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Socially oriented negative self-referent cognition : the development and validation of a measure

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SOCIALLY ORIENTED NEGATIVE SELF-REFERENT COGNITION: THE
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Abstract

Social phobia, a debilitating disorder among children and adolescents, is thought to be made up of cognitive, behavioral, and physiological components. However, in children, the cognitive component of this disorder has been largely neglected by researchers. Therefore, the purpose of this study was to create and validate a new instrument, "the Socially Oriented Negative Anxious Statement (SONAS) scale," that assesses socially oriented negative self-referent cognition in a younger population. Measurement validation procedures including, reliability, validity, and factor analysis, were utilized to examine the proposed questionnaire. Results indicated that the SONAS scale demonstrated good psychometric properties, including a sound two-factor structure (i.e., performance thoughts and interaction thoughts) as expected, good internal consistency for each subscale and the total scale, moderate to strong correlations with similar constructs (e.g., the NASSQ, the social threat subscale of the CATS), and weak correlations with differing constructs (e.g., the hostility subscale of the CATS). The newly developed instrument also demonstrated good concurrent validity, predicting the amount of social anxiety present as measured by two different scales (i.e., a brief social anxiety questionnaire and the SPAI-C). Collectively, it is thought that the SONAS scale is an important new tool in the assessment of negative cognition in social anxiety that may be used for the development of predictive theoretical models as well as for assessment and progress monitoring within the context of treatment (e.g., CBT). Implications and study limitations are discussed.

1. Introduction

With an early age of onset and noteworthy prevalence rates, Social Phobia is a concern for children and adolescents, and a host of variables (e.g., negative self referent cognition, self-efficacy, negative self-concept) have been connected to its development and maintenance. Similar to other anxiety disorders, Social Phobia is thought to be made up of three parts: behavior – what one does, physiology – how one's body reacts, and cognition – what one thinks (Lang, 1979; for a review, see Davis, May, & Whiting, 2011). The best treatments for anxiety disorders like Social Phobia are cognitive-behavioral treatments (CBT) that target all three components to different degrees (Britton, 2007; Kendall, Hudson, Choudhury, Webb, & Pimentel, 2005; Silverman & Pina, 2008). Unfortunately, the cognitive or "thinking" aspect of anxiety is seriously neglected theoretically and practically in our assessments of children and adolescents (Davis et al., 2011; Davis & Ollendick, 2005). This is in part due to a lack of good measures of anxious cognition for children and adolescents. Therefore, this study aimed to improve the assessment of the cognitive aspect of social anxiety by creating and validating a new measure of socially oriented negative self-referent cognition in school-aged children and adolescents. This new instrument should facilitate the theoretical understanding, assessment, and monitoring of the cognitive aspect of social anxiety in children and adolescents.

2. Review of the Literature

2.1 Social Anxiety

Social Phobia is a debilitating disorder that affects the lives of many adults, as well as children and adolescents. According to the Diagnostic and Statistical Manual of Mental Disorders (*DSM-IV-TR*; APA, 2000), the disorder is characterized by an excessive or unreasonable, marked and persistent fear of social situations that invariably provokes an anxiety response, which significantly interferes with the person's daily life. Schlenker and Leary (1982) defined the continuous construct of "social anxiety," a broader and more encompassing construct than the clinical diagnosis of "Social Phobia," as anxiety that results from the prospect or presence of personal evaluation along with a fear of social failure and criticism. This fear of social failure is intertwined with one's beliefs about himself and his capabilities in social situations.

Two types of situations have predominately been identified as anxiety provoking and distinguishable areas of social anxiety (Leary, 1983). Interaction anxiety involves difficulty interacting or mixing with other people and may include features such as communication or conversation anxiety, interpersonal anxiety, shyness, and dating anxiety (Leary, 1983; Mattick & Clarke, 1998). Performance anxiety consists of a fear of scrutiny (e.g., sports performances, musical performances, eating in front of others, writing in front of others) and/or fear of speech in which the person is not necessarily interacting with others but may be watched or observed during the activity (Leary, 1983; Mattick & Clarke, 1998). These two forms of social anxiety appear to be distinct and are functionally contingent upon the level of involvement and response of other individuals (Leary, 1983). In this way, one may experience high levels of interaction anxiety without high levels of performance anxiety and vice versa (Mattick & Clarke, 1998).

However, if the two types of anxiety occur concurrently within a diagnosis of Social Phobia, a specifier, "generalized type," is warranted (*DSM-IV-TR*). Onset for Social Phobia typically occurs around the early to middle teenage years, and it is often preceded by earlier signs of social inhibition and shyness (*DSM-IV-TR*; Van Roy, Kristensen, Groholt, & Clench-Aas, 2009). Prevalence rates for Social Phobia are reported to range from 3% to 13% (*DSM-IV-TR*), with the most recent estimates indicating a lifetime prevalence rate of 12.1% (Kessler et al., 2005). Prevalence and onset of social anxiety is thought to be more pervasive but less clearly defined.

Despite the prevalence of Social Phobia (i.e., a categorical, diagnosable disorder), researchers suggest that social anxiety exists along a continuum with Social Phobia at one extreme and marked elevations in anxiousness at the other (Norton, Cox, Hewitt, & McLeod, 1997). For this reason, social anxiety is often examined as a continuous construct for research purposes, especially when a diagnosis of Social Phobia is not relevant, expedient, or applicable. As a clinical diagnosis or a subclinical construct, without treatment, social anxiety can impair one's social, educational, and professional capacities throughout the lifespan (for a review see Davis, Munson, & Tarcza, 2009), and therefore, efforts should be made to better understand and assess relevant variables that contribute to anxious elevations along the continuum, not just within the context of the diagnosable disorder.

Social anxiety has been found to correlate with a number of variables (e.g., Spence, Donovan, & Brechman-Toussaint, 1999); however, a specific cause has yet to be determined. The etiology of anxiety disorders is generally attributed to one or a combination of four different pathways: classical conditioning, modeling, negative information transmission, and a biological and/or non-associative path. Classical conditioning involves a direct conditioning experience. Modeling occurs when one learns to fear a situation by watching someone else behave afraid.

Negative information transmission occurs when a person hears negative information about a situation and subsequently learns to fear that situation from the information given. Finally, fear originating from a biological and/or non-associative pathway is likely due to a biological or genetic predisposition or unrecalled associative experiences over time and is not likely to include an identified learning experience (and may be related to problems associated with retrospective reporting by participants in those studies). In addition to these pathways, Schlenker and Leary (1982) identified two predominate factors that contribute to the onset of social anxiety. The first factor, fear of negative evaluation, reflects concerns about scrutiny during everyday events, whereas the second factor, negative self-concept, reflects concerns about social failures and criticism. Within each of these factors, multiple variables contribute to the development of social anxiety.

Theoretically, it is suspected that negative self-referent cognition is a variable that plays a role in the manifestation of social anxiety (Cieslak, Benight, & Lehman, 2008; Glass & Furlong, 1990; Spence et al., 1999). A greater number of negative self-statements has been found to be positively correlated with higher levels of social anxiety in adults, children, and adolescents (Glass & Furlong, 1990; Wichmann, Coplan, & Daniels, 2004). The assessment and monitoring of these statements is then crucial to the process of alleviating social anxiety, and further evidence is needed to better understand if, specifically, *socially oriented* negative self-statements are predictive of social anxiety as well.

2.2 Measuring Negative Self-Referent Cognition

2.2.1 Negative Self-Referent Cognition

Negative self-referent cognition has been highlighted as an important variable in the development and maintenance of internalizing psychopathology (e.g., depression, anxiety). The

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construct is generally composed of self-statements or internal dialogue (e.g., "I will make a fool of myself," "I am an embarrassment") that are negative in content, state oriented, and have been demonstrated to have a lasting emotional impact on disordered and non-disordered youth (Sood & Kendall, 2007). Negative self-referent cognition increases negative affectivity and emotional lability, and is associated with greater anxious and depressive symptoms in adults as well as children and adolescents (Glass & Furlong, 1990; Ronan, Kendall, & Rowe, 1994). According to researchers, rather than lower frequencies of positive cognition, higher frequencies of negative self-statements have been linked to higher levels of anxiety (Dodge, Hope, Heimberd, & Becker, 1988; McKellar, Malcarne, & Ingram, 1996; Spence et al., 1999), a phenomenon called "the power of non-negative thinking" (Kendall, 1984). In fact, negative self-talk has been a predictor of anxiety severity at treatment completion and at follow up (Scholing & Emmelkamp, 1999; Treadwell & Kendall, 1996). Collectively, these findings demonstrate that negative self-referent cognition is implicated as an important cognitive factor in the development and maintenance of anxiety disorders as well as other psychopathology.

2.2.2 Social Anxiety and Negative Self-Statements

Negative self-statements have been linked to increased social anxiety in adults as well as children and adolescents. In adults, the number of negative self-statements present has been found to be positively correlated with and predictive of greater social anxiety when using self-report questionnaires in both clinical and non-clinical samples (Beidel, Turner, & Dancu, 1985; Turner, Beidel, & Larkin, 1986). Glass and Furlong (1990) demonstrated that negative self-statements were related to irrational beliefs, fear of negative evaluation, amount of social anxiety present, and global behavior ratings of social interactions. Spence et al. (1999) aimed to replicate variable trends exhibited by adults with social anxiety in children and adolescents with

social anxiety. The authors found that children with social anxiety exhibited more negative self-statements about their social performance than those without social anxiety. In other words, a greater number of negative self-statements positively correlated with and significantly predicted higher levels of social anxiety. This result has since been replicated with other children and adolescents (e.g., Rudy, Davis, & Matthews, in press; Wichmann et al., 2004) and expanded, indicating that more negative self-statements occur for speech-giving tasks than for conversational tasks, and the number of negative self-statements predicted behavioral performance on both types of tasks (Jordan, 2008). Identification of this type of cognition is therefore potentially a key component for the treatment of social anxiety, especially via a cognitive-behavioral orientation.

2.2.3 Assessment of Negative Self-Referent Cognition

Negative cognition is often referenced as an important theoretical variable in relation to anxiety, depression, and other psychopathology; however, assessment of this construct is somewhat limited. Previous forms of assessment of negative self-talk frequently involved thought listing methods, which are more tedious and rudimentary and often cause great difficulty for scoring and objectivity (Glass & Arnkoff, 1997; Sood & Kendall, 2007). Thought listing methods can be especially difficult for children, who engage in more concrete thinking developmentally (see Piaget 1967; 1970), particularly in the areas of self-reflectiveness and perspective taking (Selman, 1980; Selman & Jaquette, 1977). Endorsement methods may be better options for identification of negative self-referent cognition, especially for children and adolescents.

Previous measures of self-statements have typically focused more broadly on negative affective cognitions (e.g., "I can't do anything right;" Negative Affectivity Self Statement

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Questionnaire; NASSQ; Ronan et al., 1994) or on general anxiety cognitions (e.g., "I am very nervous;" Negative Affectivity Self Statement Questionnaire – Anxiety scale; NASSQ-A; Sood & Kendall, 2007). However, researchers have demonstrated that the content and frequency of self-statements tend to differ across different anxiety provoking situations as well as differing anxiety levels (King, Mietz, Tinney, & Ollendick, 1995; Prins, 1986; Sood & Kendall, 2007). To understand the impact of negative cognition on social anxiety, it is likely necessary to understand how socially oriented negative self-statements affect one's performance in social situations as well as the level of anxiety experienced in those situations. The Social Interaction Self-Statement Test (SISST; Glass, Merluzzi, Biever, & Larsen, 1982) represents the only known measure of socially oriented negative self-statements for adults. The SISST is an endorsement structured self-report questionnaire that includes 15 positive (facilitative) and 15 negative (inhibitory) self-statements and was derived from thought listing procedures. Negative thoughts on the SISST have predicted the amount of anxiety present and were related to ratings of social skills and situational performance (Glass et al., 1982). Furthermore, overall results on the SISST have predicted irrational beliefs, fear of negative evaluation, behavioral performance in social situations, and overall levels of social anxiety in adults (Glass & Furlong, 1990). The Children's Automatic Thought Questionnaire (CATS; Schniering & Rapee, 2002) incorporates a 10-item subscale for "social threat" among its more broad assessment of negative cognition in children and adolescents. This subscale was found to correlate highly with those diagnosed with a range of one or more anxiety disorders (Schniering & Rapee, 2002); however, further data examining the relationship between this subscale and social anxiety specifically was not available. Additionally, the Socially Anxious Cognitions Scale for Children (SAKK; Graf, Gerlach & Melfsen, 2007) is a German measure of socially anxious cognition for children that assesses

positive and negative evaluations within social situations; however, this measure is not specifically self-referent, has limited availability (and has not been utilized beyond a single, introductory study) and currently has not been translated for use in English. That being said, for children the ability to assess socially specific negative anxious cognition is minimal. Expanding the theoretical and practical understanding of the cognitive component of social anxiety in younger populations via the creation of a stand-alone measure for children and adolescents could have important assessment and treatment implications for those suffering from social anxiety.

2.2.4 Treatment Utility

Although cognitive-behavioral treatment (CBT) has been the leading empirical choice for anxiety disorders for some time (Chambless et al., 1998; Chambless & Ollendick, 2001; Ollendick & King, 2004), as previously mentioned, assessment and monitoring of cognitions related to social anxiety is somewhat lacking, especially regarding children and adolescents. Davis et al. (2011) thoroughly discussed the paucity of cognitive measures for children and adolescents as well as the detriment that this paucity has on proper assessment and progress monitoring throughout treatment of anxiety disorders. Few instruments exist to assess anxious cognition, and those that do are rarely utilized in treatment studies (Davis et al., 2011), yet cognitive models have been determined applicable and important when treating anxiety diagnoses such as Social Phobia (Hodson, McManus, Clark, & Doll, 2008). Without proper assessment, it is difficult to identify whether or not the cognitive restructuring component of CBT (see Kendall, 1993; Chorpita, 2007) is being appropriately utilized by the client, an important factor for generalization and maintenance of treatment gains. It is necessary to enhance or create new instruments that accurately represent the cognitive aspect of anxiety disorders and advocate for use of those instruments for progress monitoring during treatment to

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track cognitive change. A newly developed measure of socially oriented negative self-statements would allow clinicians to more easily identify specifically which negative cognitions to target during treatment of social anxiety as well as monitor whether or not treatment is resulting in the decrease of these cognitions. Evidence of this progress could lend further empirical support to the treatment, aid in treatment planning for the clinician, and validate client efforts potentially enhancing motivation to continue with treatment.

3. Present Study

Few instruments to date have focused specifically on the assessment of socially oriented negative cognition, especially for children or adolescents, despite the significant role that the variable plays in the maintenance of social anxiety. Studies examining the relationship between negative-self statements and social anxiety in children have primarily used broad self-statement scales such as the NASSQ (Ronan et al., 1994) or the CATS (Schniering & Rapee, 2002), and a lack of literature had demonstrated that even established scales and subscales (e.g., the CATS social threat subscale) are underutilized and not well known. As a result, this study was put forth to address these existing research deficits by creating and validating a new instrument aimed at accurately assessing the cognitive aspects of social anxiety in children and adolescents by measuring the frequency of their socially oriented negative self-statements. The newly developed measure, called the "Socially Oriented Negative Anxious Statement (SONAS) scale," is socially oriented in nature and reflects negative self-talk that occurs during or preceding social situations (See Appendix A for the initially proposed measure). Some of the initial items were reverse coded to model the structure of the NASSQ; however, positive statements did not comprise a substantial portion of the instrument. The instrument attempted to incorporate two subscales of statements, one that should correlate with and predict interaction anxiety and a second that should correlate with and predict performance anxiety. Assessment through the use of this instrument should better identify socially oriented negative self-statements, which could subsequently inform treatment goals for changing cognition through cognitive strategies such as challenging cognitive distortions (e.g., negative thoughts, anxious self-talk, and negative self-evaluations) with alternative interpretations (Chorpita, 2007; Kendall, 1993) in children and adolescents who are socially anxious.

Consistent with current guidelines for measurement validation (See Murphy & Davidshofer, 2005; Sattler & Hoge, 2006), reliability, validity, and factor structure were examined. Reliability indicates the consistency of an instrument and is most commonly measured through internal consistency, which indicates how the individual items on the instrument relate to one another (Ciccheti, 1994). Additionally, three main types of validity must be present for an instrument to be considered valid: content, construct, and criterion-related validity (Messick, 1998). Content validity exists when the items on the instrument are accurately representative of the construct domain (Murphy & Davidshofer, 2005; Patten, 2011; Sattler & Hoge, 2006). Construct validity demonstrates the degree to which the instrument correlates with other instruments that assess similar constructs and is assessed by determining convergent validity, the amount the instrument is similar to other instruments that are assessing the same construct, and divergent validity, the amount that the instrument differs from instruments that assess similar concepts and therefore taps into something novel (Campbell & Fiske, 1959; Murphy & Davidshofer, 2005). Criterion-related validity refers to the extent to which the instrument can accurately predict what it intends to predict and is generally assessed through a combination of two components: predictive validity and concurrent validity (Sattler & Hoge, 2006). Predictive validity exists when the instrument accurately predicts performance at a later time period whereas concurrent validity occurs when the instrument is predictive of another construct at the same time point (Sattler & Hoge, 2006). Predictive validity was not within the scope of the current study, therefore concurrent validity was examined to indicate the presence of criterion-related validity for the newly developed instrument.

Additionally, factor analysis can be conducted to examine factor structure and item functioning within the newly developed instrument (Child, 2006; Floyd & Widaman, 1995; Kim

& Mueller 1978a; 1978b). Results of factor analysis aid in determining the utility of the items on

the instrument as well as if the instrument can be shortened by removing items while still

accounting for a comparable amount of variance (Floyd & Widaman, 1995). Each of these

components (i.e., reliability, validity, and factor structure) is an important part of measurement

validation, and the best available techniques were selected to examine and refine the proposed

SONAS scale. It was hypothesized that the new instrument would meet and/or exceed the

minimum criteria for each of these components to be considered a sufficient measure of socially

oriented self-referent cognition for children and adolescents.

<center>**4. Method**</center>

4.1 Participants

It is suggested that during new instrument creation, data from around 10 participants should be collected for each item of a new instrument (Spector, 1992). Based upon the target number of items for an instrument that is sufficient in coverage of material but not cumbersome, at least 200 participants needed to be recruited for measurement validation of the SONAS (i.e., for 20 potential items). In total, 260 participants were recruited for participation in the study; however, fifteen participants were excluded from analysis due to missing data (See Results). The final sample included 245 children and adolescents who were 55.9% female and were between the ages of 8 to 16 years (M = 13.27, *SD* = 2.14). The onset for Social Phobia typically occurs around the mid-teenage years but often arises from earlier signs of social inhibition and shyness and can be diagnosed in much younger children (*DSM-IV-TR*; Davis et al., 2009; Van Roy et al., 2009). This age span allows for developmental sensitivity of the instrument while reaching a wide range of potentially affected youth. Ethnicity was distributed as follows: 83.3% being Caucasian, 9.4% being African American, 2% being Asian, 2% being Hispanic, 2% being of "Other" ethnic origin, and 1.2% not reporting ethnic origin. Further, consistent with Kessler et al's (12.1%; 2005) estimation of Social Phobia prevalence among community samples, 13.1% of the sample exceeded the clinical cutoff of 18 on the Social Phobia and Anxiety Inventory for Children (SPAI-C; Biedel, Turner & Morris, 1998) warranting clinical attention.

4.2 Measures

4.2.1 Demographics

A demographic questionnaire was created to obtain background information about the child and his or her family. The questionnaire gathered information concerning age, gender, and

race/ethnicity of the child, socioeconomic status of the family, family history of mental illness, and number of people living in the home (See Appendix B).

4.2.2 Socially Oriented Negative Self-Statements

A new measure of socially oriented negative self-statements, the *Socially Oriented Negative Anxious Statement (SONAS) Scale* has been created to measure participants' socially oriented negative self-referent cognition. The proposed 40-item scale initially consisted of two 20-item scales, interaction anxious statements and performance anxious statements, as well as an additive total score. Each participant was asked to rate how often the statement has entered his or her mind in the past two weeks. Instructions were adapted from similar scales such as the NASSQ (Ronan et al., 1994) and the CATS (Schniering & Rapee, 2002). Items were rated on a four-point Likert scale from "never" to "a lot." Validity, internal consistency, and factor structure of the instrument were assessed (See Results). For the final 16-item scale, which included two 8-item subscales, see Appendix C.

4.2.3 Construct Validity

4.2.3a Negative Affectivity Self-Statement Questionnaire

To examine construct validity, the *Negative Affectivity Self-Statement Questionnaire* (NASSQ; Ronan et al., 1994) was administered to measure participants' broad negative cognitions about themselves. The NASSQ is a 70-item self-report questionnaire that examines anxious and depressive self-statements in a more global fashion. Participants are asked to endorse how true the statements are of themselves on a five-point scale with 1 being "not at all" and 5 being "all the time." The NASSQ was expected to correlated moderately with the total SONAS scale as well as each of the SONAS subscales as it measures the similar but more global construct of negative affective cognition as opposed to the domain specific construct of socially

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oriented negative self-referent cognition. The NASSQ was used with the permission of the author.

4.2.3b Children's Automatic Thought Questionnaire

The *Children's Automatic Thought Questionnair*e (CATS; Schniering & Rapee, 2002) is a 40-item self-report questionnaire that also measures negative self-statements in children. The scale is composed of four subscales, physical threat, social threat, personal failure, and hostility, which additively create a total score. Each item is rated on a five-point likert scale concerning how often the thought entered the child's mind with 0 being "not at all" and 4 being "all the time." The CATS was determined to have adequate discriminant validity and high internal consistency (Schniering & Rapee, 2002). Each subscale was examined in relation to the SONAS total scale and each SONAS subscale. It was expected that the total SONAS scale and each of the SONAS subscales would correlate highly with the social threat subscale of the CATs as each of the scales targets self-referent social cognition. It was also expected that the total CATS scale would correlate moderately with the SONAS total scale and each subscale SONAS subscale score due to the more global yet similar nature of the total CATs score. Likewise, it was expected that the physical threat and personal failure subscales of the CATS would correlate moderately with the total scale and subscale scores of the SONAS scale as personal failure incorporates a social component and physical threat measures a similar "perception of threat." It was anticipated that the SONAS total scale score and each SONAS subscale score would correlate weakly with the hostility subscale of the CATS due to the difference in what the two constructs are aimed to measure (i.e., socially related self-directed judgment vs. vengeance/other-directed judgment). The scale was used with permission of the author.

4.2.4 Criterion-Related Validity

4.2.4a Brief Social Anxiety Questionnaire

A brief social anxiety questionnaire, the *Brief SA Questionnaire*, directly addressing social anxiety was created to assess criterion-related validity. This measure addressed self-endorsed feelings of interaction and performance anxiety, interference, and distress in a DSM-IV checklist format. Participants were asked to provide "yes" or "no" responses to appropriately worded DSM-IV criteria for Social Phobia (See Appendix D). Reliability analyses indicated that the measure demonstrated adequate internal consistency reliability for the current sample ($\alpha =$ .78). The measure was scored additively with a score above 4 warranting clinical attention. For the current sample, 28 participants (i.e., 11.4% of the sample) scored at or above a score of 4 on the measure.

4.2.4b Social Phobia and Anxiety Inventory for Children

The *Social Phobia and Anxiety Inventory for Children* (SPAI-C; Biedel, Turner & Morris, 1998) was also used to assess the social anxiety of each participant. The SPAI-C is a 26 item self-report questionnaire designed for children and adolescents ages 7 to 16 years. The measure assesses the physical, cognitive, and avoidant domains of Social Phobia and is a predominately interaction based measure rather than performance, though both aspects of social anxiety are included. Items are rated on a three-point Likert scale with 0 being "never or hardly ever" and 2 being "always or almost always." Within the normative sample, the mean for non-socially anxious children was 13.74 (SD = 8.5) and the mean for socially anxious children was 21.8 (SD = 8.4) with the clinical cut-off for social phobia being 18 (Biedel & Morris, 1995; Biedel et al., 1998). Thirty-two participants (i.e., 13.1% of the current sample) met or exceeded the clinical cut-off of 18 on the measure. The inventory has previously demonstrated good

internal consistency and test-retest reliability ($r = .95$, r = .86; Biedel et al., 1998). The SPAI-C was purchased for use.

4.3 Procedure

Permission was obtained from the Louisiana State University Institutional Review Board to recruit and gather information from participants. Participants were recruited from local area elementary, middle, and high schools in the Southeastern United States. An informational letter was used to inform teachers of the study (See Appendix E). A promotional letter was then sent home to inform parents of the study and ask permission for their child's participation (See Appendix F). Parents were asked to sign and return informed consent forms (See Appendix G) and demographic forms before participants were eligible for participation. Participants were also asked to sign assent forms (See Appendix H) ensuring their agreement and understanding of the study before filling out measures. Participants whose parents signed the consent forms completed the questionnaire packets in assembly format at an agreed upon time and location. For instance, participants were often taken from classes such as physical education, health, or computer/technology to complete the packets in spare classrooms or other locations (e.g., the cafeteria) so as to disrupt the students' school day and the cooperating teachers as minimally as possible. A debriefing sheet was sent home with each participant upon measure completion (See Appendix I).

5. Results

5.1 Missing Data Procedures

Missing values for all measures, excluding the SONAS scale (see below), were replaced by the means of the remaining items within the same subscale of that measure or from the total scale score for measures without subscales. Missing values were only replaced if fewer than 10% of the items from the measure were missing. Fifteen participants were excluded from subsequent analyses due to missing more than 10% of the items on one or more measures, thereby making missing value replacement unwarranted. Because the ultimate goal of this study was to examine validity, reliability, and factor structure of the SONAS scale, mean substitution was not utilized for the newly developed instrument. Instead, a listwise deletion method was used during factor analysis. Of the items retained following content analyses and factor analysis, no data was missing on the SONAS scale for the remaining participants included for subsequent construct and criterion-related validity analyses.

5.2 Content Analyses

Forty potential items were derived theoretically based on the definitions of performance anxiety and interaction anxiety discussed by Mattick and Clarke (1998) as well as the structure and content of the NASSQ and the CATS. Twenty items were derived to comprise the "performance thoughts" subscale of the SONAS scale and 20 items were derived to comprise the "interaction thoughts" subscale of the SONAS scale. Content Validity was assessed using two forms of expert agreement as suggested by (Patten, 2011). First, three graduate level clinicians/researchers with knowledge of the child and/or social anxiety subspecialties within clinical psychology were asked to rate each item of each subscale as to how reflective the item was of a provided definition of performance anxiety or interaction anxiety depending on the

subscale in which the item was categorized. Items were rated on a 1 to 5 Likert scale with 1

being "not at all reflective" and 5 being "very reflective." Items were averaged and any item

receiving an average rating of less 4 was removed resulting in removal of 10 items (i.e., items 4,

14, 16, 17, 25, 27, 34, 37, and 39). Second, 3 separate clinicians/researchers (2 graduate level

and 1 doctorate level) also with knowledge of the child and/or social anxiety subspecialties

within clinical psychology were asked to identify if each of the items presented belonged in the

performance or interaction category of the scale. Items receiving less than 67% (2/3) agreement

were removed, resulting in the removal of 2 additional items (i.e., items 7 and 32). It should be

noted that prior to removal each item was evaluated for theoretical contribution and it was

determined that the items could be removed and with the overall theoretical basis of the SONAS

scale remaining preserved. Further, although initially included to be modeled after the NASSQ

structure, 7 reverse coded items were removed due to aforementioned literature regarding the

"power of non-negative thinking phenomenon" (Kendall, 1984) and the overall user-friendliness

and developmental appropriateness of the measure.

5.3 Exploratory Factor Analysis

Exploratory factor analysis, which focuses on retaining factors that account for a certain

amount of the variance with no a priori expectations of the underlying factor structure (EFA;

Child, 2006; Floyd & Widaman, 1995), was used to examine factor structure and item

functioning of the new instrument, the SONAS scale. Specifically, a Principal Components

Analysis was conducted with direct oblimin rotation, as it was likely that factors would be

correlated (Child, 2006; Kim & Mueller 1978a; 1978b). Kaiser criterion (eigenvalue >1) and

percent of variance explained were used to determine the number of factors present along with

theoretical precedence (Lance, Butts, & Michels, 2006). Nineteen items were removed from the

initial 40-item measure following content analyses (i.e., prior to the initial EFA), as described above. The remaining items were examined for skewness and kurtosis, and the communalities of the items were evaluated to ensure adequacy. Subsequently, two iterations of an EFA resulted in a 16-item measure, which accounted for 46.3% of the overall variance and yielded a two-factor structure as anticipated: 1) performance thoughts and 2) interaction thoughts. Item factor loadings are presented in Table 1.

Table 1: SONAS Factor Loadings

SONAS scale Item	Factor 1 Performance Thoughts	Factor 2 Interaction Thoughts
(26) I make a fool of myself	-.905	
(33) I will mess up	-.756	
(30) I embarrass myself	-.743	
(9) I look silly in front of others	-.702	
(2) People think what I have to say is dumb	-.599	
(12) I sound stupid	-.590	
(3) I may say or do something wrong	-.430	
(24) I forget what I am supposed to say	-.361	
(29) I am bad at meeting new people		.821
(38) I don't speak up in conversations like I should		.681
(18) I am too shy		.670
(1) I am bad at explaining myself to others		.604
(6) I am not as good as others my age		.590
(40) I am going to freeze up		.580
(22) I am bad at talking to members of the opposite sex		.577
(28) What I have to Say is not important		.409

Note. All factor loading coefficients below .30 are suppressed. Therefore, none of the items retained for the final SONAS scale exhibited cross loadings between the two factors above .30.

5.4 Reliability

Internal consistency reliability was assessed through Chronbach's Alpha, which statistically compares each item with each other item and is the most frequently used measure of internal consistency reliability (Ciccheti, 1994). Guidelines indicate that alpha coefficients below .70 indicate unacceptable internal consistency, coefficients between .70 and .79 indicate fair internal consistency, coefficients between .80 and .89 indicate good internal consistency, and coefficients above .90 indicate excellent internal consistency (Ciccheti, 1994; Ciccheti & Sparrow, 1990). SONAS scale reliability analyses revealed that the performance thoughts subscale (α=.84), the interaction thoughts subscale (α=.80) and the total scale (α=.88) each exhibited good internal consistency.

5.5 Construct Validity

To assess each subscale's construct validity, bivarate correlations were computed among the total SONAS scale score, each SONAS subscale score, and each of the previously mentioned target measures of related constructs (Campbell & Fiske, 1959; Murphy & Davidshofer, 2005). Specifically, estimations of convergent and divergent validity were conducted by examining Pearson product moment correlations (Pearson's r) between each of the 2 new subscales (i.e., performance thoughts and interaction thoughts), the total SONAS scale score, the NASSQ total score (i.e., a measure of general cognition), the CATS four subscale scores (i.e., physical threat, social threat, hostility, and personal failure), and the CATs total score. Guidelines regarding Pearson's r indicate that correlations between .1 and .3 are considered weak, correlations between .3 and .6 are considered moderate, and correlations above .6 are considered strong (Sattler & Hoge, 2006). As expected, the performance thoughts, interaction thoughts, and total SONAS scale scores were moderately correlated with the NASSQ total score [$r = .47$, r = .50, r =

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.53, respectively] as well as the physical threat [$r = .38$, $r = .37$, $r = .42$, respectively] and personal failure [$r = .49$, $r = .53$, $r = .56$, respectively] subscales of the CATS and the CATS total score [$r = .54$, $r = .49$, $r = .57$, respectively], indicating that the SONAS scale measures similar yet not entirely overlapping constructs. The performance thoughts and total scale scores of the SONAS scale correlated highly with the social threat subscale of the CATS [$r = .64$, $r = .67$, respectively] and the interaction thoughts subscale correlated moderately with the social threat subscale [$r = .57$] indicating good convergent validity. Further, the performance thoughts, interaction thoughts, and total scale scores exhibited low correlations with the hostility subscale of the CATS [$r = .28$, $r = .17$, $r = .25$, respectively] indicating good divergent validity.

5.6 Demographic Analyses

Demographic analyses were conducted to test for any effects of age, gender, or ethnicity on the final 16-item SONAS scale. To examine age effects, participants were divided into two groups, ages 8 – 13 years (n = 82) and ages 14 – 16 years (n = 163) based on a median split (i.e., median = age 14 years) as well as theoretical knowledge about the development of perspective taking (Selman, 1980; Selman & Jaquette, 1977) and literature regarding onset of social phobia (e.g., Van Roy et al., 2009). No significant differences were demonstrated between age groups on the total scale score [$t(243) = .48$, p > .05] performance scale score [$t(243) = -.81$, p > .05] or interaction scale score [$Levene's\ F = 7.38$ p > .01; $t(129.91) = .103$, p > .05] of the SONAS scale. Similarly, no differences were found between ethnic groups on the total scale score [$F(4, 237) = .08$, p > .05], performance scale score [$F(4, 237) = .16$, p > .05], or the interaction scale score [$F(4, 237) = .30$, p > .05]. See Table 3 for descriptive statistics of demographic variable on the SONAS total scale and subscale scores.

Table 2: Bivariate Correlations and Descriptive Statistics of the Construct Validity Variables

	N	M	SD	1	2	3	4	5	6	7	8	9
1. SONAS Total Score	245	26.2	7.15	1								
2. SONAS Performance Thoughts	245	13.73	4.10	.91	1							
3. SONAS Interaction Thoughts	245	12.47	3.81	.90	.63	1						
4. NASSQ	245	121.61	34.32	.53	.47	.50	1					
5. CATS Total Score	245	23.04	20.04	.57	.54	.49	.79	1				
6. CATS Social Threat	245	5.48	6.47	.67	.64	.57	.67	.82	1			
7. CATS Physical Threat	245	3.90	5.74	.42	.38	.37	.68	.82	.59	1		
8. CATS Personal Failure	245	3.85	5.35	.56	.49	.53	.77	.88	.77	.69	1	
9. CATS Hostility	245	9.75	7.28	.25	.28	.17	.49	.73	.36	.45	.48	1

Note. Abbreviations are as follows: Socially Oriented Negative Anxious Statement Scale (SONAS); Negative Affectivity Self-Statement Questionnaire (NASSQ); Children's Automatic Thoughts Scale (CATS)

Table 3: Descriptive Statistics of Demographic Analyses Variables

Demographic Variable			SONAS Total Scale		SONAS Performance Thoughts		SONAS Interaction Thoughts	
		N	M	SD	M	SD	M	SD
Age	8 - 13 years	82	26.51	7.91	13.43	3.96	13.09	4.46
	14 -16 years	163	26.04	6.75	13.88	4.17	12.18	3.41
Gender	Female	137	27.20	7.38	14.15	4.05	13.05	4.08
	Male	108	24.94	6.65	13.19	4.08	11.74	3.31
Ethnicity	Caucasian	204	26.08	6.86	13.72	3.97	12.36	3.72
	African American	23	26.78	9.20	13.91	4.94	12.87	4.67
	Asian	5	26.20	4.76	12.40	2.19	13.80	2.59
	Hispanic	5	25.60	7.86	13.40	5.32	12.20	2.77
	Other	5	25.20	4.97	13.40	4.93	11.80	.84

An examination of gender effects revealed that males and females significantly differed in their reports of total frequency of socially oriented negative self-referent thoughts [$t(243) = -2.49$, p < .01], with males (M = 24.94) demonstrating significantly fewer thoughts than females (M = 27.20). Males (M = 11.74) were also found to demonstrate significantly fewer interaction thoughts than females (M = 13.05), [$t(243) = -2.71$, p < .01]. No significant differences were found between males and females on the amount of performance thoughts reported [$t(243) = -1.81$, p > .05].

5.7 Criterion-Related Validity

To examine the newly developed instrument's criterion related validity, concurrent validity was assessed using the SONAS scale as a predictor variable and the brief SA questionnaire as well as the SPAI-C as criterion variables in four separate models (See Table 4) for correlations and descriptive statistics of model variables). One additional person was excluded prior to these analyses due to >10% missing data on the SPAI-C. First, the total score of the SONAS scale was found to be predictive of the social anxiety using the brief SA questionnaire [$\beta = .54$ $t(243) = 9.87$, $p < .01$, $R^2 = .29$, $F(1, 242) = 97.42$, $p < .01$] via linear regression. A multiple regression analysis subsequently revealed that when examining the subscales as predictor variables with social anxiety as the outcome variable using the brief SA questionnaire, the overall model was significant [$R^2 = .30$, $F(2, 241) = 51.02$, $p < .01$] with each subscale, performance thoughts [$\beta = .20$ $t(242) = 2.94$, $p < .01$] and interaction thoughts [$\beta = .40$ $t(242) = 5.94$, $p < .01$], uniquely predicting variance explained within the model. The total score of the SONAS scale was also found to be predictive of social anxiety via linear regression analysis when using the psychometrically established SPAI-C [$\beta = .63$ $t(243) = 12.66$, $p < .01$, $R^2 = .40$, $F(1, 242) = 160.33$, $p < .01$] to measure social anxiety. Additionally, a multiple regression

analysis indicated that when examining the subscales of the SONAS scale as predictor variables and social anxiety as the outcome variable using the SPAI-C, the overall model was significant [R^2 = .42, $F(2, 241)$ = 86.42, $p < .01$] with each subscale (i.e., performance thoughts [β = .21 $t(242)$ = 3.48, $p < .01$] and interaction thoughts [β = .49 $t(242)$ = 8.02, $p < .01$]) uniquely predicting variance within the model. Collectively, these results indicate that the SONAS scale demonstrates strong concurrent validity and therefore likely demonstrates strong criterion-related validity.

Table 4: Descriptive Statistics and Bivariate Correlations for Criterion-Related Validity Analyses Variables

	N	M	*SD*	1	2	3	4	5
1. SONAS Total Scale	244	26.06	6.82	1				
2. SONAS Performance Thoughts	244	13.66	3.97	.91	1			
3. SONAS Interaction Thoughts	244	12.40	3.65	.88	.60	1		
4. Brief SA Questionnaire	244	1.14	1.7	.54	.44	.52	1	
5. SPAI-C	244	9.79	7.33	.63	.51	.62	.66	1

Note. Abbreviations are as follows: Socially Oriented Negative Anxious Statement Scale (SONAS); Brief Social Anxiety Questionnaire (Brief SA Questionnaire); Social Phobia and Anxiety Inventory for Children (SPAI-C)

6. Discussion

The purpose of the present study was to create and validate a new measure of socially oriented negative self-referent cognition in an attempt to improve the assessment of the cognitive aspect of social anxiety in school-aged children and adolescents. As expected, the newly developed SONAS scale demonstrated strong psychometric properties. A two-factor structure emerged as anticipated (i.e., performance thoughts and interaction thoughts) supporting separate aspects of negative thought in relation to social situations and thereby further corroborating the idea that social anxiety is made up of two distinct dimensions (Leary, 1983; Mattick & Clarke, 1998).

The measure demonstrated good construct validity, stability across ethnic groups and age ranges, notable but consistent gender effects, and good criterion-related validity. A moderate relationship was found between the SONAS scale and the NASSQ, the CATS total score, and the physical threat and personal failure subscales of the CATS indicating that the SONAS scale measures a somewhat similar construct. The strength of these relationships is appropriate and to be expected as NASSQ and the CATS total score measure general negative affectivity self-statements, a related but more global construct (e.g., Ronan et al., 1994; Schniering & Rapee, 2002). Similarly, the physical threat subscale of the CATs employs a theoretically overarching perception of threat but in a non-social respect, and the personal failure subscale of the CATS is thought theoretically to have a social component but is not entirely social in nature (Schniering & Rapee, 2002). A strong relationship was found between the total SONAS scale and the social threat subscale of the CATS indicating that the SONAS scale measures an analogous but not entirely overlapping construct. In regards to the differential relationship between the social threat scale of the CATS and the performance (strong) versus interaction subscales of the

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SONAS scale, it may be the case that the social threat subscale is more aligned with the performance aspect of social anxiety than the interaction aspect of social anxiety. More research is needed to better understand these differences; however, it is clear that both measure similar yet not overlapping constructs. Furthermore, a weak relationship was found between the SONAS scale and the hostility subscale of the CATS indicating that the SONAS scale measures a differing construct, signifying good divergent validity.

No significant differences were found for ethnicity, indicating that the measure is likely a sound measure of negative cognition irrespective of culture; however, this finding is tentative and more evidence is needed to support this initial conclusion (See Limitations). Similarly, no significant effects were found for age based upon a median split of younger and older children within the designated age range indicating that the instrument is a viable measure of negative cognition for the entire age range. Significant gender effects were demonstrated, however, with males exhibiting fewer socially oriented negative self-referent statements overall and fewer socially oriented interaction self-statements than females. This finding is not surprising as it is consistent with previous literature indicating that internalizing disorders tend to be more prevalent in females (Kessler et al., 2005; Verhulst, 1995) and that females exhibit more negative self-referent statements, especially statements with a social component (Schniering & Rapee, 2002), than males.

Additionally, the total SONAS scale as well as each of the two SONAS subscales was found to be predictive of social anxiety using two different measures (i.e., the brief SA questionnaire and the SPAI-C) indicating good concurrent validity and therefore, likely strong criterion-related related validity. It is noted that predictive validity was beyond the scope of this study; however, this aspect of criterion-related validity should be addressed in subsequent studies

as noted below. Good internal consistency reliability within each subscale as well as the total scale was also demonstrated.

It is presumed that this new instrument will facilitate the theoretical understanding, assessment, and monitoring of the cognitive aspect of social anxiety in children and adolescents. CBT is the leading choice for treatment of anxiety disorders including Social Phobia (Chambless et al., 1998; Chambless & Ollendick, 2001; Kendall et al., 2005; Silverman & Pina, 2008); however, to date a paucity of measures exist to assess and monitor negative cognition in children and adolescents (Davis et al., 2011). As a domain specific cognitive measure for younger populations, the SONAS scale may be used in the development of theoretical models of negative cognition, social anxiety, and related constructs to better understand social anxiety and therefore, create or enhance assessment and treatment approaches. Further, the SONAS scale can be used as an assessment and progress monitoring tool throughout treatment to identify which cognitions need to be targeted on an individual basis and to track cognitive change. Melfsen, et al. (2011) recently demonstrated via a randomized controlled trail (RCT) with a school-aged sample that CBT with a specific focus on cognition effectively reduces overall social anxiety symptomatology including the presence of socially related anxious cognitions as well as other factors of social anxiety. Their study indicated that targeting cognition enhanced treatment effects specifically for social anxiety and specified the need to identify and track socially related negative cognitions. The SONAS scale could facilitate the ability to determine whether or not the cognitive restructuring component of CBT (see Kendall, 1993; Chorpita, 2007) is being appropriately utilized by the client as well as the amount of progress made throughout the treatment process. Evidence of treatment progress could lend further empirical support to specific therapeutic techniques, and aid in treatment planning for the clinician. Additionally,

physical evidence of progress could validate client efforts, which may enhance motivation to continue with treatment. In these ways, the SONAS scale may promote generalization and maintenance of treatment gains.

6.1 Limitations and Future Recommendations

As with all research, this study is not limitations. First, the sizable difference between the initial number of items generated and the items retained on the final measure is recognized. While many items were excluded based on expert agreement and theoretical re-evaluation, and overall, the measure is thought to be much more developmentally appropriate and manageable for the target population, the loss of several items, namely some of the theoretically important but reverse coded items, may have hindered the ability to explain additional variance.   Future research should aim to re-word those originally reverse coded items and re-examine the measure to see if the newly worded items could further enhance the psychometric properties and theoretical value of the measure if included.

It should also be noted that sample characteristics, including clinical status, ethnic distribution, socioeconomic status (SES), unevenly distributed age range, and regional specificity of the sample may be problematic in generalizing findings from the current study. Although comparable to Kessler et al.'s (12.1%; 2005) community sample estimations, only 13.1% of the study sample exhibited clinical elevations of social anxiety on the SPAI-C; therefore it is difficult to determine the exact utility of the instrument within a clinical context. Further, the sample was 83.3% Caucasian, only 27.9% of the sample fell between the ages of 8 and 12, and approximately 76% of participants came from a tuition required school with primarily middle to upper class students. Therefore, variables such as age, ethnicity, and SES were restricted within the sample, and generalizability to other populations (e.g., lower SES, minority, younger

children) may be limited. Future studies should aim to test the psychometric properties of the measure among differing populations.

Finally, the SONAS scale was not created as a diagnostic instrument but rather an informative measure for progress monitoring purposes; however, it should be noted that to test the SONAS scale's true aptitude for progress monitoring, additional data must be collected on the instrument's sensitivity to change, test-retest reliability, and predictive validity, preferably with a clinical population within the context of treatment. Future research should attempt to address the utility of the SONAS scale within a clinical context across multiple time points, as well as expand the theoretical understanding of socially oriented negative cognition by using the measure within predictive theoretical models.

6.2 Conclusions

The present study created and validated a measure of socially oriented negative self-referent cognition in an attempt to enhance the assessment of cognition in children and adolescents specifically within the domain of social situations. The newly developed instrument demonstrated good psychometric properties, and therefore may be used in future research to aid in better understanding of the construct of socially oriented negative cognition as well as its function within the broader context of social anxiety in children and adolescents. Furthermore, the measure may be utilized for assessment and progress monitoring of negative cognition within the context of social anxiety and thereby may enhance therapeutic techniques. Future research should focus on further establishing this measure as an important tool in the assessment and treatment of social anxiety in children and adolescents theoretically and practically.

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Appendix A
SONAS Initial Version

Socially- Oriented Negative Anxiety Statements
(SONAS)

Listed are thoughts that may pop into one's mind when thinking about social situations.

Over the past **two weeks**, rate how often you thought the following:

	Never	Sometimes	Often	All the time
1. I am bad at explaining myself to others	O	O	O	O
2. People think what I have to say is dumb	O	O	O	O
3. I may say or do something wrong	O	O	O	O
4. I get laughed at	O	O	O	O
5. I like talking to others	O	O	O	O
6. I am not as good as others my age	O	O	O	O
7. People think I sound funny	O	O	O	O
8. I like eating with friends	O	O	O	O
9. I look silly in front of others	O	O	O	O
10. People do not want to date me	O	O	O	O
11. It is easy to perform in front of others	O	O	O	O
12. I sound stupid	O	O	O	O
13. I am good at starting conversation with others	O	O	O	O
14. When I chew, it sounds funny	O	O	O	O
15. I am good at speaking in front of others	O	O	O	O
16. I let people down	O	O	O	O
17. People think I am silly	O	O	O	O
18. I am too shy	O	O	O	O
19. I like talking to new people	O	O	O	O
20. No one wants to listen to me	O	O	O	O
21. People think I look funny	O	O	O	O
22. I am bad at talking to members of the opposite sex	O	O	O	O
23. I will stutter	O	O	O	O
24. I forget what I am supposed to say	O	O	O	O
25. People think I am bad at sports	O	O	O	O
26. I make a fool of myself	O	O	O	O
27. I may throw up when speaking in front of others	O	O	O	O
28. What I have to say is not important	O	O	O	O
29. I am bad at meeting new people	O	O	O	O
30. I embarrass myself	O	O	O	O
31. I may trip and fall	O	O	O	O
32. People do not think I am attractive (pretty/handsome)	O	O	O	O
33. I will mess up	O	O	O	O
34. It is easy for me to play with others my age (join games)	O	O	O	O

35. People think I eat funny	O	O	O	O
36. I don't do anything well	O	O	O	O
37. When I am with friends, I can't do anything right	O	O	O	O
38. I don't speak up in conversations like I should	O	O	O	O
39. People think I am a terrible musician	O	O	O	O
40. I am going to freeze up	O	O	O	O

Appendix B
Demographic Questionnaire

Demographics

Your child's age:_____

Your child's gender: M   F

Your child's ethnicity: Caucasian   African American   Asian   Hispanic
Other_____

Number of Siblings: _____

Number of Family Members in the Household: _____

Household Income: _____

Please list any current psychiatric or psychological diagnoses that your child has:
_____
_____
_____
_____

Please list any current medications that your child is taking:
_____
_____
_____
_____

Appendix C
SONAS Final Version

Socially- Oriented Negative Anxiety Statements Scale
(SONAS)

Listed are thoughts that may pop into one's mind when thinking about social situations.

Over the past **two weeks**, rate how often you thought the following:

	Never	Sometimes	Often	All the time
1. I am bad at explaining myself to others	○	○	○	○
2. I will mess up	○	○	○	○
3. People think what I have to say is dumb	○	○	○	○
4. I am not as good as others my age	○	○	○	○
5. I may say or do something wrong	○	○	○	○
6. I look silly in front of others	○	○	○	○
7. I am too shy	○	○	○	○
8. I sound stupid	○	○	○	○
9. I am bad at talking to members of the opposite sex	○	○	○	○
10. I forget what I am supposed to say	○	○	○	○
11. I make a fool of myself	○	○	○	○
12. I am bad at meeting new people	○	○	○	○
13. I embarrass myself	○	○	○	○
14. What I have to say is not important	○	○	○	○
15. I don't speak up in conversations like I should	○	○	○	○
16. I am going to freeze up	○	○	○	○

Brief Social Anxiety Questionnaire

Brief SA Questionnaire
(DSM-IV Checklist)

Social Situations = any situation in which you are around your friends or strangers or perform in front of others.

Examples: talking with others, playing games with others, music performances, athletic performances, giving a speech, eating in front of others, dating, or other similar situations.

Please answer either yes or no to the following questions:

1. Are you scared of social or performance situations where you would be around people who may judge you?
    Y   N

2. Do social situations almost always make you nervous or afraid?
    Y   N

3. Do you feel symptoms such as a pounding heartbeat, sweating, shaking, upset stomach, crying, or freezing when you are around others (in social situations)?
    Y   N

4. Does your fear of social situations seem like it is too much (excessive)?
    Y   N

5. Do you stay away from social situations because you might become afraid?
    Y   N

6. Does your fear of social situations keep you from doing things that you want to do?
    Y   N

7. Does your fear of social situations cause problems with your family, your current friends, or keep you from making new friends?   Does it mess things up for you?
    Y   N

Date: xx/xx/xxxx

Dear Teacher,

   My name is Brittany Rudy, and I am a doctoral student in the psychology program at Louisiana State University. As part of my dissertation, I am looking at the relationship between children's thoughts and social anxiety. I would like to request the participation of your class in my study. Please send home the attached parent letters and consent forms. I will collect the consent forms from you on the day that I give the questionnaires. Children whose parents consented will be taken to a separate room to fill out the questionnaires so that I will not further disrupt your class period. Completion of this project will give me a better understanding of the development of social anxiety. I greatly appreciate your time and support in my dissertation project.

Thank you in advance for your time and assistance.

Sincerely,

Brittany M. Rudy
Doctoral Student; Clinical Psychology
Louisiana State University

Date: xx/xx/xxxx

Dear Parent or Guardian,

My name is Brittany Rudy, and I am a doctoral student in the psychology program at Louisiana State University. For my dissertation, I am interested in looking at how children's thoughts affect their worries. I would like to ask your permission for your child to be part of my project. If you agree, please sign the attached consent form, fill out the attached demographic questionnaire, and return it to school with your child. Details of the project are discussed in the consent form. Once I receive the consent form and the demographic questionnaire, I will also send home one questionnaire for you to complete and return in a postage-paid envelope provided by me. I greatly appreciate your time and support in my dissertation project.

Thank you in advance for your help.

Sincerely,

Brittany M. Rudy
Doctoral Student; Clinical Psychology
Louisiana State University

PARENTAL CONSENT FORM

Project Title: Socially Oriented Negative Self-Referent Cognition: The development and validation of a measure and the examination of predictive theoretical models

Performance Site:
Physical Address: Psychological Services Center, LSU, 31 Johnston Hall, Baton Rouge, LA 70803.
Mailing Address: Psychological Services Center, 236 Audubon Hall, Baton Rouge, LA 70803

Investigator: The following investigators are available for questions Monday-Friday, 10:00 a.m.- 4:00 p.m.

>Dr. Thompson Davis III
>Psychology Department, LSU
>(225) 578-1494
>
>Brittany M. Rudy
>Psychology Department, LSU
>(225) 578-1494

Purpose of the Study: The purpose of this research project is to examine the relationship between self-efficacy, negative self-statements, and social anxiety in children and adolescents ages 8 to 16.

Inclusion Criteria: Children and adolescents 8-16 years of age whose parents have given consent to participate in the study.

Exclusion Criteria: Children who do not meet the age requirements or whose parents have not consented for participation; non-English speakers; and/or children who have moderate, severe, or profound intellectual disability, psychosis, or medical conditions that would prevent their ability to complete the study.

Maximum Number of Subjects: The maximum number of subjects will be 350.

Study Procedures/Description of the Study: Participants will be asked to complete questionnaires for the investigators. Parents will also be asked to complete a demographic questionnaire and return it with the consent form in a sealed envelope.

Benefits: While no benefit is guaranteed from participation, individuals who meet clinical cutoffs on any social phobia measure will be provided with information about further evaluation and treatment options in the community.

Risks/Discomforts: No other risk or discomfort is anticipated other than those associated with completing questionnaires.

Right to Refuse: Participation is voluntary and a child (or adolescent) will become part of the study only if both child and parent agree to the child's participation. At any time, either the child or parent may

withdraw from the study without penalty or loss of any benefit to which they might otherwise be entitled at that point.

Privacy: Records with identifying information will be kept in a locked facility. Electronic data will be entered without identifying information. Summary results of the study may be published, but no names or identifying information will be included for publication. Participant identity will remain confidential unless disclosure is required by law (e.g., suspected or reported ongoing child abuse or neglect). I understand that the investigators are required by law to report any reasonable suspicions.

Withdrawal: Participants may withdraw from the study at any time. Parents wishing to withdraw should contact the principal investigator or co-investigators in writing as soon as this decision has been made.

Removal: Participants may be removed from the study without consent if they are believed to be a danger to themselves or others and/or if the investigators believe removal and assessment elsewhere would be in the best clinical interest of the participants. Removal may also occur if the investigators lose contact with a family after attempts to reach them.

Unforeseeable Risks: There may be unforeseeable risks to participants of this study as a result of participating, however, steps are taken to minimize any potential foreseeable risks and discomfort.

Study-related illness or injury: In case of medical emergency and in case further psychological attention is needed, we have listed resources below:

        Medical Services
        911 (for emergencies)

        Mental Health Services
        911 (for emergencies)
        Psychological Services Center, LSU, (225) 578-1494

Signatures:
The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. If I have questions about subjects' rights or other concerns, I can contact Robert C. Mathews, Chairman, LSU Institutional Review Board, (225)578-8692. I agree to participate in the study described above and acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.

_____   _____

Parent/guardian Signature   Date

Reader of the consent form, please sign the statement below if the consent form was read to the parent because he/she is unable to read:
The parent/guardian has indicated to me that he/she is unable to read. I certify that I have read this consent form to the parent/guardian and explained that by completing the signature line above, he/she has agreed to participate and has given permission for the child to participate in the study.

_____   _____

Signature of Reader   Date

Appendix H
Child Assent Form

Child and Adolescent Assent Form

I, _____, agree to be in this study that looks at how children's thoughts about themselves are related to social worries. I will be asked to answer questions about any fears or worries that I may have, as well as questions about how I get along with others (like my friends and family), and I will do my best to answer these questions. I can decide to stop being in the study at any time without getting in trouble.

_____   _____   _____
Child/Adolescent Signature   Date   Age

_____   _____
Witness Signature*   Date

(*Witness must be present for the assent process, not just the signature by the minor.)

Dear Parent (or guardian) and Participant,

You and your child have participated in a study, which looked at children's thoughts and worries about social situations with peers, adults, and strangers. By participating in this study, you and your child have helped with research to better understand how children think and feel. For further questions about the study or information about psychological services, please contact Brittany M. Rudy at 225-578-1494.

Thank you in advance for your help.

Sincerely,

Brittany M. Rudy
Doctoral Student; Clinical Psychology
Louisiana State University

Appendix J
IRB Approval

ACTION ON PROTOCOL APPROVAL REQUEST

Institutional Review Board
Dr. Robert Mathews, Chair
131 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.6792
irb@lsu.edu | lsu.edu/irb

TO: Thompson Davis
Psychology

FROM: Robert C. Mathews
Chair, Institutional Review Board

DATE: September 8, 2011
RE: IRB# 3208

TITLE: Socially oriented negative self-referent cognition: the development and validation of a measure and the examination of predictive theoretical models

New Protocol/Modification/Continuation: _New Protocol_

Review type: Full ___ Expedited _X_   **Review date:** _9/6/2011_

Risk Factor: Minimal ___X___ Uncertain _____ Greater Than Minimal_____
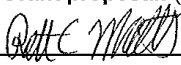
Approved_____X_____ Disapproved_____

Approval Date: _9/8/2011_ **Approval Expiration Date:** _9/7/2012_

Re-review frequency: (annual unless otherwise stated)

Number of subjects approved: _350_

Protocol Matches Scope of Work in Grant proposal: (if applicable)_____

By: Robert C. Mathews, Chairman _____

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –
Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. SPECIAL NOTE:
All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at http://www.lsu.edu/irb

Application for Approval of Projects Which Use Human Subjects

This application is used for projects/studies that cannot be reviewed through the exemption process.

-- Applicant, Please fill out the application in its entirety and include two copies of the competed application as well as parts A-E, listed below. Once the application is completed, please submit to the IRB Office for review and please allow ample time for the application to be reviewed Expedited reviews usually takes 2 weeks. Carefully completed applications should be submitted 3 weeks before a meeting to ensure a prompt decision.

LSU

Institutional Review Board
Dr. Robert Mathews, Chair
131 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.6792
irb@lsu.edu
lsu.edu/irb

-- A Complete Application Includes All of the Following:
 (A) Two copies of this completed form and two copies of part B thru E.
 (B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1&2)
 (C) Copies of all instruments to be used.
   *If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.
 (D) The consent form that you will use in the study (see part 3 for more information.)
 (E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB. Training link: (http://phrp.nihtaining.com/users/login.php.)
 (F) IRB Security of Data Agreement: (http://www.lsu.edu/irb/IRB%20Security%20of%20Data.pdf)

1) Principal Investigator*: Thompson E. Davis III   **Rank** Associate Professor
*PI **must be** an LSU Faculty Member

Dept: Psychology   **Ph:** 578 1500   **E-mail:** ted@lsu.edu

2) Co Investigator(s): please include department, rank, phone and e-mail for each
Brittany M. Rudy, Dept. of Psychology, Graduate Student, 864 350 5452, bnmoree@gmail.com

IRB# 3308 LSU Proposal #_____

○ Full
◉ Expedited
⊗ Human Subjects Training
⊗ Complete Application

3) Project Title: Socially Oriented Negative Self-Referent Cognition: The Development and Validation of a Measure and the Examination of Predictive Theoretical Models

4) Proposal Start Date: 09/15/2011   **5) Proposed Duration Months:** 10 months

6) Number of Subjects Requested: 350   **7) LSU Proposal #:**

8) Funding Sought From:

ASSURANCE OF PRINCIPAL INVESTIGATOR named above
 I accept personal responsibility for the conduct of this study (including ensuring compliance of co-investigators/co-workers) in accordance with the documents submitted herewith and the following guidelines for human subject protection: The Belmont Report, LSU's Assurance (FWA00003892) with OHRP and 45 CFR 46 (available from http://www.lsu.edu/irb). I also understand that copies of all consent forms **must be maintained at LSU for three years after the completion of the project.** If I leave LSU before that time, the consent forms should be preserved in the Departmental Office.

Signature of PI _____   Date 8/5/11

ASSURANCE OF STUDENT/PROJECT COORDINATOR named above. If multiple Co-Investigators, please create a "signature page" for all Co-Investigators to sign. Attach the "signature page" to the application.

I agree to adhere to the terms of this document and am familiar with the documents referenced above.

Signature of Co-PI (s) _____   Date 8/5/11

Vita

Brittany Rudy is a graduate student in the clinical psychology doctoral program at Louisiana State University. She obtained her Bachelor of Science degree in psychology at Clemson University where she completed her honors thesis examining social anxiety in young adults and graduated summa cum laude from the Calhoun Honors College. She completed her Master of Arts degree in psychology in August of 2010 at Louisiana State University, examining social anxiety, negative cognition, and self-efficacy in school age children for her Master's thesis project. Her research interests include child anxiety, social phobia in children and adolescents, and the intersection of anxiety and autism in children and adolescents. She served as the coordinator of Child and Adolescent Services at the Psychological Services Center during her time at LSU as well as the coordinator of several child anxiety projects under Dr. Thompson Davis III. She completed her psychology internship at the University of Arkansas for Medical Sciences Psychiatric Research Institute and the Arkansas Children's Hospital Child Study Center, and she has received a postdoctoral fellowship at the University of South Florida's Rothman Neuropsychiatry Center at All Children's Hospital with Eric Storch, Ph.D., which she will begin in August of 2013.