Exploring relations between shyness and social anxiety disorder: The role of sociability

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ABSTRACT

We explored the relation between shyness and social anxiety disorder (SAD) by investigating the role of sociability in this association. Using a multicomponent approach, we found that sociability moderated the association between shyness and SAD in adults, such that individuals who experience *conflicted shyness* (i.e., scoring high on shyness *and* sociability) displayed the greatest disturbance across cognitive, behavioral, and somatic components of SAD. Our findings lend support to the notion that shyness is a broad, heterogeneous construct, and that not all highly shy individuals meet diagnostic criteria for SAD. Adults with a *conflicted shyness* phenotype represent a subgroup of shy individuals who may be at particular risk for SAD symptoms. This finding provides empirical support that an approach–avoidance conflict may be a motivational underpinning in the development of SAD.

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1. Introduction

Shyness, social anxiety, and unsociability are terms that are often used interchangeably to describe individuals who display reticence in social situations (Rubin and Asendorpf, 1993; Schmidt and Buss, 2010). Although these terms describe somewhat overlapping constructs, differences in the definition, conceptualization, and measurement of shyness, sociability, and social anxiety is of critical importance to theory and practice. The use of specific and accurate terminology determines the extent to which the issue under investigation is reliably and accurately understood and acted upon. For example, both researchers and clinicians struggle to differentiate the boundary between shyness and social anxiety disorder (SAD; also known as social phobia) because the specificity of the relation between these two constructs has been largely unexplored empirically.

One hypothesis is that shyness and SAD exist along a continuum, with SAD conceptualized as an extreme form of shyness (Hofmann, Heinrichs, and Moscovitch, 2004; Marshall and Lispett, 1994; McNeil, 2001). This idea is appealing since shyness and SAD share several features, including symptoms across somatic (e.g., trembling, sweating,

blushing), cognitive (e.g., social fears), and behavioral (e.g., avoidance of social situations) domains. A second hypothesis is that shyness and SAD are somewhat overlapping conditions that share properties, but with shyness being a much broader construct than SAD (Heckelman and Schneider, 1995; Heiser, Turner, and Beidel, 2003). According to this conceptualization, shyness and SAD may be somewhat related but can be qualitatively distinct in several dimensions rather than simply varying in degree.

Supporting the heterogeneity of shyness hypothesis, Heiser, Turner, Beidel, and Roberson-Nay (2009) noted large differences among shy individuals in a multicomponent analysis of cognitive, behavioral, and somatic symptoms of SAD. Among highly shy adults (defined as scoring at least one standard deviation above the mean), approximately one-third comprised a subgroup without *any* social fears, which is the core feature of SAD (Heiser et al., 2009). Further, approximately one half of the highly shy group did not display avoidant behavior, and approximately one-third did not experience any somatic symptoms when encountering supposedly feared social situations (Heiser et al., 2009). Interestingly, these findings provide support that highly shy individuals may vary in disturbances across all three components of SAD. The highly shy group without SAD symptoms was quite large and different from those highly shy adults with SAD (Heiser et al., 2009), which lends support for the hypothesis that shyness is a broader, more heterogeneous construct than SAD, and that shyness and SAD cannot always be conceptualized as simply existing along a continuum.

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Given evidence for heterogeneity among shy individuals, it is of particular interest to examine factors that may play a role in the etiology of SAD and distinguish non-pathological shyness from pathological shyness. Researchers have long hypothesized that variations in the phenotypes of shy individuals may result from differences in sociability (Asendorpf and Meier, 1993; Asendorpf, 1990; Cheek and Buss, 1981). Shyness (tension and inhibition with others) constitutes a motivation for avoidance, whereas sociability (desire to affiliate with others) constitutes a motivational tendency for approach (Cheek and Buss, 1981).

Early work by Cheek and Buss (1981) provided empirical evidence that shyness and sociability may be orthogonal dimensions, and this independence has been widely supported in studies of children (Asendorpf and Meier, 1993; Tang, Santesso, Segalowitz, and Schmidt, 2016) and adults (Bruch, Rivet, Heimberg, Hunt, and McIntosh, 1999; Eisenberg, Fabes, and Murphy, 1995; Leary, Herbst, and McCrary, 2003; Schmidt, 1999; Schmidt and Fox, 1994, 1995; Tang, Santesso, Segalowitz, Schulkin, and Schmidt, 2016), as well as clinical populations (Goldberg and Schmidt, 2001; Jetha, Schmidt, and Goldberg, 2009) across the lifespan and across cultures (Czeschlik and Nurk, 1995; Hussein, Fathy, Mawla, Zyada, and El-Hadidy, 2011; Neto, 1996). Accordingly, it is possible that individuals can be high on both sociability *and* shyness; that is, they have a strong desire to affiliate with others (i.e., they are sociable), but are too fearful and inhibited to do so (i.e., they are shy). This results in a motivational approach-avoidant conflict (Asendorpf, 1990) and yields a *conflicted shyness* subtype (Schmidt, 1999). From a theoretical perspective, the internal conflict that shy and sociable individuals face may result in more social distress, and we hypothesize that this may place them at heightened risk for experiencing the defining features of SAD.

Although previous research has begun to attempt to delineate the boundary between shyness and SAD, this division is still largely unclear. As well, although shyness and SAD are positively correlated, there is substantial heterogeneity in the shy population and many highly shy individuals do not meet the diagnostic criteria for SAD. Here we examined what might account for this variability among the shy population by examining the role of sociability in distinguishing shyness and features of SAD.

To this end, the present study investigated whether sociability moderated the association between shyness and three core components of SAD (i.e., cognitive, behavioral, somatic symptoms). We hypothesized that *conflicted shyness* (i.e., shyness *and* sociability) would be associated with the most severe symptoms of SAD across cognitive, behavioral, and somatic components.

2. Method

2.1. Participants

We utilized a general population convenience sample of eighty-eight healthy, predominantly Caucasian adults (33 males, 55 females)($M_{age} = 32.48$ years, $SD = 1.37$) who were recruited from central-west Ontario. A majority of the participants completed at least high school (i.e., 94%), and most were married/common-law (i.e., 58%). Participants were not selected for high shyness, sociability, or social anxiety.

2.2. Procedures

After a complete description of the study was provided, written informed consent was obtained from the participants. They then completed a series of self-report questionnaires pertaining to personality dimensions and mental health. All procedures were completed at McMaster University and approved by the University's Research Ethics Board.

2.3. Measures

2.3.1. Cheek and Buss shyness and sociability scales

Shyness and sociability were self-reported and measured using the five highest loaded items (Bruch, Gorsky, Collins, and Berger, 1989) from the original Cheek and Buss (1981) scale. An example of an item from the shyness subscale includes "I feel inhibited in social situations" and an example from the sociability subscale includes "I find people more stimulating than anything else". Items were scored on a 5-point scale ranging from 0 ("not at all characteristic") to 4 ("extremely characteristic"), thus both the shyness and sociability subscale scores can range from 0 to 20, with higher scores reflecting more shyness and more sociability, respectively. Both the shyness ($\alpha = 0.89$) and sociability ($\alpha = 0.86$) subscales demonstrated good internal consistency in our sample.

2.3.2. Social Phobia Inventory (SPIN)

The SPIN is a self-report measure that is used as a screening tool for social phobia (i.e., SAD) (Connor et al., 2000). There are a total of 17 items that are rated on a scale of 0 ("not at all") to 4 ("extremely"), with full scores ranging from 0 to 68 and higher scores corresponding to greater social distress. In addition to a total scale score, three subscales can be computed that correspond to the cognitive, behavioral, and somatic components of SAD. The cognitive component is comprised of 6 items that evaluate social fear (e.g., of people in authority, of being criticized, of being embarrassed); the behavioral component is comprised of 7 items that evaluate avoidance behaviors (e.g., of going to parties, of being the center of attention, of making speeches), and the somatic component is comprised of 4 items that evaluate physiological discomfort (e.g., blushing, sweating, palpitations). The total scale score ($\alpha = 0.92$), fear subscale ($\alpha = 0.82$), avoidance subscale ($\alpha = 0.80$), and physiological discomfort subscale ($\alpha = 0.78$) all demonstrated good internal reliability in our sample.

2.3.3. Beck Depression Inventory II (BDI-II)

The BDI-II is an extensively used self-report tool for depression (Beck, Steer, and Brown, 1996). There are a total of 21 questions and respondents rate how characteristic each symptom (e.g., sadness, fatigue, loss of pleasure) has been in the last two weeks. Higher scores correspond to more symptoms of depression. The BDI-II demonstrated good internal reliability in our sample ($\alpha = 0.93$).

2.4. Statistical analyses

To compare the relation of shyness and sociability in predicting components of SAD, identical multiple linear regressions were conducted for each dependent component (i.e., social fears, avoidance behaviors, physiological discomfort from the SPIN). Continuous scores of shyness and sociability were utilized given they are conceptually and statistically continuous dimensions (e.g., Bruch et al., 1989). In the first model, shyness and sociability main effects were entered simultaneously. In the second model, we entered a term capturing the interaction between shyness and sociability (to denote *conflicted shyness*). In the final model, we entered participant sex and depression scores on the BDI-II to provide adjusted estimates. BDI-II was considered an important covariate because measures of anxiety and depression (including shyness and depression) are highly correlated (Alfano, Joiner, and Perry, 1994) and investigators have demonstrated that the correlation between social anxiety and frequency of negative thoughts almost disappear when partialing out variance due to depression (Ingram, 1989). All statistical analyses were performed using SPSS Version 21.0, with significance levels set at $\alpha = 0.05$.