Social anxiety across ethnicity: A confirmatory factor analysis of the FNE and SAD

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Previous research has established that social anxiety occurs at different rates in African American and European American populations (Grant et al., 2005), while psychometric investigations of widely used measures of psychopathology show differences in factor structure based on ethnic background (Carter, Miller, Sbrocco, Suchday, & Lewis, 1999; Chapman, Williams, Mast, & Woodruff-Borden, 2009). The current study examined response characteristics of 1276 African American and European American undergraduates completing the Fear of Negative Evaluation and Social Avoidance and Distress Scales (Watson & Friend, 1969). Confirmatory factor analyses failed to demonstrate factorial invariance in the two ethnic samples, and Wald tests suggested several items on both measures be dropped for African Americans. Results suggest the FNE and SAD operate differently across ethnic groups. Implications for the cross-cultural measurement of social anxiety and the importance of continued rigorous psychometric inquiry of commonly used measures are discussed.

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Watson and Friend (1969) have defined social anxiety as distress stemming from social interaction, fear of being evaluated negatively by others, and avoidant behavior seeking to escape possible discomfort to the point of extreme interpersonal guardedness and isolation. Individuals suffering from social anxiety may avoid social situations to the extent that it strongly obstructs their ability to form meaningful relationships, enjoy any social encounter, or feel comfortable in evaluative situations (Bogels et al., 2010). Social anxiety has been revealed to be a highly prevalent problem (Grant et al., 2005; Lancu et al., 2006; Judd, 1994) associated with the increased comorbidity of other psychological complications (Belzer & Schneier, 2004; Lecrubier, 1998), problem drinking (Buckner, Schmidt, & Eggleston, 2006), and impaired quality of life (Lochner et al., 2003; Olatunji, Cisler, & Tolin, 2007).

Recent attempts to better understand social anxiety have examined the cultural factors that may shape and define this phenomenon (Heinrichs et al., 2006). These efforts attempt to account for the influence of socio-cultural constructs that may affect how the experience of social anxiety varies across cultures, ethnicities, gender, and sexual orientations (Draguns & Tanaka-Matsumi, 2003; Kleinkechnt, Dinnel, Kleinkechnt, & Hiruma, 1997; Pachankis & Goldfried, 2006; Zeidner, 1989). Differences in how this clinical phenomenon is viewed or conceptualized may occur when comparing collectivist and individualist societies resulting in inconsistency if one attempts to explain social anxiety in a pan-cultural manner (Draguns & Tanaka-Matsumi, 2003). Using another example, homosexual individuals may experience evaluative anxiety in differing contexts and ways than their heterosexual peers (Pachankis & Goldfried, 2006). These examples highlight only a few possible sources of discrepancy in the experience or causes of social anxiety. One can imagine other points of differentiation as additional socio-cultural or ethnic variations are considered.

A body of the literature is emerging examining differences in socially anxious behavior between Asian Americans and European Americans. These studies have produced interesting insights into the variations that may be inherent when translating this diagnostic entity across cultural and ethnic divides. In a study by Lee, Okazaki, and Yoo (2006) European American and Asian American participants completed a 2-week diary chronicling events in which they experienced social discomfort. Results indicated that individuals of both ethnic backgrounds experienced an equal number of social interactions eliciting discomfort, but Asian American participants reported statistically higher levels of anxiety afterward. Additionally, research has indicated that Asian Americans and European Americans may experience equal amounts of evaluative apprehension, but Asian Americans may report higher levels of distress and avoidance concerning anxiety provoking social circumstances (Okazaki, 1997). Furthermore, research has demonstrated that the differing levels of social anxiety observed between populations of Eastern and Western decent may be better understood by mediating cultural values and characteristics (Hong & Woody, 2007). For example, constructs that vary within different cultural groups, such as identity consistency and independent self-construal, were shown to statistically explain the higher rates of social anxiety.

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observed in a Korean sample being compared to Euro-Canadians (Hong & Woody, 2007).

Similar research has explored these differences with individuals of European and American decent, finding discrepancies in the intensity of social anxiety (Van Dam-Baggen, Kraaimaat, & Elal, 2003). Additionally, attempts have been made to examine the psychometric properties of social anxiety measures with populations culturally different (Olivares, Garcia-Lopez, & Hidalgo, 2001) from the ethnically homogenous European American populations with which previous psychometric and factor analytic studies have been conducted (Osman, Gutierrez, Barrios, Kopper, & Chiros, 1998). The Social Interaction Anxiety Scale (Mattick & Clarke, 1998) has demonstrated a similar factor structure in Spanish speaking populations (Olivares et al., 2001) and primarily European American samples (Osman et al., 1998). Further quantitative research, examining the psychometric properties of widely used questionnaires across cultures and ethnicities, may provide a more methodological sound means for conducting etic research.

Recently, key differences in the prevalence of social anxiety have emerged between European American and African American populations (Grant et al., 2005). In this study African Americans endorsed lower levels of social anxiety when compared to their European American peers. Differences of this nature, while providing straightforward indications of the prevalence and severity of this phenomenon, may also be indicative of weaknesses found in commonly used assessment measures of social anxiety. Some instruments used to measure social anxiety have been psychometrically developed and examined with ethnically heterogeneous samples (Carleton, McCreary, Norton, & Asmundson, 2006; Rodebaugh, Woods, Heimberg, Liebowitz, & Schneier, 2006; Weeks et al., 2005), but few attempts to explicate possible cultural and ethnic group differences regarding these constructs have been undertaken. In general, there is a dearth of psychometric literature concerning assessment of psychological constructs in a cross-culturally sensitive manner. This is problematic if group comparisons of social anxiety are to be made using measures that have not undergone sufficient psychometric validation to establish their structural similarity across ethnic groups. Using an instrument that may have different meaning and structural characteristics for the different groups being compared, would make comparisons ignorant of underlying confounds.

Previous studies have examined the factor structure of anxiety related measures in European American and African American participants. Carter, Miller, Sbrocco, Suchday, and Lewis, (1999) reported the Anxiety Sensitivity Index demonstrated poor convergent and discriminant validity for African Americans, and that it also demonstrated a different factor structure for this group than for European Americans. Likewise, a recent study examining the Fear Survey Schedule—Second Edition (Geer, 1965) reported different loading patterns for European Americans and African Americans (Chapman, Kertz, Zurlage, & Woodruff-Borden, 2008). Additionally, a structural equation model analysis of perceived control and psychological distress revealed different relationships between these latent variables and levels of reported worry when comparing African American and European Americans (Chapman, Kertz, & Woodruff-Borden, 2009). Furthermore, a confirmatory factor analysis of the Beck Anxiety Inventory (Beck & Steer, 1993) revealed different structural characteristics for African American and European American participants (Chapman et al., 2008).

The above findings are not surprising given both theoretical and case study reports from the literature. Harmon, Langley, and Ginsburg (2006) hypothesized that African Americans may present with different anxiety symptoms than those from other ethnic groups. At least two case studies have reported instances of social anxiety in African American clients in which the role of racial bias and fear of confirming stereotypes directly contributed to the level of anxiety (Fink, Turner, & Beidel, 1996; Johnson, 2006). These case studies are consistent with a study which found that for some African Americans fear of negative evaluation goes beyond the individual level and is broadened to the fear of bringing negative evaluation to all African Americans (Obasaju, 2007). Thus, fear of confirming negative stereotypes may play a role in symptoms of social anxiety. This hypothesized relationship clearly is in need of further study.

The Fear of Negative Evaluation Scale (FNE) and the Social Avoidance and Distress Scale (SAD) were concurrently developed to measure apprehension related to evaluative situations and social avoidance and distress stemming from these situations, respectively (Watson & Friend, 1969). Previous studies have confirmed the original factor structures and psychometric properties of the two instruments using student and clinical populations (Oei, Kenna, & Evans, 1991; Rodebaugh et al., 2004), although, overall, studies of these scales’ psychometric properties have been surprisingly limited given their frequent use for over 40 years (Bruch, 1979; Mattick, Peters, & Clarke, 1989; Rossignol, Anselme, Vermeulen, Philippot, & Campanella, 2007).

While efforts have been made to examine ethnic and cultural differences in the characteristics and prevalence of social anxiety (Fink et al., 1996; Johnson, 2006; Lewis-Fernandez et al., 2010; Obasaju, 2007), few studies have explored possible inconsistencies that may confound a number of widely used measures of social and evaluative anxiety as a result of cultural issues. Efforts to better understand social anxiety through examining how it is measured, in ethnically diverse populations can provide a better conceptualization of social anxiety and how it manifests across different ethnic and cultural groups. Furthermore, confirmatory psychometric inquiry of this nature has been recommended in an effort to increase understanding of the properties of a given measure and researcher understanding of the measured construct across differing contexts (Levine, 2005; Levine, Hullett, Mitchel, & Lapinski, 2006).

The current study examines the factor structure of two widely employed measures of social anxiety often used with college populations, the FNE and SAD. This study expands on previous research by comparing the factor structures and response patterns of African American and European American participants on the FNE and the SAD in a large undergraduate sample. Given previous research which demonstrated varying factor structures for other anxiety constructs between African American and European American samples (Carter et al., 1999; Chapman et al., 2008), it is hypothesized that both the FNE and the SAD will demonstrate inconsistencies in their previously established factor structures across ethnic groups. Specifically, it is predicted that these analyses will confirm the original factor structure of both instruments for European American participants, but that this model will not adequately fit the response patterns of the African American sample.

1. Method

1.1. Participants

A total of 1420 undergraduate students participated in the current study in order to receive class credit. The sample was ethnically diverse, with European Americans (n = 900), African Americans (n = 376), Latinos/as (n = 46), Asian Americans (n = 32), American Indians (n = 11), Pacific Islanders (n = 3), and those of other ethnic backgrounds (n = 52) represented. Gender ratios offered appropriate numbers of men (n = 656) and women (n = 763), with one participant not reporting their sex. Participants were 19.1 years old on average.
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