NIH Public Access
Author Manuscript
*Child Psychiatry Hum Dev*. Author manuscript; available in PMC 2014 June 01.

Published in final edited form as:
*Child Psychiatry Hum Dev*. 2013 June ; 44(3): 412–418. doi:10.1007/s10578-012-0335-9.

# Anxiety-Promoting Parenting Behaviors: A Comparison of Anxious Parents with and without Social Anxiety Disorder

**Meghan Crosby Budinger, MS, LCPC**[1], **Tess K. Drazdowski, MS**[2], and **Golda S. Ginsburg, PhD**[3,*]

[1]Department of Psychiatry & Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

[2]Department of Psychiatry & Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

[3]Department of Psychiatry & Behavioral Sciences, Johns Hopkins University School of Medicine, 550 N Broadway/Suite 202, Baltimore, MD, 21205

## Abstract

While parenting behaviors among anxious parents have been implicated in the familial transmission of anxiety, little is known about whether these parenting behaviors are unique to specific parental anxiety disorders. The current study examined differences in the use of five specific parenting behaviors (i.e., warmth/positive affect, criticism, doubts of child competency, over-control, and granting of autonomy) in anxious parents with ($n$ = 21) and without ($n$ = 45) social anxiety disorder (SAD) during a five-minute task with their non-anxious child (aged 7-12 years, $M$ = 9.14). Parents with SAD demonstrated less warmth/positive affect and more criticism and doubts of child competency than did those without SAD. There were no group differences in over-control or granting of autonomy. Findings help clarify inconsistent results in the literature, inform models of familial transmission, and suggest intervention targets for parents with SAD.

### Keywords

social anxiety disorder; parenting behaviors; etiology

Anxiety disorders are among the most common mental health disorders, with a lifetime prevalence rate of 17% [1]. Further, anxiety runs in families, and children of anxious parents are over five times more likely than those of non-anxious parents to have an anxiety disorder [2]. Genetic heritability accounts for only a portion of the etiology of anxiety disorders. Therefore, it is important to examine the role of environmental factors such as parenting.

Several parenting behaviors have been identified in the literature as being related to excessive anxiety in children, including high levels of criticism and over-control, and low levels of warmth and granting of autonomy [3-6]. It has been theorized that anxious, compared to non-anxious, parents may engage in greater amounts of these "anxiety-promoting" parenting behaviors. The majority of existing studies investigating this theory have compared parents with a broad range anxiety disorders in one sample to non-anxious controls, which restricts our understanding about whether there are differences in parenting behaviors which are unique to specific anxiety disorders [7-11]. Identifying whether there are anxiety-promoting parenting behaviors that are unique to specific anxiety disorders is

*To whom correspondence should be addressed: Ph: (410) 955-1544, Fax: (443) 287-4346 gginsbu@jhmi.edu.

NIH-PA Author Manuscript
NIH-PA Author Manuscript
NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

important as it can inform etiological models of child anxiety and refine interventions to target parents with those anxiety disorders. Among the adult anxiety disorders, social anxiety disorder (SAD) appears most likely to have an impact on parenting behavior.

## Social Anxiety Disorder and Parenting

SAD is the second most common anxiety disorder in adults [12] and is associated with a number of unfavorable outcomes and impairments such as dysfunction in interpersonal relationships and work roles, and increased suicide attempts [13, 14]. Adults with SAD have been shown to demonstrate less emotional expression and warmth than those without social anxiety, even in close interpersonal relationships [15]. They are also more likely to demonstrate self-criticism and negative interpretation bias than those diagnosed with other anxiety disorders [16, 17]. These phenomenological characteristics of individuals with SAD likely have an impact on parenting behaviors. For instance, these parents, compared to those with other anxiety disorders, may show less warmth with their children, be more likely to interpret their child's behavior or performance negatively, and make more attempts to correct their child's behavior for fear it will reflect poorly on them. Though limited, some research has demonstrated that social anxiety impacts parenting. As one example, Murray et al. [18] observed the reactions of new mothers with SAD ($n = 84$), generalized anxiety disorder (GAD; $n = 50$), and no diagnosis ($n = 89$) while their infants were held by a stranger. During this task, mothers with SAD were rated as appearing more anxious than mothers with GAD, engaging with the stranger less, and were less encouraging of their infant interacting with the stranger. These findings suggest that SAD, relative to other anxiety disorders, may have a unique impact on parenting behaviors very early on, which may in turn impact child outcomes. However, these results are not generalizable to older children as this study was restricted to infants and mothers, and assessed only a small number of parenting behaviors.

With few exceptions, the specificity between anxiety-promoting parenting behaviors and SAD has not been examined, and in studies examining parents with SAD, the child sample has been restricted to infants [18] (described above) or the studies have relied on retrospective reports [19]. The current study attempted to address this gap in the literature by comparing parents with SAD to parents with other anxiety disorders on five parenting behaviors (i.e., expressions of warmth/positive affect, criticism of child, doubts of child's competence, over-control, granting of autonomy) during an interactive performance task with their non-anxious child. Non-anxious offspring were selected for the current study because of a growing body of literature indicating that levels of child anxiety, rather than parental anxiety, influences parenting behaviors (in both anxious and non anxious parents) [20, 21]. Therefore, the use of a non-anxious offspring sample allows for an examination of parenting behaviors without the confound of child anxiety. Based on the literature, it was hypothesized that parents with SAD would exhibit less warmth/positive affect and more criticism and doubts of their child's competency during the task than anxious parents without SAD. No directional hypotheses were made for granting of autonomy or over-control.

## Methods

### Participants

Participants were anxious parents with ($n = 21$) and without ($n = 45$) a current diagnosis of SAD and their children with no anxiety diagnosis (Table 1). The majority of the parents were mothers (89%; $n = 59$) ranging in age from 31 to 58 years old ($M = 41.17$; $SD = 5.61$). Most of the sample had an annual gross household income of over $80,000 (68%; $n = 45$), were married (85%; $n = 56$) and had completed college (50%, $n = 33$). Of the parents

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

without SAD, the primary diagnoses were GAD (69%; $n = 31$), panic disorder (PD) with agoraphobia (AG) (13%; $n = 6$), PD without AG (7%; $n = 3$), obsessive-compulsive disorder (OCD) (7%; $n = 3$), and specific phobia (SP) (4%; $n = 2$).

The child participants were evenly split between girls (52%; $n = 34$) and boys (48%; $n = 32$), and were between ages 7 to 12 years old ($M = 9.14$, $SD = 1.80$). The sample was primarily Caucasian (91%; $n = 60$). Of the remaining children, 3% ($n = 2$) were Asian, 3% ($n = 2$) were African American, and 3% ($n = 2$) other race or ethnicity.

## Procedure

Dyads were recruited from the Baltimore Metropolitan Area through print advertisements in local newspapers, radio advertisements, mailings to local physicians and psychiatrists, and flyers that were posted in various community settings. Anxious parents were recruited to participate in two studies examining the impact of an anxiety prevention program for their offspring [22] and were eligible to participate in the study if they had a current diagnosis of an anxiety disorder (other than post-traumatic stress disorder or acute stress disorder) and no medical or co-morbid psychiatric condition that would contraindicate study participation (e.g., suicidality, current substance use disorder). Data for the present study were collected at the baseline assessment before the anxious parents and their children participated in the prevention studies.

All families who responded to the recruitment efforts completed a preliminary phone screen to assess their eligibility prior to an in-person evaluation. Families that were deemed eligible based on this screen were scheduled for an in-person assessment in which all the measures of the present study were administered. The most common reason for study exclusion was that the child met diagnostic criteria for an anxiety disorder. Additional reasons included that the child met criteria for another disorder which required immediate treatment or the parent did not meet criteria for a primary anxiety disorder. Prior to completing their initial evaluation, all participants completed a written informed consent and assent. Data collection for this study was approved by the Johns Hopkins Medicine Institutional Review Board.

## Measures

### Anxiety Disorders Interview Schedule for DSM-IV: Client Version (ADIS-Client) [23]—

The ADIS-Client is a semi-structured interview that was administered to determine parents' diagnostic status. The ADIS-Client has demonstrated good inter-rater reliability [24]. For the current study, 12% of Client ADIS tapes were examined for inter-rater reliability. Inter-rater agreement for the primary diagnosis and severity was 88%.

### Anxiety Disorders Interview Schedule for DSM-IV, Parent and Child Versions (ADIS-IV-C/P) [25]—

The ADIS-IV-C/P is a semi-structured interview that was used to determine child diagnostic status. Diagnoses were derived separately from the child and parent report, which yielded a composite diagnosis that was used in this study. The ADIS-IV-C/P has good test-retest reliability [26] and good inter-rater reliability [26, 27]. For the current study, 17% of the Child/Parent ADIS tapes were reviewed for inter-rater reliability which was 99.7% for the primary diagnosis and severity.

Diagnostic interviews were administered by masters- or doctoral-level independent evaluators (IEs). Training of IEs included: 1) 20 hours of didactic training with the diagnostic interviews, 2) administration of the interview in the presence of a senior interviewer, and 3) obtaining inter-rater reliability (kappa) of .85 for primary diagnoses and severity ratings on five cases (live or with videotapes) prior to administration of the

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

interview with study participants. During the study, weekly meetings with the IE supervisor were held to discuss all assessments and confirm diagnoses via consensus.

**Screen for Child Anxiety Related Disorders, Parent and Child Versions (SCARED) [28]—**The SCARED is a 41-item questionnaire measure of pediatric anxiety in which parents and children responded to items using a three-point Likert-type scale describing the degree to which statements are true (0 = *not true or hardly ever true*, 1 = *somewhat true or sometimes true*, 2 = *very true or often true*). The psychometric properties of this measure have been found to be favorable [28, 29]. The total scores were used for this study as control variables. The Cronbach's alphas for the child and parent reports were .91 and.92 respectively.

**Brief Symptom Inventory (BSI) [30]—**The BSI is a 55-item self-report questionnaire which provides an efficient dimensional measure of adult psychopathology. Respondents are asked to rate how much a symptom has bothered them during the past week using a five-point Likert-type scale (0 = *not at all* to 4 = *extremely*). The BSI yields *T*-scores in nine dimensions of distress, including the anxiety dimension, which was used to evaluate parent anxiety severity in this study. Convergent and construct validity with other measures of psychopathology have been demonstrated for this scale [31]. Research on the BSI has demonstrated acceptable internal consistency [32]. For the current study, the BSI demonstrated excellent internal consistency (Cronbach's $\alpha$ = .97).

**Observational Tasks and Coding System [33]—**Anxious parents were videotaped during one of two five-minute performance tasks with their non-anxious child, a speech task ($n$ = 37) or an Etch-A-Sketch task ($n$ = 39). In the speech task, the parent and child were told to "prepare a speech about yourself." Five minutes were allotted for the preparation time and parent and child were videotaped in a room alone. For the Etch-A-Sketch task, the parent and child were given an Etch-A-Sketch board and instructed to use the board to copy a series of three designs that increased in complexity. The parent and child worked cooperatively to complete the task as one controlled the left knob (draws only horizontal lines) and one controlled the right knob (draws only vertical lines). Participants were given a maximum of five minutes to complete each design. Only the interaction of completing the third (most complex) design was coded for this study. These five-minute interactions were coded by independent observers (IOs) using a standardized coding manual that has been used in previous studies [9]. IOs were undergraduate and graduate level research assistants, and master's and doctoral level study staff who completed an average of 15 hours of supervised training on the coding task and were required to obtain 80% agreement across all ratings on five sample tapes of the parent-child interactions prior to coding study tapes. Additionally, inter-rater reliability has been demonstrated with these tasks and coding manual in previous studies [9, 10]. IOs, who were blind to parental diagnosis and this study's hypotheses, rated the frequency and severity of parenting behaviors using a five-point Likert-type scale (0 = *behavior not present*, 1 = *very rarely present/up to 25% of time*, 2 = behavior present a little/26-50% of time and/or of mild severity, 3 = behavior present some/51-75% of the time and/or of moderate severity, 4 = behavior present most of time/ 76% or more of time and/or of marked severity). Five parenting behaviors were examined for the present study: 1) warmth/positive affect (e.g., parent expresses positive emotions towards the child including words/gestures of endearment, praise, smiles), 2) criticism of the child (e.g., parent criticizes, insults, or makes negative comments about the child and his/her performance), 3) doubts of child's competence (e.g., parent questions or expresses uncertainty about child's ability to complete the task), 4) granting of autonomy (e.g., parent supports, encourages, and accepts the opinions/problem solving strategies of the child, allows child to make decisions), and 5) over-control (e.g., parent provides intrusive,

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

unsolicited help, is over-involved in the task). Fifty-percent of tapes with representative proportions of SAD and non-SAD participants from this sample were used to determine inter-rater reliability. Two raters independently completed the ratings and compared scores. All raters were within one point of each other on all minute-by-minute ratings of parental behaviors. When discrepancies were noted within one point (7%), the tape was reviewed and the two raters discussed and decided upon the most valid rating for the observed behavior during that minute. These final ratings were used in the following analyses.

### Data Analytic Plan

Demographic differences between anxious parents with and without SAD were compared using *t*-tests for continuous variables and chi-squared tests for categorical variables (Table 1). One-way analyses of covariance (ANCOVAs), controlling for parent and child reports of child anxiety and parental marital status, were used to compare the means of the five parenting behaviors.

## Results

### Descriptive Statistics

There were no significant group differences between parents with and without SAD based upon parent gender, parent age, parent education level, child gender, child race, child age, family income, severity of child anxiety symptoms, severity of parental anxiety, or type of task. However, parents with SAD were less likely to be married than parents without SAD (see Table 1). Thus, parental marital status was controlled for in all analyses.

### Parenting Comparisons

There were significant differences between anxious parents with and without SAD on warmth/positive affect, $F(1,61) = 5.70$, $p = 0.020$, *partial* = .09, criticism of their child, $F(1,61) = 8.35$, $p = 0.005$, *partial* = .12, and doubts their child's competency $F(1,61) = 9.73$, $p = 0.003$, *partial* = .14. Specifically anxious parents with SAD demonstrated significantly less warmth/positive affect ($M = 0.90$, $SD = 0.77$) than anxious parents without SAD ($M = 1.49$, $SD = 0.84$). Conversely, anxious parents with SAD demonstrated significantly more criticism of their child ($M = 0.24$, $SD = 0.44$) and doubts of child competency ($M = 0.33$, $SD = 0.58$), than anxious parents without SAD ($M = 0.00$, $SD = 0.00$; $M = 0.04$, $SD = 0.21$, respectively).

No significant differences were found between anxious parents with and without SAD on granting of autonomy $F(1,61) = .05$, *ns*, or over-control $F(1,61) = 0.25$, *ns*. Anxious parents with SAD exhibited similar levels of granting of autonomy ($M = 2.00$, $SD = 1.00$) and over-control ($M = 1.00$, $SD = 1.27$), as did anxious parents without SAD ($M = 1.89$, $SD = 1.25$; $M = 1.22$, $SD = 1.24$, respectively).

## Discussion

Theoretical models [3, 34] have hypothesized that compared to non-anxious parents, anxious parents engage in greater amounts of anxiety-promoting parenting behaviors. However, empirical data testing this theory have been inconsistent. One reason for these mixed results may be the practice of including anxious parents with a broad range of anxiety disorders in study samples. This study attempted to clarify this issue by examining the parenting behaviors of anxious parents with and without SAD. Consistent with our hypotheses, parents with SAD exhibited significantly more criticism and doubting of their children and less warmth/positive affect than other parents with non-SAD anxiety disorders with medium to large effect sizes [35], after controlling for the severity of their children's anxiety symptoms.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

No group differences were found on the most commonly reported anxiety-promoting parental behaviors: granting of autonomy and over-control. Specific findings are discussed below.

### Warmth/Positive Affect

During the brief interactive task, parents with SAD demonstrated significantly less warmth and positive affect directed at their child (e.g., smiling less, fewer loving gestures) than did parents with other anxiety disorders. This is consistent with findings from other studies showing that adults with SAD are less emotionally expressive and tend to be inhibited interpersonally [15]. Baker and Edelmann [36] found that adults with SAD exhibited fewer pro-social, non-verbal behaviors during interpersonal interactions, such as eye-contact and gestures, than both non-socially anxious and control adults. While the literature is mixed, there is evidence that low levels of parental warmth and positive affect are linked with risk for the development of social anxiety in children [9]. According to attachment theory, warm, responsive caregivers are essential for secure attachment [39]. Thus, children who experience a restricted amount of parental warmth may not develop a secure attachment, and therefore may view the world as unpredictable and threatening, and experience more anxiety. It may also be that the combination of low warmth and other anxiety-promoting parental behaviors, such as criticism, co-occur in parents with SAD to increase the risk of developing disorders in youth. Taken together, these findings suggest that lower warmth and positive affect may present a risk factor for the development of psychopathology that is unique to children of parents with SAD.

### Criticism and Doubts of Child's Competence

Findings revealed that parents with SAD were more likely to express criticism or make negative or doubting comments regarding their child's performance (e.g., "You messed it up again!" "I don't think you're doing it right.") relative to anxious parents without SAD. This is consistent with existing research demonstrating that adults with SAD are more likely to exhibit self-criticism than those with other anxiety disorders [17]. Our results suggest that this tendency toward self-criticism and fear of negative evaluation may carry over into parenting behaviors, as parents may regard their child's behavior and performance as a reflection of themselves. Additionally, a tendency toward negative interpretation of ambiguous stimuli [16] may cause socially anxious parents to notice and comment more on mistakes than to notice positive efforts of their children. By definition, individuals with SAD fear negative evaluation and tend toward perfectionism; thus they may have high expectations for their child's performance in an effort to avoid anticipated social humiliation. High levels of parental criticism and doubting have been linked to risk of anxiety disorders in children and specifically, social anxiety [10, 40, 41] thus, highlighting an important target for intervention.

### Over-control and Granting of Autonomy

Parents with SAD showed similar levels of over-control and granting of autonomy as anxious parents without SAD. These findings, paired with the evidence for over-control and granting of autonomy in studies examining anxious parents with other disorders [12, 42], suggest that these parenting behaviors may be common to all anxious parents. A core feature of many anxiety disorders (e.g., GAD, OCD, PD) is a perceived of lack of control [43]. Thus anxious parents, in an effort to reduce their own anxiety, may exert excessive control, or "over-control," in their parenting behaviors. Conversely, granting of autonomy is a parenting behavior in which parents respect their children's decisions; allowing them to have some control in a given situation. For anxious parents, allowing their children to make decisions and have control may be difficult and increase their own anxiety which in turn may lead to greater over-control, creating a negative feedback loop.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

### Limitations of the Present Study

The present study has several limitations. First, the small sample size likely restricted statistical power to detect differences. Next, the child age range in this study was limited to ages 7 to 12 years old, and did not examine the parenting behaviors of parents of either young children (e.g., infants, preschoolers) or adolescents. Therefore, the findings may only be representative of parenting behaviors of parents with children in this limited age range. The majority of the participants were Caucasian mothers with mid-high income, limiting the generalizability to anxious fathers, non-Caucasians, and families of other socio-economic statuses. Replication studies with a larger, more diverse samples and follow-up data are needed in order to investigate whether these findings are consistent across time, developmental levels, and in other populations (e.g., fathers, low income parents). Additionally, comparison with a non-anxious control group would be useful in clarifying within- and between-group differences in parenting behaviors. As described above, SAD is characterized by intense fear of humiliation or embarrassment; these parents may be particularly prone to observer-expectancy effect. Therefore, their behavior during these tasks may not have been representative of their usual parenting behavior. Finally, although IOs were used to identify parenting behavior which reduces bias based on parent or child reports, it is unknown whether the behaviors identified during the five minute task reflect “real life” interactions between anxious parents and their children. Future studies should include multiple informants and assess behaviors in naturalistic settings to replicate these findings.

## Conclusion

Findings from this study suggest that parents with SAD may exhibit a unique pattern of behaviors when interacting with their children that includes high levels of criticism and low levels of warmth. This parenting style is akin to “affectionless control” as first described by Parker [44]. In retrospective analyses, exposure to this parenting style has been linked to an increased risk of the development of anxiety [19, 45]. These findings, which are specifically focused on the behaviors of parents with SAD, may help to explain inconsistent findings in the literature on parenting that have included parents with a broad range of anxiety disorders. Further investigation is necessary to determine how the parenting styles of socially anxious parents influence children’s risk of developing anxiety or other disorders over time. Findings from this and future studies could be used to inform assessment and interventions for families with parents who have SAD by targeting these specific parenting behaviors.

## Summary

Existing studies have established a link between the parenting behaviors of anxious parents and childhood anxiety [7-11]. However, findings have been mixed. One potential reason is that previous studies have included parents with a broad range of anxiety disorders. To clarify whether anxiety-promoting parental behaviors are uniquely related to a specific anxiety disorder, the current study compared the parenting behaviors of anxious parents with and without a diagnosis of SAD during a brief interactive task with their child. Findings revealed that parents with SAD displayed more criticism and doubts of their child’s competency, and less warmth/positive affect relative to parents without SAD. This investigation supports the hypothesis that anxiety-promoting parenting behaviors may vary depending on parental diagnosis, and highlights an important area for prevention and intervention. Further investigation into the relationship between parental anxiety, parenting behaviors, and the development of childhood anxiety over time is warranted.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

## Acknowledgments

This study was supported by grants from the National Institute of Mental Health (K23MH63427 and R01MH077312) awarded to Golda S. Ginsburg, PhD.

## References

1. Somers JM, Goldner EM, Waraich P, Hsu L. Prevalence and incidence studies of anxiety disorders: A systematic review of the literature. Can J Psychiatry. 2006; 51(2):100–113. [PubMed: 16989109]
2. Beidel DC, Turner SM. At risk for anxiety: I. psychopathology in the offspring of anxious parents. J Am Acad Child Adolesc Psychiatry. 1997; 36(7):918–924. doi: 10.1097/00004583-199707000-00013. [PubMed: 9204669]
3. Ginsburg GS, Schlossberg MC. Family-based treatment of childhood anxiety disorders. Int Rev Psychiatry. 2002; 14(2):143–154. doi:10.1080/09540260220132662.
4. McLeod BD, Weisz JR, Wood JJ. Examining the association between parenting and childhood depression: A meta-analysis. Clin Psychol Rev. 2007; 27(8):986–1003. doi:10.1016/j.cpr. 2007.03.001. [PubMed: 17449154]
5. Rapee RM. Potential role of childrearing practices in the development of anxiety and depression. Clin Psychol Rev. 1997; 17(1):47–67. doi:10.1016/S0272-7358(96)00040-2. [PubMed: 9125367]
6. Whaley SE, Pinto A, Sigman M. Characterizing interactions between anxious mothers and their children. J Consult Clin Psychol. 1999; 67(6):826–836. doi:10.1037/0022-006X.67.6.826. [PubMed: 10596505]
7. Moore PS, Whaley SE, Sigman M. Interactions between mothers and children: Impacts of maternal and child anxiety. J Abnorm Psychol. 2004; 113(3):471–476. doi:10.1037/0021-843X.113.3.471. [PubMed: 15311992]
8. Turner SM, Beidel DC, Roberson-Nay R, Tervo K. Parenting behaviors in parents with anxiety disorders. Behav Res Ther. 2003; 41(5):541–554. doi:10.1016/S0005-7967(02)00028-1. [PubMed: 12711263]
9. Drake KL, Ginsburg GS. Parenting practices of anxious and non-anxious mothers: A multi-method multi-informant approach. Child Fam Behav Ther. 2011; 33(4):299–321. [PubMed: 22639487]
10. Ginsburg GS, Grover RL, Ialongo N. Parenting behaviors among anxious and non-anxious mothers: Relation with concurrent and long-term child outcomes. Child Fam Behav Ther. 2004; 26(4):23–41. doi:10.1300/J019v26n04_02.
11. Woodruff-Borden J, Morrow C, Bourland S, Cambron S. The behavior of anxious parents: Examining mechanisms of transmission of anxiety from parent to child. J Clin Child Adolesc Psychol. 2002; 31(3):364–374. [PubMed: 12149974]
12. Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. Arch Gen Psychiatry. 2005; 62(6):593–602. doi:10.1001/archpsyc.62.6.593. [PubMed: 15939837]
13. Davidson JRT, Hughes DL, George LK, Blazer DG. The epidemiology of social phobia: Findings from the duke epidemiological catchment area study. Psychol Med. 1993; 23(03):709–718. doi: 10.1017/S0033291700025484. [PubMed: 8234577]
14. Stein MB, Kean YM. Disability and quality of life in social phobia: Epidemiologic findings. Am J Psychiatry. 2000; 157(10):1606–1613. doi:10.1176/appi.ajp.157.10.1606. [PubMed: 11007714]
15. Sparrevohn RM, Rapee RM. Self-disclosure, emotional expression and intimacy within romantic relationships of people with social phobia. Behav Res Ther. 2009; 47(12):1074–1078. doi: 10.1016/j.brat.2009.07.016. [PubMed: 19665694]
16. Amin N, Foa EB, Coles ME. Negative interpretation bias in social phobia. Behav Res Ther. 1998; 36(10):945–957. doi:10.1016/S0005-7967(98)00060-6. [PubMed: 9714945]
17. Cox BJ, Fleet C, Stein MB. Self-criticism and social phobia in the US national comorbidity survey. J Affect Disord. 2004; 82(2):227–234. doi:10.1016/j.jad.2003.12.012. [PubMed: 15488251]
18. Murray L, Cooper P, Creswell C, Schofield E, Sack C. The effects of maternal social phobia on mother-infant interactions and infant social responsiveness. J Child Psychol Psychiatry. 2007; 48(1):45–52. doi:10.1111/j.1469-7610.2006.01657.x. [PubMed: 17244269]

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript


19. Lieb R, Wittchen H, Höfler M, Fuetsch M, Stein MB, Merikangas KR. Parental psychopathology, parenting styles, and the risk of social phobia in offspring: A prospective-longitudinal community study. Arch Gen Psychiatry. 2000; 57(9):859–866. doi:10.1001/archpsyc.57.9.859. [PubMed: 10986549]
20. Hudson, JL.; Rapee, RM. From anxious temperament to disorder: An etiological model of generalized anxiety disorder. In: Heimberg, RG.; Turk, CL.; Mennin, DS., editors. Generalized Anxiety Disorder: Advances in Research and Practice. Guilford Press; New York, NY: 2004.
21. Hudson JL, Doyle AM, Gar N. Child and maternal influence on parenting behavior in clinically anxious children. J Clin Child Adolesc Psychol. 2009; 38(2):256–262. doi: 10.1080/15374410802698438. [PubMed: 19283603]
22. Ginsburg GS. The child anxiety prevention study: Intervention model and primary outcomes. J Consult Clin Psychol. 2009; 77(3):580–587. doi:10.1037/a0014486. [PubMed: 19485597]
23. Brown, TA.; DiNardo, PA.; Barlow, DH. Anxiety disorders interview schedule for DSM-IV. Graywind Publications; New York, NY: 1994.
24. DiNardo PA, Moras K, Barlow DH, Rapee RM, Brown TA. Reliability of DSM-III-R anxiety disorder categories: Using the anxiety disorders interview schedule-revised (ADIS-R). Arch Gen Psychiatry. 1993; 50(4):251–256. [PubMed: 8466385]
25. Silverman, WK.; Albano, AM. The anxiety disorders interview schedule for children for DSM-IV: (Child and parent versions). Psychological Corporation; San Antonio, TX: 1996.
26. Silverman WK, Saavedra LM, Pina AA. Test-retest reliability of anxiety symptoms and diagnoses with the anxiety disorders interview schedule for DSM-IV: Child and parent versions. J Am Acad Child Adolesc Psychiatry. 2001; 40(8):937–944. doi: 10.1097/00004583-200108000-00016. [PubMed: 11501694]
27. Lyneham HJ, Abbott MJ, Rapee RM. Interrater reliability of the anxiety disorders interview scheduled for DSM-IV: Child and parent version. J Am Acad Child Adolesc Psychiatry. 2007; 46(6):731–737. [PubMed: 17513985]
28. Birmaher B, Khetarpal S, Brent D, Cully M. The screen for child anxiety related emotional disorders (SCARED): Scale construction and psychometric characteristics. J Am Acad Child Adolesc Psychiatry. 1997; 36(4):545–553. doi:10.1097/00004583-199704000-00018. [PubMed: 9100430]
29. Birmaher B, Brent DA, Chiappetta L. Psychometric properties of the screen for child anxiety related emotional disorders (SCARED): A replication study. J Am Acad Child Adolesc Psychiatry. 1999; 38(10):1230–1236. [PubMed: 10517055]
30. Derogatis LR, Melisaratos N. The brief symptom inventory: An introductory report. Psychol Med. 1983; 13(3):595–605. doi:10.1017/S0033291700048017. [PubMed: 6622612]
31. Boulet J, Boss MW. Reliability and validity of the brief symptom inventory. Psychol Assess. 1991; 3(3):433–437. doi:10.1037/1040-3590.3.3.433.
32. Broday SF, Mason JL. Internal consistency of the brief symptom inventory for counseling-center clients. Psychol Rep. 1991; 68(1):94. [PubMed: 2034781]
33. Ginsburg GS, Grover RL. Coding manual for parent-child interactions. Unpublished.
34. Manassis K, Bradley SJ. The development of childhood anxiety disorders: Toward an integrated model. J Appl Dev Psychol. 1994; 15:345–366.
35. Cohen, J. Statistical power analysis for the behavioral sciences. Lawrence Erlbaum Associates; Hillsdale, NJ: 1988.
36. Baker SR, Edelmann RJ. Is social phobia related to lack of social skills? Duration of skill-related behaviours and ratings of behavioural adequacy. Brit J Clin Psychol. 2002; 41(3):243–257. doi: 10.1348/014466502760379118. [PubMed: 12396253]
37. Masia CL, Morris TL. Parental factors associated with social anxiety: Methodological limitations and suggestions for integrated behavioral research. Clin Psychol-Sci Pr. 1998; 5(2):211–228. doi: 10.1111/j.1468-2850.1998.tb00144.x.
38. Parker G. Parental representations of patients with anxiety neurosis. Acta Psychiatrica Scandinavica. 1981; 63:33–36. [PubMed: 7234462]
39. Bowlby, J. Attachment. Basic Books; New York, NY: 1983.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

40. Biran MW, Reese C. Parental influences on social anxiety: The sources of perfectionism. J Am Psychoanal Assoc. 2007; 55(1):282–285. [PubMed: 17432506]

41. Juster HR, Heimberg RG, Frost RO, Holt CS, Mattia JI, Faccenda K. Social phobia and perfectionism. Pers Indiv Differ. 1996; 21(3):403–410. doi:10.1016/0191-8869(96)00075-X.

42. Parker G, Roussos J, Hadzi-Pavlovic D, Mitchell P, Wilhelm K, Austin MP. The development of a refined measure of dysfunctional parenting and assessment of its relevance in patients with affective disorders. Psychol Med. 1997; 27(5):1193–1203. doi:10.1017/S003329179700545X. [PubMed: 9300523]

43. Chorpita BF, Barlow DH. The development of anxiety: The role of control in the early environment. Psychol Bull. 1998; 124(1):3–21. doi:10.1037/0033-2909.124.1.3. [PubMed: 9670819]

44. Parker, G. Parental overprotection: A risk factor in psychosocial development. Grune and Stratton; New York, NY: 1983.

45. Knappe S, Lieb R, Beesdo K, Fehm L, Low NCP, Gloster AT, et al. The role of parental psychopathology and family environment for social phobia in the first three decades of life. Depress Anxiety. 2009; 26(4):363–370. doi:10.1002/da.20527. [PubMed: 18839408]

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

## Table 1

Demographic Characteristics of Participants and Anxious Group Comparisons

| | SAD (*n* = 21) | No SAD (*n* = 45) | Differences |
|---|---|---|---|
| Parent Gender [% (*n*) Female] | 95.2 (20) | 86.7 (39) | $\chi^2$ (1, N = 66) = 1.11 |
| Parent Mean Age | 40.62 (5.90) | 41.42 (5.51) | $t_{(64)}$ = 0.54 |
| Parent Education Level [% (*n*) College] | 47.6 (10) | 46.7(21) | $\chi^2$ (4, *N* = 66) = 3.31 |
| Race [% (*n*) Caucasian] | 81.0 (17) | 95.6 (43) | $\chi^2$ (2, *N* = 66) = 5.23 |
| Child gender [% (*n*) Female] | 61.9 (13) | 46.7 (21) | $\chi^2$ (1, *N* = 66) = 1.33 |
| Child Mean Age | 9.38 (1.86) | 9.03 (1.79) | $t_{(64)}$ = 0.73 |
| Family Income [% (*n*) Over $80,000] | 66.7 (14) | 68.9 (31) | $\chi^2$ (7, N = 66) = 8.84 |
| Mean Parent SCARED Total | 14.14 (11.29) | 18.37 (11.75) | $t_{(64)}$ = 1.38 |
| Mean Child SCARED Total | 20.43 (14.86) | 22.07 (11.23) | $t_{(64)}$ = 0.50 |
| Parent BSI Anxiety T-score | 62.9 (6.21) | 60.11 (9.23) | $t_{(64)}$ = 1.26 |
| Type of task [% (*n*) Etch-a-sketch] | 57.1 (12) | 48.9 (22) | $\chi^2$ (1, *N* = 66) = 0.39 |
| Marital Status [% (*n*) Married] | 66.7 (14) | 93.3 (42) | $\chi^2$ (1, *N* = 66) = 7.92 * |

*Note*. SAD = Social Anxiety Disorder, SCARED = Screen for Child Anxiety Related Emotional Disorders, BSI = Brief Symptom Inventory. Results presented in percents, number of respondents for categorical variables or standard deviation for continuous variables indicated in parentheses.

* $p$ = .005