

Paternal Child-Rearing Style and Child Social Anxiety: Investigation of Child Perceptions and Actual Father Behavior

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This study examined associations among perceived and actual father behavior and child social anxiety. Forty-eight children (22 high socially anxious, 26 low socially anxious) completed self-report measures of social anxiety, general anxiety, and depression. Children also completed a measure of perceived parental style and subsequently collaborated with their fathers on a challenging task (origami). After controlling for general anxiety and depression, fathers of high socially anxious children exhibited more controlling behavior during the origami task; high and low socially anxious children, however, did not differ behaviorally from one another. Perceptions of father child-rearing style did not differ as a function of child social anxiety, nor were significant relations found between perceived parenting and specific father behaviors. Findings underscore the importance of assessing various types of internalizing symptoms (i.e., controlling for shared construct variance), obtaining children's perceptions of parental style in conjunction with conducting behavioral observations, and including fathers in psychopathology research.

KEY WORDS: social anxiety; father-child interaction; parenting style; assessment.

Adverse, long-term consequences associated with childhood social anxiety have been well documented and include depression, loneliness, low self-esteem, and school refusal behavior (e.g., Ginsburg, LaGreca, & Silverman, 1997; Kearney & Silverman, 1990; Strauss & Last, 1993). In addition, children who experience social anxiety may be at heightened risk for a future diagnosis of social anxiety disorder (Beidel & Turner, 1998). Given the chronic and often debilitating nature of social anxiety, it is important to identify correlates and potential risk factors contributing to the development and maintenance of childhood social anxiety.

Although the exact cause is unknown, a growing literature supports an integrated, multifactor model, in which any number of biological, genetic, and environmental factors contribute to the formation and intensification of maladaptive anxiety (Morris, 2001; Rapee, 2001).

Genetic vulnerabilities and/or a biological predisposition, including a temperamental style of behavioral inhibition and a family history of anxiety, may place individuals at increased risk for anxiety (e.g., Hayward, Killen, Kraemer, & Taylor, 1998). Such individuals are more inclined to develop a diagnosable anxiety disorder, particularly when faced with stressful or aversive situations (e.g., peer-related difficulties, strained family relations). Specific to the present investigation, family variables such as parenting style and parent-child interaction have received increasing attention and may be particularly salient in the development of childhood social anxiety (e.g., Bruch & Heimberg, 1994).

Familial influence on child psychopathology has been researched extensively, with retrospective, self-report, and observational data indicating a link between parenting and child adjustment (e.g., Baumrind, 1971; Maccoby, 1980; Perris, Jacobsson, Lindstron, von Knorring, & Perris, 1980; Reid, 1978; Rubin & Sloman, 1984). Notably, this research consistently supports a bidirectional model whereby child behavior influences (e.g., evokes, reinforces, and shapes) parent behavior and vice versa. Unfortunately, there has been

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limited study within the context of *father*–child relationships. Additionally, parent–child relations and parental style are assessed most often via adult retrospective reporting, with little attention devoted to children’s *current* perceptions of child-rearing. For example, widely used measures, such as the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) and EMBU⁴ (Perris et al., 1980), instruct adults to reflect on their parents’ child-rearing styles during the respondent’s youth. Although important, retrospective research affords numerous limitations, including heightened potential for biased responding, inaccurate recall, and the inability to remember symptom onset, which portend the importance of concurrent and observational research (Kazdin, Kraemer, Kessler, Kupfer, & Offord, 1997).

Relevant to the present investigation, parental styles characterized by *rejection* and *overprotection* have received increasing attention, with results supporting an association between a rejecting and overprotective parenting style and childhood internalizing symptoms (e.g., Arrindell, Emmelkamp, Monisma, & Brilman, 1983; Dadds & Barrett, 1996; Parker, 1990; Stein et al., 2000). In brief, parental rejection is marked by low levels of affection and warmth, often coupled with parental negativity or indifference. Slightly more ambiguous, parental overprotection has been conceptualized as overcontrolling and intrusive parenting (e.g., excessive vigilance and control) and is characterized by the discouragement of independence and autonomy (e.g., Baumrind, 1989; Levy, 1966; Parker et al., 1979).

There is a growing body of literature evincing deleterious childhood correlates associated with parental rejection and overprotection (see Bruch, Heimberg, Berger, & Collins, 1989; Dadds & Barrett, 1996; Rapee, 2001); little is known, however, regarding the specificity of these findings. For instance, retrospective and observational research have linked this parental style with childhood generalized anxiety (e.g., Barrett, Rapee, Dadds, & Ryan, 1996), social anxiety (e.g., Spaulding & Morris, 1997), and depression (e.g., Cole & Rehm, 1986; Messer & Gross, 1995). Additional research in this area is needed, particularly since earlier family studies support the specificity of childhood anxiety symptoms and their sequelae (e.g., Gittleman-Klein, 1975; Last, Hersen, Kazdin, Francis, & Grubb, 1987; Last, Phillips, & Statfeld, 1987).

A comprehensive review by Rapee (1997) suggested that parental rejection may be correlated more specifically with child depression, whereas overprotection plays a stronger role in the onset and maintenance of general and social anxiety. Other data indicate that parental

overprotection is related to some, but not all, types of anxieties. Rapee and Melville (1997), for example, found rejecting and overprotective child-rearing to be a stronger predictor of social anxiety than were panic symptoms (see also Rapee, 1997). Clearly, a more comprehensive and direct evaluation is warranted, whereby different types of childhood fears are investigated. As an initial step toward this pursuit, measures of general anxiety and depression were administered to examine whether results were specific to child social anxiety, anxiety in general, or to a broad range of internalizing symptoms.

Evidence implicating both parents in the formation and maintenance of childhood social anxiety has emerged recently (e.g., Bruch et al., 1989; Masia & Morris, 1998); however, investigations targeting the unique contributions of father child-rearing within the realm of child social anxiety are virtually nonexistent. The few studies including fathers have relied exclusively on self-report and/or retrospective methods. Results generally have been consistent, indicating that socially anxious adults remembered both their mothers *and* fathers as being overprotective (e.g., Rapee & Melville, 1997) and rejecting (Arrindell et al., 1983). Parker (1979), for example, administered the Parental Bonding Instrument (PBI; Parker et al., 1979) to individuals diagnosed with social phobia and agoraphobia. Findings indicated that adults with social phobia recalled both their mothers and fathers as demonstrating overprotective and rejecting parental styles, whereas those with agoraphobia reported maternal rejection only.

Similar findings have been found using nonclinical, community samples. Eastburg and Johnson (1990), for instance, reported a significant relation between daughter shyness and firm control exercised by fathers. In a separate investigation, a community sample of socially anxious college students recalled their fathers as demonstrating an *affectionate constraint* (i.e., high warmth, high overprotection) child-rearing style (Anhalt & Morris, 2002). Similarly, Greco and Morris (2002) administered internalizing measures and a child version of the PBI to 108 nonclinical children (ages 8–13 years). Consistent with the findings of Anhalt and Morris, boys and girls scoring highest on a measure of social anxiety rated their fathers as having an affectionate constraint parental style.

The foregoing review suggests that perceptions of rejecting and overprotective child-rearing styles are related to internalizing problems, including social anxiety. These investigations, however, are based largely on adults’ retrospective accounts and have not been compared to actual parent behavior during parent–child interactions. Moreover, parenting and child psychopathology research has focused disproportionately on the mother–child relationship, whereas little is known about the relation

⁴Swedish acronym for *Egna Minnen Bertråffande Uppfostran* (“My Memories of Upbringing”).

between paternal child-rearing and child maladjustment (Phares & Compas, 1992). Collectively, these limitations call for observational research targeting father-child dyads. As an initial step toward filling a long-standing empirical void, primary aims of this study were to (a) investigate the interrelations among perceived and actual parenting behaviors and child social anxiety, and (b) provide data within two relatively under-investigated domains: father-child interactions and child reports of father parenting style. Dyads were chosen as the unit of analysis in light of research documenting the need to investigate family relationships at multiple levels, often beginning with dyadic-level interaction (e.g., Loukas, Twitchell, Piejak, Fitzgerald, & Zucker, 1998).

After considering the aforementioned variables, two hypotheses were formed. First, children experiencing high (vs. low) levels of social anxiety were expected to rate their fathers as more overprotective on the PBI. Second, it was expected that fathers of high socially anxious children would demonstrate more controlling behavior (i.e., commands and physical control) during a challenging origami task. Hypotheses with respect to paternal care were not posited in light of inconsistent findings in previous research.

Child depression and general anxiety scores were included as covariates in all analyses to examine specificity, and child responses were coded during the origami task to provide data regarding the bidirectional nature of behavior. It is possible, for example, that certain child behaviors (e.g., seeking reassurance) evoke high rates of father behavior (e.g., physical control). Specific hypotheses were not formulated, however, because of limited empirical research examining such reciprocal influences. Finally, the relation between perceived parental style and actual father behavior was examined; again, a priori hypotheses were not made because of limited research in this area.

METHOD

Participants

Participants were 22 high ($M = 11.0$, $SD = 1.31$) and 26 low ($M = 11.73$, $SD = 1.08$) socially anxious children attending an elementary or middle school located in Morgantown, West Virginia. Fathers of children scoring in the upper and lower quartiles on the Social Phobia and Anxiety Inventory for Children (SPAI-C; Beidel, Turner, & Morris, 1995), based on participation in a larger investigation of social anxiety during the previous 6 months (Morris, 2001), were contacted by telephone to determine willingness to participate.

Forty-eight (62%) of the 77 families contacted agreed to participate and received a \$20 payment following their

involvement in the study. The final sample consisted of 22 high socially anxious (HSA; 10 female) and 26 low socially anxious (LSA; 13 female) children and their fathers. Authors of the SPAI-C suggested a clinical cutoff score of 18 (Beidel et al., 1995) and reported a mean score of 25.8 among a clinical sample of 50 children diagnosed with social anxiety disorder (Beidel, Turner, & Morris, 1999). In this study, all children in the HSA group scored above ($M = 21.5$, $SD = 4.3$), and those in the LSA group scored well below ($M = 5.1$, $SD = 2.7$), the recommended clinical cut off.

The combined sample consisted of Caucasian (92%), African American (2%), Hispanic (2%), and Asian (4%) participants. Father-child dyads living together for a minimum of 5 years were eligible for participation, with most (96%) living together since the child's birth. Nearly all of the fathers were biological parents (92%); two were step-parents (4%) and two (4%) were adoptive parents. Most fathers (85%) were married to the child's biological mother, and the others were remarried (10%), divorced (2.5%), or separated (2.5%). Fathers reported a range of educational levels that included five or more years of college (62%), 3-4 years of college (17%), 1-2 years of college (6%), and high school education (15%). All fathers were employed at the time of the study, and families fell within lower-middle to upper-middle socioeconomic class.

Procedure

After consent and assent were obtained, fathers answered a brief demographic questionnaire, as children completed the following measures in a separate room: SPAI-C, MASC (Multidimensional Anxiety Schedule for Children), CDI (Children's Depression Inventory), and PBI. Instructions for completing the questionnaires were provided by the first author. Children and their fathers subsequently completed measures independently, with the first author and an advanced undergraduate research assistant available to answer any questions. After completing the measures, father-child dyads engaged in a challenging task (i.e., construction of two origami figures) for 10 min.

Child Self-Report Measures

Social Phobia and Anxiety Inventory for Children (SPAI-C)

The SPAI-C (Beidel et al., 1995; Beidel, Turner, & Morris, 1998) was used as a screening device to confirm group status and served as a measure of child social anxiety. The SPAI-C is a 26-item self-report measure assessing the frequency and range of social anxiety experienced by children and adolescents 8-14 years old. Excellent

reliability and good validity coefficients have been reported (Beidel et al., 1995; Morris & Masia, 1998), with an excellent 6-month test-retest reliability of .93 obtained in the current study. Evidence suggests that the SPAI-C is a psychometrically sound instrument with excellent clinical utility (Beidel, Turner, & Fink, 1996). It is important to note, however, that scores were not used to generate a diagnosis of social phobia but were used as an index of child social anxiety.

Multidimensional Anxiety Schedule for Children (MASC)

The MASC (March, 1997) is a 39-item self-report instrument that screens for various anxiety problems experienced by children and adolescents 8–19 years of age. Four basic scales are included (i.e., Social Anxiety, Physical Symptoms, Harm Avoidance, and Separation/Panic) and combined to yield a total anxiety score. Research suggests that the MASC has satisfactory to excellent test-retest reliability and adequate to good concurrent and discriminant validity (March, Parker, Sullivan, Stallings, & Conners, 1997). MASC total anxiety *t* scores were used as an index of general anxiety.

Children's Depression Inventory (CDI)

The CDI (Kovacs, 1992) is a 27-item self-report measure quantifying a range of depressive symptoms experienced by children 7–17 years old. The CDI has good internal consistency ($r = .71-.89$) and an acceptable level of test-retest reliability ($r = .82$) with a 2 week time interval between administrations (Kovacs, 1992). Total depression *t* scores on this measure were used as an index of child depression.

Parental Bonding Instrument (PBI)

The PBI (Parker et al., 1979) is a 25-item questionnaire initially developed to assess adult perceptions of parental style during the first 16 years of life. The PBI is comprised of two scales: *Care* (warmth) and *Overprotection* (control). The Care scale is evaluated on a continuum of warmth/affection and rejection, with higher scores indicative of parental warmth and lower scores suggesting perceived rejection. The Overprotection scale yields a score for the categories of control and independence. High scores on this scale reflect perceptions of intrusive and controlling parenting behaviors, whereas low scores indicate parental encouragement of independence (Parker et al., 1979). The PBI has high test-retest reliability ($r = .79-.96$), even over a

6-month retest interval (MacKinnon, Henderson, Scott, & Duncan-Jones, 1989; Warner & Atkinson, 1988). Additionally, the reliability and validity of the PBI has been supported by high agreement levels between parent and child scores and between PBI scores and independent clinical judgement (e.g., Parker, 1981; Parker et al., 1979). Finally, research supports the convergent validity of the two-factor PBI (e.g., Arrindell, Gerlsma, Vandereycken, Hageman, & Daeseleire, 1998; Livianos-Aldana & Rojo-Moreno, 1999).

For this study, a child version of the PBI was used to measure children's *current* perceptions of paternal child-rearing behavior. Only minor modifications were made to the original measure. Specifically, items were phrased in the present tense and double negatives were reworded in the affirmative so as not to confuse the children. Sample items assessing parental Care include, "My father speaks to me in a warm and friendly voice," and, "My father is emotionally cold." Two illustrations from the Overprotection scale are, "My father invades my privacy," and, "I am never allowed to do what I want." Cronbach's alphas were acceptable for the 12-item Care ($\alpha = .82$) and 13-item Overprotection ($\alpha = .69$) subscales.

Father–Child Interactions

Origami Challenge Task

Past research suggests that parents of socially anxious individuals exhibit a *general* interactional style characterized by rejection and overprotection; however, it has not been demonstrated whether such parenting behaviors occur exclusively within the context of an anxiety-producing social situation. Thus, the selected task (i.e., origami) is not a social interaction task per se. It is, however, a novel and challenging activity for many individuals and was purposefully chosen because of its potential for evoking a range of communication within the father–child dyad.

Dyads were allotted 10 min to create two origami figures specified by the investigator. Brief instructions were given to work together for 10 min, beginning with the easier figure and moving on to the more difficult one if time permitted. After the examiner left the room, father–child interactions were videotaped through a one-way mirror for later coding. Participants were told prior to beginning the task, that they would be videotaped.

Data Coding

Modified versions of the coding systems utilized by Dadds, Ryan, and Barrett (1993), and Reid (1978) were

used to code the observed interactions. Five behavioral codes hypothesized to reflect specific instances of paternal rejection and overprotection were used: (a) *critical statements* (criticisms, put downs), (b) *positive statements* (praise), (c) *ignore* (failure to respond), (d) *commands* (direct and indirect commands), and (e) *physical control* (unsolicited physical assistance). Frequencies of child behaviors were recorded for these plus three additional behavioral codes (Table I): (a) *accept command* (child complies within 10 s of father's command), (b) *reject command* (child fails to comply within 10 s), and (c) *request reassurance* (child requests reassurance or encouragement from father).

An advanced undergraduate research assistant blind to group membership served as the primary coder, and the first author served as the reliability coder. Actual coding began after an interrater agreement criterion of 80% for three consecutive practice sessions was attained for each category. Mean percent agreements between the primary and reliability coders were calculated by dividing the total number of agreements by the sum of the total number of disagreements and agreements. Interrater reliability was calculated for 20% of the sample (i.e., all interactions for 10 dyads, 5 per group). Mean percent agreement for the various behavioral codes ranged from 80% (praise, range = 65–100%) to 98% (physical takeovers, range = 75–100%). The relatively lower agreement obtained for the praise category may be related in part to the low frequencies observed for this particular code (see Kazdin, 1982). This method for calculating interrater agreement was chosen because of the focus on continuous variables and the low base rates of behavioral codes. Although other reliability indices (e.g., Kappa coefficients) are more desirable for categorical coding, percent agreement is deemed appropriate when coding low base-rate, continuous variables (e.g., Kazdin, 1982).

RESULTS

Preliminary Analyses

A Group (HSA/LSA) \times Gender MANOVA was calculated with MASC and CDI scores as dependent variables. A multivariate effect for group was found, $F(2, 43) = 17.30$, $p < .001$, with univariate analyses demonstrating higher scores for HSA children on measures of general anxiety, $F(1, 47) = 29.8$, $p < .001$, $\eta^2 = .40$, and depression, $F(1, 47) = 7.41$, $p < .01$, $\eta^2 = .14$ (Table II). In light of these group differences and to provide information regarding symptom specificity, CDI and MASC scores were entered as covariates in subsequent analyses.

Table I. Behavioral Codes Used During Origami Task

| Behavioral codes | Definitions and examples |
|---------------------------------|--|
| Paternal rejection | |
| Critical statements | Criticism and critical remarks directed to the other member of the dyad. <i>Examples:</i> "You're folding the paper wrong; You are really struggling with this task." |
| Positive statements | Praise and positive statements directed to or about the other member of the dyad. <i>Examples:</i> "Thank you for trying so hard; You are doing a great job." |
| Ignore | Failure to respond to the other person's question(s). |
| Paternal overprotection/control | |
| Commands | A directive that reflects what a person should or should not do. <i>Examples:</i> "Put the paper down; You read the instructions, and I'll fold; Stop reading so fast; Don't lean back in your chair." |
| Physical control | All forms of physical takeovers or unsolicited physical assistance that involve interrupting the other person's work behavior. <i>Examples:</i> grabbing the origami figure or instructions; attempting to fold the origami paper while the other person is working. |
| Additional child codes | |
| Accept command | Child complies within 10 s of a direct or indirect command issued by his or her father. <i>Example:</i> Johnny gives his father a sheet of blue origami paper within 5 s of his father's directive, "Johnny, please hand me the blue piece of paper." |
| Reject command | Child does not comply within 10 s of a direct or indirect command issued by his or her father. <i>Example:</i> Darla continues to walk around the room after her father says, "Darla, please sit down and help me fold this origami figure." |
| Request reassurance | Child solicits reassurance or verbal encouragement from his or her father. <i>Examples:</i> "Am I doing this right? Does this look okay?" |

Next, a series of Group (HSA/LSA) \times Gender ANOVAs were conducted, with no significant differences on the ethnic and demographic variables (Table III). These variables, therefore, were not considered in subsequent analyses. To control for Type I error, a conservative alpha level of .01 was chosen for the remaining analyses. A more stringent statistical correction (e.g., Bonferroni) was not chosen because of the relatively small sample size and preliminary nature of this investigation. To provide information regarding symptom specificity,

Table II. Descriptive Data for Child Self-Report Measures

| Measure | HSA | | LSA | | df | F |
|---------|------|------|------|------|---------|--------|
| | M | SD | M | SD | | |
| SPAI-C | | | | | | |
| Boy | 20.3 | 5.4 | 3.6 | 1.6 | | |
| Girl | 22.9 | 2.2 | 6.6 | 2.8 | | |
| Total | 21.5 | 4.3 | 5.1 | 2.7 | (1, 47) | 2.94** |
| MASC | | | | | | |
| Boy | 53.9 | 10.2 | 43.5 | 7.0 | | |
| Girl | 55.7 | 6.6 | 41.2 | 7.1 | | |
| Total | 54.8 | 8.6 | 42.3 | 7.0 | (1, 47) | 29.8** |
| CDI | | | | | | |
| Boy | 47.8 | 9.2 | 41.3 | 6.4 | (1, 47) | 7.41* |
| Girl | 49.2 | 4.6 | 43.1 | 10.0 | | |
| Total | 48.5 | 7.3 | 42.2 | 8.3 | | |

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

* $p < .01$. ** $p < .001$.

CDI and MASC scores were entered as covariates in analyses.

Group and Gender Differences on the PBI

A Group (HSA/LSA) \times Gender MANCOVA was calculated, with gender and group as fixed factors, MASC and CDI scores as covariates, and PBI Care and Overprotection scores as dependent variables. After controlling

Table III. Background and Demographic Information

| Child/father variables | HSA | LSA |
|--------------------------|-----|-----|
| Child gender | | |
| Boy | 12 | 13 |
| Girl | 10 | 13 |
| Child ethnicity | | |
| Caucasian | 20 | 24 |
| African American | 1 | 0 |
| Hispanic | 0 | 1 |
| Asian | 1 | 1 |
| Father marital status | | |
| Married/remarried | 21 | 25 |
| Divorced/separated | 1 | 1 |
| Father relation to child | | |
| Biological | 20 | 25 |
| Stepfather | 1 | 1 |
| Adoptive | 1 | 0 |
| Father educational level | | |
| ± 5 years of college | 14 | 16 |
| 3-4 years of college | 3 | 5 |
| 1-2 years of college | 0 | 3 |
| High school education | 5 | 2 |

for general anxiety and depression, multivariate effects were not found for group, $F(2, 41) = 1.04$, $p > .05$, or gender, $F(2, 41) = 1.82$, $p > .05$; however, a significant relation was detected between CDI and PBI Care and Overprotection scores, $F(2, 41) = 9.65$, $p < .01$, $\eta^2 = .32$.

Father Behavior as a Function of Group and Child Gender

A Group (HSA/LSA) \times Gender MANCOVA was performed to assess for differences in father behavior thought to reflect (a) *paternal care* (i.e., criticism, low praise, ignores), and (b) *paternal overprotection* (i.e., commands, physical control). Father behavioral codes were entered as the dependent variables, and scores on the CDI and MASC were entered as covariates. Using Wilk's criterion, a significant main effect was found for group, $F(5, 38) = 4.61$, $p = .01$, $\eta^2 = .16$. Univariate follow-up tests indicated that fathers of HSA children demonstrated more physical control ($M = 12.5$, $SD = 5.0$) compared to fathers of LSA children ($M = 7.0$, $SD = 3.8$), $F(1, 47) = 7.71$, $p < .01$. Main effects were not found for gender, $F(5, 38) = 1.23$, $p > .10$, or for the covaried CDI and MASC scores. See Table IV for mean frequencies and standard deviations in father behavior.

Child Behavior During the Origami Task

Child behavior was coded and analyzed using the data analytic strategy described above. There were no significant group, $F(5, 38) = 1.10$, $p > .10$, or gender, $F(5, 38) = .97$, $p > .10$, differences for any of the behavioral codes, nor were significant effects found for CDI and MASC scores. See Table V for mean frequencies and standard deviations in children's behavior.

Table IV. Mean Frequencies and Standard Deviations for Father Behavior

| Father behavior | HSA | | LSA | |
|---------------------------------|-------|-------|-------|------|
| | M | SD | M | SD |
| Paternal rejection | | | | |
| Critical statements | 3.68 | 2.59 | 3.85 | 3.23 |
| Positive statements | 5.73 | 4.44 | 4.04 | 4.05 |
| Ignore | 2.82 | 2.50 | 3.19 | 3.29 |
| Paternal overprotection/control | | | | |
| Commands | 20.45 | 10.97 | 18.04 | 6.23 |
| Physical control** | 12.50 | 5.10 | 7.0 | 3.80 |

Note. HSA = High Social Anxiety; LSA = Low Social Anxiety.

** $p < .01$.

Table V. Mean Frequencies and Standard Deviations in Child Behavior

| Child behavior | HSA | | LSA | |
|----------------------------|----------|-----------|----------|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Critical statements | 2.64 | 2.74 | 4.23 | 3.29 |
| Positive statements | 1.14 | 1.70 | 0.85 | 1.16 |
| Ignore | 3.09 | 3.29 | 3.04 | 3.10 |
| Commands | 9.91 | 7.78 | 13.77 | 11.32 |
| Physical control | 6.00 | 4.28 | 4.73 | 4.25 |
| Accept command (comply) | 20.59 | 9.44 | 17.85 | 7.24 |
| Reject command (noncomply) | 1.05 | 1.33 | 1.62 | 1.90 |
| Request reassurance | 2.50 | 1.68 | 2.58 | 2.23 |

Note. HSA = High Social Anxiety; LSA = Low Social Anxiety.

Perceived Parenting and Father Behavior

Pearson product-moment correlations were calculated to examine the relation between PBI scores and father behavior during the origami task. Interestingly, perceived parental style was unrelated to father behavior. Specifically, PBI Care scores were unrelated to rejecting, $r(48) = .06-.07$, $p > .10$ and controlling, $r(48) = .07-.13$, $p > .10$, behaviors. Similarly, PBI Protection scores were unrelated to rejecting, $r(48) = .08-.12$, $p > .10$, and controlling, $r(48) = .01-.08$, $p > .10$, behaviors during the dyadic interaction.

DISCUSSION

Findings partially supported one of two hypotheses. In partial support of Hypothesis Two, fathers of HSA children exhibited more controlling behavior during the origami task but did not differ in number of commands and frequency of rejecting behavior. Contrary to Hypothesis One, reports on the PBI did not differ as a function of group (HSA vs. LSA). Finally, results indicated a non-significant relation between children's perceptions of paternal child-rearing style and father behavior during the origami task.

Consistent with hypotheses, fathers of HSA children exhibited more physical control during a 10-min origami task compared to fathers of LSA children. Examples of physical control included all occurrences of verbally unsolicited physical assistance (e.g., grabbing) and physical interventions that interrupted children's independent problem solving and work behavior. These findings are consistent with research on mothers of anxious children. Krohne and Hock (1991), for example, found that mothers of anxious girls exhibited the highest levels of controlling behavior during a difficult puzzle task.

Researchers have hypothesized that such instances of parental control, *irrespective of parental intention*, might inhibit autonomy and social growth by prohibiting children from exploring and interacting with their environments (e.g., Beidel & Turner, 1998; Morris, 2001; Rubin & Burgess, 2001). Further, interrupting child problem-solving and working behavior might indirectly communicate doubt regarding child competencies. Consequently, children might interpret excessive parental assistance as being indicative of their inability to work independently. Krohne and Hock (1991) similarly postulated the possibility of interpreting unsolicited parental assistance as unsupportive, competitive, and thus anxiety-inducing.

The current investigation is perhaps the first to examine interrelations among perceptions of father parenting, specific father behavior, and child social anxiety. Interestingly, children's perceptions of global parental style were not associated with father behavior during the origami task. This may be attributed to several factors, including the disparate levels of analysis used to measure perceived and actual parenting. Children were asked to rate parental styles on a more global level (e.g., typical parental attitudes and behavior in multiple contexts), whereas discrete behavioral codes were used to capture instances of rejecting and controlling behavior during the origami task. Focusing on more global behaviors emitted across multiple contexts may prove to be an interesting and worthwhile endeavor. Alternatively, investigators might solicit child perceptions of *specific* parental behaviors across various situations (e.g., mealtime exchanges). Given limitations inherent to lab-based investigations (e.g., compromised external validity), future research also should be conducted in naturalistic settings to increase the ecological utility of the current findings.

Despite these interesting results, it is important to highlight several limitations and to offer directions for future research. First, the principal aim of this study was to examine father-child interactions and relations at the dyadic level as opposed to group or triadic relations. Indeed, one direction for future research will be to examine the relative and combined contributions of maternal and paternal behavior and perceived child-rearing style in predicting child psychopathology (e.g., social anxiety, general anxiety, depression). A study conducted by the second author currently is underway to investigate child social anxiety within the context of more complex family interactional systems.

Another limitation of this research involves the homogenous nature of the sample, comprised primarily of Caucasian participants from two-parent households. Further, most of these families were willing participants

recruited from a larger investigation. It is difficult, therefore, to generalize findings to a nonselected and more ethnically and socioeconomically diverse population. In addition, the concurrent and correlational nature of this study precludes conclusions regarding causality and direction of effects. Although HSA and LSA children did not differ behaviorally, it is possible that socially anxious children evoke and subsequently shape different types of parental responses. Future longitudinal research could extend current findings by focusing on more complex, nonlinear models to identify potential mediators and intervening processes influencing the development and maintenance of child social anxiety.

Finally, although a statistically significant difference was detected in father behavior (i.e., physical control), the calculated effect size was relatively small ($\eta^2 = .16$). This finding, however, is consistent with developmental psychopathology research and supports the multifactor model discussed in the Introduction. That is, father-child interactions and perceptions of paternal child-rearing style are few among many dynamic and interrelated factors influencing the development and course of social anxiety (see Ollendick & Hirshfeld-Becker, 2002). Moreover, the current focus on specificity may have contributed to the lack of significant findings. That is, the nonfindings and small effect size may be due in part to the attempt to control for highly interrelated variables with shared construct variance. Results emphasize the importance of considering specificity and call into question previous research not including appropriate controls (e.g., measures of general anxiety and depression).

In summary, research investigating parental influences on social anxiety has focused almost exclusively on mother-child relations. Additionally, self-report and retrospective methods appear common, with few studies including behavioral measures within the context of parent-child interactions. Interesting differences in father behavior were noted in this study, marking an initial step toward understanding unique paternal correlates of child social anxiety and other internalizing symptoms, particularly depression. Overall, results demonstrate the importance of: (a) obtaining children's perceptions of parental style, (b) conducting behavioral observations in multiple contexts, (c) controlling for shared construct variance, and (d) including fathers in psychopathology research.

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