social phobia.

In terms of the construct of social fear, recent studies indicate the construct of social fear may differ in African Americans when compared to non-Hispanic Whites.^{7,10,13} Specifically, the factor loadings for both animal and social phobia domains have been relatively consistent across both college and community-based samples of African Americans, suggesting a potential cultural homogeneity of phobias in African Americans that may differ from that of non-Hispanic Whites.¹³ Empirical work conducted by Melka and colleagues¹⁰ corroborate the notion that the construct of social anxiety may yield a different factor pattern in African Americans as compared to non-Hispanic Whites. In a study examining the factor structure of the Fear of Negative Evaluation Scale (FNE) and the Social Avoidance and Distress Scales (SAD) in African American and non-Hispanic White young adults, results indicated that the factor structure for both measures were different in the African American sample. Specifically, five items from the FNE and two items from the SAD had to be omitted in order for the model fit to improve in the African American sample. These results further indicate the need to examine measures of social anxiety in African American adults.

Furthermore, whereas some of these studies have examined the factor structure of proposed models of phobic domains by utilizing self-report measures of anxiety symptoms in samples of African Americans, none to date have examined the clinical utility of these measures in predicting anxiety diagnostic status in African American adults. As previously noted, recent empirical work suggests that African American adults may endorse more social fears than non-Hispanic White adults.^{7,13} This difference in social anxiety symptom endorsement may be accounted for by cultural distinctions that arise between different ethnic groups. In a study conducted by Heinrich et al.,¹⁶ individuals from collectivistic cultures reported higher levels of social anxiety when compared to those from individualistic cultures. Additionally, when racial identity was taken into account, other work revealed that African Americans' attitudes about race may be associated with levels of social anxiety, particularly fear of negative evaluation.¹⁸ Based on the stages of Black Racial Identity put forth by Cross,¹⁹ those internalized individuals were less socially anxious and endorsed less psychological distress, suggesting that those who are secure in their racial identity are also secure in their social interaction. The aforementioned study suggests that higher rates of social avoidance, inhibition, and fear of negative evaluation are found in African American

individuals whose self-perception is characterized by non-Hispanic White values. However, future work in this area is needed in order to determine specific cultural factors that may be endemic to both anxious and non-anxious African Americans. Similarly, extant literature regarding kin support networks in African American culture provides further explanation for the variability in prevalence rates of social phobia (SP) in African Americans and their non-White Hispanic counterparts.^{20–24} Individuals from cultures who are collectivistic in nature, like the extended kin network of many African Americans, identify themselves with the group and strive to maintain the integrity of that group.¹⁷ Thus, African Americans may place more emphasis on their social interactions as to not bring shame to their kin network.⁷ In sum, it appears that further exploration of social anxiety measures is undoubtedly warranted in African American samples and that cultural factors need to be increasingly addressed to determine which specific facets of social anxiety are endemic to African Americans as compared to other groups. Presumably, an effective approach to answering many of these empirical questions requires a further examination of generally accepted measures of social anxiety in a sample comprised of African American adults with and without social anxiety disorder.

SOCIAL PHOBIA ASSESSMENT

Social Phobia Scale (SPS). Past research has identified the Social Phobia Scale (SPS) as a reliable and valid measure for assessing social anxiety.²⁵ The SPS in combination with the SIAS was a significant predictor of anxiety in response to a social challenge.²⁶ Further, in a study conducted by Brown et al.,²⁷ the SPS reliably discriminated patients with social phobia from those with other anxiety disorders. Additionally, a score of 24, which was one standard deviation above the mean of the sample in a study conducted by Heimberg et al.,²⁸ correctly identified cases of social phobia with an efficiency rate of 73%.²⁷ However, the SPS may not be as sensitive to differences between social phobia and panic disorder diagnoses.²⁷ Additional research suggests that the SPS may not be the best predictor of social phobia when compared to the Social Phobia and Anxiety Inventory (SPAI).²⁹ However, the SPS was able to differentiate between those with social phobia and panic disorder at levels that were significantly better than chance. An optimal cutoff score of 26 for predicting social phobia was identified for the SPS, which corroborates findings from prior research.^{27,29} No studies to date have reported the use of the SPS in African American samples.

Albany Panic and Phobia Questionnaire (APPQ). The Albany Panic and Phobia Questionnaire (APPQ) was designed to measure the distinct dimension of fear of sensation-producing activities, as well as the fear of common agoraphobic and social phobic situations.³⁰ Its

development consisted of principal components analysis (PCA) with equamax rotation which resulted in a scale consisting of 27 items and containing three subscales; Agoraphobia, Interoceptive and Social Phobia.³⁰ Since its development, the APPQ has been used across multiple contexts, including treatment outcome studies,³¹ latent structural analyses of anxiety disorder constructs,³² as well as Veljaca, & Rapee, 1998 K.A. Veljaca and R.M. Rapee, Detection of negative and positive audience behaviours by socially anxious subjects, *Behaviour Research and Therapy* 36 (1998), pp. 311–321. **Article** | PDF (708 K) | View Record in Scopus | Cited By in Scopus (57)cultural research.³³ No studies to date have reported the use of the APPQ in African American samples.

Social Interaction Anxiety Scale (SIAS). The reliability and validity of the Social Interaction Anxiety Scale (SIAS) has been supported in several studies examining the psychometric properties of the measure.^{25,28,34} Research has also examined the clinical utility of the measure. In a study conducted by Brown et al.,²⁷ the SIAS reliably discriminated patients with social phobia from those with other anxiety disorders. Additionally, a score of 34, which was one standard deviation above the mean of the sample in a study conducted by Heimberg et al.,²⁸ correctly identified cases of social phobia with an efficiency rate of 75%.²⁷ Further, The SIAS in combination with the SPS was a significant predictor of anxiety in response to a social challenge.²⁶ An examination of the clinical utility of various measures of social anxiety revealed that the SPAI was significantly better predictor of a social phobia diagnosis than the SIAS, although the SIAS was still a valid measure for the distinction between those with social phobia and those with panic disorder.²⁹ An optimal cutoff score of 36 for predicting social phobia was identified for the SIAS, which is similar to what previous research suggests. Although research has supported the discriminant validity and clinical utility of the SIAS, one study to date suggests that students and clients may differ in their response on the SIAS.³⁵ Additionally, a recent study examining the SIAS found that items on the measure functioned differently across racial and ethnic groups and was generally less effective for African Americans.³⁶

Fear Survey Schedule-Second Edition (FSS-II). The Fear Survey Schedule-Second Edition (FSS-II) is a 51-item instrument recommended for specific phobia assessment in a research setting.³⁷ Recent cross-cultural research utilizing the FSS-II indicated that there may be different patterns in African Americans and non-Hispanic Whites for fear domains measured by the Fear Survey Schedule-Second Edition (FSS-II).⁷ Specifically, whereas African Americans and non-Hispanic Whites both endorsed fears related to social anxiety, the two groups varied significantly

in the items that loaded on the social anxiety factor. A follow-up cross validation of specific and social phobia domains in a community sample of African Americans confirmed the factor structure for the social fear domain, suggesting a possible homogenous representation of social fear domains in African Americans.¹³ Furthermore, these “fear factors” have been demonstrated in two studies to date in both college and community-based samples.^{7,13} Conceptually, the social fear factor was of great interest in the current study along with existing measures of social anxiety. As such, the utility of this social factor in predicting social phobia diagnostic status in African Americans would represent major strides for the empirical literature, the assessment, and subsequent intervention in African American adults.

PRESENT STUDY

Although the literature on social phobia in African Americans is sparse in its entirety, even fewer studies have examined social phobia using diagnostic status as opposed to self-report data. Given the consistency in the most recent psychology literature regarding social anxiety in African American adults, the current study will examine whether the social anxiety factor derived from the FSS-II, in addition to existing measures that assess social anxiety symptomatology will predict social phobia status in African American adults. We hypothesized that the four-item social anxiety factor derived from the FSS-II would significantly predict the presence of social phobia in a sample of African American adults.^{7,13} Considering that no studies to date have examined the clinical utility of the APPQ, SPS, and SIAS in predicting social phobia in African Americans, no a priori hypotheses were made when examining whether existing measures of social anxiety (i.e. APPQ, SIAS, SPS) would accurately predict social phobia in an exclusively African American sample.

METHODS

Participants and Procedures

Participants were 65 community African American adults (91% female). Participants ranged in age from 23 to 54 with a mean age of 37. Participants were recruited from the community through flyers, radio advertisements, university publication, health fairs in the community and through word of mouth. The current study was part of the “Cooperative for African American Family Excellence” (CAFÉ) Project advertised as part of the Community and Family Excellence Research Lab (CAFÉ), strategically named as an attempt to minimize stigma in underserved families. Furthermore, the CAFÉ Project was advertised as a “free, culturally sensitive familial assessment” and a monetary incentive (e.g., \$50) was provided to all participants. Informed consent was

obtained from every participant at the beginning of the study. Researchers interacting with the participants were both non-Hispanic Whites and African Americans and trained in Clinical Psychology. All researchers utilized culturally sensitive language when interacting with participants in order to build rapport and facilitate disclosure. Participants were assigned in the social phobia group if they met diagnostic criteria for social phobia and those who did not meet criteria for any anxiety diagnosis were assigned to the control group. All participants completed the Albany Panic and Phobia Questionnaire (APPQ),³⁰ the Fear Survey Schedule-Second Edition (FSS-II),³⁷ the Social Phobia Scale (SPS),²⁵ and the Social Interaction Anxiety Scale (SIAS)²⁵ as part of a larger study investigating anxiety and related disorders in African American families. The Anxiety Disorder Interview Schedule- Fourth Edition (ADIS-IV) was also administered to all participants and used to specify differential diagnoses of anxiety and related disorders.³⁸ The study was approved by the University's Internal Review Board prior to data collection.

Measures

Anxiety and Related Disorders. The Anxiety Disorders Interview Schedule: Fourth Edition (ADIS-IV) was utilized to assess for anxiety and related disorders.³⁸ The ADIS-IV is a widely used diagnostic interview that allows differential diagnoses among the anxiety and related disorders as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV).³⁹ Interrater reliability (Kappa) for anxiety disorders has been demonstrated as ranging from modest ($k = .55$ for PTSD) to excellent ($k = .86$ for specific phobias) across the anxiety disorders.⁴⁰ In the current study, interviews were conducted by the principal investigator (African American) and advanced graduate students (non-Hispanic White) trained to strict reliability standards.⁴⁰ Clinical severity ratings were assigned to each participant with scores ranging from 0 to 8 with scores of 4 or greater indicating clinical significance. One other study to date has reported the reliability of the ADIS in a sample of African American adults and their children, with the ADIS-IV in the adult sample yielding a kappa coefficient of .85 (excellent) across anxiety diagnoses.⁴¹ Results from the current study ($k = .85$) are derived from the previously reported study and employed a similar procedure. As suggested by Brown et al.,⁴⁰ all interviews were videotaped, and one-third were randomly selected for inter-rater reliability of primary diagnosis. Participants were assigned to the social phobia group if they met criteria for social phobia based on the ADIS-IV. Participants were assigned to the control group if they failed to meet criteria for an anxiety disorder diagnosis. Given that the current study assessed for

primary, secondary, tertiary, and quaternary diagnoses, many of the participants in the social phobia group also had other co-morbid anxiety diagnoses. Families were provided with diagnostic feedback and any necessary treatment referrals after participation in the study.

Self-report measures. As aforementioned, several self-report measures were utilized to assess social phobia symptomatology. The Albany Panic and Phobia Questionnaire (APPQ) is a 27-item self-report questionnaire that is useful in assessing agoraphobia and social phobia.³⁰ Participants are asked to rate their level of fear associated with various situations and activities on a scale from zero to eight. Scores on the APPQ are based on three subscales: agoraphobia subscale, social phobia subscale, and interoceptive subscale, all of which demonstrated good to excellent internal reliability (agoraphobia subscale $\alpha = .90$; social phobia subscale $\alpha = .91$; interoceptive subscale $\alpha = .87$).³⁰ The three-factor structure of the APPQ was confirmed using factor analysis.³⁰ The APPQ subscales have also been correlated with other measures of symptoms associated with panic disorder and social phobia.³⁰ Specifically, the social phobia subscale has displayed significant positive relationships with other measures of social anxiety, such as the SIAS and the social concern subscale of the Anxiety Sensitivity Index (ASI).⁴² The internal reliability of the APPQ in the current sample was high (total $\alpha = .86$; social subscale $\alpha = .82$) and appears to be the first to date examining the psychometric properties of the APPQ in an exclusively African American sample. The current study utilized the social subscale of the APPQ as a test variable in the ROC analyses in order to test the clinical utility of the measure in identifying social phobia in African American adults.

The Fear Survey Schedule - Second edition (FSS-II) is a 51-item instrument with high internal reliability ($r = .94$),³⁷ and is recommended for assessing specific phobias within a research setting. Participants are asked to rate the amount of fear they associate with various stimuli and situations on a scale from zero to six. The FSS-II's validity has been supported through several factor analytic studies; these studies have indicated the major factors contained within the measure include water, death, illness, injury, objects, organisms, violence, social interaction, and negative social evaluation.^{43,44} Additionally, the FSS-II has been correlated with multiple other anxiety measures.³⁷ The internal reliability for the FSS-II in the current sample was high ($\alpha = .97$). The current study utilized the social anxiety factor (e.g., fear factor) as a test variable derived from the five indicators yielded in the Chapman et al.,⁷ study and subsequently into four items in a community-based sample of African American adults.⁴¹ The social factor from the

FSS-II was utilized to test the clinical utility of this factor in identifying the presence of social phobia.

The Social Phobia Scale and Social Interaction Anxiety Scale (SPS) is a 20-item instrument with high internal reliability ($\alpha = .87$ to $.94$),^{25,28,34} and is used to measure fears associated with being observed by others during everyday activities.²⁵ Participants use a 5-point scale that ranges from zero to four to rate their fear associated with each item. The SIAS is also a 20-item instrument with high internal reliability ($\alpha = .86$ to $.94$),^{25,28,34} and is used to measure fears associated with social interaction in a more general context.²⁵ Participants are asked to rate their reactions to interactional situations on a scale ranging from zero to four. A hierarchical factor analysis of the SPS and the SIAS revealed three factors: interaction anxiety, being observed by others, and fear that others will notice anxiety symptoms, all of which loaded on the higher-order factor of social anxiety.⁴⁵ Both the SPS and SIAS have been correlated with other measures of social anxiety such as the Social Phobia and Anxiety Inventory.^{25,28,46-48} The internal reliabilities for the SIAS and the SPS in the current sample were high (SIAS $\alpha = .92$; SPS $\alpha = .94$). The reported numbers from the current study appear to be the first for an exclusively African American sample. The total scores from both the SPS and the SIAS were utilized as test variables in the subsequent ROC analysis in order to identify the presence of a social phobia diagnosis.

Receiver Operating Characteristic (ROC) Analysis

ROC analysis produces a curve that plots the sensitivity (Y-axis) against the specificity (X-axis) for the full range of scores on a given measure. Sensitivity is described as true positives, or the rate at which the measure accurately identifies a diagnosis when the disorder is present. Specificity represents the rate at which the measure accurately identifies the absence of a disorder. ROC analysis also calculates the area under the curve (AUC), which determines the suitability of a given measure as a screening tool, as it reflects the likelihood that a participant who meets criteria for a diagnosis selected at random will score higher on the test or measure than a randomly selected control participant.^{49,50} AUC values range from 0.50, which represents 50% chance of accurate classification to 1.00, which indicates accurate classification 100% of the time. The significance of AUC values is determined by comparing the AUC value indicated by the ROC analysis to the minimum AUC value of .500, which represents random prediction. The popularity of ROC analysis as a method of assessing utility of self-report instruments in predicting diagnostic status has burgeoned in research years due to its ability to yield robust test results in light of unequal control participants.^{49,50} The ROC analysis for the current study was conducted using

SPSS version 18.0 (SPSS). Scores from self-report social anxiety measures were the test variables whereas social phobia diagnostic status served as the “golden standard” indicating “social phobia diagnosis.” The generally agreed upon area under the curve values (AUC) that are optimal for screening vary depending upon both the characteristics of the sample as well as type of diagnoses being investigated (e.g., medical diagnoses, psychological). Given the exploratory nature of the current study, the authors of the current study took a conservative approach to expected AUC values based on the existing literature through utilizing a range between .67 (e.g., prediction of pneumonia and confirmatory radiological diagnosis⁵¹; .72 for diagnosing breast cancer via digital mammograms⁵²; .79 for dexamethosone suppression test for predicting major depressive disorder⁵³; .79 for harm avoidance scores predicting Generalized Anxiety Disorder⁵⁴) and .89 (e.g., for predicting PTSD with PTSD Checklist in female veterans⁵⁵). Presently, there is no generally agreed upon sample size for ROC analyses; however, several studies have utilized similar sample sizes similar to the current study (Bredemeier et al., 2010; Greiner, Pfeiffer, & Smith, 2000).^{49,56} Specifically, Bredemeier et al.⁴⁹ utilized a sample of 108 participants to examine the utility of the Mood and Anxiety Symptoms Questionnaire (MASQ)^{58,59} in the prediction of depressive disorders. Other ROC analyses that have been reviewed utilized samples ranging from $n=20$ to $n=100$.⁵⁶

RESULTS

Of the 65 African American adults who completed the ADIS-IV, 42 participants received no diagnosis whereas 23 met criteria for a social phobia diagnosis. Mean scores for the social anxiety measures were 11.6 for the APPQ ($SD = 15.6$), 18.0 for the SIAS ($SD = 15.4$), 9.8 for the SPS ($SD = 13.4$), and 5.6 ($SD = 6.43$) for the social anxiety factor from the FSS-II. Participant demographics are presented in Table 1. Bivariate correlations of the social fear factor as well as the additional measures of social anxiety symptomatology are presented in Table 2. As expected, items on the social fear factor from the FSS-II and the other measures of social anxiety symptomatology are highly correlated ($\alpha=.70-.83$).

ROC Analysis for Predicting Social Phobia

Twenty-three participants in the current sample met diagnostic criteria for social phobia and were therefore utilized in the ROC analysis along with the 42 diagnostic controls. The mean scores for those African American adults diagnosed with social phobia were 24.52 for the APPQ ($SD = 19.12$), 32.26 for the SIAS ($SD = 16.74$), 20.39 for the SPS ($SD = 17.36$), and 11.5 for the social anxiety factor from the FSS-II ($SD = 6.83$). As indicated in Figure 1, the analysis revealed highly acceptable AUC values for all four social anxiety measures ranging from .84 to .90 (CI .73-.98) and being significantly different from the

random predictor ($AUC = .50, p < .01$). Optimal cutoff scores were identified by selecting the score at which both false positives (Type I error) and false negatives (Type II error) are minimized. Additionally, when determining optimal cutoff scores, it is important to consider base rates of the disorder in question in addition to the relative costs of false positives or negatives. Given that we are examining self-report measures as potential screening devices for social phobia, a slightly higher sensitivity rate (false positives) is warranted given that additional assessment will later rule out negative cases. Interestingly, as indicated in Table 3, an 85% sensitivity rate (e.g., identifying those with social phobia) would be achieved with a score of 15 on the SIAS with a specificity rate of 82%. On the APPQ, a sensitivity rate of 81% would be achieved with a cut score of 7, with a corresponding specificity rate of 81% (Table 3). Results for the FSS-II are consistent with our hypothesis that the social anxiety factor from the FSS-II would predict social phobia in our sample. As indicated in Table 4, for the four-item social anxiety factor from the FSS-II, a sensitivity rate of 74% would be achieved with a cut score of 7, whereas a specificity rate of 92% would be achieved. For the SPS, a sensitivity rate of 74% would be yielded with a score of 6, whereas a specificity of 77% would be achieved (Table 4). These results indicate that there appear to be optimal cut scores for the SIAS, APPQ social anxiety subscale, the four-item social factor from the FSS-II and the SPS in predicting social phobia in African American adults.^{7,13}

DISCUSSION

To our knowledge, the current study was the first to examine the clinical utility of several existing instruments used to assess social anxiety in an entirely African American sample. As stated previously, we examined whether the social fear factor along with existing measures that assess social anxiety (i.e., SIAS, SPS, APPQ) would predict social phobia specifically. The ROC analysis was conducted using only those subjects that were diagnosed with social phobia ($n=23$) or who did not meet criteria for any anxiety disorder ($n=42$). Consistent with our hypothesis, the social anxiety factor from the FSS-II revealed acceptable values in predicting social phobia. Additionally, the existing measures of social anxiety each revealed an acceptable AUC, ranging from .84 to .90, that were significantly different from the random predictor ($AUC=.50, p<.01$). It is worth noting that the AUC values for the social anxiety measures in predicting those with a diagnosis of social phobia were similar to those identified by previous research.²⁹ These findings suggest that the aforementioned measures predict social phobia at a level that is significantly higher than chance, indicating the potential utility of these measures in predicting social phobia in a clinical setting. Furthermore, the current study appears to be the first of its

Table 1. Demographics

Variable	Frequency
Gender	
Male	5
Female	60
Age	
M	37
SD	7.17
Marital Status	
Single without partner	22
Single with partner	14
Married	13
Divorced and Remarried	3
Divorced and Single	9
Separated	2
Never been Married	2
Education	
Grades 9, 10, or 11 High School Graduate	9
Some College or Specialized Training	27
College Graduate	18
Graduate or Professional Training	8
Income Level	
Under \$10K	14
\$10,000–19,999	8
\$20,000–29,999	16
\$30,000–39,999	1
\$40,000–49,999	13
\$50,000–59,999	3
\$60,000–69,999	1
\$70,000–79,999	1
\$80,000–89,999	1
\$90,000+	5

kind underscored by the utilization of an exclusively African American sample containing clinical data.

As aforementioned, much of the recent work in this area has explored the factor structure of social anxiety and whether or not factor patterns vary in African Americans and other groups.^{7,10,13} Results have consistently indicated factor variance in African Americans as compared to other groups, which suggests the need for further exploration of specific items related to measures of social anxiety in African American adults with social anxiety. It should also be noted that much of the work in this area has focused on non-clinical populations. As such, whether

or not existing measures predict the presence of an actual disorder, specifically social phobia, answers a different empirical question although both foci are meaningful to the existing literature. The current study addresses the later question and results indicate that existing measures of social phobia are clinically useful in screening for social phobia in African American adults. In concert with other studies in this area, both an item analysis of social anxiety measures and the clinical utility of social anxiety measures in African American and other diverse samples are in need of further exploration.

IMPLICATIONS AND FUTURE DIRECTIONS

The current study yielded several significant findings. First, the sensitivity and specificity rates of each measure in the socially anxious sample revealed optimal cutoff scores that could potentially be used to screen for anxiety in African American adults. The SIAS yielded the most desirable AUC (i.e., .90) although the other utilized measures yielded statistically significant results. For example, the optimal cutoff

Table 2. Bivariate Pearson Correlations of Social Anxiety Subscales and Measures

Variables	1	2	3	4
1. APPQ Social Subscale	---	.768**	.790**	.832**
2. SIAS Total Score	---	---	.834**	.716**
3. SPS Total Score	---	---	---	.700**
4. FSS-II Social Anxiety Factor	---	---	---	---

***p<.001; **p<.01; *p<.05

score for the SIAS in predicting social phobia specifically was 15 whereas the mean for the sample was only slightly higher with a score of 16.6. The close proximity of the cutoff score and the mean score suggests that a low rate of false positives

Table 3. Sensitivity and specificity of mean scores in predicting Social Phobia diagnosis

Score	APPQ Social Subscale Sensitivity (%)	Specificity (%)	Score	SIAS Total Score Sensitivity (%)	Specificity (%)
0.5	69.6	46.3	.5	100.0	4.9
1.5	65.2	48.8	2.0	100.0	7.3
2.5	65.2	56.1	3.5	100.0	12.2
3.5	65.2	61.0	4.5	100.0	24.4
4.5	60.9	73.2	5.5	100.0	26.8
5.5	52.2	80.5	6.5	100.0	34.1
7.0	52.2	87.8	7.5	95.7	36.6
8.5	47.8	90.2	8.5	95.7	48.8
9.5	47.8	92.7	9.5	91.3	51.2
10.5	43.5	92.7	10.5	87.0	53.7
11.5	39.1	92.7	11.5	87.0	61.0
13.0	34.8	92.7	13.0	87.0	75.6
14.5	34.8	95.1	14.5	87.0	80.5
15.5	34.8	97.6	15.5	82.6	82.9
16.5	30.4	97.6	16.5	82.6	85.4
17.5	43.8	100.0	17.5	78.3	85.4
			18.5	69.6	87.8
			19.5	65.2	87.8
			20.0	65.2	90.2
			22.0	65.2	92.7
			24.0	65.2	97.6
			27.5	60.9	100.0

Table 4. Sensitivity and specificity of mean scores in predicting Social Phobia diagnosis

Score	SPS Total Score Sensitivity (%)	Specificity (%)	Score	FSS-II Social Subscale Sensitivity (%)	Specificity (%)
0.5	95.7	26.8	.5	91.3	46.3
1.5	91.3	39.0	1.5	87.0	56.1
2.5	91.3	41.5	2.5	82.6	65.9
3.5	82.6	63.4	3.5	78.3	70.7
4.5	78.3	73.2	4.5	73.9	75.6
5.5	73.9	75.6	5.5	73.9	80.5
6.5	73.9	78.0	6.5	73.9	90.2
7.5	69.6	82.9	7.5	73.9	92.7
8.5	60.9	85.4	8.5	69.6	95.1
10.0	60.9	87.8	9.5	69.6	97.6
12.0	56.5	90.2	10.5	60.9	100.0
13.5	56.5	92.7			
15.5	52.2	95.1			
17.5	47.8	97.6			
18.5	47.8	100.0			

would be present if the SIAS were to be used as a screening device in our sample of controls and those diagnosed with social phobia. Most importantly, a cut score of 15 or higher on the SIAS, a score of 7 or higher on the four-item social fear factor from the FSS-II, a score of 7 or higher on the APPQ social anxiety subscale, and a score of 6 on the SPS ostensibly warrants further screening for social phobia in African American adults.

Another noteworthy finding from the current study involves the four-item social anxiety factor derived from the FSS-II. The four items that make up the social anxiety factor of the FSS-II, which has been cross-validated in different African American samples,^{7,13} may be useful in screening for social phobia in African Americans adults. This finding also contradicts results from the NCS-R,¹⁵ indicating that African Americans endorse less fear than other groups. Interestingly, although factor patterns have been shown to significantly vary in African Americans as compared to other groups, the four items from the FSS-II may be key to the assessment of social phobia symptoms in African Americans, which has been supported in at least two different samples of African Americans.⁷ This finding has both research and clinical implications when considering the efficiency with which the four items that make up the social anxiety factor of the FSS-II^{7,13} could be administered in order to accurately predict social phobia diagnoses. Upon closer examination, the content of the four items on the social fear factor of the FSS-II (i.e., fear of not being a success, being self-conscious, being criticized, and looking foolish) appear to shed light on the significant results yielded

by this factor. The existing literature suggests that African Americans may endorse more social fears than their non-Hispanic White counterparts,^{7,11} and that these higher rates of social anxiety may be explained by the collectivistic culture of African Americans and the emphasis that is placed on kin support networks.²⁰⁻²⁴ African Americans identify themselves with their larger kin support network, they may strive to maintain the integrity of that group in order to avoid bringing shame to their group collectively, which is endemic to most collectivistic cultures.^{7,17}

Moreover, a stronger emphasis on social interaction with a concurrent fear of negative evaluation, can be derived from the notion of upholding their extended networks' status. Along these lines, the content of the social fear factor becomes increasingly salient particularly when further considering Steele's⁵⁹ notion of stereotype threat (i.e., the fear of confirming stereotypical beliefs held by non-Hispanic Whites). As such, careful investigation of the four indicators that load on the social fear factor (i.e., not being a success, being self-conscious, being criticized, and looking foolish) further reveals the recurrent theme of fear of negative evaluation by the larger group, which directly corroborates the existing literature.^{10,60} Interestingly, the presence of twenty-three African American adults with social phobia in the current sample further substantiates both historical and nascent work in this area.^{7,10,13,14}

The presence of social phobia in the current sample also underscores the continued need to assess anxiety and related constructs, particularly social phobia, in African Americans. Past research indicating that the construct of

social anxiety may differ in African Americans in concert with the findings from the current study suggests that the social anxiety measures examined in the current study accurately assess social anxiety in an exclusively African American sample. As such, replication of the current findings is highly encouraged in order to identify the social anxiety factor from the FSS, the SIAS, the SPS, and the APPQ social anxiety subscale as culturally sensitive measures of social anxiety symptoms.

LIMITATIONS

Although the current study had a number of notable strengths in assessing the clinical utility of existing social anxiety measures, there were also a small number of limitations worth noting. Whereas the sample size of the current study ($n=65$) certainly contributed to the paucity of empirical literature in the area of anxiety and related disorders in African Americans, we recognize that this sample size is relatively small when compared to other studies in the literature that utilize clinical data. Along these lines, the numbers of individuals who were diagnosed with social phobia specifically ($n=23$) in the current sample was relatively low. Additionally, the current sample consisted of mostly females, which potentially limits the generalizability of the findings to the general population. Future studies should utilize a larger overall sample size with a balanced proportion of males and females in order to increase the generalization of the results as well as statistical power. A comparison of African Americans to non-Hispanic Whites is also lacking in the current study. Future work that contains a large sample of non-Hispanic Whites or other ethnic groups on similar measures would undoubtedly contribute to the generalization of the current findings.

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