Influence of parenting factors on childhood social anxiety: Direct observation of parental warmth and control.

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Influence of Parenting Factors on Childhood Social Anxiety:
Direct Observation of Parental Warmth and Control

Kristine E. Rork

Thesis submitted to the
Eberly College of Arts and Sciences
at West Virginia University
in partial fulfillment of the requirements
for the degree of

Master of Science
in
Clinical Child Psychology

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ABSTRACT

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Kristine E. Rork

The purpose of the present study was to determine the association of parenting behaviors with the level of social anxiety symptomatology in their children. Three parental factors, including parental socialization, control, and warmth were investigated in a sample of 31 two-parent families. Rather than solely rely upon retrospective questionnaires, this study incorporated direct observation and a Daily Activity Log to more accurately assess the qualities of social interaction. Moderate associations between parental control and child anxious symptomatology were found, with no support for the association between parental warmth and child anxiety. Implications, limitations, and future directions are discussed.
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Almost every individual, whether an adult or a child, faces a certain amount of anxiety in his or her everyday life. This anxiety may be caused by several different stressors of daily living, such as deadlines at work, fights and frustrations with friends and family, and homework at school. However, given that most individuals do experience mild everyday anxiety, some individuals experience extreme levels of anxiety in certain situations. Anxiety disorders are the most prevalent of all psychological disorders for adults as well as children and adolescents (Beidel, 1991). Social anxiety disorder is one of the most widespread types of anxiety, and is characterized by a marked and persistent fear of social or performance situations in which embarrassment may occur; therefore the individual with social anxiety disorder typically tries to avoid those social or performance situations or endure them with dread (American Psychiatric Association [APA], 2000).

Hirshfeld-Becker and Biederman (2002) have emphasized the importance of early detection and intervention for children at risk for anxiety disorders. Whether caused by genetic or environmental influences, young children’s anxious and maladaptive behaviors tend to be less entrenched; as a result, these behaviors are more susceptible to modification. Additionally, young children are more open and more willing to change. Taking these factors into account, early detection and early intervention are imperative for the prevention of further dysfunction in young children who exhibit any symptomatology of any psychological disorder (Hirshfeld-Becker & Biederman). Further emphasizing the importance of early recognition, Last, Phillips, and Statfeld (1987) found that children with an above-average level of anxiety are more likely to be diagnosed with an anxiety disorder in adulthood. Therefore, given these findings, it appears as
if the earlier the intervention, the greater the chance of change, and the lesser the chance of an anxiety disorder diagnosis later in life.

Given the prevalence of maladaptive anxiety (particularly social anxiety) in the general population, and the potential chronicity of its course, it is vital to identify the factors that cause and maintain elevated anxiety levels in order to properly treat the problem(s). A substantial amount of research has implied a multi-factor model implicating genetic, temperamental, and environmental influences, which lead to the development of maladaptive anxiety (Beidel & Morris, 1995; Beidel & Turner, 1998; Bruch, 1989; Hudson & Rapee, 2000; Lonigan & Phillips, 2001; Morris, 2001; Rapee, 2001). In terms of heredity, having a parent with an anxiety disorder increases the chances that an individual will develop an anxiety disorder (Last, Hersen, Kazdin, Francis, & Grubb, 1987; Turner, Beidel, & Costello, 1987).

However, there are groups of individuals who have high levels of anxiety but do not have any reported family history of maladaptive anxiety; therefore, other factors are likely to contribute to its development. A growing literature supports the influence of family and parenting factors on child adjustment (Baumrind, 1971; Maccoby, 1980; Perris, Jacobsson, Lindstrom, von Knorring, & Perris, 1980; Rubin & Sloman, 1984; Warren, Huston, Egeland, & Sroufe, 1997). Recent research has shown that there is a reciprocal pattern of parent-child behaviors, in which child behavior influences parent behavior and vice-versa (Woodruff-Borden, Morrow, Bourland, & Cambron, 2002; Turner, Beidel, & Costello, 1987). For instance, consider the following situation: a child is fearful of petting the neighbor’s dog. As a result, her mother tells her, “It’s OK, you don’t have to pet the dog if you’re scared.” The child’s avoidant behavior has been reinforced by her mother. Because her mother did not make her pet the dog, the child gives her mother a hug and asks her if the two of them can play her favorite game together
inside. The child’s suggestion makes the mother happy, and therefore the mother’s encouragement of the avoidant behavior is reinforced. A vicious cycle of avoidance reinforcement begins, making the behavior even more difficult to combat. Two studies provide support for the notion of this reciprocation. Woodruff-Borden et al. (2002) found that anxious parents were significantly less productively engaged and more withdrawn while interacting with their children. In turn, Turner et al. (1987) found that children with an anxious parent were more likely to have school difficulties, worries, somatic complaints, and engage in more solitary activities than children without an anxious parent. It is apparent that, reflecting on these results, growing up with an anxious parent may negatively impact a child’s social and emotional well-being.

Family factors such as parent-child interaction and parenting style have received an increased amount of attention in recent years, and have been significantly linked to several areas of child maladjustment. Parenting style has been linked to the development of externalizing as well as internalizing behaviors in children. It has been found that parenting factors such as higher expectations, coupled with low rate of reward and less expression of positive affect (Cole & Rehm, 1986), greater incidence of negative parenting practices and greater acceptance of solitary play (Messer & Gross, 1995), and low warmth and high hostility (Ge, Best, Conger, & Simons, 1996) may significantly contribute to depressive symptomatology and conduct problems in children and adolescents. These findings have been demonstrated in both clinical and community samples.

Shyness is one attribute that often has been linked to social anxiety, and it is hypothesized that many of the same factors that are associated with the development of childhood shyness may also be associated with the development of social anxiety and other internalizing
symptomatology (Bruch, 1989; Bruch, Gorsky, Collins, & Berger, 1989; Eastburg & Johnson, 1990). For instance, Eastburg and Johnson (1990) found that a lower level of maternal acceptance coupled with a high level of maternal control was associated with increased levels of shyness in their late adolescent children. Bruch (1989), in a comprehensive review, recognized the associations of low parental sociability, high overprotection, and low emotional support with childhood shyness, general anxiety, and social phobia. Additionally, Bruch et al. (1989) found that, in a community sample of undergraduate college students, shyness was the greatest predictor of the cognitive, physiological, and behavioral indices of anxiety. It is clear that there is an association between shyness and social anxiety, and one can hypothesize that several of the same variables that are associated with shyness are also associated with social anxiety (e.g. low maternal acceptance and high maternal control, etc.).

More relevant to this investigation, parent-child interaction and parenting style have been shown to be associated with the development of childhood social anxiety (Bruch & Heimberg, 1994). Specifically, high levels of parental rejection as well as high levels of parental overprotection have been implicated in the development of childhood internalizing symptoms (Arrindell, Emmelkamp, Brilman, & Monsma, 1983; Dadds & Barrett, 1996; Eastburg & Johnson, 1990; Parker, 1981). Parental rejection is characterized by a low level of parental warmth. For example, rejection may occur by a parent giving little emotional support to their child, and a lower degree of parental care for the child, often characterized by negative or hostile feelings towards the child. Parental overprotection is characterized by a parent’s greater degree of reluctance to grant autonomy to their child, high levels of parental psychological control over a child, intrusion, encouragement of dependency, and a greater need to try to protect the child from possible harm; this typically leads to a greater amount of parental control over the child.
Rapee (1997b) proposed not only that parental rejection and control are correlated with childhood anxiety and depression, but also that rejection is more closely related to depression, whereas control is more closely related to anxiety. However, Rapee (1997b) was referring to the construct of anxiety in general, not the specific types of anxiety. Several additional studies have further delineated the impact of parental control to differentiate between different types of anxiety. For instance, Arrindell et al. (1983b) found that social phobics and height phobics reported their parents as having been lacking in emotional warmth and also being rejective and overprotective. This contrasts to their sample of agoraphobics, who reported their parents as having lacked emotional warmth, but only their mothers as having been rejecting. Additionally, perceptions of negative parental rearing styles were stronger in height phobics than in both social phobics and agoraphobics (Arrindell et al.). Parker (1979) also found that a group of individuals classified as social phobic scored both parents as less caring and overprotective, while a group of individuals classified as agoraphobics reported only less maternal care. Therefore, not only are there differences between the parenting practices and parenting styles of anxious versus depressed individuals, but also differences between different types of maladaptive anxiety.

In terms of social phobia, Arrindell et al. (1989) found that a sample of inpatients with social phobia rated their parents as having been more rejective, having lacked emotional warmth, and having been overprotective compared to a control sample of non-patients from the general population. Further comparisons between inpatient participants with social phobia and those with agoraphobia showed differences in perceptions of their parents’ child-rearing; individuals with social phobia rated their parents’ behaviors more negatively than individuals with agoraphobia.
Additionally, Rapee and Melville (1997) found that clinically-anxious participants rated their parents higher on maternal control, higher on control over socialization, and lower on parental socialization compared to non-clinical participants; the data were most consistent for social phobia. Based on these two studies, it appears as if even within the anxiety disorders, children with social phobia are more likely to have experienced higher levels of parental rejection, control, and overprotection than other groups of clinical and non-clinical populations.

One significant weakness of past studies investigating the influence of family factors on the development of anxiety is that the majority of this research has been conducted through retrospective self-report measures. Rather than asking children about their current family relations, researchers have relied primarily on adults’ reports of their own childhood; this, in turn, introduces the potential for bias and/or inaccurate recall in ratings. For instance, measures such as the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) and the *Egna Minnen Bertraffande Uppfostran* (EMBU; Perris et al., 1980) have been widely-used, but are administered to adults, asking them to reflect back upon their own upbringing. To try to obtain as accurate a report as possible, this study aims to look at both parents’ and children’s current reports of parenting style and anxiety levels, in addition to their retrospective reports. Additionally, direct observation of the parent-child relationship will help objectively quantify and qualify individual aspects of parenting style and child anxiety.

Although direct observation of the parent-child dyad or triad has the potential to provide much more accurate and comprehensible results, relatively few studies have utilized direct observation to study the parent-child relationship. However, those that have used direct observation have found results consistent with the parenting practices described above (Barrett,
Rapee, Dadds, & Ryan, 1996; Dadds, Barrett, Rapee, & Ryan, 1996; Greco & Morris, 2002b; Hudson & Rapee, 2001; Krohne & Hock, 1991; Siqueland, Kendall, & Steinberg, 1996; Whaley, Pinto, & Sigman, 1999; Woodruff-Borden, Morrow, Bourland, & Cambron, 2002). For instance, Siqueland, Kendall, and Steinberg (1996) found that parents of clinically-anxious children were less likely to grant autonomy to their child and were less accepting of their child than were parents of control children. Hudson and Rapee (2001) observed that mothers of anxious children were more negative during parent-child interactions and were more intrusively involved than parents of control children. These findings further support the notion that parenting factors (particularly a low level of parental care coupled with a high level of parental control) may be associated with the development and maintenance of social phobia. Given the fact that these observations were not retrospective and were made by the researchers themselves, the results may have greater validity than other types of measures.

However, the use of direct observation to determine associations between parenting behaviors and child psychopathology is the most logical step in investigating the etiology of child psychopathology. Several significant results have emerged from studies utilizing direct observation, and the use of direct observation can only serve to more specifically define independent actions and behaviors that may lead to certain forms of psychopathology in the general population. For instance, in one of the first studies of its kind using direct observational methods, Krohne and Hock (1991) noted that mothers of high-anxious girls were more likely to intervene, more likely to retain control after intervention, and less likely to give initiative back to the child when taking part in a problem-solving task with their child. Furthermore, the more likely the mother was to allow her daughter initiative over the task, the lower the anxiety level in her child (Krohne & Hock). In a study concentrating solely on paternal behaviors in the parent-
child interaction, Greco and Morris (2002b) used direct observation and detected that fathers of children with higher levels of social anxiety were more physically controlling during an origami task than fathers of children with lower levels of social anxiety. Notably, the researchers in each of these studies used a community sample in obtaining their results.

Studies investigating family discussions have provided support that parents of anxious children tend to enhance their child’s perception of ambiguous situations as more threatening, and more actively encourage their child to respond with avoidance (Barrett et al., 1996; Dadds et al., 1996). Similarly, Whaley, Pinto, and Sigman (1999) found that anxious parents were more critical and catastrophizing when discussing situations with their children, further enhancing their child’s perceptions that the situation is of greater threat. It appears, therefore, that not only parental motor behaviors may impact a child’s anxiety level, but also their statements and communications of fear and threat have a significant effect on their children’s apprehensions.

There also have been a number of studies which have looked at how children’s perceptions of events (rather than the actual events themselves) are associated with the development of social anxiety. Rapee (1997a) found that, in a sample of undergraduate college students, fear of social situations was significantly predicted by the students’ perceptions of the consequences of the threat and their perceptions of their own control over their threat. In addition, particularly relevant to the current study, Perris, Arrindell, Perris, Eisemann, van der Ende, and von Knorring (1986) argue that a child’s perception of his or her parents’ child-rearing practices are more important to the development of social phobia than what their parents’ actual practices are. This stated, obtaining a clearer view of a child’s perceptions of the demands and ideas conveyed to them by their parents may provide a more accurate explanation of the specific parenting factors that may be associated with higher and/or lower levels of social anxiety.
One important issue to note is that the majority of the studies conducted in the field have looked at mother-child and/or father-child dyads alone, often overlooking the concept of the mother-father-child triad. Gjerde (1986) found a significant change in parent-child interactional style with the introduction of a second parent into a parent-child dyad. More specifically, the addition of a father into a mother-child dyad tended to enhance the quality of mother-son relations, but the addition of a mother into a father-child dyad tended to reduce the quality of father-son relations. Also, the addition of a spouse into the parent-child dyad influenced the amount of attention each parent paid to their child (Gjerde). For two-parent families, observation of the triad should provide a closer replication of naturalistic situations in an analog setting, given that the child has both a mother and a father living in the home.

The current study aims to further conceptualize specific aspects of parenting behavior that may be associated with the development of higher levels of social anxiety symptomatology in children. By directly observing a community sample of parents and their children, this study expects to replicate past findings in non-clinical samples that degrees of parental socialization, control, and warmth significantly contribute to a child’s social anxiety symptoms. Several hypotheses have been formulated:

1. Preliminary analyses would expect to find that parents of children with higher levels of social anxiety would also have higher levels of social anxiety themselves. The same association is expected between measures of depressive symptomatology and general anxiety symptomatology.

2. It was expected that there will be significant associations between anxious and depressive symptomatology in all participants (mothers, fathers, and children).
(3) It was predicted that parents of children with higher levels of social anxiety will report fewer days of social activity (out of 10) on the Daily Activity Log than parents of children with lower levels of social anxiety.

(4) It was predicted that children with higher levels of social anxiety will report fewer days of social activity (out of 10) on the Daily Activity Log than children with lower levels of social anxiety.

(5) It was predicted that parental anxiety (social anxiety and general anxiety) symptomatology would predict child social anxiety symptomatology.

(6) It was predicted that parents of children with higher levels of social anxiety will exhibit a greater number of behaviors indicative of warmth and control during a direct observational task (i.e., be more involved, more negative, more intrusive, provide a greater degree of help to their child) than parents of children with lower levels of social anxiety.

(7) It was predicted that a child’s perception of parental behaviors will be more strongly associated with that child’s level of social anxiety than will the direct observation of actual parental behaviors (assuming there are differences between perception and actual occurrence).

Overall, this study used direct observational methods and triadic observation of families in a realistic everyday task. In turn, this should provide a more accurate representation of naturalistic situations and results, and therefore be more indicative of an everyday life situation.

Method

Participants
Thirty-two families were selected from a pool of parents and their 10 to 13 year old children ($M = 11.63$, $SD = .91$) who previously participated in a research study conducted by Dr. Tracy Morris at the West Virginia University Department of Psychology. The questionnaire sample consisted of 17 male children and 15 female children, and the Interaction Task sample consisted of 16 male children and 15 female children. The sample was primarily composed of well-educated Caucasian parents. Thirty of the fathers identified themselves as Caucasian (93.8%), while two fathers identified themselves as Asian-American (6.3%). Thirty mothers identified themselves as Caucasian (93.8%), while one identified herself as Asian-American (3.1%) and one as Other (3.1%). Fifty percent of the sample of fathers had a graduate degree ($n = 16$), while an additional 18.8 percent of the fathers had a college degree ($n = 6$). 18.8 percent of the sample of mothers had a graduate degree ($n = 6$), while an additional 46.9 percent had a college degree ($n = 15$). Lastly, 30 fathers were the biological parent of the child participating in the study (93.8%), while two fathers were the stepfathers (6.3%). All mothers were the biological mothers of the child participating in the study (100%). Demographics for the entire sample, as well as by gender, are presented in Table 1. A Fisher Z approximation determined that power of this sample was approximately .395 ($\alpha = .05$, 2-tailed).

All families, as part of this prior study, completed several questionnaire measures and laboratory interactions in the Department of Psychology. However, no prior data was used in the current analyses. Participants were initially recruited from local elementary schools and flyers posted in the Morgantown, West Virginia area. In addition, several participants were recruited through word-of-mouth by families that had already participated in the study.
Each of the 32 families completed the questionnaire measures for the current study; however, only 31 of the 32 families completed the Interaction Task due to schedule constraints (see below).

Child Self-Report Measures

Social Phobia and Anxiety Inventory for Children (SPAI-C). The SPAI-C (Beidel, Turner, & Morris, 1998; Beidel, Turner, & Morris, 1995) is a 26-item self-report instrument designed to assess social phobia symptomatology in children aged 8 to 14. Questions on the SPAI-C are rated on a three-point Likert scale, ranging from zero (never experience the statement) to two (most of the time or always experience the statement). Twelve of the 26 items have sub-levels in which the child is asked to report their responses in different situations (e.g. with “boys and girls I know,” “boys and girls I don’t know,” “adults”). The SPAI-C is scored by calculating the mean for each of the statements requiring multiple responses, and then by summing the scores of the 26 items. The maximum score a child may obtain is 52.

The SPAI-C has shown adequate external validity \( (r = .31, p < .025) \) and above-average discriminative validity \( (F(1, 95) = 31.11, p < .00005) \); the SPAI-C was able to effectively differentiate children with social phobia from children with other types of anxiety disorders (Beidel, Turner, Hamlin, & Morris, 2000). The SPAI-C also has significantly correlated with other measures of child anxiety, such as the Social Anxiety Scale for Children, Revised (SASC-R; La Greca, 1998; La Greca & Stone, 1993; \( r = .63, p < .001 \)), suggesting that both measures assess similar, but not identical, constructs (Morris & Masia, 1998). More specifically, Beidel, Turner, and Fink (1996) found the SPAI-C to have adequate convergent validity \( (r = .50, p < .025) \), and to be a useful tool in both clinical and research settings. Additionally, Greco and
Morris (2002a) obtained a six-month test-retest reliability of .93 in a community sample. In this study, the SPAI-C was used as an index of social phobia.

*Multidimensional Anxiety Schedule for Children (MASC).* The MASC (March, 1997) is a 39-item self-report measure designed to assess the major dimensions of anxiety in children aged eight to 19 years. The MASC has four subscales: Physical Symptoms (e.g. tense, shaky, dizzy, breathing), Social Anxiety (e.g. laughs at me, makes fun of me, embarrassed, public performance), Separation Anxiety (e.g. going to camp, being near parent(s), scary movies, sleeping next to parent), and Harm Avoidance (e.g. always obey parents, do what’s right, check on things first, avoid upsetting others).

The MASC has shown excellent internal reliability ($r = .49-.90$, with most values $r = .65$ and higher) and above-average factor structure, as well as adequate concurrent and discriminative validity (March, Parker, Sullivan, Stallings, & Conners, 1997). Additionally, the MASC exhibited above-average stability over time on all subscales ($r = .71-.92$), and has shown adequate to excellent test-retest reliability ($r = .45-.95$) (March, Sullivan, & Parker, 1999). In this study, total MASC scores were used as an indication of general anxiety.

*Parental Bonding Instrument (PBI).* The PBI (Parker, Tupling, & Brown, 1979) is a 25-item retrospective measure completed by adults (over age 16), who are asked how they remember their own parents’ parenting styles during the first 16 years of their life. There are separate sections assessing the parenting styles of their mother and their father. The PBI provides measures on two scales: Care (warmth; consisting of 12 items) and Overprotection (control; consisting of 13 items). Both scales are scored on a four-point Likert scale from zero to three; approximately half of the items on each scale are reverse-scored. Sample items from the Care scale include: “Could make me feel better when I was upset” and “Seemed emotionally cold to
me”. Sample items from the Overprotection scale include: “Tended to baby me” and “Gave me as much freedom as I wanted”.

The Care scale measures responses on a continuum from warmth/affection to rejection, with higher scores indicating perception of a higher level of parental warmth, and lower scores representing a perception of rejection. The Overprotection scale measures responses on a continuum from control to autonomy, with higher scores indicating perception of a higher level of parental control, and low scores representing a perception of parental encouragement of autonomy (Parker et al., 1979).

Warner and Atkinson (1988) found high levels of test-retest reliability for the PBI, with correlations ranging from 0.79 to 0.88. Favaretto, Torresani, and Zimmermann (2001) found adequate internal consistency for the PBI, with Cronbach’s alpha ranging from 0.67 to 0.88 for the maternal- and paternal- care and protection scales. Additionally, Parker et al. (1993) demonstrated satisfactory construct and convergent validity for the PBI, and found the PBI to be independent of mood effects.

In this study, the researchers used a revised version of the PBI for administration to children under age 16 rather than adults. The measures were administered to children to report on their current perceptions of their parents’ child-rearing behaviors, rather than having adults retrospectively report on these topics. The child completed one PBI form for their mother, and another PBI form for their father. The primary changes on this revised version from the original version are (a) presentation of all items in the present tense (given the current status of the issues presented) and (b) elimination of double negative items (to avoid confusing the child). Sample items include: “My mother speaks to me in a warm and friendly voice,” and, “My father is emotionally cold” for the Care scale and, “My father invades my privacy,” and, “I am never
allowed to do what I want” from the Overprotection scale. Greco and Morris (2002b) found adequate Cronbach’s alphas for both the Care ($\alpha = .82$) and Overprotection ($\alpha = .69$) subscales. Additionally, Greco and Morris (2002a) found preliminary support for a child version of the PBI, finding significant relations between the PBI Care and Overprotection scales and widely-used scales such as the MASC, SPAI-C, and CDI.

Child Depression Inventory (CDI). The CDI (Kovacs, 1992) is a 27-item self-report measure administered to school-age children and adolescents in order to assess the child’s level of depressive symptomatology. Children are asked to identify which of three separate statements most closely identifies them over the past two weeks. One sample item asks the child to choose which is most indicative of themselves over the past two weeks: “I do most things wrong,” “I do many things wrong,” “I do everything wrong”. The CDI has shown adequate test-retest reliability ($r = .82$) over a two-week time interval between test administrations, and has also shown high internal consistency ($r = .71-.89$). Additionally, the CDI has shown adequate factor structure across children from several cultural backgrounds (Charman & Pervova, 2001). Total depression scores on this measure were used as a indication of child depression.

Parent Report Measures

Social Phobia and Anxiety Inventory (SPAI). The SPAI (Turner, Beidel, & Dancu, 1996) is a 45-item self-report inventory designed to assess somatic symptoms, cognitions, and behaviors across a wide range of fear-producing situations, measuring an individual’s social anxiety and fear. The SPAI is designed to be administered to individuals aged 14 and up, and consists of two subscales: Social Phobia and Agoraphobia. The SPAI has shown significant discriminant and construct validity (Peters, 2000). In this study, the SPAI was used to assess parents’ level of social anxiety symptomatology.
Beck Anxiety Inventory (BAI). The BAI (Beck & Steer, 1990) is a 21-item self-report measure of anxiety severity designed to be administered to adults aged 17 to 80. Similar in structure to the BDI-II, the BAI is scored on a four-point Likert scale ranging from zero to three; a zero indicates absence of symptoms of anxiety and a three indicates the presence of symptoms of anxiety “almost or almost always”. To score the BAI, a sum total of the responses to the 21 items is established, total scores ranging from zero to 63.

The BAI has shown sufficient reliability in both clinical (α = .92) and non-clinical (α = .88) samples, and adequate test-retest reliability (α = .71) (Osman, Hoffman, Barrios, Kopper, et al., 2002). Additionally, the BAI has shown moderate convergent and discriminant validity. (Osman et al.) However, in a prior study, Osman, Kopper, Barrios, Osman, and Wade (1997) demonstrated adequate convergent validity of the BAI in a sample of undergraduate college students. In this study, the BAI was used as an index of anxiety symptomatology in each parent.

Social Phobia and Anxiety Inventory for Children-Parent Version (SPAI-C). The SPAI-C Parent Version is a 26-item parent report of their child’s social anxiety and social phobia (Biedel et al., 1998). The SPAI-C Parent Version is virtually identical to the SPAI-C Self-Report; the only difference is in the phrasing of the items. The parent version phrases the items from the point of view of a parent (i.e., “My child feels scared….”), while the SPAI-C Self-Report phrases the items from the child’s point of view (i.e., “I feel scared…”). Biedel et al. (2000) have shown that the SPAI-C Parent Version has a moderate but significant correlation (r = 0.31, p < .025) with the SPAI-C Self-Report. Additionally, given the essentially identical nature of the questions on the SPAI-C Parent and SPAI-C Self-Report versions, the SPAI-C Parent Version should have adequate to exceptional psychometric qualities.
Beck Depression Inventory-II (BDI-II). The BDI-II (Beck, Steer, & Brown, 1996) is a 21-item self-report measure that can be administered to assess depressive symptomatology in individuals aged 13 to 80. Items are scored on a four-point Likert scale, with a zero indicating absence of depressive symptoms and a three indicating the presence of depressive symptoms “always or almost always”. To score the BDI-II, a sum total of the responses to the 21 items is established; total scores range from zero to 63.

The BDI-II has shown excellent psychometrics in both clinical and community samples. In a community sample of undergraduate college students, Dozois, Dobson, and Ahnberg (1998) demonstrated high internal reliability of the BDI-II ($\alpha = .91$). In a separate sample, Arnau, Meagher, Norris, and Bramson (2001) also found excellent internal consistency ($\alpha = .94$), factorial validity, and convergent validity in a medical setting. Additionally, in a sample of college students, Sprinkle, Lurie, Insko, Atkinson, et al. (2002) found that the BDI-II maintained excellent criterion validity ($r = .83$) and excellent test-retest reliability ($r = .96$) over a period of seven days. In this study, the BDI-II was used to assess level of parental depressive symptomatology.

Daily Activity Log.

Each participant (mother, father, and child) was asked to complete a Daily Activity Log for a period of ten days prior to arrival at their appointment. All families except three were mailed a packet of ten copies of the Daily Activity Log in the information packet they were mailed immediately after an appointment time was scheduled. Three of the families (those mentioned above) received their Daily Activity Logs at their scheduled appointment time due to schedule constraints. However, all families but one completed their Daily Activity Logs for the full period of 10 days and returned them to the investigator.
The main purpose of this Log was to track the social activities of each family member on an everyday basis. Given the low frequency of several parent and child behaviors that may lead to social anxiety and the resulting difficulties in recognizing these behaviors in a laboratory setting, a daily diary approach should provide a better idea of the actual level of social activity for each member of each family. In addition, the investigators were able to get a good idea not only of the actual events that are taking place each day, but also the types of activities in which each individual is participating (entertainment, sports/games, dinner/meals, meetings, shopping, visiting with others, parties, having friends over, phone conversations), who is participating in such events with each individual (family, friends, family and friends), the length of time that each event took place, and whether or not each individual performed each event on a routine basis. A complete list of items on the Daily Activity Log can be found in Appendix A.

**Multi-Family Interaction Task.** The goal of the Multi-Family Interaction Task was to assess actual, observable aspects of social interaction of each family member, as well as certain aspects of family dynamics for each participating family (e.g. care and overprotection). It has been found that children with high levels of social anxiety tend to have parents who are less likely to socialize, are less likely to encourage their children to be social, and are more likely to place a good degree of emphasis on the opinions of others (Bruch, Heimberg, Berger, & Collins, 1989). In this study, two or three families (depending on the number that showed for the appointment) were placed in the same room at the same time for a period of 10 minutes. The investigator then entered the room to introduce the task (using the previously-developed script in Appendix B), and a list of three situations was presented (see Appendices C and D). Two separate skit situations forms were used: one for sessions where three families were present, and the other for sessions when only two families were present. There were no differences in the content of the
skit situations; the only difference was in the number of children described in each situation (i.e., three versus two). The children were told that at the conclusion of the ten-minute period, they were expected to perform a skit together based on one of the three situations (of their mutual choosing). They were expected to perform this skit one time in front of their families, the investigator, and the research assistant (if present). In this sense, the children had the expectation of having to perform a social interaction together, combining a social performance aspect with the concept of innovation (because they must develop the skit together from scratch without any additional instruction).

The Multi-Family Interaction Task was coded on the basis of both observable behaviors and verbalizations. Behaviors and verbalizations were coded separately for each group member (mother, father, and child) over the complete 10-minute period. This coding system was virtually the same as Dr. Morris’ coding system for her project, with a few omissions of behaviors that did not apply to the current study (i.e., reassurances), and addition of two behaviors that particularly applied to the current study task (i.e., idea generations and affirmations) (Morris, 2002). Behaviors that were coded included praises (of self, other, and joint), criticisms (of self, other, or joint), commands (positive or negative), instructions, verbal interruptions, questions, descriptive statements, anxious verbalizations, off-task behaviors, idea generations, idea affirmations, and behaviors which occurred that did not fit into any of the aforementioned categories (termed “uncodables”). The following behaviors were used as indicators of parental warmth: praises, descriptive statements, and affirmations. The following behaviors were used as indicators of parental control: criticisms, commands, instructions, questions, and idea generations. Verbal interruptions and instructions were viewed as contributing to both parental warmth and control. Anxious verbalizations, off-task behaviors, and uncodables were not necessarily associated with
either parental warmth or control, but were seen as important to code given their relative
frequency in situations of this sort. A complete description of the coding system of the Multi-
Family Interaction Task can be found in Appendix E.

*Latency Coding Task.* Immediately prior to the Multi-Family Interaction Task, the examiner
quantitatively measured the amount of time it took for each member of the group to speak a) to
any individual in the room, and b) to a member of the group who is not a family member. It was
hypothesized that the more socially anxious the individual, the longer the latency period to speak
to others in the room, particularly to someone outside of their own family.

*Procedure*

All families from Dr. Morris’ project who agreed to be contacted about future research
participation were contacted by phone and asked whether or not they would be willing to
participate in the proposed study. Out of the original sample, 12 children were 14 years or older,
and thus were excluded from the current study. A total of 65 families were selected to be
contacted for potential participation. Out of those 65 families, 12 families were not able to be
contacted, 9 families refused participation, and 7 families expressed initial interest but did not
respond to follow-up scheduling attempts by the investigator. The overall consent rate was 71.7
percent.

Those families who agreed to participate were mailed an information packet explaining the
proposed investigation. The information packet included a letter giving a brief overview of the
study, Daily Activity Logs for each participant for 10 days, as well as payment information and
inclusion criteria. Each family was asked to log their everyday activities (as defined in the Log)
for a period of 10 days prior to their appointment. There were 5 families who were scheduled to
come into the lab before they were able to complete their Daily Activity Logs. These five
families were provided with pre-paid envelopes in which they were asked to send their completed Logs as soon as possible, after the conclusion of the visit. Four of these five families did return their completed Daily Activity Logs to the investigators; the fifth family did not return their Daily Activity Log and therefore this was acknowledged as missing data. To ensure that the Multi-Family Interaction Task (see below) was able to take place for each family during their scheduled appointment time, three families were scheduled for each appointment slot. When only two families arrived at the laboratory (which occurred during eleven of the fourteen sessions), the entirety of the session commenced as if there were three families present. However, if only one family arrived for any given appointment time (which occurred during three of the fourteen sessions), that family completed the questionnaire measures, and was asked if they would be willing to return to take part in the Interaction Task portion at a future date. On each of the two occasions, the family did return for a “second” visit, and on only one of these occasions were they able to complete the Interaction Task (on the other occasion the indicated family was again the only family to show up to the appointment).

On the day of their appointment, families (consisting of mother, father, and child) arrived at the Life Sciences Building in the Department of Psychology, and were asked to complete several questionnaire measures. Each child completed (a) the SPAI-C, (b) the MASC, (c) the PBI, and (d) the CDI. Each parent (both mother and father) completed (a) the SPAI, (b) the SPAI-C, (c) the BDI-II, and (d) the BAI. Next, the families were brought together into a separate room. The families were told that the investigators needed a few minutes to prepare for the remainder of the visit, and to please wait in the room together and the investigators would be back briefly. This is when the Latency Task took place; observations of the actions and interactions of each family were videotaped for a period of five minutes. A research assistant recorded each individual’s
latency of speech (in number of seconds up to 300) to (a) any member of their own family, and (b) any individual outside of their family.

After the families completed this five-minute observation period, the investigator entered the room and told the families that there was one last portion of the visit which was a skit task. The investigator then informed the group that the children would be presented a list of three possible skit topics. The children would then have a period of 10 minutes to create a skit together. The group was also informed that after the 10 minutes passed, the children would be asked to perform the skit that they had created in front of the investigator, research assistant (when present), and their families. The investigator then gave the list of skit topics to one of the individuals in the room (who volunteered) and left the room. Appendix B presents the script that the investigator used to explain the skit task to each family. The three skit topics that were presented to each family are listed in Appendices C (3 families) and D (2 families).

The entire Interaction Task, including the presentation of the skit at the end of the 10 minutes, was videotaped and coded by a research assistant (see Appendix E). After each individual in each family was coded by the research assistant, the investigator selected a random sample of 15 individuals (16% of the sample; including five fathers, five mothers, and five children) and performed reliability coding. Interrater reliability was acceptable (85.7%).

Upon conclusion of completion of the questionnaires and the observational tasks, each family was thanked for their participation in the study and given $50 for their participation.

Results

Results were analyzed using measures of correlation and regression. Table 2 presents an outline of the means and standard deviations on measures of general psychopathology for the entire sample.
A preliminary analysis was conducted to determine the degree of agreement between parent and child measures of child social anxiety. First, Pearson product-moment correlations were conducted comparing parent results on the SPAI-C Parent Version with child results on the SPAI-C Self-Report. Results for the entire sample are presented in Table 3. A significant correlation was found between mothers’ reports of their child’s social anxiety ($M = 11.76, SD = 8.40$) and father’s reports of their child’s social anxiety ($M = 13.39, SD = 7.37$), $r = .478, p < .01$. Significant correlations were also found between child’s scores on the SPAI-C Self-Report ($M = 13.04, SD = 9.86$) and both mother’s ($r = .413, p < .05$) and father’s ($r = .533, p < .01$) scores on the SPAI-C Parent Report. When the sample was divided by gender, male children’s ($n = 17$) SPAI-C self-report scores ($M = 10.70, SD = 8.84$) significantly correlated only with their father’s SPAI-C Parent Report scores ($M = 11.21, SD = 4.90$), $r = .559, p < .05$. Additionally, female children’s ($n = 15$) SPAI-C Self-Report scores ($M = 15.69, SD = 10.57$) did not significantly correlate with either their mother’s SPAI-C Parent Report scores ($M = 14.32, SD = 9.12; r = .319, p > .05$), or their father’s SPAI-C Parent Report scores ($M = 15.87, SD = 8.97; r = .474, p > .05$). However, female children’s maternal and paternal SPAI-C Parent Report scores significantly correlated with one another ($r = .590, p < .05$).

Next, preliminary analyses were conducted to determine the associations between maternal and paternal depressive symptomatology and their child’s depressive symptomatology. Pearson product-moment correlations were conducted between parent results on the BDI-II with child results on the CDI. No significant correlations were found with either the entire sample or by gender analyses; entire sample results are presented in Table 4.

Third, preliminary analyses were conducted to determine the associations between child depressive symptomatology and anxiety symptomatology. Table 5 shows entire sample results of
Pearson product-moment correlations conducted between child results on the SPAI-C, MASC, and CDI. Significant correlations were found between child social anxiety on the SPAI-C \((M = 13.04, SD = 9.86)\) and child depressive symptomatology on the CDI \((M = 7.06, SD = 7.55; r = .600, p < .01)\). A significant correlation was also found between child general anxiety on the MASC \((M = 44.87, SD = 19.21)\) and child depressive symptomatology on the CDI \((r = .747, p < .01)\). Lastly, a significant correlation was found between child general anxiety on the MASC and child social anxiety on the SPAI-C \((r = .779, p < .01)\). When the sample was analyzed separately by gender, male children’s CDI scores \((M = 6.06, SD = 6.96)\) significantly correlated with their SPAI-C \((M = 10.70, SD = 8.84; r = .682, p < .01)\) and MASC scores \((M = 39.76, SD = 17.95; r = .761, p < .01)\), and male children’s MASC scores significantly correlated with their SPAI-C scores, \(r = .906, p < .01\). Both female children’s CDI scores \((M = 8.20, SD = 8.26; r = .728, p < .01)\) and SPAI-C scores \((M = 15.69, SD = 10.57; r = .623, p < .05)\) significantly correlated with their MASC scores \((M = 51.07, SD = 19.49)\).

Finally, Table 6 shows the sample results of a preliminary analysis to detect Pearson product-moment correlations between maternal measures of anxious and depressive symptomatology, and Pearson product-moment correlations between paternal measures of anxious and depressive symptomatology. Significant associations were found between mothers’ scores of depressive symptomatology on the BDI-II \((M = 7.33, SD = 7.95)\) and mother’s scores of general anxiety on the BAI \((M = 4.56, SD = 4.88; r = .422, p < .05)\). A significant association was also found for the association between mothers’ general anxiety symptomatology on the BAI and mothers’ social anxiety symptomatology on the SPAI \((M = 70.07, SD = 41.55; r = .531, p < .01)\), as well as between mother’s social anxiety symptomatology and mothers’ depressive symptomatology \((r = .740, p < .01)\). When analyzed by gender, mothers of male children’s SPAI scores \((M = 70.99, p < .01)\).
SD = 31.68) and BDI-II scores (n = 16; M = 6.88, SD = 7.36) correlated significantly with one another (r = .696, p < .01). Further, mothers of female children’s SPAI scores (M = 69.02, SD = 51.70) significantly correlated with their BDI-II scores (n = 14; M = 7.86, SD = 8.84; r = .782, p < .01) as well as their BAI scores (M = 4.33, SD = 5.27; r = .749, p < .01). No significant relations were found between paternal reports of social anxiety, general anxiety, and depressive symptomatology, either in the entire sample or when genders were analyzed separately.

Pearson product-moment correlations were conducted to determine the relationships between child social anxiety symptomatology on the SPAI-C Self-Report and each participant’s reported days of social activity (out of 10 as reported on the Daily Activity Log). For this analysis, Pearson correlations were computed between the child’s SPAI-C Self-Report scores and (a) child’s number of days of social activity, (b) mother’s number of days of social activity, (c) father’s number of days of social activity, and (d) an average parenting variable for days of social activity (computed by averaging the number of mother’s and father’s days of social activity). Results in Table 7 show that significant correlations were found between child total days of social activity (M = 8.16, SD = 1.77) and mother total days of social activity (M = 7.81, SD = 1.64; r = .561, p < .01), as well as child total days of social activity and the parenting variable for days of social activity (M = 6.89, SD = 1.45; r = .389, p < .05). Both male children’s (M = 8.50, SD = 1.83; r = .498, p < .05) and female children’s days of social activity (M = 7.80, SD = 1.70; r = .788, p < .01) correlated significantly with mothers’ days of social activity (males: M = 7.44, SD = 1.50; females: M = 8.20, SD = 1.74), but not with fathers’ days of social activity (males: M = 6.50, SD = 2.48, r = .192, p > .05; females: M = 5.40, SD = 1.99, r = -.165, p > .05).

Regression analyses were conducted to determine whether or not child social anxiety symptomatology (as reported on the SPAI-C Self-Report) was significantly predicted by (a)
reported parental social anxiety symptomatology on the SPAI, (b) reported parental general anxiety symptomatology on the BAI, (c) reported parental depressive symptomatology on the BDI-II, and (d) reported parental warmth and control as reported by the child on the PBI. When the entire sample was analyzed using stepwise regression (i.e., all predictors were entered into the equation simultaneously), two significant predictors of child social anxiety symptomatology emerged: the father’s score on the BDI-II ($R^2 = .182$, $p < .05$) and the child’s report of maternal overprotection on the PBI ($M = 39.58, SD = 4.87; R^2 = .349, p < .05$). These two factors were then entered into a hierarchical regression analysis as independent predictor variables and the SPAI-C Self-Report scores as the dependent variable; results for the entire sample are presented in Table 8. When maternal overprotection was entered first, followed by paternal depressive symptomatology, a significant increase in accounted variance was found for each variable. Maternal overprotection accounted for approximately 14% of the variance in child-reported social anxiety symptomatology ($R^2 = .138, p < .05$), and after maternal overprotection was entered father depressive symptomatology accounted for an additional 14% of the variance in the dependent variable ($\Delta R^2 = .144, p < .01$). When analyzed by gender, no significant predictor variables emerged for female children. However, after a stepwise regression analysis male children’s SPAI-C Self-Report scores were significantly predicted by the same two variables as the entire sample: the father’s BDI-II score and the child’s report of maternal overprotection on the PBI ($M = 39.53, SD = 4.87$). These variables were again entered into a hierarchical regression analysis (as described above). Scores of maternal overprotection ($M = 39.53, SD = 4.87$) for male children significantly predicted approximately 26% of the variance in self-reported social anxiety in male children ($R^2 = .262, p < .05$). Further, father depressive
symptomatology accounted for an additional 44% of the variance in male children’s social anxiety symptomatology after maternal overprotection had been entered ($\Delta R^2 = .439, p < .01$).

A second regression analysis was conducted to determine predictor variables of child general anxiety (as reported on the MASC). A stepwise regression analysis was conducted using the child’s MASC score as the dependent variable, and (a) reported parental social anxiety symptomatology on the SPAI, (b) reported parental general anxiety symptomatology on the BAI, (c) reported parental depressive symptomatology on the BDI-II, and (d) reported parental warmth and control as reported by the child on the PBI as the independent variables. Results for the entire sample are presented in Table 9. Analyzing the entire sample, only paternal overprotection (as reported by the child on the PBI) was a significant predictor of child general anxiety symptomatology ($R^2 = .184, p < .05$). Therefore, no hierarchical regression analysis was conducted. However, when analyzed separately by gender, different results occurred. Again, none of the aforementioned independent variables above significantly predicted female children’s general anxiety symptomatology. However, two significant predictor variables emerged from a stepwise analysis of male children: father depressive symptomatology on the BDI-II, and maternal overprotection (as reported by the child on the PBI; $M = 39.67, SD = 5.19$). Therefore, a hierarchical regression analysis was conducted using child MASC scores as the dependent variable, and father BDI-II scores and child PBI-M Overprotection scores as the independent predictor variables. Father depressive symptomatology significantly predicted approximately 33% of male children’s general anxiety symptomatology ($R^2 = .326, p < .05$). Maternal overprotection, when entered in after father depressive symptomatology, accounted for an additional 28% of the variance ($\Delta R^2 = .276, p < .01$).
The stepwise analyses reported above were then conducted using child depressive symptomatology from the CDI as a dependent variable, and (a) reported parental social anxiety symptomatology on the SPAI, (b) reported parental general anxiety symptomatology on the BAI, (c) reported parental depressive symptomatology on the BDI-II, and (d) reported parental warmth and control as reported by the child on the PBI as the independent variables. A stepwise analysis of the entire sample data revealed two significant predictors: child-reported maternal care ($M = 21.47, SD = 3.04; R^2 = .260, p < .01$) and child-reported maternal overprotection ($R^2 = .372, p < .05$). These two variables were then entered into a hierarchical regression analysis, in the aforementioned order. Maternal care predicted approximately 22% of the variance in child’s depressive symptomatology ($R^2 = .220, p < .01$), and maternal overprotection predicted an additional 12% of the variance, after maternal care had been accounted for ($\Delta R^2 = .118, p < .05$). When analyzed separately by gender using stepwise regression, only maternal overprotection proved to be a significant predictor of male children’s depressive symptomatology, accounting for approximately 60% of the variance ($R^2 = .595, p < .01$), while only paternal overprotection ($M = 40.68, SD = 4.97$) proved to be a significant predictor of female children’s depressive symptomatology, accounting for approximately 36% of the variance ($R^2 = .364, p < .05$). Results for the entire sample are presented in Table 10.

Pearson product-moment correlations were then conducted between child reports of parental care and overprotection on the PBI and parental behavioral codes on the Multi-Family Interaction Task. First, a correlation between child PBI-M scores and maternal behavioral codes was conducted. Next, a correlation between child PBI-F scores and paternal behavioral codes was conducted. Finally, a correlation between child PBI-M and PBI-F scores with an overall parenting variable (an average of maternal and paternal behavioral codes) as conducted. When
the entire sample was analyzed, maternal instruct commands correlated significantly with maternal overprotection from the PBI-M ($r = .428$, $p < .05$), and number of paternal questions correlated significantly with the child’s report of paternal overprotection on the PBI-F ($r = .519$, $p < .01$). Additionally, a significant correlation was found between child’s reports of maternal care and maternal overprotection on the PBI-M ($r = -.393$, $p < .05$), but no significant correlations were found between children’s reports of paternal care and overprotection on the PBI-F. When analyzing only male children, significant correlations were found between maternal care and overprotection scores from the PBI-M ($r = -.534$, $p < .01$), number of maternal negative commands and maternal overprotection on the PBI-M ($r = -.559$, $p < .05$), number of paternal questions and paternal overprotection on the PBI-F ($r = .722$, $p < .01$), and number of paternal descriptive statements and paternal overprotection on the PBI-F ($r = .505$, $p < .05$). When analyzing only female children, a significant correlation was found between number of mother instruct and maternal overprotection on the PBI-M ($r = .581$, $p < .05$). Results are presented in Tables 11 and 12.

When analyzing the correlations between child-reported PBI-M and PBI-F scores and the overall parenting variable in the entire sample, significant correlations were found between maternal care and number of instructs ($r = -.375$, $p < .05$), paternal care and number of criticisms of others ($r = .477$, $p < .01$), and number of questions with paternal overprotection ($r = .373$, $p < .05$). These results are presented in Tables 13 and 14.

Next, regression analyses were conducted using child self-reported social anxiety from the SPAI-C as the dependent variable and maternal, paternal, and overall parenting behaviors from the Multi-Family Interaction Task as independent variables. A stepwise regression was conducted first. Only number of maternal negative commands ($M = .03$, $SD = .18$) was a
significant predictor of child social anxiety symptomatology, accounting for approximately 19% of the variance ($R^2 = .192, p < .05$). When analyzed separately by gender, only number of maternal negative commands ($M = .06, SD = .25$) significantly predicted male children’s self-reported social anxiety symptomatology, accounting for approximately 58% of the variance ($R^2 = .582, p < .01$). Additionally, only number of father idea generations ($M = .73, SD = 1.28$) significantly predicted female children’s self-reported social anxiety, accounting for approximately 35% of the variance ($R^2 = .353, p < .05$).

An additional stepwise regression analysis was conducted using child SPAI-C Self-Report scores as the dependent variable and child behavioral codes from the Multi-Family Interaction Task as the independent predictor variables. No significant results were obtained.

Next, a Pearson product-moment correlation between mothers’, fathers’, and children’s latency of speech during the Latency Task was performed. As can be seen in Table 15, a significant correlation was found between the duration of time before the mother’s first spoken words and the duration of time before the mother’s first spoken words to someone outside of her family ($r = .603, p < .01$). Similarly, a significant correlation was found between the duration of time before the father’s first spoken words and the duration of time before the father’s first spoken words to someone outside of his family ($r = .685, p < .01$). No significant correlations were found with the child’s latency of speech (either first spoken words or first spoken words to someone outside of the child’s family).

As can be seen in Table 16, Pearson product-moment correlations were then conducted between measures of child’s self-reported psychopathology (from the SPAI-C, MASC, and CDI), paternal latency of speech on the Latency Task, paternal self-reported symptomatology (from the SPAI, BAI, and BDI-II), and paternal number of days of social activity (from the Daily
Activity Log). Significant correlations were found between child’s self-reported social anxiety symptomatology and paternal self-reported depressive symptomatology \((r = .360, p < .05)\), paternal self-reported depressive symptomatology and paternal latency of speech \((r = .403, p < .05)\), and paternal self-reported general anxiety symptomatology and paternal number of days of social activity \((r = .374, p < .05)\).

Next, as seen in Table 17, Pearson product-moment correlations were then conducted between measures of child’s self-reported psychopathology (from the SPAI-C, MASC, and CDI), maternal latency of speech on the Latency Task, maternal self-reported symptomatology (from the SPAI, BAI, and BDI-II), and maternal number of days of social activity (from the Daily Activity Log). A significant correlation was found between maternal latency of speech to someone outside of her family and maternal days of social activity \((r = -.466, p < .01)\).

Finally, Pearson product-moment correlations were conducted between measures of child’s self-reported psychopathology (from the SPAI-C, MASC, and CDI), child latency of speech on the Latency Task, and child number of days of social activity (from the Daily Activity Log). As shown in Table 18, no significant correlations were found between measures of child’s self-reported psychopathology and either child’s latency of speech or child’s number of days of social activity.

Lastly, several group analyses were conducted using t-tests to analyze whether children in the highest and lowest quartiles of self-reported social anxiety symptomatology (from the SPAI-C Self-Report) were qualitatively different from one another on several measures. Table 19 shows that SPAI-C scores of children who reported the highest levels of social anxiety symptomatology \((n = 8, M = 26.82, SD = 6.09)\) significantly differed from those who reported the lowest levels of social anxiety symptomatology \((n = 8, M = 2.43, SD = 1.79; t (14) = -10.86, p < .01)\). The two
groups were expected to significantly differ on (a) number of total days of social activity (from the Daily Activity Log), (b) number of days of types of social activity (from the Daily Activity Log), (c) number of days of social activity with family, friends, or family and friends (from the Daily Activity Log), (d) paternal, maternal, and child latency of speech (from the Latency Task), and (e) measures of self-reported depression (from the CDI) and general anxiety (from the MASC). Categories of social activity noted in part (b) of this analysis were determined post-hoc by the investigator after all Daily Activity Logs had been returned. Results presented in Tables 20 and 21 illustrate that children with high self-reported social anxiety symptomatology significantly differed from children with low self-reported social anxiety symptomatology on number of days participating in an entertainment-related activity (i.e., watching a movie at home or going to the movies), CDI scores, and MASC scores, but on no other Daily Activity Log or Latency Task measures. More specifically, children with higher self-reported social anxiety reported participating in a lesser number of entertainment-based activities ($M = 1.13$, $SD = 1.13$; $t (14) = 2.32, p < .05$) than children with lower self-reported social anxiety ($M = 2.88$, $SD = 1.81$), reported significantly higher depressive symptomatology ($M = 11.88$, $SD = 9.43$; $t (14) = -2.141, p = .05$) than children with lower self-reported social anxiety ($M = 3.75$, $SD = 5.12$), and reported significantly higher general anxiety symptomatology ($M = 64.38$, $SD = 22.37$; $t (14) = -3.92, p < .01$) as compared with children with lower self-reported social anxiety ($M = 30.88$, $SD = 9.22$). Additionally, children with higher levels of self-reported social anxiety ($M = 2.86$, $SD = 2.17$) reported significantly shorter durations of father latency of speech than children with lower self-reported social anxiety ($M = 8.88$, $SD = 5.46$; $t (14) = .012, p < .05$).

Discussion

Overview of Results and Interpretation
These findings suggest that parental behaviors, particularly parental overprotection and parental care, do play a significant role in the development of childhood social anxiety. Significant results were obtained despite using a relatively small sample and a very low power, making these results even more convincing.

Results from this study indicated that parental (maternal and paternal) estimations of their child’s anxiety was reasonably accurate, given that it significantly correlated with their child’s self-reported social anxiety. This differs from past studies (i.e., Cobham, Dadds, & Spence, 1999; Krain & Kendall, 2000) that have found that parents often report a higher level of anxiety in their children than children report themselves. Results also indicated that there is a strong correlation between measures of child general anxiety, social anxiety, and depressive symptomatology. When comparing groups of children with high versus low social anxiety, children who reported the highest levels of social anxiety symptomatology also significantly reported higher levels of depressive symptomatology and higher levels of general anxiety symptomatology. These results seem to be consistent with the knowledge that often, individuals who have increased levels of anxiety symptomatology also have increased levels of depressive symptomatology (Chorpita, Albano, & Barlow, 1998; Kendall, Kortlander, Chansky, & Brady, 1992; Rivas-Vazquez, Saffa-Biller, Ruiz, Blais, & Rivas-Vazquez, 2004).

These results did not show a significant correlation between parent self-reported depressive symptomatology and child self-reported depressive symptomatology. While this may seem surprising, this association has not held up in prior studies (i.e., Hudson & Rapee, 2002), and may be due in part to small sample size. However, parental depression was a significant predictor of child social anxiety, accounting for 14% of the variance in the entire sample, and 44% of the variance in the sample of male children only. This finding was consistent with that of
Krain and Kendall (2000), who found that both maternal and paternal depressive symptomatology predicted child anxiety. These seemingly conflicting results may be due to the methods and measures used in this particular study, or to the particular sample from which results were drawn. It is clear that further research into this area is required to tease out these differences.

These findings also suggest that there are at least preliminary indications that parental care and overprotection (as reported by the child) are associated with differential levels of child anxiety. For example, maternal overprotection was found to be a significant predictor of child social anxiety symptomatology, accounting for 14% of the variance. This is a large portion of the variance, particularly given the small and somewhat restricted sample. Even when male children were analyzed separately (i.e., sample size was cut in half from 31 to 16), maternal overprotection remained a significant predictor of child social anxiety, accounting for an even greater amount of the variance (26%). Additionally, paternal overprotection was a significant predictor of child general anxiety in the entire sample analysis (accounting for 18% of the variance) and maternal overprotection was a significant predictor of male children’s general anxiety (accounting for 28% of the variance).

Further, maternal care and maternal overprotection were both significant predictors of child depressive symptomatology, accounting for 22% and 12%, respectively, of the variance in the entire sample. Additionally, maternal overprotection accounted for 60% of the variance in male children’s depressive symptomatology, and paternal overprotection accounted for 36% of the variance in female children’s depressive symptomatology. Therefore, in this study parental care and overprotection did appear to have a significant affect not only on children’s anxiety symptomatology, but also symptomatology for additional internalizing disorders.
The results discussed above are similar to those discussed by Rapee (1997b), who stated that both rejection and control by parents are positively related to later child anxiety and depression, and that control is more strongly associated with anxiety, while rejection is more strongly associated with depression. The present study results provide evidence that control (or, in this study, overprotection) was a significant predictor of child social and general anxiety symptomatology. Additionally, maternal care was a significant predictor of child depressive symptomatology. Rapee (1997b) stated that there was yet very little evidence of the relationship between parental rejection and child depression; this study provides additional evidence for the association between these two factors.

This study also gives a preliminary examination of what specific parental behaviors may be perceived by a child to be related to care or overprotection. An analysis of the entire sample revealed significant associations between maternal overprotection and maternal instruct commands. Similarly, number of paternal questions correlated significantly with the child’s report of paternal overprotection. Further, male children reported correlations between maternal negative commands and maternal overprotection, as well as paternal questions and paternal overprotection, and paternal descriptive statements and paternal overprotection. This may imply that parents who repeat instructions and/or statements, ask questions, or give commands to their child may be giving their child the impression that the child needs to do things just right in order to please the parent. Parker (1979) states, “[p]arental overprotection, by restricting the usual developmental process of independence, autonomy, and social competence, might further promote any diathesis to social phobia” (p. 559). Therefore, mothers who instruct their children may not only make their children feel as if they must strive for perfection, but may also actually be inhibiting their child’s interpersonal social abilities. The same reasoning follows for fathers.
who ask questions about their children’s actions. As a result, these children may not seek out
social activities, and may thus find social activities more anxiety-provoking, thus reporting
higher levels of social anxiety.

Findings also suggest that certain parental behaviors are more closely associated with child
social anxiety. For instance, number of maternal negative commands significantly predicted
approximately 19% of the variance in the level of child self-reported social anxiety, and 58% of
the variance in male children’s self-reported social anxiety symptomatology. Additionally,
number of paternal idea generations significantly predicted female children’s self-reported social
anxiety. These findings suggest that parental behaviors such as telling the child what *not* to do
(as opposed to what *to* do) and taking a greater role in child activities (i.e., involving one’s self in
the child’s activities and ‘over-helping’) lead to a greater chance that the child will have higher
levels of social anxiety. Once again, similar to Parker’s (1979) statement, these parental
behaviors are hypothesized to hurt a child’s development of social autonomy, and therefore lead
to higher levels of social anxiety. However, the lack of support for an association between
parental warmth and child social anxiety symptomatology is inconsistent with the results of past
studies (i.e., Arrindell et al., 1983b; Arrindell et al., 1989; Rapee & Melville, 1997).

Findings from this study are inconclusive as to whether or not there is a connection between
latency of speech and their self-reported level of social anxiety. Given the nature of the construct
in question (social anxiety), it was anticipated that individuals who reported a higher level of
social anxiety would have a longer duration of speech latency when placed in a room with people
they did not know. In this study, significant associations were found between parental overall
speech and parental speech to someone outside of the family. However, these results may be
misleading, given that several parents in this study spoke first to individuals outside of their
family (i.e., to introduce themselves and/or their family). Yet a significant positive association was found between paternal depressive symptomatology and paternal latency of speech, and a significant negative association was found between maternal latency of speech to someone outside of her family and maternal days of social activity. These results indicate that, at least in adults, latency of speech may be indicative of higher levels of general anxiety and/or lower participation in social activity. While no significant results were found relating parental or child latency of speech to child measures, this may again be due to the limited power in this study. For instance, paternal depression (found to significantly correlate with paternal latency of speech) was found to significantly predict child anxiety; there is reason to believe that with a larger and more heterogeneous sample, paternal latency of speech may predict child anxiety as well. This would be an interesting route to investigate in future studies.

These findings also suggest that there is some association between parents’ socialization (defined here as the number of social activities in which they participated out of 10) and levels of anxiety. Significant correlations were found between child and parent days of social activity. These results were expected, given the young age of the children (i.e., they are not yet legally able to drive themselves to activities) and their resulting dependence upon their parents for transportation. Significant results were also found between paternal general anxiety and paternal days of social activity, as well as maternal latency of speech and maternal days of social activity. The fact that no significant correlations were found between child social anxiety and parental social activities was surprising. However, these results may be due to the small sample size and/or the nature of the sample, which was very homogeneous and very well-educated. Further, due to the time in which the families were brought into the lab (mostly late spring into the summer), families were more likely to participate in a wider array and greater number of social
activities during this time. Therefore, there may have been seasonal effects upon these results. It would be interesting to see whether or not these results differed if the study were run in the fall and/or the early spring, when children are in school on a daily basis.

Lastly, it is interesting to note that several gender differences were found that discriminate male children’s and female children’s experiences and perceptions of parenting behaviors. A greater number of significant results were obtained with the sample of male children; however, this may be due to the fact that there were a greater number of male children included in the sample. This may also be due to the fact that male and female children engage in different types of social behavior. For example, Maccoby (1998) suggested that there are two completely different “cultures” associated with male versus female children. She explains that male children (compared to female children) are more likely to engage in rough play, engage in pretend play in the form of heroic characters who engage in battle, and play together in larger groups. In contrast, female children are more likely to engage in cooperative play in more female-stereotyped activities, and play together in smaller groups (Maccoby). Given the aforementioned differences in male versus female play and socialization, differences between male and female children on levels of social anxiety would be expected. Further, it would also be expected that male children would be less likely to be socially anxious (given their large and seemingly outgoing play tendencies), and therefore when a male child does report evidence of social anxiety symptomatology, there may be more obvious and conclusive reasons for that child’s development of anxious symptomatology.

**Limitations of the Current Study**

There were several limitations to the current study that may have limited the number of significant results obtained. The largest weakness of the study was the small and homogeneous
sample. While families were recruited based on their willingness to participate in a similar study in the past, the study was run during the summer months, when families are much busier and have a greater number of opportunities for activities in which to participate. The fact that it was a requirement that three family members (mother, father, and child) be present at the given appointment time further made it difficult to recruit a large number of families. Additionally, over 90% of the families were Caucasian, potentially making it difficult to generalize to other ethnicities, and were biological parents, potentially making it difficult to generalize to other types of parents (i.e., step-parents, foster parents, kinship, etc.). Further, 50% of fathers had earned a graduate degree and almost 70% had a college degree, while almost 20% of mothers had earned a graduate degree and over 65% had a college degree. It is obvious that this sample was very well-educated school-wise, which may imply that parents are more educated in parenting practices, and thus have better parenting skills than may be evident in the general population.

Other limitations which are inherent in studies involving direct observation involve reactivity. For instance, individuals may act differently if they know that they are involved in a study and being videotaped. Given that they knew that the investigators would be looking at number of days of social activity, individuals may also have made a more concerted effort to participate in a greater number of social activities than they may normally participate. Additionally, given the families’ participation in a prior study, family members may have had an idea of what the study was investigating, and thus their responses may have been skewed by their existing expectations.

Finally, it is important to recognize that the observational results obtained may have been a result of a different type of reactivity. More specifically, the actions of a particular individual or family may have been drastically different had they been paired with (a) a family where each
individual experienced a high level of anxiety versus (b) a family where each individual was very laid-back and relaxed. Actions of any individual are assumed to be affected by the actions of others around that individual. For instance, in one session of the Multi-Family Interaction Task involving three families, one of the children refused to participate in the skit situation. As a result, that child’s parents gave more commands and criticisms towards that child in an effort to get that child to participate. The fact that the parents of the child who refused to participate more may have led to the parents of the children who did participate speaking a lot fewer words to their children, given that (a) their children were being “good” comparatively and (b) the other parents were already talking and they did not want to be “rude” and interrupt. This one example shows that the characteristics of the families and individuals who were paired together in any given session may have strong effects on the results of the current study.

This study was important in that it used Daily Activity Logs to help quantify the number of days of social activity each study participant engaged in over a period of time of 10 days. However, the post hoc determination of categories of social activity may have impeded study results. To begin with, the investigator based the categorization on the input of the specific sample; this may have either over- or under- estimated the types of social activity that may have been performed. Further, the investigator decided, subjectively, which category each reported activity fit into. This was very difficult, given that what may have been perceived by the investigator in a certain way may actually be different from the perception of the individual who was involved in that activity. For instance, one father reported that, on several occasions, his reported social activity was “playing chess with the computer”. It was difficult to interpret whether or not this was truly a social activity, as defined by the current study, because it was not known whether or not that father was playing chess against the computer by himself or with
others (who were present or online). The subjectivity of such judgments may have confounded study results as a whole. However, it is important to note that whenever the investigator had a question about categorization, the investigator erred towards the category that was assumed to be less indicative of a social activity.

Use of a community sample makes it difficult to generalize these results to a clinical population. However, the fact that some results were found in a community sample seems to imply that associations between child psychopathology and parenting behaviors may only be strengthened in a clinical sample. It also makes the study more generalizable to the population as a whole (where not every child is clinically-anxious). Lastly, this study used measures of correlation and regression. These types of analyses make it difficult to imply any causal relation or directionality between parental behaviors and child psychopathology. Future studies in which group analyses are conducted (i.e., anxious versus non-anxious groups) may provide stronger evidence for a relation between child anxiety and parenting behaviors.

Although several limitations to the current study have been discussed, an important strength of this study is that it makes use not only of retrospective questionnaire data, but also of diary and observational methods to quantify parental behaviors. While there are inherent limitations in such analyses (as described above), direct observation is an important next step in our ability as investigators to ‘tease apart’ behavioral measures in order to truly understand the etiology and maintenance of psychological disorders.

*Future Directions*

It is important that studies such as the current study continue to occur, in order to help further investigate the etiology and maintenance of psychological disorders, particularly child social anxiety. As already mentioned, it would be useful to perform this study in a sample of clinical
versus non-clinical children. Additionally, several modifications would be useful in terms of Daily Activity Log construction. First, it would be helpful to have pre-defined categories of social activities (i.e., entertainment, visiting others’ homes, phone calls, etc.) prior to asking families to complete the Daily Activity Logs. By having parents and children circle what type of social activity they participated in (as opposed to giving an open-ended response), the true nature and purpose of the social activity may more easily be interpreted, and thus confounds would be less likely. Secondly, whereas this study asked individuals whether or not they had participated in a social activity on each given day (a yes/no question), it did not take into account the number of social activities each individual participated in on any given day. Therefore, while two individuals may both have reported having taken part in a social activity on day three, one individual may have actually taken part in five social activities, whereas the other individual only participated in the one. As a result, the Daily Activity Log coding would have shown that these individuals were equal in their social activity participation, while this obviously would not have been the case. Lastly, individual codes on the Multi-Family Interaction Task codes may have not been as independent from one another as it may appear. There is no way that every possible statement made by every individual participant could fit neatly into one of these categories. Therefore, what appeared to be a command to one coder may have seemed like a criticism to another. While interrater reliability in this study was sufficient, there is inherent human error to any such task, and this fact must be taken into account in any interpretation of coding analyses.

Future studies may want to use different methods of social interaction in which to code parental and child behaviors during the study observational portion. The investigators acknowledge that the current task asked of the children (i.e., skit creation) may not have been the ideal task to use. Additionally, it is acknowledged that the time period of 10 minutes may have
not been long enough to obtain significant results, given the relative infrequency of the behaviors under study. However, only through replication and using additional, distinct measures of social activity can the validity of this task truly be determined. Additionally, future studies may concentrate on more specific indications of child anxiety and parental behaviors. For instance, conducting conditional probability analyses to determine whether or not certain parental behaviors are more likely to occur before and/or after certain child behaviors, and vice-versa, may shed new light on the concepts and constructs at-hand. A functional (A-B-C) analysis of each specific behavior, although tedious, may be useful as well. Lastly, longitudinal studies involving large samples of both clinical and non-clinical children, and also which include both mothers and fathers in study participation, are certainly encouraged and are seen as necessary to make further progress in this area of research.

The results of this study have large implications towards the prevention and intervention of childhood social anxiety, as well as towards policy issues. With respect to prevention, these results may help in the screening and therefore the identification of children with anxiety disorders. Kazdin, Kraemer, Kessler, Kupfer, and Offord (1997) note the importance of screening procedures in risk-factor assessment as preventative measures. If children can be identified as being at a higher risk for development of child psychopathology (in this case childhood social anxiety), prevention efforts may be useful to decrease the chances of that child developing a clinical level of social anxiety. Similarly, if parents can be identified as behaving in certain ways (i.e., warmth, control) that have been shown to significantly associate with higher levels of child psychopathology, educational efforts may be used with these parents, again to decrease the chances that their children will develop clinical levels of psychopathology.
In terms of intervention, several programs have been developed in an effort to reduce children’s socially anxious symptomatology; one well-known program is the Social Effectiveness Therapy for Children (SET-C) program, developed by Beidel, Turner, and Morris (2000). The SET-C program is a behavioral treatment program that was modeled after an adult social anxiety treatment model. SET-C involves four main components: (1) an educational component in which parents and children are given education about social anxiety, (2) a social skills training component provided to children, (3) a peer generalization session in which children are asked to use the social skills that they have learned in a group of peers, and (4) an in vivo exposure component in which children must address their individual social fears. Results from studies such as this one may further help to improve the SET-C program, which has already shown to significantly decrease social anxiety symptomatology in children (Beidel, Turner, & Morris, 2000). For instance, additional parent training and/or educational components may be used in programs such as the SET-C to explain to parents that their behaviors may actually be facilitating and maintaining the levels of anxiety in their children.

Ginsburg and Schlossberg (2002) also stress the importance of involving families in the treatment of childhood anxiety disorders, given that parental behavior is important in both the etiology and treatment of anxiety disorders in children. These authors state that there are several parenting behaviors that are significantly associated with the development and/or maintenance of child anxiety. These factors include parental overcontrol, overprotection, modeling of anxiety, reinforcement of avoidant behavior, negative beliefs and expectations about the child, emotional warmth and positivity, rejection and criticism, conflict, and parenting style (the authoritative/democratic parenting style was associated with lower child anxiety) (Ginsburg & Schlossberg). The authors further note that treatment outcome studies using a cognitive-
behavioral family treatment framework have proved effective in reducing child anxiety. More specifically, these authors note that family-based cognitive-behavioral interventions should involve education (of both parents and children), contingency management, cognitive restructuring, enhancement of the parent-child relationship, and relapse prevention (Ginsburg & Schlossberg). Once again, involving parents in therapy has shown to prove effective in the treatment of childhood anxiety disorders.

Additionally, in terms of both prevention and intervention, it may be important to recognize the gender differences that occurred in the current study. It may be true that different parental behaviors may impact males more than females, or vice-versa. It may also be true that males present different symptoms when they are socially anxious than do females. These are both important clinical issues to consider when treating a child who is presenting for any form of psychopathology, particularly social anxiety.

Lastly, results from studies such as these may have an impact upon public policy issues. Kazdin et al. (1997) note that risk-factor research can provide specific information about who is likely to develop certain forms of psychopathology. For examples, Kazdin et al. (1997) state that,

“[r]isk-factor research provides important elements early in the process of developing policy by identifying adverse outcomes and their distribution in the population, concurrent and antecedent correlates of the outcomes, conceptual models regarding the association between these correlates and outcome, and estimates of the likely impact that changes in antecedents may exert on the outcome” (p. 402).

Therefore, direct observational studies of the associations between parental behaviors and child anxiety may actually lead to policy changes, particularly changes in policy in daycare and school settings, as well as changes in policy in parental education prior to giving birth.
Schniering, Hudson, and Rapee (2000) note that current measures of anxiety disorders have very poor psychometric properties, and call for research that may justify the current system for the classification of anxiety disorders. Issues that Schniering et al. (2000) noted as being particularly important is current measures’ meager discriminant validity and their lack of sensitivity to developmental issues. Given these findings, additional research into the analysis and development of new (and more accurate) measures of childhood anxiety are necessary if the field expects to make additional progress towards a better understanding of the etiology of social anxiety, as well as towards better and more effective treatments for social anxiety.

Lastly, Wood, McLeod, Sigman, Hwang, and Chu (2003) discuss several limitations of the current body of literature examining the relationship between parenting and childhood anxiety. Wood et al. (2003) note that many of the current samples that are being used in this field of research employ samples that are very homogeneous, and therefore not representative of the general population. The authors also criticize that most current studies rely solely on self-report measures to evaluate parenting; they state that such methods are confounded by children’s inability to accurately recall parenting behaviors, as well as a bias towards social desirability. Further, the authors note that most studies utilize cross-sectional designs to establish associations between variables, yet there are few if any experimental manipulations that have been used. Lastly, these authors note that in most studies, parenting behavior is coded using a global measure, which limits the clinical, theoretical, and empirical applications of the results observed (Wood et al.).

Overall, the current study addressed several of the limitations that have been discussed by prior authors, given that the current study used measures of direct observation and daily diaries to help better quantify specific behaviors and levels of social activity in participants. It is obvious
that additional research involving the association between parenting behaviors and child anxiety is necessary to gain a clearer picture of the actual relationship(s) between these variables. However, through future research, particularly longitudinal research utilizing a large heterogeneous sample and several methods of data-gathering, investigators may come closer to developing a more precise model for the etiology, treatment, and eventually prevention of childhood anxiety disorders.
References


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Appendix A

Daily Activity Log—Items (Parent & Child)

Parent Version (to be completed by each mother and each father):

Directions: Please complete this log once each day for a period of ten (10) days. Please do not include activities in which you participated while at work (or as part of work) or a school activity.

a. Did you engage in any sort of social activity today? Yes No

b. If so, what did you do? Describe:

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

 c. Who else was participating in this social activity with you? Please list below.: 

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

d. How long did you engage in this activity?

__ < 30 min. __ 30 min to 1 hr. __ 1 to 2 hrs. __ 2 to 3 hrs. __ 3 to 4 hrs. __ 4+ hrs.

 e. Is this a regular activity in which you participate (i.e., do you do this activity every week)? Yes No

Child Version (to be completed by each child)

Directions: Please fill out your answers to these questions once every day. You should fill this out once a day for a total of ten (10) days. Please do not fill this out for activities that you took part in at school (or as part of school).
a. Did you take part in any activity with other people today? Yes No

b. What did you do? Describe:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

c. Who else was with you when you were doing this activity? Please list below:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

d. How long did you do this activity?

__ < 30 min.  __ 30 min. to 1 hr.  __ 1 to 2 hrs.  __ 2 to 3 hrs.  __ 3 to 4 hrs.  __ 4+ hrs.


e. Do you do this activity every week? Yes No
Appendix B

Multi-Family Interaction Task Dialogue (Task Introduction)

“Can I please have (NAMES OF CHILDREN IN ROOM) come over here with me?”

“OK, here’s what I need you to do. In a few minutes (once I am done explaining these directions to you) I am going to give you this sheet of paper (hold up paper with 3 skits listed on it) for all of you to take a look at.”

“On this sheet of paper I have described 3 situations. What I want you to do is for all 3/2 of you to work together to come up with a short presentation (called a “skit”) that shows what you would do if you were in one of these 3 situations.”

“You will have 10 minutes to work together to create this skit. After the 10 minutes have gone by, I am going to ask you to perform this presentation in front of all of us (including your parents and myself and the research assistant if applicable).”

“Your parents will be staying in the room while you are creating your skit.

If you have any questions once the 10 minutes have started, you have to figure them out without my help.”

“BE SURE TO CREATE YOUR SKIT BASED ONLY ON THE SITUATIONS PRESENTED. FOLLOW THE INSTRUCTIONS IN EACH OF THESE SITUATIONS EXACTLY (you cannot change the skits but you are allowed to add your own ideas into them).”

“Again, work together to come up with a skit about one of these 3 situations. The 10 minutes starts NOW.”

(Start stopwatch and leave room for the 10 minutes while the children are creating the skit).
Appendix C

Multi-Family Interaction Task—Skit Situations (3) for Three Families

Directions: Together, please choose one of the following three (3) skits that you like best. Later, you will be asked to perform the skit (all together) in front of your parents and the investigator. GOOD LUCK!

1) You are three astronauts who have just landed on Mars for the first time. You leave your spaceship and set out to explore the planet.

2) One of you is sitting outside feeling very sad because you were not selected for the soccer team. The other two approach the person who is sad and try to help the person feel better.

3) The three of you have the afternoon open and decide to do something together, but you can’t agree on what you want to do. One of you wants to go to the park, one of you wants to build a tree house, and the other wants to play your favorite board game.
Appendix D

Multi-Family Interaction Task—Skit Situations (3) for Two Families

Directions: Please choose one of the following three (3) skits that you like best. Later, you will be asked to perform the skit (all together) in front of your parents and the investigator. GOOD LUCK!

1) You are two (2) astronauts who have just landed on Mars for the first time. You leave your spaceship and set out to explore the planet.

2) One of you is sitting outside feeling very sad because you were not selected for the soccer team. The other one approaches the person who is sad and tries to help the person feel better.

3) The two (2) of you have the afternoon open and decide to do something together, but you can’t agree on what you want to do. One of you wants to go to the park, and the other wants to play your favorite board game.
Appendix E

Multi-Family Interaction Task Coding System—Code Definitions

**P-S  Praise Self**
“*I*” statements including a positive adjective in reference to the behavior or personal attributes of the speaker. Statements that refer to positive attributes or behaviors about the self. These statements should have the word “*I*” in them (or imply the use of the word “*I*”) and/or a positive adjective related to a personality quality or behavior. Self-praise and all positive self-statements are included in this category.
*Examples:*  
“I’m really good at this.”  
“I did it!”  
“I can do this.”  
“I’m a fast learner.”  
“I’m trying really hard.”

**P-O  Praise-Other** (praise directed to other member of group)
“You” statements including a positive adjective in reference to the behavior or personal attributes of the person to whom the statement is directed. Statements should have the word “you” (or imply the use of the word “you”) and a positive reference to an ability or attribute of the other group member. All positive statements and praise directed to the other person are included in this category.
*Examples:*  
“Wow! You did it!”  
“That looks good.”  
“You are such a hard worker.”  
“I like the way you’re trying so hard.”  
“You can do it better than me!”  
“Thanks for helping.”  
“You sure are creative.”  
“You’re doing fine.”

**P-J  Praise-Joint** (praise of mutual effort)
“We” statements including a positive adjective in reference to the behavior or personal attributes of the group (of two or more). Included in this category are positive statements directed to or about the group (participant uses or implies the use of the word “we”).
*Examples:*  
“We did a good job.”  
“Our is so cool.”  
“We work well together.”  
“We’re a great team.”  
“We sure did that quick.”

*Examples:*  
“That looks okay (Praise-Other).”  
“You’re doing fine (Praise-Other).”  
“We’re doing alright (Praise-Joint).”  
“I don’t think I can do it (Critical-Self).”  
“You can do it (Praise-Other).”  
“Stop feeling so bad (Command-Negative).”  
“We can do this (Praise-Joint).”  
“You’re such a hard worker (Praise-Other); I think you’re doing just fine”
"You’re doing a good job (Praise-Other).”

**C-S Critical-Self**

“I” statements including a negative adjective or comment in reference to the behavior or personal attributes of the speaker. Statements that refer to negative attributes or behaviors about the self. Statements should have the word “I” or “me” (or imply the use of the word “I”) and a negative reference to an ability or lack of an attribute. Self-critical and self-doubting remarks are coded in this category. Phrases directed to or about the self that are not directives and include the words **no, don’t, and not** are included in this category.

**Examples:**

“**I**’m *not* good at....”

“I can’t do anything right.”

“I’m too stupid to do this.”

“There’s **no** way I can do that.”

“I keep messing up.”

“**No!** That’s wrong (directed to self).”

**C-O Critical-Other** (criticism directed to other member of group)

“You” statements including a negative adjective or comment in reference to the behavior or personal attributes of the person to whom the statement is directed. Statements that refer to negative attributes or behaviors directed to or about the other group member(s). Statements should have the word “you” (or imply the use of the word “you”) and a negative reference to an ability or lack of an attribute. Critical and doubting remarks directed toward the other group member(s) are included in this category. Phrases that are not directives/commands and include the words **no, don’t, and not** are coded as C-O.

**Examples:**

“You keep messing us up.”

“You don’t do it right.”

“You’re doing it wrong,” or, “You’re *not* doing it right.”

“**No!** That’s wrong (directed to another group member).”

“That is *not* what we’re supposed to do (directed toward other group member).”

**C-J Critical-Joint** (criticism of their mutual effort)

“We” statements including a negative adjective or comment in reference to the behavior or personal attributes of the group as a unit. Included in this category are negative statements directed to or about the group (participant uses or implies the use of the word “we”).

**Examples:**

“We can’t do this.”

“Our skit is dumb.”

“We’re *not* going to finish on time.”

“We’re doing this all wrong.”

“I *don’t* think we know what we’re doing.”

“We messed up.”
CM-P  Command-Positive
Used when a request or command is made to the other members of the group in which the command is worded in a way to reflect what the person should do. CM-P can either be direct or indirect (i.e., stated in the form of a question). If the other group member reads the skit instructions out loud and verbatim, code as Instruct (IN). If participants explain the instructions by telling the other person what to do using their own words, code as Command-Positive (CM-P).
Examples (direct): “Do it this way.”
“Put the paper down.”
“Let me do it.”
“Wait a minute.”
“Help me with this.”
“Look at what we did!”
“Please hand me the directions.”
“Oh, it says to pick only one of the situations.”
“You read the instructions now.”
Examples (indirect): “Will you at least try to do this?”
“Could you help me with this?”
“Do you think you could tell me how to do this?”

CM-N  Command-Negative
Used when a request or command is made to the other group member(s) in which the command is worded in a way to reflect what the person should not do. CM-N can either be direct or indirect (i.e., stated in the form of a question). If the other group member reads the instructions out loud and verbatim, code as Instruct (IN). If participants explain the instructions by telling the other person what NOT to do using their own words, code as Command-Negative (CM-N).
Includes words don’t, stop, quit, and not.
Examples (direct): “Stop it.”
“Don’t lean back in your chair.”
“Don’t do it like that.”
“Quit making those noises.”
“You’re not supposed to do that until after we do this.”
“No! That’s not right (coded as a Critical-Other).”
Examples (indirect): “Could you stop doing that?”
“Don’t read out loud, okay?”
“Would you quit taking that away from me?”
Could you try not to do that?”

IN  Instruct
If the other group member(s) read the skit instructions out loud and verbatim, code as Instruct (IN). Do not code each sentence as a separate occurrence of Instruct (IN). Only code as Instruct (IN) one time per ten-second interval. If the other group member(s) paraphrase the skit or explain the directions out loud using his/her own words, code as CM-P (if worded positively) or CM-N (if worded negatively).
VI Verbal Interruption
Verbal remark that involves cutting off the other speaker(s), talking during the others’ turn, or talking over another person (or people). Verbal interruptions can be of any content and should be coded whenever they occur.

Q Question (task-related)
Verbal inquiries about the content and/or process of the task at-hand. If the inquiry implies criticism, do not code this as a Question (Q) but instead code it as a Critical-Self (C-S), Critical-Other (C-O), or Critical-Joint (C-J).
Examples: “How long do we have to prepare this skit?” Question (Q)
“I can’t believe I did that so badly!” Critical-Self
“Why did you do it like that?” Critical-Other
“How did we do such a bad job on this?” Critical-Joint

D Descriptive Statement (task-related)
Verbal remarks that describe physical features of people or objects related to the skit. Code any remarks about the physical appearance of any other group member as Descriptive Statement (D).
Examples: “There are only five skits listed here.”
“There are three of us here and we all have to put on a skit.”

AV Anxious Verbalization
Verbal remarks about being observed by the videocamera or by the other group members. Anxious verbalizations can be of any content that indicates that the participant recognizes that they are being watched and/or videotaped.

OT Off-Task Verbal
Verbal remarks that do not have to do with the content of skit preparation. Code any comments about the surrounding environment or extraneous variables as Off-Task Verbal (OT).
Examples: “Was that a car I just heard outside?”
“I wonder what my friends are doing right now?”
“I’m nervous about my math test tomorrow morning.”

UC Uncodable
Unintelligible speech (i.e., coder is unable to determine what the participant said), or any verbal behavior that cannot be heard. Code as Uncodable (UC) if the participant’s utterance does not fall under any of the other categories.

Skit Dialogue

IG Idea Generation
Speech that is clearly directed towards development of the actual skit itself, such as suggesting skit dialogue and/or actions to be performed in the skit. This is distinguished from Question (Q) and Descriptive Statement (D) because they are part of the development of the skit that will be performed, not simply describing or asking questions about the skit process.
AF  

**Affirmation**

Any “yes” or other affirmative response to the ideas or statements of another individual who is engaging in **Idea Generation (IG)**. This may pertain specifically to skit development and/or skit dialogue suggested by another participant.

Table 1

*Sample Demographics*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mothers</th>
<th>Fathers</th>
<th>Children</th>
</tr>
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<td>M  SD</td>
<td>M  SD</td>
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<tr>
<td>M</td>
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<td>M</td>
<td>SD</td>
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<td>7.90</td>
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<td>PBI-F-O</td>
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<td>40.26</td>
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</table>

*Note.* BAI = Beck Anxiety Inventory; BDI-II = Beck Depression Inventory, Second Edition; SPAI-C = Social Phobia and Anxiety Inventory for Children; SPAI = Social Phobia and Anxiety Inventory; MASC = Multidimensional Anxiety Scale for Children; CDI = Child Depression Inventory; PBI = Parental Bonding Instrument; M = Mother, F = Father; C = Care, O = Overprotection.
Table 3

*Correlations between child self-reported social anxiety and parental reports of child social anxiety (Entire Sample)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>1.Father SPAI-C</td>
<td>--</td>
<td>.478**</td>
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</tr>
<tr>
<td>2.Mother SPAI-C</td>
<td></td>
<td>--</td>
<td>.413*</td>
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<tr>
<td>3.Child SPAI-C</td>
<td>.533**</td>
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<td>--</td>
</tr>
</tbody>
</table>

Note. SPAI-C = Social Phobia and Anxiety Inventory for Children.

** p < .01 (2-tailed), * p < .05 (2-tailed).
Table 4

_Correlations between child depressive symptomatology and parental depressive symptomatology (Entire Sample)_

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Father BDI-II</td>
<td>--</td>
<td>.077</td>
<td></td>
</tr>
<tr>
<td>2. Mother BDI-II</td>
<td></td>
<td>--</td>
<td>-.182</td>
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<tr>
<td>3. Child CDI</td>
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</tbody>
</table>

*Note. BDI-II = Beck Depression Inventory, Second Edition; CDI = Child Depression Inventory.*
Table 5

*Correlations between child self-reported social anxiety, general anxiety, and depressive symptomatology (Entire Sample)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
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<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Child SPAI-C</td>
<td>--</td>
<td>.779**</td>
<td></td>
</tr>
<tr>
<td>2. Child MASC</td>
<td></td>
<td>--</td>
<td>.747**</td>
</tr>
<tr>
<td>3. Child CDI</td>
<td>.600**</td>
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</tbody>
</table>

*Note.* SPAI-C = Social Phobia and Anxiety Inventory for Children; MASC = Multidimensional Anxiety Scale for Children; CDI = Child Depression Inventory.

** p < .01 (2-tailed).
**Table 6**

*Correlations between maternal and paternal social anxiety, general anxiety, and depressive symptomatology (Entire Sample)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mothers</th>
<th>Fathers</th>
<th>Mothers</th>
<th>Fathers</th>
<th>Mothers</th>
<th>Fathers</th>
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</thead>
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<tr>
<td>1.BAI</td>
<td>--</td>
<td>-.01</td>
<td>.422*</td>
<td>.129</td>
<td>.531**</td>
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<td>.247</td>
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<td>2.BDI-II</td>
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<td>.198</td>
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<td>3.SPAI</td>
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**Note.** BAI = Beck Anxiety Inventory; BDI-II = Beck Depression Inventory, Second Edition; SPAI = Social Phobia and Anxiety Inventory.

**p < .01 (2-tailed), * p < .05 (2-tailed).**
Table 7

*Correlations between child self-reported social anxiety and maternal, paternal, and self-reported days of social activity (Entire Sample)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>5</th>
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</thead>
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<tr>
<td>1. Child SPAI-C</td>
<td>--</td>
<td>-.117</td>
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<td>2. Father DSA</td>
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<td>.069</td>
<td>.826**</td>
<td>.092</td>
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<td>3. Mother DSA</td>
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<td>.619**</td>
<td>.561**</td>
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<td>4. Parenting DSA</td>
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<td>.389*</td>
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<tr>
<td>5. Child DSA</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. SPAI-C = Social Phobia and Anxiety Inventory for Children; DSA = Total Days of Social Activity (as reported on Daily Activity Log).**  

** p < .01 (2-tailed), * p < .05 (2-tailed).
Table 8

Hierarchical regression analysis predicting child self-reported social anxiety from measures of parental psychopathology and child-reported measures of parental care and overprotection (Entire Sample)

<table>
<thead>
<tr>
<th>Variable</th>
<th>R</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
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</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>PBI-M Overprotection</td>
<td>.371</td>
<td>.138*</td>
<td>.138</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father BDI-II</td>
<td>.530</td>
<td>.281*</td>
<td>.144</td>
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</table>

Note. PBI = Parental Bonding Instrument; M = Mother; BDI-II = Beck Depression Inventory, Second Edition.

* $p < .05$. 
Table 9

*Hierarchical regression analysis predicting child general anxiety from parental measures of psychopathology and child-reported measures of parental care and overprotection (Males Only)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
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<td></td>
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<tr>
<td>Father BDI-II</td>
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<td>.326</td>
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<tr>
<td><strong>Step 2</strong></td>
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</tr>
<tr>
<td>PBI-M Overprotection</td>
<td>.776</td>
<td>.602**</td>
<td>.276</td>
</tr>
</tbody>
</table>

*Note.* BDI-II = Beck Depression Inventory, Second Edition; PBI = Parental Bonding Instrument; M = Mother.

**$p < .01$, * $p < .05$ (2-tailed).
Table 10

Hierarchical regression analysis predicting child depressive symptomatology from parental measures of psychopathology and child-reported measures of parental care and overprotection
(Entire Sample)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
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<td></td>
</tr>
<tr>
<td>PBI-M Care</td>
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<td>.220</td>
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<td>Step 2</td>
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<tr>
<td>PBI-M Overprotection</td>
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<td>.118</td>
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</table>

Note. PBI = Parental Bonding Instrument; M = Mother.

** $p < .01$, * $p < .05$ (2-tailed).
Table 11

*Correlations between child-reported measures of maternal care and overprotection with maternal behavioral codes on the Multi-Family Interaction Task (Entire Sample)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>PBI-M-C</th>
<th>PBI-M-O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother P-S</td>
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<td>--</td>
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<tr>
<td>Mother P-O</td>
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<td>.320</td>
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<tr>
<td>Mother P-J</td>
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<td>.174</td>
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<tr>
<td>Mother C-S</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Mother C-O</td>
<td>-.073</td>
<td>-.001</td>
</tr>
<tr>
<td>Mother C-J</td>
<td>--</td>
<td>--</td>
</tr>
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<td>Mother CM-N</td>
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<tr>
<td>Mother AV</td>
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<td>Mother IG</td>
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<tr>
<td>Mother AF</td>
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<td>.129</td>
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</table>
Note. PBI = Parental Bonding Instrument; M = Mother; O = Overprotection; C = Care; P-S = Praise-Self; P-O = Praise-Other, P-J = Praise-Joint; C-S = Critical-Self; C-O = Critical-Other; C-J = Critical-Joint; CM-P = Command-Positive; CM-N = Command-Negative; IN = Instruct; VI = Verbal Interruption; OT = Off-Task; Q = Question; D = Description; AV = Anxious Verbalization; UC = Uncodable; IG = Idea Generation; AF = Affirmation.

* p < .05 (2-tailed).
Table 12

*Correlations between child-reported measures of paternal care and overprotection with paternal behavioral codes on the Multi-Family Interaction Task (Entire Sample)*

<table>
<thead>
<tr>
<th>Variable</th>
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<th>PBI-F-O</th>
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<tbody>
<tr>
<td>Father P-S</td>
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<td>--</td>
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<tr>
<td>Father P-O</td>
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<tr>
<td>Father P-J</td>
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<td>--</td>
</tr>
<tr>
<td>Father C-S</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Father C-O</td>
<td>.215</td>
<td>.141</td>
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<tr>
<td>Father C-J</td>
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<td>--</td>
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<td>Father CM-P</td>
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<td>Father CM-N</td>
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<td>.017</td>
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<td>Father IN</td>
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<td>.265</td>
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<td>Father VI</td>
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<tr>
<td>Father OT</td>
<td>-.192</td>
<td>-.228</td>
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<tr>
<td>Father Q</td>
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<td>.519**</td>
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<tr>
<td>Father D</td>
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<td>.249</td>
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<tr>
<td>Father AV</td>
<td>-.215</td>
<td>.175</td>
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<td>Father UC</td>
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<td>.057</td>
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<td>Father IG</td>
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<td>.142</td>
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<tr>
<td>Father AF</td>
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<td>-.034</td>
</tr>
</tbody>
</table>
Note. PBI = Parental Bonding Instrument; F = Father; O = Overprotection; C = Care; P-S = Praise-Self; P-O = Praise-Other, P-J = Praise-Joint; C-S = Critical-Self; C-O = Critical-Other; C-J = Critical-Joint; CM-P = Command-Positive; CM-N = Command-Negative; IN = Instruct; VI = Verbal Interruption; OT = Off-Task; Q = Question; D = Description; AV = Anxious Verbalization; UC = Uncodable; IG = Idea Generation; AF = Affirmation.

* $p < .05$ (2-tailed).
Table 13

Correlations between child-reported measures of maternal care and overprotection with parental behavioral codes on the Multi-Family Interaction Task (Entire Sample)

<table>
<thead>
<tr>
<th>Variable</th>
<th>PBI-M-C</th>
<th>PBI-M-O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent P-S</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Parent P-O</td>
<td>.136</td>
<td>.289</td>
</tr>
<tr>
<td>Parent P-J</td>
<td>-.073</td>
<td>.174</td>
</tr>
<tr>
<td>Parent C-S</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Parent C-O</td>
<td>-.008</td>
<td>.030</td>
</tr>
<tr>
<td>Parent C-J</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Parent CM-P</td>
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<td>.222</td>
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<td>Parent CM-N</td>
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<td>-.158</td>
</tr>
<tr>
<td>Parent IN</td>
<td>-.375*</td>
<td>.231</td>
</tr>
<tr>
<td>Parent VI</td>
<td>-.285</td>
<td>-.001</td>
</tr>
<tr>
<td>Parent OT</td>
<td>.034</td>
<td>.059</td>
</tr>
<tr>
<td>Parent Q</td>
<td>.138</td>
<td>.180</td>
</tr>
<tr>
<td>Parent D</td>
<td>.090</td>
<td>.029</td>
</tr>
<tr>
<td>Parent AV</td>
<td>.145</td>
<td>.055</td>
</tr>
<tr>
<td>Parent UC</td>
<td>-.012</td>
<td>.170</td>
</tr>
<tr>
<td>Parent IG</td>
<td>-.183</td>
<td>.267</td>
</tr>
<tr>
<td>Parent AF</td>
<td>.039</td>
<td>.179</td>
</tr>
</tbody>
</table>
Note. PBI = Parental Bonding Instrument; M = Mother; O = Overprotection; C = Care; P-S = Praise-Self; P-O = Praise-Other, P-J = Praise-Joint; C-S = Critical-Self; C-O = Critical-Other; C-J = Critical-Joint; CM-P = Command-Positive; CM-N = Command-Negative; IN = Instruct; VI = Verbal Interruption; OT = Off-Task; Q = Question; D = Description; AV = Anxious Verbalization; UC = Uncodable; IG = Idea Generation; AF = Affirmation.

** p < .01, * p < .05 (2-tailed).
Table 14

*Correlations between child-reported measures of paternal care and overprotection with parental behavioral codes on the Multi-Family Interaction Task (Entire Sample)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>PBI-F-C</th>
<th>PBI-F-O</th>
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</thead>
<tbody>
<tr>
<td>Parent P-S</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Parent P-O</td>
<td>.259</td>
<td>.093</td>
</tr>
<tr>
<td>Parent P-J</td>
<td>-.158</td>
<td>-.117</td>
</tr>
<tr>
<td>Parent C-S</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Parent C-O</td>
<td>.477**</td>
<td>-.142</td>
</tr>
<tr>
<td>Parent C-J</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Parent CM-P</td>
<td>.145</td>
<td>.209</td>
</tr>
<tr>
<td>Parent CM-N</td>
<td>.107</td>
<td>-.144</td>
</tr>
<tr>
<td>Parent IN</td>
<td>-.107</td>
<td>.344</td>
</tr>
<tr>
<td>Parent VI</td>
<td>-.257</td>
<td>.041</td>
</tr>
<tr>
<td>Parent OT</td>
<td>-.248</td>
<td>-.174</td>
</tr>
<tr>
<td>Parent Q</td>
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<td>.373*</td>
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<tr>
<td>Parent D</td>
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<td>.110</td>
</tr>
<tr>
<td>Parent AV</td>
<td>-.202</td>
<td>.203</td>
</tr>
<tr>
<td>Parent UC</td>
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<td>.019</td>
</tr>
<tr>
<td>Parent IG</td>
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<td>.043</td>
</tr>
<tr>
<td>Parent AF</td>
<td>.187</td>
<td>-.181</td>
</tr>
</tbody>
</table>
Note. PBI = Parental Bonding Instrument; F = Father; O = Overprotection; C = Care; P-S = Praise-Self; P-O = Praise-Other, P-J = Praise-Joint; C-S = Critical-Self; C-O = Critical-Other; C-J = Critical-Joint; CM-P = Command-Positive; CM-N = Command-Negative; IN = Instruct; VI = Verbal Interruption; OT = Off-Task; Q = Question; D = Description; AV = Anxious Verbalization; UC = Uncodable; IG = Idea Generation; AF = Affirmation.

** p < 01, * p < 05 (2-tailed).
Table 15

*Correlations between maternal latency of speech, paternal latency of speech, and child latency of speech (Entire Sample)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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</thead>
<tbody>
<tr>
<td>1. Maternal LOS—Overall</td>
<td>--</td>
<td>.603**</td>
<td>-.183</td>
<td>-.185</td>
<td>.177</td>
<td>.223</td>
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<tr>
<td>2. Maternal LOS—Outside Family</td>
<td>--</td>
<td>-.172</td>
<td>-.118</td>
<td>.073</td>
<td>.183</td>
<td></td>
</tr>
<tr>
<td>3. Paternal LOS—Overall</td>
<td>--</td>
<td></td>
<td>.685**</td>
<td>-.059</td>
<td>-.188</td>
<td></td>
</tr>
<tr>
<td>4. Paternal LOS—Outside Family</td>
<td>--</td>
<td></td>
<td></td>
<td>.129</td>
<td>-.116</td>
<td></td>
</tr>
<tr>
<td>5. Child LOS—Overall</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.299</td>
</tr>
<tr>
<td>6. Child LOS—Outside Family</td>
<td>--</td>
<td></td>
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</tr>
</tbody>
</table>

*Note.* LOS = Latency of Speech.

* *p < .01.*
Table 16

*Correlations between child anxious and depressive symptomatology with paternal latency of speech, paternal measures of general psychopathology, and paternal days of social activity*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Child SPAI-C</td>
<td>--</td>
<td>.779**</td>
<td>.600**</td>
<td>-.201</td>
<td>.131</td>
<td>-.015</td>
<td>.360*</td>
<td>.147</td>
<td>-.117</td>
</tr>
<tr>
<td>2. Child MASC</td>
<td>--</td>
<td></td>
<td>.747**</td>
<td>-.101</td>
<td>.252</td>
<td>.041</td>
<td>.300</td>
<td>.186</td>
<td>-.156</td>
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<tr>
<td>3. Child CDI</td>
<td>--</td>
<td></td>
<td></td>
<td>.063</td>
<td>.287</td>
<td>-.140</td>
<td>.227</td>
<td>-.033</td>
<td>-.206</td>
</tr>
<tr>
<td>4. Paternal LOS—O</td>
<td>--</td>
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<td></td>
<td></td>
<td>.685**</td>
<td>.027</td>
<td>.109</td>
<td>.086</td>
<td>.236</td>
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<td>5. Paternal LOS—OF</td>
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<td></td>
<td>-.051</td>
<td>.403*</td>
<td>.212</td>
<td>.074</td>
</tr>
<tr>
<td>6. Paternal BAI</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.259</td>
<td>.247</td>
<td>.374*</td>
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<tr>
<td>7. Paternal BDI-II</td>
<td>--</td>
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<td></td>
<td></td>
<td>.243</td>
<td>-.038</td>
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<td>8. Paternal SPAI</td>
<td>--</td>
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<td></td>
<td></td>
<td></td>
<td>.283</td>
</tr>
<tr>
<td>9. Paternal DSA</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Note. SPAI-C = Social Phobia and Anxiety Inventory for Children; MASC = Multidimensional Anxiety Scale for Children; CDI = Child Depression Inventory; LOS = Latency of Speech; O = Overall; OF = Outside Family; BAI = Beck Anxiety Inventory; BDI-II = Beck Depression Inventory, Second Edition; DSA = Days of Social Activity (out of 10)

**p < .01, *p < .05.
Table 17

*Correlations between child anxious and depressive symptomatology with maternal latency of speech, maternal measures of general psychopathology, and maternal days of social activity*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
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<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Child SPAI-C</td>
<td>--</td>
<td>.779**</td>
<td>.600**</td>
<td>.189</td>
<td>.004</td>
<td>.205</td>
<td>-.080</td>
<td>.085</td>
<td>.089</td>
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<td>2. Child MASC</td>
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<td>3. Child CDI</td>
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<td>-.107</td>
<td>-.153</td>
<td>-.030</td>
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<td>.233</td>
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<tr>
<td>4. Maternal LOS—O</td>
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<td>-.152</td>
<td>.090</td>
<td>-.308</td>
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<td>5. Maternal LOS—OF</td>
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<td>-.211</td>
<td>-.004</td>
<td>.102</td>
<td>-.466**</td>
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<td>6. Maternal BAI</td>
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<td></td>
<td></td>
<td></td>
<td>.422*</td>
<td>.531**</td>
<td>.168</td>
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</tr>
<tr>
<td>7. Maternal BDI-II</td>
<td>--</td>
<td></td>
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<td></td>
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<td>.740**</td>
<td>.158</td>
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<td>8. Maternal SPAI</td>
<td>--</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>.046</td>
<td></td>
</tr>
<tr>
<td>9. Maternal DSA</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Note. SPAI-C = Social Phobia and Anxiety Inventory for Children; MASC = Multidimensional Anxiety Scale for Children; CDI = Child Depression Inventory; LOS = Latency of Speech; O = Overall; OF = Outside Family; BAI = Beck Anxiety Inventory; BDI-II = Beck Depression Inventory, Second Edition; DSA = Days of Social Activity (out of 10)

** p < .01, * p < .05.
Table 18

*Correlations between child anxious and depressive symptomatology and child latency of speech and days of social activity*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
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<td>1.Child SPAI-C</td>
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<td>.779*</td>
<td>.600*</td>
<td>.114</td>
<td>-.203</td>
<td>.046</td>
</tr>
<tr>
<td>2.Child MASC</td>
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<td>.099</td>
<td>-.135</td>
<td>.113</td>
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<tr>
<td>3.Child CDI</td>
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<td>.146</td>
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<td></td>
</tr>
<tr>
<td>4.Child LOS-O</td>
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<td>.299</td>
<td>-.074</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5.Child LOS-OF</td>
<td>--</td>
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<td>-.093</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.Child DSA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. SPAI-C = Social Phobia and Anxiety Inventory for Children; MASC = Multidimensional Anxiety Scale for Children; CDI = Child Depression Inventory; LOS = Latency of Speech; O = Overall; OF = Outside Family; DSA = Days of Social Activity (out of 10).*

** p < .01.
Table 19

Mean differences between child self-reported social anxiety in the highest and lowest quartiles

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest 25% M</th>
<th>Highest 25% SD</th>
<th>Lowest 25% M</th>
<th>Lowest 25% SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child SPAI-C Score</td>
<td>26.82</td>
<td>6.09</td>
<td>2.43</td>
<td>1.79</td>
<td>-10.86</td>
<td>14</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note. SPAI-C = Social Phobia and Anxiety Inventory for Children.*
Table 20

*T-tests comparing groups of high versus low child self-reported social anxiety on measures of days of social activity, types of social activity, and participation in social activity*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest 25% M</th>
<th>Highest 25% SD</th>
<th>Lowest 25% M</th>
<th>Lowest 25% SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity: N/A</td>
<td>0.00</td>
<td>0.00</td>
<td>0.38</td>
<td>1.06</td>
<td>-1.00</td>
<td>14</td>
<td>.334</td>
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<tr>
<td>Activity: ENT</td>
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<td>1.13</td>
<td>2.88</td>
<td>1.81</td>
<td>2.32*</td>
<td>14</td>
<td>.036</td>
</tr>
<tr>
<td>Activity: S/G</td>
<td>3.38</td>
<td>2.67</td>
<td>2.13</td>
<td>1.55</td>
<td>-1.15</td>
<td>14</td>
<td>.271</td>
</tr>
<tr>
<td>Activity: D/M</td>
<td>0.88</td>
<td>0.99</td>
<td>1.63</td>
<td>1.92</td>
<td>0.98</td>
<td>14</td>
<td>.343</td>
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<tr>
<td>Activity: M/C</td>
<td>0.13</td>
<td>0.35</td>
<td>0.25</td>
<td>0.46</td>
<td>0.61</td>
<td>14</td>
<td>.554</td>
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<td>Activity: SH</td>
<td>0.75</td>
<td>0.89</td>
<td>0.38</td>
<td>0.74</td>
<td>-0.92</td>
<td>14</td>
<td>.375</td>
</tr>
<tr>
<td>Activity: VO</td>
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<td>0.53</td>
<td>0.50</td>
<td>0.76</td>
<td>0.00</td>
<td>14</td>
<td>1.00</td>
</tr>
<tr>
<td>Activity</td>
<td>Mean</td>
<td>SD 1</td>
<td>SD 2</td>
<td>SD 3</td>
<td>SD 4</td>
<td>N</td>
<td>p</td>
</tr>
<tr>
<td>------------</td>
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<tr>
<td>PA</td>
<td>0.38</td>
<td>0.74</td>
<td>0.13</td>
<td>0.35</td>
<td>-0.86</td>
<td>14</td>
<td>.405</td>
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<tr>
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<td>0.50</td>
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<td>0.00</td>
<td>0.00</td>
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</tr>
<tr>
<td>FA</td>
<td>3.38</td>
<td>2.07</td>
<td>3.38</td>
<td>1.85</td>
<td>0.00</td>
<td>14</td>
<td>1.00</td>
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<tr>
<td>FR</td>
<td>1.88</td>
<td>2.03</td>
<td>3.38</td>
<td>1.60</td>
<td>1.64</td>
<td>14</td>
<td>.123</td>
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<tr>
<td>F &amp; F</td>
<td>2.63</td>
<td>1.92</td>
<td>1.63</td>
<td>1.41</td>
<td>-1.19</td>
<td>14</td>
<td>.255</td>
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<tr>
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<td>7.88</td>
<td>1.81</td>
<td>8.50</td>
<td>1.31</td>
<td>0.79</td>
<td>14</td>
<td>.442</td>
</tr>
</tbody>
</table>

*Note. N/A = Not Applicable as Social Activity; ENT = Entertainment; S/G = Sports & Games; D/M = Dinner & Meals; M/C = Meetings & Church; SH = Shopping; VO = Visiting Others at Their Home; PA = Parties; FO = Friends Over Own House; PH = Phone Conversations; FA = Family Only; FR = Friends Only; F & F = Family & Friends; DSA = Days of Social Activity (out of 10).*

* p < .05.
Table 21

*T-tests comparing groups of high versus low child self-reported social anxiety on measures of depression and general anxiety and latency of speech*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest 25% M</th>
<th>Highest 25% SD</th>
<th>Lowest 25% M</th>
<th>Lowest 25% SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child CDI</td>
<td>11.88</td>
<td>9.43</td>
<td>3.75</td>
<td>5.12</td>
<td>-2.14*</td>
<td>14</td>
<td>.050</td>
</tr>
<tr>
<td>Child MASC</td>
<td>64.38</td>
<td>22.37</td>
<td>30.88</td>
<td>9.22</td>
<td>-3.92**</td>
<td>14</td>
<td>.002</td>
</tr>
<tr>
<td>Father LOS-O</td>
<td>2.86</td>
<td>2.17</td>
<td>8.88</td>
<td>5.46</td>
<td>2.90*</td>
<td>14</td>
<td>.012</td>
</tr>
<tr>
<td>Father LOS-OF</td>
<td>16.27</td>
<td>36.83</td>
<td>10.00</td>
<td>5.48</td>
<td>-0.48</td>
<td>14</td>
<td>.641</td>
</tr>
<tr>
<td>Mother LOS-O</td>
<td>15.61</td>
<td>28.31</td>
<td>3.65</td>
<td>4.50</td>
<td>-1.18</td>
<td>14</td>
<td>.258</td>
</tr>
<tr>
<td>Mother LOS-OF</td>
<td>16.84</td>
<td>28.41</td>
<td>8.11</td>
<td>12.58</td>
<td>-0.79</td>
<td>14</td>
<td>.440</td>
</tr>
<tr>
<td>Child LOS-O</td>
<td>39.68</td>
<td>45.73</td>
<td>27.99</td>
<td>34.74</td>
<td>-0.58</td>
<td>14</td>
<td>.574</td>
</tr>
<tr>
<td>Child LOS-OF</td>
<td>66.91</td>
<td>95.27</td>
<td>83.25</td>
<td>94.98</td>
<td>0.34</td>
<td>14</td>
<td>.736</td>
</tr>
</tbody>
</table>

*Note.* CDI = Child Depression Inventory; MASC = Multidimensional Anxiety Scale for Children. LOS = Latency of Speech; O = Overall; OF = Outside of Family.

** $p < .01$, * $p < .05$. 
Curriculum Vitae

Kristine Elyssa (VanDoran) Rork
Updated December 13, 2004

Office Address: Department of Psychology
West Virginia University
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2210 Life Sciences Building
Morgantown, WV 26506-6040

Home Address: 962 Ashton Place
Morgantown, WV 26508

Educational Background

M.A. Boston University (2000)
Major: General Psychology
Adviser: Hilda Perlith, Ph. D.

B.A. Wake Forest University (1995)
Major: Psychology
Major: Politics
Adviser: Wei-Chen Lee, Ph. D.

Clinical Experience

Position: Clinical Psychology Practicum Student
Place: Greene County Children and Youth Services, Waynesburg, PA
Duties: Served as Psychological Consultant for children and parents of children referred to the Children and Youth Services (CYS). Conducted comprehensive assessments and therapy sessions involving individuals of all ages diagnosed with a wide range of psychological disorders. Also engaged in multidisciplinary collaboration with individuals from numerous professions (e.g., social workers, psychiatrists, PCPs), testified in court cases involving custody and abuse allegations, and took part in meetings regarding CYS policy and structure.
Dates: July, 2004 – June, 2005
Supervisor: John Damm, Ed. D.

Position: Clinical Psychology Practicum Student
Place: Valley HealthCare, Morgantown, West Virginia
Duties: Conducted assessments on individuals of all ages and races to determine eligibility for the Title XIX MR/DD Waiver. Completed comprehensive psychological reports to determine diagnoses of these individuals and made recommendations towards future treatment and therapy goals. Also attended
treatment team meetings and completed guardianship applications as needed. CPR/First Aid and Mandt training were provided.

**Dates:** July, 2003 – June, 2004  
**Supervisor:** Cheryl Perone, M. S.

**Position:** *Clinical Psychology Practicum Student*  
**Place:** Quin Curtis Center, West Virginia University, Morgantown, West Virginia  
**Duties:** Provided behavioral assessment, treatment, and consultation for children with a broad range of disorders and deficits, including disruptive behavior disorder, social skills deficits, social anxiety, obsessive-compulsive disorder, separation anxiety, specific phobia, and mood disorder. Also provided parenting skills training to parents of these children and school consultations.

**Dates:** August, 2002 – July, 2003  
**Supervisor:** Lindsey Cohen, Ph. D.

**Position:** *Co-Leader, Child Social Skills Training Group*  
**Place:** Duke University Medical Center, Durham, North Carolina  
**Duties:** Provided behavioral assessment and group treatment for children with ADHD and comorbid disorders, such as anxiety disorders and learning disabilities.

**Dates:** July, 2001 – June, 2002  
**Supervisor:** Desiree Murray, Ph. D.

## Research Experience

**Position:** *Graduate Student Researcher*  
**Place:** West Virginia University, Morgantown, West Virginia  
**Duties:** Served as Principal Investigator on thesis study entitled *Influence of Parenting Factors on Childhood Social Anxiety: Direct Observation of Parental Warmth and Control*. Designed study, trained research assistants, conducted all study visits, performed all data analysis, and wrote up document summarizing study findings.

**Dates:** August, 2002 – September 2004  
**Supervisor:** Tracy L. Morris, Ph. D.

**Position:** *Research Assistant*  
**Place:** West Virginia University, Morgantown, West Virginia  
**Duties:** Conducted psychological evaluations for children and adolescents as part of an NIMH grant using behavioral interviews and standardized behavioral rating scales. Also coded videotapes of direct observation.

**Dates:** June, 2002 – August, 2003  
**Supervisor:** Tracy L. Morris, Ph. D.

**Position:** *Senior Research Assistant*  
**Place:** Duke University Medical Center, Durham, North Carolina  
**Duties:** Conducted psychological assessment evaluations for child and adolescent patients with and without ADHD using behavioral interviews, intellectual testing, and
standardized behavior rating scales. Maintained school contact and aided in school consultations. Also established procedures for the procurement of data through observation, interviewing, analyzing records and other sources, and helped create new study documents for future assessment(s).

**Dates:** July, 2001 – June, 2002

**Supervisors:** Jeffery Epstein, Ph. D., Karen Wells, Ph. D.

**Position:** *Study Coordinator (Social Research Assistant II)*

**Place:** University of North Carolina Hospitals, University of North Carolina, Chapel Hill, North Carolina

**Duties:** Conducted psychological assessments of patients with schizophrenia and other psychotic disorders, processed blood and hair samples, monitored study medication and compliance, and created necessary study materials for a NIMH grant. Also maintained communication with the IRB, prepared protocol renewals, and prepared IRB amendments and addendums.

**Dates:** January, 2001 – July, 2001

**Supervisor:** Diana Perkins, M. D.

**Position:** *Social Research Assistant II*

**Place:** University of North Carolina Hospitals, University of North Carolina, Chapel Hill, North Carolina

**Duties:** Trained to conduct psychological assessments and evaluations of autistic children and their family members.

**Dates:** September, 2000 – December, 2000

**Supervisors:** Joseph Piven, M. D., Debra Childress

**Position:** *Graduate Student Research Assistant*

**Place:** Center for Anxiety and Related Disorders, Boston, Massachusetts

**Duties:** Organization, scoring, and analysis of patient test data related to the Intensive Treatment Program for anxiety disorders.

**Dates:** January, 2000 – May, 2000

**Supervisor:** David A. Spiegel, M. D.

**Position:** *Graduate Student Researcher*

**Place:** Boston University, Boston, Massachusetts

**Duties:** Conducted a research study on the influences of money on undergraduate college students. Included subject recruitment, running subjects, data collection and organization, data entry, data analysis, and a final write-up.

**Dates:** January, 2000 – May, 2000

**Supervisor:** Anne Thompson, Ph. D.
Bibliography

Research in Progress


Presentations

Treatment of a Child with Multiple Anxiety Disorders: A Behavioral Approach (November 2003). Presented during the Clinical Case Conference for the Department of Clinical Psychology, West Virginia University, Morgantown, WV.

Helpful and Effective Lessons in Parenting (HELP Group): A service provided to parents at the Department of Health and Human Resources (February 2003). Presented during the Clinical Case Conference for the Department of Clinical Psychology, West Virginia University, Morgantown, WV.

Parenting Skills to Help Modify Your Child’s Behavior (October 2002). Presented at the Parents’ Place group meeting, Westover, WV.

Teaching Experience

Position: Graduate Teaching Assistant
Place: West Virginia University, Department of Psychology, Morgantown, West Virginia
Duties: Scored and provided comprehensive and constructive feedback to students on the Wechsler Intelligence Scale for Children-Fourth Edition (WISC-IV) for the Behavioral Assessment II graduate course. Included watching videotaped student administrations of the WISC-IV, checking scoring on each portion of the test, and providing constructive feedback and pointers on aspects of test administration.
Dates: January, 2004 – February, 2004
Supervisor: Lindsey Cohen, Ph. D.

Position: Supervisor, Undergraduate Honors Thesis
Place: West Virginia University, Department of Psychology, Morgantown, West Virginia
Duties: Provided supervision and consultation on a West Virginia University undergraduate honors student’s milestone project. Duties included weekly meetings with the undergraduate student, supervision for development of honors thesis ideas, assisting the undergraduate with thesis revisions (as needed), training the undergraduate in laboratory and coding techniques, assisting the undergraduate with presentation of the honors thesis, and supervision of data analysis and procedures.
Dates: August, 2003 – May, 2004
Supervisor: Tracy L. Morris, Ph. D.
Position: Graduate Teaching Assistant
Place: West Virginia University, Department of Psychology, Morgantown, West Virginia
Duties: Taught four sections of Biological Foundations of Behavior laboratory. Gave multimedia-based lectures, graded papers, and held out-of-class Office Hours. Also wrote several letters of recommendation on students’ behalf for prospective acceptance into graduate school and/or job recommendations.
Supervisor: B. Kent Parker, Ph. D.

Professional Activities

American Psychological Association Student Representative and Campus Liaison (APAGS-ACT), West Virginia University (January, 2004 – present)

Student Representative to the Departmental Diversity Committee, Department of Psychology, West Virginia University (August, 2003 – June, 2004)

PCIT (Parent-Child Interaction Therapy) training and certification workshop, Department of Psychology, West Virginia University (May 10-14, 2004).

Student Volunteer for CE session (Treating Social Anxiety Disorder: Group Behavioral Techniques) at the annual Association for the Advancement of Behavior Therapy Conference, Boston, MA (November, 2003)

Professional Organizations

American Psychological Association (Divisions 12, 42, 53) – Student Member
Association for the Advancement of Behavior Therapy – Student Member
Association for the Advancement of Behavior Therapy, Child and Adolescent Anxiety SIG – Student Member
Anxiety Disorders Association of America – Student Member
West Virginia Psychological Association —Student Member
References

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