Published in final edited form as:
J Clin Child Adolesc Psychol. 2008 April ; 37(2): 303–313. doi:10.1080/15374410801955839.

Parental Responses to Positive and Negative Emotions in Anxious and Nonanxious Children

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Abstract

This study examined the role of multiple children's emotions and parental anxiety during parent–child interactions of anxiety disordered (AD) and nonanxious (NA) children ages 7 to 13 years. Families (mother, father, child) each discussed three recent and real separate situations in which the child experienced anxiety, anger, and happiness. Results revealed significant differences in behavior between parents of AD and NA children. Maternal behavior, but not paternal behavior, was related to the emotion the child was experiencing. Mothers of AD children displayed greater intrusive involvement than mothers of NA children in those situations in which the child was experiencing negative affect. A significant interaction was evident between maternal anxiety disorder and emotion, whereby anxious mothers were more intrusive in situations involving anxiety and anger (compared to positive emotion situations), whereas nonanxious mothers were more intrusive only during situations involving anger.

Overinvolved and overcontrolling parenting has been associated with anxiety and anxiety disorders in youth (see Ginsburg, Siqueland, Masia-Warner, & Hedtke, 2004), but the majority of empirical support has come from retrospective questionnaires assessing anxious adults (see Rapee, 1997). Recently, studies have used observations and coding systems to examine the actual interpersonal interactions of children with anxiety disorders (AD) and their parents. The findings support the notion that parents of anxious children are more involved, more encouraging of avoidant behavior, and less encouraging of autonomy and independence than parents of nonanxious (NA) children (e.g., Barrett, Rapee, Dadds, & Ryan, 1996; Hudson & Rapee, 2001; Siqueland, Kendall, & Steinberg, 1996). Although the effect sizes are modest (Rapee, 1997), such parenting behavior may be important in understanding the development and maintenance of childhood anxiety.

Several theories emphasize the transactional and cyclical nature of parent-child interactions in which overinvolved, intrusive parenting behavior may occur. Overinvolved, intrusive parenting may be elicited by the child's anxious behavior in an effort by the parent to reduce the child's distress (Hudson & Rapee, 2004; Manassis & Bradley, 1994). Although parental involvement may reduce the child's distress in the short term, repeated overinvolvement then serves to maintain the child's anxiety over the long term by denying the child opportunities to master anxious situations. Consequently, the child's anxious behavior persists, eliciting further

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parental involvement. Few studies have investigated this cyclical and causal relationship between childhood anxiety and intrusive parenting behavior.

Several parenting constructs have been associated with child anxiety: overinvolvement, encouragement of avoidance, lack of autonomy granting, control, and overprotection. Although these constructs differ somewhat, there is meaningful overlap. For instance, the ultimate consequence of such parenting behavior is limited exposure for the child to anxiety-provoking situations and to their resolution. By having fewer opportunities to face uncomfortable situations (through parental restriction), the child is unable to experience the situation, to gather information regarding expectations for the future, or to assess and develop his or her ability to cope. Children who use adaptive coping skills to face feared situations are hypothesized to develop a sense of mastery and competence (Kendall, Aschenbrand, & Hudson, 2003). The terms *intrusive involvement* and *overinvolvement* are often used synonymously to capture parental involvement that does not grant the child developmentally appropriate autonomy and does not allow the child to experience and solve situations on his or her own.

Another factor hypothesized to be associated with child anxiety is parental anxiety (Hudson & Rapee, 2004; Whaley, Pinto, & Sigman, 1999). Given the increased focus on threat seen in persons with anxiety, an anxious parent might be more likely to notice potential threats to his or her child, leading to protective and overinvolved parenting. Using observational methods to study anxious mothers and control mothers of (children ages 7−14), Whaley et al. (1999) found that anxious mothers displayed greater criticism and less autonomy granting than control mothers during three tasks (i.e., ideal person card sort, anxious discussion, conflict discussion). It is interesting that the presence of child anxiety also predicted less maternal granting of autonomy. Cobham, Dadds, and Spence (1999) also found that anxious mothers were more likely than nonanxious mothers of anxious children to expect anxious behavior in their child. Both parental anxiety and child anxiety contributed to a restrictive style of parenting. In contrast, Woodruff-Borden, Morrow, Bourland, and Cambron (2002) showed that anxious parents were significantly less productively engaged, were more withdrawn, and ignored their children to a greater extent than parents without an anxiety disorder. Perhaps children's expressions of negative affect create discomfort for anxious parents and the parents' attention becomes focused on decreasing the negative affect (Woodruff-Borden et al., 2002). Such parenting would not teach adaptive resources for managing distress or negative affect, thereby contributing to child anxiety.

The literature is unclear with regard to whether the parenting behaviors that have been associated with AD children are specific to situations in which the child is anxious or whether such behavior is also present in situations involving other negative emotions (i.e., anger) or positive emotions (i.e., happiness). This study, based on an interactive model, hypothesized that parents of AD children would show more intrusive involvement and less warmth in situations where the child is distressed, that is, parental intrusive involvement and lack of warmth were expected in situations involving negative emotions but not in situations involving positive emotion. It is possible that intrusive involvement and lack of warmth are most prominent in situations that are anxiety provoking for the child (compared to situations involving other negative emotions such as anger). This could suggest that the child's anxiety elicits more intrusive involvement from parents. This study considered parental behavior across three emotions (i.e., anxiety, anger, happiness) and compared negative (anxiety, anger) and positive (happiness) emotions. Whereas research to date has studied hypothetical situations, this study used relevant emotion-provoking situations that occurred in the child's life. There is also a question related to whether parents who themselves have an anxiety disorder, versus those who do not, behave differently during interactions with their AD child. It was

hypothesized that a parent with an anxiety disorder would show more intrusive involvement and less warmth than would parents without an anxiety disorder.

Finally, it was predicted that some AD and NA children would display negative emotions during the family interaction. We examined the "in-the-moment" parental responses to these emotional displays. Given that negative and critical parenting has been associated with the childhood anxiety, we predicted that parents of NA children would respond more supportively than parents of AD children when these negative emotions occurred. In addition, we predicted that parents without an anxiety disorder would respond more supportively than parents with an anxiety disorder when these negative emotions occurred.

METHOD

Participants

Children (n = 84), ages 7 to 13 years, and their parent(s) participated. AD children (55) were seeking treatment, and NA children (29) were from the community (see Table 1). Ninety-six percent of mothers and 97% of fathers were biological parents. Participants either sought treatment or were recruited through newspaper ads and stories and through promotions to local schools. All AD children met Diagnostic and Statistical Manual of Mental Disorders (4th ed. [*DSM-IV*]; American Psychiatric Association, 1994) criteria for a principal diagnosis of generalized anxiety disorder (n = 31), social phobia (n = 20), separation anxiety disorder (n = 14), or selective mutism (n = 1). Eleven children had more than one principal diagnosis (i.e., two disorders were of equal severity). One of these children had a primary diagnosis of both social phobia and selective mutism. Of the AD children, 68% met criteria for more than one anxiety diagnosis, 10.7% met criteria for a comorbid mood disorder, and 28.6% for a comorbid behavior disorder (oppositional defiant disorder, attention deficit hyperactivity disorder). Children were not included in the AD group if a nonanxiety comorbid diagnosis was more severe than the anxiety diagnosis.

The NA children (n = 29) were community children not seeking treatment and not meeting criteria for an anxiety or depressive disorder. One NA child did meet criteria for oppositional defiant disorder, and another child met criteria for functional enuresis. Families with NA children received $100 for participation. For both NA and AD groups, exclusion criteria were significant intellectual delays, evidence of psychoses, and use of antianxiety or antidepressant medication. It was also required that families have at least one English-speaking parent.

Measures

Child anxiety—Child anxiety disorders were assessed using the Anxiety Disorders Interview Schedule–IV Child and Parent version (ADIS–C/P; Silverman & Albano, 1996). This instrument has good retest reliability (Silverman, Saavedra, & Pina, 2001), and good interrater reliability (Lyneham, Abbott, & Rapee, 2007). Diagnosticians received extensive ADIS training and were required to match on three of four consecutive interviews (as an observer) and on three of four consecutive interviews as the interviewer. To match, the diagnostician had to agree with the reliable interviewer on all diagnoses within one clinical severity rating (CSR) and to distinguish between meeting and not meeting diagnostic levels (CSR = 4). Reliability checks on 10% of the child and parent interviews were conducted, and a kappa level of 0.80 was maintained.

To determine principal diagnoses, the ADIS composite was used, as recommended (Silverman & Albano, 1996). Specifically, if either parent or child report reaches clinical severity then the diagnosis is given in the composite diagnostic profile. If both parent and child report a diagnosis in the subclinical range (CSR < 4), then a subclinical diagnosis is given in the composite profile.

Finally, if parent only or child only report a diagnosis in the subclinical range, then the diagnosis is not given.

Parent psychopathology—Parental anxiety was assessed using the ADIS–IV–Lifetime version (ADIS–IV–L; DiNardo, Brown, & Barlow, 1994). The ADIS–IV–L is a structured interview used to diagnose current and past episodes of adult anxiety disorders. In addition, the instrument includes assessments of current and past mood, somatoform, and substance use disorders. Graduate psychology students received extensive ADIS training and were required to be reliable in the same manner as described for the ADIS-C/P. Reliability checks were conducted during the study demonstrating that a kappa level of 0.80 was maintained.

Parent–child interaction—Parents and children provided three 5-min discussions about recent real situations in which the child experienced either a positive (i.e., happiness) or negative (i.e., anxiety, anger) emotion. These interactions were videotaped. Parent and child behavior during the interactive discussion was coded from videotape. Two undergraduate psychology students received extensive training in the coding system (adapted from Hudson & Rapee, 2001). Coders attended five training sessions in which each of the codes were explained with taped interactions (not included in the current sample) as examples of the scales and their anchors. Coders were required to rate three sets of five interactions in which they needed to reach criterion (intraclass correlation [ICC] > .80 or κ > .80). Reliability was maintained throughout the study (Mother-Child Warmth ICC = .75, Father–Child Warmth ICC = .76, Maternal Intrusive Involvement ICC = .75, Paternal Intrsuive Involvement ICC = .81, Child Affect ICC = .85, Respond supportively κ = .85, Respond Negatively κ = .85). Discrepancies during coder training were discussed at length. Coders were unaware of the child's and the parents' anxiety status, and each interaction was coded twice. For continuous variables, an average of each rating was used for the analyses. For categorical variables, when the coders disagreed, an advanced rater (PhD candidate, also unaware of the child's status and also trained in the coding system) coded the interactions to resolve the discrepancy, and the advanced coder's score was used in the analyses. As a manipulation check, 20% of the interactions were reviewed by an additional coder to check that the correct emotion was discussed. To do this, the coder was asked to identify the emotion targeted in the interaction. The coder was able to correctly identify the emotion being discussed 100% of the time.

Ratings were made for the child/parent's behavior during each of the three situations discussed (i.e., anxious, angry, happy situation), resulting in 15 ratings per family. Ratings on a 1-to-5 scale were used to assess the following:

1. Parent–Child Warmth—The degree of warmth the parent displayed to the child during the target emotion situation, independent of the discussion. Coders attended to the degree of discomfort between the dyad, parental criticism or encouragement, degree of responsiveness, and support. A 1 was given to an interaction that was *not at all warm*, with several incidents of criticism from the parent. Such an interaction was uncomfortable and distant, and the parent did not acknowledge or accept the child's feelings. A 2 reflected an interaction that was only *a little warm* and was not comfortable. There may have been incidents in which the parent was critical, frustrated, unresponsive or irritable. A 3 was assigned to a *somewhat warm* interaction in which there were no obvious expressions of coldness, encouragement, or support. A 4 was given to an interaction that was *moderately warm*, with the parent being supportive of the child and no frustration or hostility present. The dyad was accepting and comfortable with each other. A 5 reflected an interaction that was *very warm*. The parent genuinely encouraged, accepted, and supported the child (positive feeling of warmth evident between the dyad) and no criticism or coldness was evident.

2. Parental Intrusive Involvement—The degree to which the parent was intrusive or controlling during the target emotion situation, independent of the discussion. That is, did the parent "take over" the situation in a negative way? Did the parent not allow the child to handle the situation themselves? Did they ignore the child's autonomy in the situation? A 1 was given to a parent who was *not at all intrusive* during the target emotion situation. The parent allowed the child to be involved and to handle the situation. A 2 was assigned to a parent who was only *minimally intrusive*, and perhaps it occurred only once. The intrusion was not severe enough to change the course of how the situation was handled. A 3 was given to a parent who was *somewhat intrusive*, more than one incident in which the parent interrupted or responded in a controlling way. A 4 reflected a parent who was *moderately intrusive*. There may have been several incidents of control or intrusiveness, or one or two incidents of extreme behavior. A 5 was used to indicate a parent who was *very intrusive*. The child may have been overwhelmed by the parent's intrusiveness and control. The parent did not allow the child any "say" in the situation.

3. Child Affect—Was the child positive during the situation or did he or she display negative affect (anger, hostility, sadness, impatience)? A 1 indicated a child who was *not at all positive*. The child may have been very angry, impatient, or sad. Some aggression may have been apparent. A 2 was given to a child who was only *a little positive*. The child may have been slightly angry or sad (withdrawn or indifferent). The child was neither happy nor comfortable. The child may have expressed a negative comment or an expression of frustration. A 3 was assigned to a child who was *somewhat positive* but with only modest expressions of positive or negative affect. The child may have been uncomfortable and tense, but there were no obvious signs of anger or hostility or happiness. A 4 reflected a child who was *moderately positive*. The child was happy, content, or cheerful, whereas a 5 was given to a child who was *very positive*. A child who rated 5 was very happy, excited, or very cheerful. There was no evidence of tension or negative affect.

Across tasks, the coders recorded instances of the child displaying negative emotion (anger, sadness, anxiety) during the discussion. For example, a child may have cried, yelled at his or her parents, kicked the chair, or become embarrassed. An instance was coded even if it was brief, and when more than one display of negative emotion occurred each display was recorded. Only those displays that were reliably identified by two coders were included in the analyses. The coders rated the severity of the child's emotional display and the parents' response to it. Parents' responses were categorized into negative responses (criticize, become upset, talk over the child, and change topic) and positive responses (acknowledge the child's distress and respond supportively). A parent could have multiple responses to the same display. For example, a parent may talk over the child and criticize the child. Thus, the parent would be categorized as having responded negatively. If the parent initially responded in a supportive way but then became critical, this would be categorized as a negative response because the parent's response could no longer be considered supportive.

Procedure

Approval for this research was secured from the Institutional Review Board of Temple University. After obtaining parental consent, structured diagnostic interviews about the child were administered separately to both parents and to the child (using different interviewers). Diagnosticians were unaware of whether the family was seeking treatment or from the community. The family returned to the clinic for the parent-child interaction tasks and for the interviews with each parent to diagnose current or past adult anxiety disorders. Diagnosticians were again unaware of the family's status. For the AD group, all procedures were conducted before treatment.

The parent–child interaction task involved discussions about three recent situations in which the child felt very anxious, angry, and happy. The child considered the topics and their own examples of each and then chose one (often with parental help). Examples include completing a homework assignment (anxious), having to go to camp (anxious), arguing with parents about the TV (angry), not being allowed to visit a friend (angry), visiting a grandparent's farm (happy), and receiving a good mark on an assignment (happy). The situations discussed had to be recent (e.g., in the last few months) and had to involve all family members present in the discussion. The experimenter was in the room when the situation was chosen and clarified the situation and emotion before leaving the room. If the family chose a situation in which the emotion did not clearly fit with the task (e.g., the family chose an anxiety-provoking situation for the angry situation) or involved a mild emotion (e.g., the child was merely content rather than very happy), the experimenter asked the family to choose another situation. The family was then asked to "relive" the situation and to talk about the situation for 5 min. The interaction did not involve a reenactment of the situation but rather a discussion/processing of what had occurred. The following questions were asked to help the families discuss the situation: "What did you each do in the situation? Were you satisfied with the way you responded to each other? Would you act the same way if the situation happened again?" To keep the discussion focused, the families were given a card displaying the emotion they were discussing. The experimenter was not present during the discussion. The order of the three discussions was counterbalanced.

RESULTS

Descriptive Analyses

Table 1 summarizes the demographic information for the AD and NA groups. No significant differences were found between the families of AD and NA children. Parent diagnoses were analysed using chi-square tests (see Table 2). No significant differences were evident between the groups when comparing current and past anxiety or mood disorders. However, when using all current disorders assessed by the ADIS (e.g., anxiety, mood, somatoform, substance abuse) mothers of AD children were more likely to meet criteria than mothers of NA children.

Parent–Child Interaction

Interactions involving 43 AD and 26 NA children could be coded for parental intrusiveness and/or parent-child warmth during the three situations ($n = 207$ situations). Fifteen participants were excluded because the family did not discuss the three situations in enough to detail for coders to formulate a rating. This usually occurred when the discussion focused primarily on the child's response in the situation and not the parent's or when the discussion was diverted to another topic. In addition, there were some situations in which there was not enough information to code mother-child warmth ($n = 1$) or father–child warmth ($n = 8$). These families were included in analyses involving parental intrusiveness but not parental warmth. There were no significant differences between excluded and included families on any of the demographic variables or symptom measures.

Two parents were present during 74% ($n = 153$) of the situations, and 26% ($n = 54$) of situations involved only mother and child. First, dyadic situations were compared to triadic situations on mother and child variables using *t* tests. Results showed nonsignificant differences in child affect, mother–child warmth, and maternal intrusiveness between dyadic and triadic interactions, indicating that these situations can be combined for further analysis.

To examine whether AD and NA children chose situations of similar emotional content and intensity, the child's affect was compared across group (AD vs. NA) and target emotion (anxiety, anger, happiness). A significant group effect, $F(1, 78) = 11.90$, $p = .00$ (power = .93, $\eta^2 = .13$), and a significant emotion effect, $F(2, 156) = 433.77$, $p = .00$ (power = 1.0, $\eta^2 = .85$),

were found. The Group × Emotion interaction was nonsignificant. Follow-up pairwise comparisons showed that AD children displayed less positive affect in the situations than did NA children (AD $M = 2.50$, $SD = 0.38$; NA $M = 2.7$, $SD = 0.32$), and as would be expected, children displayed more negative affect during the angry and anxious situations than the happy situation, and less positive affect was displayed in the angry than the anxious situation (anxious $M = 1.91$, $SD = 0.56$; angry $M = 1.72$, $SD = 0.48$; happy $M = 4.11$, $SD = 0.59$). Accordingly, child affect was a covariate in subsequent analyses.

There were significant negative correlations between maternal warmth and maternal intrusive involvement ($r = -.27$, $p = .02$) and between paternal warmth and paternal intrusive involvement ($r = -.44$, $p = .00$). Child affect was also significantly correlated with maternal warmth ($r = .27$, $p = .03$), and paternal warmth ($r = .31$, $p = .04$) but was not significantly correlated with maternal or paternal intrusive involvement ($p > .5$).

General linear model procedures were conducted using SPSS to examine differences in parent behavior during the situation across the three emotions (see Table 3). These analyses included two between-subjects variables: child group (AD, NA) and parent group (no current or past AD, current or past AD). Additional analyses examined the impact of only current parental anxiety disorders. That is, a parent was included in the AD group only if meeting criteria for a current anxiety disorder (rather than current or past disorder). When maternal variables were examined (e.g., mother-child warmth), maternal anxiety disorder was the parent group variable. When paternal variables were examined (e.g., father–child warmth), paternal anxiety disorder was the parent group variable. The within-subjects variable was the target emotion (anxious, angry, happy). When significant emotion effects were found, follow-up comparisons were conducted to compare discrete emotions (Bonferroni correction: critical alpha set at .05/3 = .02) and negative versus positive emotions (Bonferroni correction: critical alpha set at .05/2 =.03). When group effects were found, follow-up comparisons were conducted to compare AD and NA differences (critical alpha set at .05). To control for AD and NA differences in child affect, the child's mean affect across situations was entered as a covariate. Initial analyses were conducted to examine the role of gender of the child; as this variable did not qualify any of the findings, it is not be considered further.

Maternal warmth—Although no significant main effects were observed for emotion, child group, or parent group, there was a significant Emotion × Child Group interaction effect for mother-child warmth, $F(2, 126) = 3.26$, $p = .04$ (power = .61, $\eta^2 = .05$). Follow-up comparisons revealed that the interaction occurred between the anxious and the positive emotion situation, the mothers of AD children showed significantly less warmth in the anxious situation compared to the positive emotion situation whereas mothers of NA children showed no change between the two emotion situations, $F(1, 63) = 8.72$, $p = .004$ (power = .83, $\eta^2 = .12$). Table 3 shows that mothers of AD children displayed greater warmth during the positive emotion situation than mothers of NA children. A further follow-up comparison examined mother–child warmth during both of the negative emotion conditions compared to the positive emotion condition (e.g., anxious/angry vs. happy). No significant effect was found, and the Emotion × Parent Group interaction was nonsignificant. The results were comparable when current maternal anxiety disorders were examined.

Paternal warmth—No significant main effect of emotion or parent group was found, but the child group effect was significant, $F(1, 38) = 5.87$, $p = .02$ (power = .66, $\eta^2 = .13$). Fathers of AD children were significantly less warm during all situations than fathers of NA children. No significant interactions were found. In contrast, when the presence of a current paternal anxiety disorder was the criterion, a significant Parent Group × Child Group interaction was found, $F(1, 38) = 6.18$, $p = .017$ (power = .67, $\eta^2 = .14$). Fathers of AD children were significantly less warm than fathers of NA children, only when the father had a current anxiety disorder, $F(1,$

38) = 10.15, $p = .003$ (power = .87, $\eta^2 = .21$; AD children: $M = 2.88$, $SD = .21$; NA children: $M = 4.09$, $SD = .30$). No significant differences were found between fathers of AD and NA children when the father did not meet criteria for a current anxiety disorder, $F(1, 38) = 2.65$, $p = .11$ (power = .36, $\eta^2 = .07$; AD children: $M = 2.97$, $SD = .09$; NA children: $M = 3.20$, $SD = .12$).

Maternal intrusive involvement—Although no main effect was observed for emotion or parent group, a significant main effect of child group, $F(1, 64) = 5.36$, $p = .02$ (power = .63, $\eta^2 = .08$), was found for mother's intrusive involvement. The Child Group × Emotion interaction was significant, $F(2, 128) = 3.22$, $p < .05$ (power = .61, $\eta^2 = .05$), and the interaction of Parent Group × Emotion was significant, $F(2, 128) = 3.05$, $p = .05$ (power = .58, $\eta^2 = .05$). Follow-up comparisons showed that mothers of AD children displayed significantly more intrusive involvement in the angry situation compared to the positive emotion situation, whereas mothers of NA children showed no significant difference between the two emotion situations, $F(1, 64) = 5.36$, $p = .02$ (power = .63, $\eta^2 = .08$). Table 3 shows that mothers of AD children were significantly more intrusive in the angry situation compared to mothers of NA children. A further follow-up revealed a significant difference, for intrusive involvement during the negative emotion situations compared to the positive emotion situation: Mothers of AD children displayed significantly more intrusive involvement than mothers of NA children during the negative emotion (anxious, angry) situations, but not during the positive emotion situation, $F(1, 79) = 5.16$, $p = .03$ (power = .62, $\eta^2 = .06$).

Mothers without current or past anxiety disorders showed greater intrusive involvement in the angry situation compared to the anxious situation whereas mothers with current or past anxiety disorders showed equivalent involvement during the anxious and angry situations, $F(1, 64) = 4.42$, $p < .05$ (power = .54, $\eta^2 = .07$). Although the interaction was significant, the pairwise comparisons between mothers with and without anxiety were nonsignificant for the anxious, $F(1, 64) = 2.17$, $p > .05$ (power = .54, $\eta^2 = .07$); angry, $F(1, 64) = 1.96$, $p > .05$ (power = .28, $\eta^2 = .03$); and happy situations, $F(1, 64) = 0.73$, $p > .05$ (power = .13, $\eta^2 = .01$). Follow-up comparisons were conducted within parent groups to further investigate the interaction. Mothers with current or past anxiety disorders displayed significantly less intrusive involvement in the positive emotion situation compared to the anxious situation and angry situation ($p < .02$). Mothers without anxiety disorders, on the other hand, showed significantly greater intrusive involvement in the angry situation compared to the positive emotion situation and anxious situation ($p < .02$). When the presence of a current maternal anxiety disorder was the criteria for the parent group, there was no significant effect for parent group and no significant Parent Group × Child Group interaction or Parent Group × Emotion interaction.

Paternal intrusive involvement—Main effects on father's intrusive involvement of emotion, parent group, and child group were nonsignificant, and the interaction effects were nonsignificant. The results were comparable when current paternal anxiety disorders were examined.

Displays of negative emotion—Of the entire sample, 18 youth displayed negative emotions during the discussions (10 AD; 8 NA), and 46 emotional displays were witnessed (29 displays from AD and 17 from NA children). There were no significant differences on demographic and parent symptom variables (i.e., age, gender, marital status, family income, parent's education level, or anxious and depressive symptoms) between those children who displayed negative emotions during the tasks and those who did not.

There was no significant difference in the severity of the emotion displays between groups. However, parents of AD children were more likely to respond to the child's negative emotion with nonsupportive responses (e.g., criticism, talking over the child, disagreeing, becoming

upset, ignoring) than parents of NA children, $\chi^2(1, N = 18) = 8.65$, $p = .003$. Parents with a current or past anxiety disorder did not differ in their response to the child's negative emotion as compared to parents without anxiety (see Table 4).

DISCUSSION

Consistent with previous research (e.g., Siqueland et al., 1996), modest but significant differences in parent responses were found between parents of AD children and parents of NA children. Specifically, our results indicate that mothers of AD children displayed more intrusive involvement than did mothers of NA children in situations in which the child displayed a negative emotion (particularly angry situations) but not in situations involving positive emotion. A similar pattern emerged for maternal warmth: In contrast to mothers of NA children, mothers of AD children displayed significantly less warmth during the anxious situation than the situation involving positive emotion. Mothers of AD children displayed significantly more warmth during the situation involving positive emotion than mothers of NA children.

Our results indicate that the nonpreferred parenting behavior found in parents of anxious children (see also Siqueland et al., 1996; Suveg, Zeman, Flannery-Schroeder, & Cassano, 2004) is specific to the type of emotion the child displays, suggesting that the child's negative mood prompts a mother to intrude into the child's activity. This parenting behavior of increased intrusive involvement appears to be specific to situations involving negative emotion and is consistent with a cyclical model of the development and maintenance of anxiety (e.g., Hudson & Rapee, 2004; Manassis & Bradley, 1994), which asserts that parents of anxious children are likely to be overinvolved in situations in which the child is distressed (i.e., experiencing negative emotion). In an effort to reduce the child's distress, parents of anxious children are more likely to provide increased assistance to the child. This behavior is not present in situations in which the child is happy.

A critical question is whether parental intrusion occurs as a response to a stressful situation involving an anxious child or represents a parent's inability to tolerate negative emotion. The findings of Hudson and Rapee (2002) are relevant. They reported similar levels of maternal overinvolvement in parent–child interactions under stressful conditions both involving clinically anxious children and involving a less anxious sibling. Taken with the present findings that maternal overinvolvement occurs in response to situations involving negative emotions, it appears that parents experience difficulty tolerating the child's emotional distress and are more likely to assist a child (anxious or not) in emotionally negative situations.

In our study, structured diagnostic interviews assessed parental disorder. The results showed high rates of parental psychopathology, with mothers of AD children being more likely than mothers of NA children to have a current psychological disorder. Also consistent with previous research (e.g., Last, Hersen, Kazdin, Francis, & Grubb, 1987), almost half of the mothers of AD children met criteria for a current or past anxiety disorder. Although there were no significant differences between the rates of parental anxiety disorders between the AD and NA groups of youth, the trend was for mothers of AD children to be more likely to have a current or current/past anxiety disorder than mothers of NA youth. The lack of significance may be linked to the slightly higher rates of disorder in the NA group than typical for a community sample.

Maternal anxiety disorders were associated with maternal behavior in specific parent–child interactions. These results need to be interpreted with caution as although the interaction was significant comparing anxious and angry situations, the follow-up tests comparing anxious and nonanxious mothers were not significant. Furthermore, when only current maternal anxiety disorders were examined, no significant interactions were evident suggesting that current

maternal anxiety may be of less importance than the presence of anxiety disorder in the parent's history. Nevertheless, the results indicate that anxious mothers (current or past anxiety) were more intrusive in situations involving anxiety and anger (compared to positive emotion situations), whereas nonanxious mothers were only more intrusive during situations involving anger. These results reflect that the presence of a maternal anxiety disorder has a differential impact on interactions in which the child displays anxiety and anger compared to positive emotions. Perhaps children of anxious mothers behave in a certain manner (yet unidentified) in both anxious and angry situations that elicits intrusive involvement from their mothers. Perhaps the child's negative emotion itself evokes intrusive involvement in anxious mothers. In either case, our findings help explain previous conflicting results. For example, Turner, Beidel, Roberson-Nay, and Tervo (2003) reported nonsignificant differences in observed parental overprotectiveness between anxious and normal parents during nonemotionally charged situations. In contrast, Whaley et al. (1999) used emotionally charged tasks (e.g., a conversation about a conflict situation) and found that anxious parents were significantly more controlling than nonanxious ones. Taken together, including our results, it appears that overinvolved parenting in anxious mothers may be evoked in emotionally charged situations. Our findings further suggest that overinvolvement is activated in anxious mothers specifically in situations in which the child is anxious and angry.

Fathers are often not included in research involving family interactions of anxious children. However, the limited previous research examining father–child interactions in child anxiety (using questionnaires) found that anxious adults retrospectively report lower levels of paternal warmth and higher levels of paternal overprotection during their own childhood than nonanxious adults (Arrindell et al., 1989). For the majority of our participants, we were able to examine the role of fathers. Fathers of anxious children were significantly less warm than fathers of nonanxious children. When current paternal anxiety was examined, paternal warmth was dependent on the anxiety status of the child and the father, with anxious fathers of anxious children displaying significantly less warmth than anxious fathers of nonanxious children. Unlike mothers, however, this nonpreferred parenting behavior was not specific to the emotion the child was experiencing but occurred across situations. Mothers and fathers may play a differential role in the socialization of emotions. For example, Garside and Klimes-Gougan (2002) reported that mothers were more involved in socializing negative affect than were fathers, and father–child interactions may be more affected than mother–child interactions by the quality of father–mother relationship (Amato & Keith, 1991; Cummings & O'Reilly, 1997). Although our study was not designed to do so, future work would do well to examine the context of the marital relationship when studying parenting behavior. Given the low incidence of paternal anxiety disorders in this sample, the interaction between paternal anxiety and child anxiety needs to be replicated in future research.

When the subset of children who displayed negative emotions during the discussion was examined, the results showed that parents of AD children were more likely to respond to the child's negative emotion with nonsupportive responses (i.e., criticism, talking over the child, disagreeing) than parents of NA children. This pattern is consistent with the lower levels of parental warmth found in this study and supports previous research also showing lower levels of parental warmth in parents of anxious children (see Rapee, 1997; Wood, McLeod, Sigman, Hwang, & Chu, 2003). Although the emotional displays during the discussions were not more severe than those of NA children, parents of AD children were less likely to respond with warmth to the child's distress. Emotion socialization theorists have proposed that a parent's response to children's expression of emotion is fundamental to the shaping of children's long-term communication and emotional style (Malatesta-Magai, 1991). Using observational methods, Malatesta and Haviland (1982) found that mothers influenced the child's positive affect by avoiding negative expressions and restricting displays of affect to positive emotions. The literature (e.g., Malatesta & Wilson, 1988) further suggests that parental punishment (i.e.,

a negative response) of negative emotions is linked to child psychopathology. Suveg and colleagues (2004) found that mothers of AD children discouraged children's emotion discussions more than mothers of NA children. Taken together, parents of anxious children show less positive responses to child displays of negative emotion.

Although our use of recalled real (not hypothetical) situations enhanced relevancy, such an approach sacrificed standardized/consistent situations. Procedures were implemented to increase consistency across situations (e.g., experimenter guidance, controlling for the child's severity of negative affect in analyses), but the findings merit replication with standardized situations. A potential, related limitation is the reliance on coding interactions during recall of an event. Coding a discussion of a past event may provide different information to coding a real-time event. Observations of parents and children interacting in naturally occurring emotional situations would also be informative. It is also important to note that parenting as a pathway to an anxiety disorder provides only part of the etiological picture. Multiple causal factors are likely including genetic heritability, parental modeling of anxious behavior, and traumatic life events (see Gar, Hudson, & Rapee, 2005).

The current AD group was treatment seeking, and the identified differences between parents of AD and NA children may be related to this aspect of the AD sample. Parents seeking treatment for their anxious child may represent a subset of parents of anxious children. However, questionnaire studies of nonclinical samples also report an association between anxiety and controlling parenting (e.g., Muris, Meesters, Schouten, & Hoge, 2004). Although replication with a nontreatment-seeking sample is of merit, the results are unlikely to be specific to treatment-seeking populations. Our sample is primarily Caucasian and middle-class, potentially limiting generalizability. In addition, the study combined two- and one-parent interactions. Despite the lack of differences on the dependent variables between these interaction types, it is possible that the mother-child or father-child interactions differ in other ways depending on who is present. Although there were too few single-parent interactions to allow for statistical testing, future research designed to compare these interaction types is warranted.

Prospective research can assess the cyclical link between parenting behavior and child anxiety. Rubin, Burgess, and Hastings (2002) found that maternal overcontrol and derisive behavior moderated the relationship between inhibition at 2 years and social reticence at 4 years of age, and Rubin, Nelson, Hastings, and Asendorpf (1999) found that shyness at age 2 predicted the degree to which parents discouraged the child's independence. Rubin et al. (1999) suggested that child temperament predicts parent behavior, and further research examining the complex interaction between child and parental behavior is warranted.

Implications for Research, Practice, and Policy

Our findings reflect “in-the-moment” information about parent-child interactions and may help inform treatment. Treatment for anxious youth may benefit from including a specific focus on increasing parents’ ability to acknowledge and tolerate the child's distress without avoidance and without intruding. Our findings also point to aspects of the father-child relationship that warrant attention, particularly when the father has a current anxiety disorder. Targeting paternal warmth and acceptance may prove to enhance children's outcomes.

Historically, parenting research has been unidirectional—assuming that parents influence children but that children do not affect parent behavior (see Cummings, Davies, & Campbell, 2000). Our findings indicate that mothers are influenced by their child (e.g., intrusive involvement in mothers of anxious children being limited to situations in which the child is experiencing a negative emotion). Such findings help explain some of the inconsistencies in the literature (see Rapee, 1997; Wood et al., 2003), particularly with regard to the situations

studied and to the reliance on questionnaire measures. If maternal overinvolvment and reduced warmth is specific to situations involving negative child emotion, then tasks not designed to elicit these emotions would not be informative. Furthermore, parents and children responding to questionnaires regarding parenting styles are likely referring to the parents' global parenting styles rather than parenting practices under (stressful) conditions when the child is experiencing a negative emotion.

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TABLE 1

Demographic Characteristics of Children with Anxiety Disorders and Nonanxious Children

	Anxiety Disordered		Nonanxious	
	n	**%**	**n**	**%**
Child's Age (Years)[a]	55		29	
Child's Gender				
Male	32	58.2	13	44.8
Female	23	41.8	16	55.2
Child's Ethnicity				
Caucasian	49	89.1	25	86.2
African American	5	9.1	3	10.3
Other	1	1.8	1	3.5
Child's Living Arrangements				
Mother and Father at Home	46	83.3	23	79.3
Mother Only in Home	4	7.4	5	17.2
Foster Home/Guardian	1	1.9	0	0
Other	4	7.4	1	3.4
Mother's Highest Level Education[b]				
High School Graduate	22	41.5	10	37.0
College Graduate	18	62.1	11	40.7
Graduate Training	11	20.8	5	18.5
Other	2	3.8	1	3.7
Family Income[c]				
Under $20,000	1	1.9	2	7.7
$20−40,000	5	9.6	3	11.5
$40−60,000	7	13.5	6	23.1
$60−80,000	20	38.5	7	26.9
Over $80,000	19	36.5	8	30.8

[a] Anxiety disordered age $M = 9.81$, $SD = 1.70$; nonanxious age $M = 9.45$, $SD = 1.43$.

[b] Four families (anxiety disordered, $n = 2$) did not provide the mother's highest level of education.

[c] Six families (anxiety disordered, $n = 3$) did not provide the combined family income.

TABLE 2

Psychopathology in Parents with Anxiety Disorders and Nonanxious Children

	Anxiety Disordered		Nonanxious	
	n	**%**	**n**	**%**
Mother Anxiety Disorder				
Past	14	26.9_{a}	6	20.7_{a}
Current	19	$36.5_{a,}{}^{+}$	6	$17.2_{a,}{}^{+}$
Current/Past	27	$48.1_{a,}{}^{+}$	9	$31_{a,}{}^{+}$
Mood Disorder				
Past	24	46.2_{a}	12	41.4_{a}
Current	1	1.9_{a}	1	3.4_{a}
Current/Past	25	48.1_{a}	12	41.4_{a}
Any Disorder				
Past	24	46.2_{a}	12	41.9_{a}
Current	22	42.3_{a}	5	17.2_{a}
Current/Past	32	61.5_{a}	14	48.3_{a}
Father Anxiety Disorder				
Past	15	31.3_{a}	4	22.2_{a}
Current	8	17.4_{a}	2	11.1_{a}
Current/Past	19	14.3_{a}	6	33.3_{a}
Mood Disorder				
Past	18	38.3_{a}	8	44.4_{a}
Current	3	6.4_{a}	1	5.6_{a}
Current/Past	20	42.6_{a}	8	44.4_{a}
Any Disorder				
Past	18	38.3_{a}	8	44.4_{a}
Current	14	29.8_{a}	4	22.2_{a}
Current/Past	22	46.8_{a}	10	55.6_{a}

Note: Means sharing subscripts across rows are not significantly different at the critical alpha ($p < .05$).

$^{+}p = .07$.

TABLE 3

Estimated Marginal Means for Parental Warmth and Parental Intrusive Involvement Across Three Emotion Conditions

	Child Group						Parent Group					
	AD			NA			Current or Past AD			No Current or Past AD		
	n	M	SE	n	M	SE	n	M	SE	n	M	SE
Maternal Warmth	42			26			32			36		
Anxious		2.93_a	.12		3.11_a	.17		3.03_a	.16		3.01_a	.12
Angry		2.62_a	.09		2.57_a	.13		2.52_a	.12		2.68_a	.10
Happy		3.56_a	.08		3.23_b	.12		3.37_a	.11		3.41_a	.09
Paternal Warmth	28			15			26			17		
Anxious		2.87_a	.13		3.35_b	.18		3.24_a	.16		2.98_a	.13
Angry		2.48_a	.14		3.06_b	.19		2.87_a	.17		2.68_a	.14
Happy		3.56_a	.12		3.61_a	.16		3.72_a	.15		3.45_a	.12
Maternal Instrusiveness	43			26			39			30		
Anxious		1.30_a	.07		1.19_a	.10		1.33_a	.09		1.16_a	.07
Angry		1.73_a	.10		1.29_b	.15		1.39_a	.14		1.63_a	.11
Happy		1.02_a	.02		1.01_a	.03		1.00_a	.03		1.04_a	.02
Paternal Instrusiveness	36			15			30			21		
Anxious		1.42_a	.13		1.08_a	.21		1.18_a	.19		1.31_a	.15
Angry		1.46_a	.11		1.17_a	.17		1.24_a	.15		1.39_a	.13
Happy		1.04_a	.02		1.00_a	.03		1.02_a	.03		1.02_a	.02

Note: Means sharing subscripts across rows (within child group or parent group) are not significantly different at the critical alpha ($p < .05$). AD = anxiety disorder; NA = nonanxious.

TABLE 4

Parent's Response to Displays of Negative Emotion for Child and Parent Groups

	Child Group				Parent Group			
	AD[a]		NA[b]		Current or Past AD[c]		No Current or Past AD[d]	
Type of Response	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Respond Negatively	0	100.0	3	37.5	6	75.0	7	70.0
Criticize	4	40.0	1	12.5	2	25.0	3	30.0
Talk Over/Change Topic	7	70.0	2	25	3	37.5	6	60.0
Ignore	4	40.0	1	12.5	5	62.5	3	30.0
Become Upset	4	40.0	1	12.5	2	25.0	3	30.0
Responding Supportively	0	0.0	5	62.5	2	25.0	3	30.0

[a] $n = 10$.

[b] $n = 8$.

[c] $n = 8$.

[d] $n = 10$.