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ORIGINAL PAPER

Observed Mother and Father Rejection and Control: Association With Child Social Anxiety, General Anxiety, and Depression

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Abstract The parent–child relationship has been recognized as an important micro-ecological context that is thought to influence child anxiety and depression. Much contemporary research has examined child-reports of broad parenting behaviors (e.g., rejection, overprotection) and has overwhelmingly focused on the mother–child relationship. Little research has examined specific parenting behaviors that may be associated with child anxiety and depression, and whether these processes are similar for mothers and fathers and boys and girls. Using a parent–child interaction task, we examined associations among specific mother and father behaviors and child-reported general anxiety, social anxiety, and depression, and explored whether these associations were moderated by child gender. Participants were 90 children (50 % female) aged 9–12 years (*Mage* = 10.28, *SD* = 1.22), 90 fathers (*Mage* = 43.78, *SD* = 6.31) and 90 mothers (*Mage* = 40.67, *SD* = 4.97). Children completed measures of social anxiety, general anxiety, and depression. Families participated in a video-recorded blindly rated interaction task that provided indices of verbal and nonverbal rejection and controlling behaviors. Mothers' physical takeovers (unsolicited physical assistance) were associated with greater child social anxiety and mothers' denial of requests for reassurance were associated with greater child general anxiety. Fathers' critical statements were associated with child-reported depression. Several child gender differences were noted. Findings from our study suggest that mothers' and fathers' specific parenting behaviors are differentially associated with children's social anxiety, general anxiety and depression—and these processes may vary by child gender.

Keywords Observational methodology · Anxiety · Depression · Parenting behaviors

Introduction

Internalizing disorders including anxiety and depression are among the most common forms of psychopathology. Many internalizing disorders are thought to have developmental roots in late childhood (Abela and Hankin 2008; Cartwright-Hatton et al. 2006; Kessler and Wang 2008), and several studies have shown that youth who exhibit higher levels of internalizing symptoms in late childhood continue to experience elevated symptoms throughout adolescence and into adulthood (Ferdinand and Verhulst 1995; Pine et al. 1998; Bittner et al. 2007; Lewinsohn et al. 2008). Identifying contexts that potentially contribute to or protect against child internalizing symptoms has engaged psychologists for several decades. The parent–child relationship may be an especially important context for the development, maintenance, and amelioration of child internalizing symptoms. Parents are thought to engage in behaviors that influence children's emotion regulation skills, self-efficacy, self-competence, and mastery—which in turn may contribute to children's anxiety and depression. To date, much of this research has focused on self-reports of broad parenting tendencies, such as overprotection and rejection and has overwhelmingly focused on the mother–child relationship. Limited research has examined whether

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specific types of observed mother–child and father–child interactions are linked with children's anxiety and depressive symptoms, and whether these links are similar for mothers and fathers and boys and girls.

Developmental and clinical psychologists have long recognized the importance of the parent–child relationship as a context influencing child internalizing symptoms (e.g., Rapee 1997). Much of this work has focused on identifying the processes and conditions through which different parenting styles are linked with anxiety and depression. Parenting styles represent broad tendencies that are typically stratified or categorized across different dimensions of control versus autonomy, warmth versus rejection, or demandingness and responsiveness (Drake and Ginsburg 2012; Rohner et al. 2005). Parenting styles are thought to play an important role in the development of important skills and competencies necessary for healthy emotional adjustment and wellbeing throughout one's life (e.g., Chang et al. 2003). Children of parents who engage in optimal levels of demandingness and responsiveness, control and autonomy, and warmth and rejection often report better social adjustment, lower depression, and lower anxiety (e.g., Pettit et al. 2001). In contrast, children of parents who are overcontrolling, less responsive, and engage in behaviors that prompt feelings of rejection are often at risk for developing internalizing disorders and report poor social functioning (e.g., van der Bruggen et al. 2008).

Substantial evidence suggests that general parenting styles may be linked with child social anxiety, general anxiety, and depression (Yap and Jorm 2015). Specifically, parental overcontrol is thought to be associated with the development of child anxiety-related symptoms and parental rejection associated with the development of child depressive symptoms (McLeod et al. 2007). Parental overcontrol may undermine children's feelings of self-efficacy and increase perceptions of threat, thereby leading to greater feelings of anxiety (Barlow 2002; Rapee 2001). In contrast, parental rejection may undermine feelings of self-worth, thereby leading to greater depressive symptoms (Garber et al. 1997). Several studies have demonstrated that parents' overprotection, overinvolvement, and encouragement of avoidant behavior is linked with children's general and social anxiety symptoms (e.g., Ginsburg et al. 2004; Hudson and Rapee 2001; van Gastel et al. 2009; van der Bruggen et al. 2008). Similarly, studies have consistently shown that parental rejection, unresponsiveness, and criticism is associated with greater child depression (for review, see Yap and Jorm 2015).

The majority of this research has used parent or child self-reports of general parenting tendencies or observational tasks that were coded for control or rejection more broadly (e.g., Krohne and Hock 1991; Hummel and Gross 2001). Few studies have examined how specific parenting behaviors may be linked with child social anxiety, general anxiety, and depression. Parents may establish control and may communicate rejection in several ways, such as *verbally demanding* that an action is performed or by *physically forcing* children to complete a certain task. Other forms of control may be less direct and overt, such as *reiterating instructions* to keep youth on-task. Similarly, rejection may manifest in several ways throughout an interaction and may include behaviors such as active *verbal criticism* or withholding solicited support by *denying reassurance*. The specific type of control or rejection strategy parents use may be important for children's internalizing symptoms. For instance, Greco and Morris (2002) found that during a challenging interaction task, fathers of children with high levels of social anxiety engaged in more physically controlling behavior (but not verbally controlling behavior) than did fathers of children with low levels of social anxiety. Physical control may be a more direct and overt way parents undermine their child's autonomy, thereby contributing to lower self-efficacy and promoting anxiety symptoms. Less is known about how other specific forms of control or rejection are linked to a broad range of internalizing symptoms, including general anxiety, social anxiety, and depression. Examining specific parenting behaviors that are linked with child internalizing symptoms may help further elucidate how parent–child interactions contribute to the development of child anxiety and depression. Further, this knowledge may help practitioners create more efficacious interventions that target and prioritize certain types of parent–child interactions in an effort to reduce child internalizing symptoms.

Identifying links between specific parenting behaviors and child anxiety and depression calls for certain conceptual considerations. The vast majority of previous research has focused on how mothers' parenting behavior may be linked to child and adolescent internalizing symptoms (e.g., Scanlon and Epkins 2015). Far fewer studies have examined whether and how fathers' parenting behavior may also intersect with children's anxiety and depressive symptoms. Further, some evidence suggests that mothers and fathers engage in different parenting styles for boys and girls (McKinney and Renk 2008). For example, fathers are more controlling of boys (compared to girls and mothers), are less concerned with their sons sad and anxious emotional expressions (Chaplin et al. 2005; Snow et al. 1983), and sons rate their fathers as more authoritarian than their mothers (Conrade and Ho 2001). Specific types of mother and father parenting behaviors may be differentially linked to anxiety and depression for sons and daughters. For instance, fathers' controlling behaviors are associated with greater trait anxiety for boys, but not girls (Bögels and Phares 2008; van der Bruggen et al. 2010).

In summary, late childhood is a critical period when youth are at risk for developing internalizing disorders. Previous research has highlighted the potential implications of parental control and rejection for child anxiety and depression. The majority of this work has focused on maternal control and rejection more broadly, and few studies have examined whether mothers' and fathers' specific controlling or rejecting behaviors may be linked with child social anxiety, general anxiety, and depression, and whether these links differ for boys and girls. Our study sought to advance the literature through two primary aims. The first aim was to comprehensively examine whether specific types of mother and father rejecting or controlling behavior were associated with child social anxiety, general anxiety, and depressive symptoms through use of a semi-structured, observed parent–child interaction task. Given that parent and child internalizing symptoms often co-occur and to ensure findings were not due to variation in parental warmth, (Beesdo et al. 2009; Yap and Jorm 2015), analyses accounted for parent-reported internalizing symptoms and child-reported parental warmth. Based on previous research, it was hypothesized that greater parental control-related behaviors would be associated with higher levels of child-reported social and general anxiety symptoms, and greater observed parental rejection-related behaviors would be associated with greater child-reported depressive symptoms. The second aim was to explore whether associations among observed mother and father rejecting and controlling behaviors and child general anxiety, social anxiety, and depression varied by child gender. Based on previous research (van der Bruggen et al. 2010), it was hypothesized that greater father control would be associated with greater anxiety symptoms among sons. More specific gender-based hypotheses were unwarranted at this time due to the exploratory nature of the investigation and limited empirical research regarding how parental gender influences the development of anxiety and depression or may interact with child gender in the expression of child internalizing symptoms.

Method

Participants

Participants were a community sample of 90 children (50 % female) aged 9–12 years ($M_{age} = 10.28$, $SD = 1.22$), 90 fathers ($M_{age} = 43.78$, $SD = 6.31$) and 90 mothers ($M_{age} = 40.67$, $SD = 4.97$) from two-parent households. Only one child per family participated. The majority of fathers and mothers were biological parents (fathers = 86, mothers = 90); the sample included one adoptive father and three stepfathers. The majority of children (90.0 %), fathers (86.7 %), and mothers (91.1 %) identified as European–American. Parents varied in education level, ranging from not completing high school (7.8 % fathers, 1.1 % mothers,), receiving a high school degree (27.8 % fathers, 31.1 % mothers), receiving a college degree (28.9 % fathers, 40 % mothers), or receiving a graduate degree (35.6 % fathers, 27.8 % mothers). The investigation was conducted with full approval of the institutional review board.

Procedure

Participants were drawn from 370 children who had participated in a sociometric task as part of an ongoing investigation of social and emotional behavior in two public schools. Families were contacted by telephone to determine interest and eligibility for the current investigation (in random order until the target sample of 90 families was reached). Eligibility required that the child must have been 9–12 years of age, living in a two-parent household (step-parents qualified if they had been living with the child for at least 2 years), and both parents had to agree to participate in the laboratory interaction task. A further inclusion criterion was that the family had not previously participated in any laboratory investigations. Informed consent and permission for the child were obtained from parents, and informed assent was obtained from the child. Participants completed questionnaires in separate rooms in a laboratory on a university campus. After completing the assessment battery, parent–child triads (mother, father, child) participated in a 10-min video-recorded behavioral interaction task. Families received $100 for their participation.

Measures

Observational Task

Similar to previous research (Rork and Morris 2009), parents and their child participated in a 10-min video-recorded origami interaction task. The family was presented with an origami kit and instructional placards. They were asked to create two specific figures and allotted 10 min to complete the task. The origami task allowed for a diverse range of behavior, including the possibility for supportive or critical communications between family members, demonstrations of maternal and/or paternal assistance and/or control.

Parent Behavior Coding

The interactional coding scheme was similar to that used in previous family studies (Greco and Morris 2002; Rork and

Morris 2009). Coded categories included three control-oriented behaviors: *physical takeover* (i.e., unsolicited physical assistance with the task), *direct command* (negative request or command made to another family member; e.g., "don't do that"), and *verbal instruction* (reading or repeating task directions) and two rejection-oriented behaviors: *critical statement* (statements including a negative adjective or comment in reference to behavior or personal attributes) and *denied reassurance* (solicitations such as "am I doing this right" met with no response within 10 s). The presence/absence of behaviors were dichotomously coded over the course of 10-s intervals for each parent. Behaviors were summed across the entire interaction, with higher values representing a greater frequency of a given behavior. Similar to other studies coding behavioral count data (Oosterhoff et al. 2015), linear-weighted Kappas were calculated using a subset of videotaped sessions (15 %). Kappa coefficients indicated that interrater reliabilities were acceptable for all coding categories (all $\kappa > .90$).

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

The SPAI-C is a 26-item child self-report measure used to assess social anxiety (Beidel et al. 1995). Children were asked to rate how often they feel anxious in certain situations (e.g., "I feel scared when I meet new kids in class") on a 3-point scale from 0 (*never or hardly ever*) to 2 (*most of the time or always*). The SPAI-C has demonstrated excellent test-rest reliability and convergent/discriminant validity (Beidel et al. 1995; Beidel et al. 2000). Scores are summed with higher values representing greater social anxiety symptoms ($\alpha = .94$).

Multidimensional Anxiety Scale for Children (MASC)

The MASC (March et al. 1997) is a 39-item child self-report measure used to assess child-reported general anxiety. Each item presents an anxiety symptom (e.g., "I feel tense or uptight"), and participants rated how true each item is for them on a 4-point scale from never 0 (*not true*) to 3 (*very true*). Scores are summed with higher values indicating greater general anxiety symptoms ($\alpha = .94$). The MASC has demonstrated high test–retest reliability, and adequate convergent/divergent validity (Muris et al. 2002).

Children's Depression Inventory (CDI)

The CDI (Kovacs 1992) was used to assess child self-report of depression. The CDI consists of 27 items describing different depressive symptoms covering cognitive, affective, and motoric domains. Participants rated how true each item (e.g., "I am sad") was for them in the past 2 weeks on a 3-point scale from 0 (*things bother me once in a while*) to 2 (*things often bother me*). Scores are summed with higher values indicating greater depressive symptoms ($\alpha = .83$).

Covariates

Child-Reported of Mother and Father Care (PBI-Care)

Child-reported parental care was measured with the 12-item Parental Bonding Instrument Care subscale (Parker 1990). Participants rated the extent to which different actions were characteristic of interactions with their parent (e.g., "Spoke to me in a warm and friendly voice") on a 4-point scale from 1 (*very like*) to 4 (*very unlike*). Child-report of maternal and paternal warmth were assessed separately. Scores were summed with higher values indicating greater maternal ($\alpha = .90$) and paternal ($\alpha = .89$) warmth.

Parent-Reported Social Phobia and Anxiety Inventory (SPAI)

The SPAI (Turner et al. 1989) is a 32-item self-report inventory that measures social anxiety and fear. Mothers and fathers rated a series of items (e.g., "I feel anxious when entering social situation") on a 7-point scale from 1 (*never*) to 7 (*always*). Scores were summed with higher values indicating greater social anxiety (mother $\alpha = .96$; father $\alpha = .95$).

Parent-Reported Beck Anxiety Inventory (BAI)

The BAI (Beck et al. 1988) is a 21-item self-report scale used to measure of parent general anxiety symptoms. Mothers and fathers rated the extent to which different symptoms (e.g., "Numbing or tingling, feeling hot") bothered them in the past month. Responses were given on a 4-point scale form 0 (*not at all*) to 3 (*severely–it bothered me a lot*). Scores were summed with higher values representing greater anxiety symptoms (mother $\alpha = .90$; father $\alpha = .89$).

Parent-Reported Beck Depression Inventory-Second Edition (BDI-II)

The BDI-II (Beck et al. 1996) is a 21-item self-report instrument used to measure presence and severity of depression in adults. Parents rated a series of depressive symptoms (e.g., "I feel sad") on a 4-point scale with response option specific to a given a symptom. Scores were summed with higher values representing greater depressive symptoms (mother $\alpha = .89$; father $\alpha = .88$).

Data Analyses

Six combined hierarchical/stepwise regression models (3 for mother, 3 for father) were estimated to examine associations among observed parent behaviors in the dyadic interaction task and child-reported social anxiety, general anxiety, and depression. For each model, the first step consisted of demographic and theoretically-relevant covariates. Previous research has noted that girls, older children, children with parents' that have similar internalizing symptoms, children with less educated parents, and children with parents that are less warm and supportive endorse greater depression and anxiety (e.g., Beesdo et al. 2009; Yap and Jorm 2015). Thus, we included child age, child gender, child-reported parental warmth, parents' education, and the parent-reported internalizing symptom that corresponded to the child model (e.g., mother-reported depression for the model predicting child-reported depression) in the first step to account for this systematic variation. The second step consisted of the frequencies of observed parental control behaviors (physical takeovers, direct commands, verbal instructions) and the third step consisted of the frequencies of observed rejection behaviors (critical statements, denied reassurance). The fourth step consisted of interactions between gender and observed parenting control and rejection behaviors. Each regression model was specified such that all covariates (Step 1), observed parent control behaviors (Step 2), and observed parent rejection behaviors (Step 3) were directly entered in the model. Given their exploratory nature and ensure adequate power by limiting the number of independent variables in the model, all interaction terms (Step 4) were stepwise entered in the model. Utilizing this combined hierarchical/stepwise regression approach enters all covariates and main effects in the model, but only retains significant interaction effects. Simple slopes for significant interactions were probed using the PROCESS macro (Hayes 2012).

Results

Table 1 displays the means and standard deviations and Table 2 displays bivariate correlations among all study variables. Older children and girls endorsed greater general anxiety symptoms, and girls endorsed more social anxiety. Higher maternal care was correlated with lower child depressive symptoms and higher mother-reported depressive symptoms was correlated with higher child depressive symptoms. More mother verbal instruction was correlated with less child social anxiety and greater mother denied-reassurance was correlated with more child general anxiety. Father critical statements were correlated with higher levels of child social anxiety and depression, and more frequent father physical takeovers were associated with greater child general anxiety and depression.

Six hierarchical/stepwise regression models were estimated to examine associations among parenting behaviors during the interaction task and child reported social anxiety, general anxiety, and depression. Standardized beta coefficients for the final step of each model are presented in Table 3. Higher child reported maternal care was associated with lower social anxiety and depression. With respect to mother controlling behavior, more frequent physical takeovers were associated with higher child social anxiety and more frequent verbal instructions were associated with lower child social and general anxiety. With respect to fathers' controlling behavior, more frequent physical takeovers were associated with greater child-reported general anxiety and depression. For mothers' rejecting behavior, more frequent denied reassurance was associated with higher child general anxiety. For fathers' rejecting behavior, more frequent criticism was associated with higher child depression and social anxiety.

Several associations between observed parent behaviors and child-reported anxiety and depression were moderated by child gender (Table 3). For fathers, more frequent verbal instructions were associated with higher social anxiety for boys ($\beta = .43$, $p = .02$), but lower social anxiety for girls ($\beta = -.33$, $p = .02$; Fig. 1a). Similarly, father verbal instructions were associated with less general anxiety for girls ($\beta = -.37$, $p = .02$), but not associated with general anxiety for boys ($\beta = .21$, $p = .16$; Fig. 1b). More frequent verbal instructions from mothers were associated with higher depressive symptoms for girls ($\beta = .50$, $p < .001$), but lower depressive symptoms for boys ($\beta = -.46$, $p < .001$; Fig. 2). Though the interaction between gender and denied reassurance was a significant predictor of child depression in both the mother and father models, neither of the simple slopes were significant (mother model: boys; $\beta = .17$, $p = .26$, girls; $\beta = -.14$, $p = .34$; father model: boys; $\beta = .22$, $p = .12$, girls; $\beta = -.21$, $p = .17$).

Discussion

The parent–child relationship has been widely recognized as a context that is linked to the development of child anxiety and depression (e.g., Epkins and Heckler 2011; Masia and Morris 1998). Theoretical models of the formation of depression and anxiety within the parent–child context primarily have focused on broad categories of parenting behavior (e.g., overprotection, rejection). However, little empirical research has examined specific types of parental rejection and control oriented behaviors that

Table 1 Means and standard deviations for parent internalizing symptoms, observed parent behaviors, and child internalizing symptoms

	Range	M	SD
Mother report			
PBI care	8–29	22.03	2.84
Parent SPAI	4–107	52.08	23.76
Parent BAI	0–37	7.39	6.75
Parent BDI-II	0–40	7.72	7.47
Critical statements	0–9	2.69	2.25
Denied reassurance	0–7	1.49	1.66
Physical takeovers	0–15	3.94	3.24
Direct commands	0–5	.67	1.91
Verbal instructions	0–30	9.98	7.81
Father report			
PBI care	18–27	22.13	2.14
Parent SPAI	3–104	42.88	20.26
Parent BAI	0–26	4.99	5.41
Parent BDI-II	0–27	5.71	5.15
Critical statements	0–8	2.08	1.83
Denied reassurance	0–7	1.23	1.36
Physical takeovers	0–11	3.82	3.23
Direct commands	0–4	.63	1.04
Verbal instructions	0–28	4.68	6.45
Child report			
SPAIC	0–33	12.87	8.36
MASC	12–87	41.80	17.68
BDI II	0–26	5.71	5.00

PBI parent bonding instrument, *SPAI* Social Phobia and Anxiety Inventory, *BAI* Beck Anxiety Inventory, *BDI 2* Beck Depression Inventory—second edition, *SPAI-C* Social Phobia and Anxiety Inventory-Child, *MASC* multidimensional anxiety scale for children, *CDI* child depression inventory

may be linked with anxiety or depression, and whether the processes differ for boys and girls. Our study builds on previous research through the use of a semi-structured, observed parent–child interaction task. We examined whether specific mother and father controlling behaviors (physical control, direct commands, verbal instructions), and rejecting behaviors (criticizing statements, denying reassurance) were related to child social anxiety, general anxiety, and depression, and whether these associations were moderated by child gender. Our findings showed that mothers and fathers engaged in an array of verbal and nonverbal control and rejection behaviors that were associated with child anxiety and depression, even after accounting for several theoretically important demographic characteristics and parents' corresponding internalizing symptoms. Further, several of these associations differed for boys and girls, suggesting that certain types of controlling or rejecting behaviors may be differentially maladaptive or beneficial for sons and daughters.

Past research has indicated that parental rejection, characterized by low levels of responsiveness or high levels of criticism, may be associated with child internalizing symptoms (e.g., Clark and Ladd 2000). Our results add to such work in that fathers who more frequently communicated critical statements had children who reported higher levels of depression and mothers who more frequently denied their child's solicitations for reassurance had children who reported higher levels of general anxiety. These findings suggest that parental rejection may manifest in different ways, and the accompanying outcome associated with parental rejection may vary based on the specific behavior. Fathers who directly highlight negative attributes of their child through criticism may undermine their child's self-worth and prompt greater feelings of depression. Mothers who are unresponsive to their children's efforts of soliciting reassurance may prompt or perpetuate feelings of anxiety by withholding validation. Alternatively, children who have elevated levels of anxiety may solicit reassurance more frequently, and mothers of these children may be more likely to deny reassurance of anxious children as a means of promoting independence. Together, these findings suggest that parental rejection may have important implications for both child general anxiety and depression, and the specific outcome linked with parental rejection may be dependent on whether parents are denying reassurance or engaging in active criticism.

Parents may influence child anxiety and depression by behaving in ways that are over-controlling and excessively regulate their child's activities and routines (McLeod et al. 2007). Parents who limit developmentally appropriate autonomy may promote perceived helplessness (Garber and Flynn 2001) which is thought to promote greater anxiety and depression. In our study, parents engaged in a variety of autonomy-limiting behaviors, such as providing unsolicited physical assistance (i.e., physical takeovers), verbally communicating direct commands within the task, and reiterating task instructions. Differential effects of physical control were noted, with more frequent fathers' physical takeovers associated with greater child general anxiety and depression symptoms and more frequent mothers' physical takeovers associated with greater child social anxiety symptoms. Mothers and fathers who interrupt their child's attempts at productive behavior may undermine feelings of self-efficacy and communicate messages of incompetence (Greco and Morris 2002), and thus promote heightened anxiety and depression. These findings suggest that interventions targeting parental influences on child anxiety and depression may benefit from consideration of parents' physically controlling behavior. Further, as fathers are more likely to assume a

Table 2 Means, standard deviations, and bivariate correlations for key study VARIABLES

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Covariates																							
1. Child age	−.05	.02	.03	.20	.09	.03	−.10	.00	−.02	.05	−.13	−.01	.16	.00	.22*	−.01	−.04	−.13	−.15	.06	−.15	.24*	−.10
2. Child gender	–	−.04	.16	.13	−.04	−.13	−.13	−.06	.05	.10	−.25*	.28**	−.03	.16	.02	−.16	−.13	.00	.04	.09	.23*	.33**	−.07
3. Parents' education		–	−.03	.01	.01	.04	−.16	−.12	−.04	−.18	−.02	−.06	−.12	−.03	−.13	.04	.19	.06	.04	.01	.01	.05	−.03
4. M PBI care			–	.47**	−.01	.05	.15	.14	.33**	.35**	−.02	.16	−.21*	.16	.17	.02	.01	.06	−.12	.01	−.18	.00	−.25*
5. F PBI care				–	−.09	.14	.11	−.06	.15	.17	.00	.02	−.07	−.06	−.14	.03	−.17	.02	−.10	−.21	−.10	−.01	−.08
6. M SPAI					–	.30**	.23*	.07	.03	.07	.02	−.04	−.05	.06	.01	−.08	.18	−.05	.04	.08	−.04	−.15	.05
7. M BAI						–	.61**	.11	.29**	.18	.20	.09	−.12	.10	−.09	−.02	.14	.15	.12	−.11	−.11	−.11	.14
8. M BDI2							–	.03	.15	.08	.26*	.01	−.04	.04	.18	−.10	.15	.16	.15	.00	−.06	−.12	.24*
9. F SPAI								–	.22*	.23*	−.24*	.11	−.08	.09	.05	−.05	.16	.14	.13	.22*	.04	.13	−.05
10. F BAI									–	.63**	−.05	.20	−.04	.19	−.18	−.06	.11	.16	.02	−.03	.00	.14	.00
11. F BDI2										–	−.05	.20	−.13	.20	−.04	−.12	−.02	−.06	−.14	−.15	−.15	.07	−.16
Parent rejection																							
12. M Critical state											–	−.07	.15	.00	.21*	.17	−.20	−.14	.00	−.08	−.11	−.19	−.14
13. M denied R												–	.18	.90**	−.15	−.01	−.05	−.08	−.04	.14	.07	.24*	.00
14. F critical state													–	.07	−.16	−.07	−.19	.00	.09	.15	.22*	−.03	.25*
15. F denied R.														–	.05	.02	.19	−.12	.58**	.11	−.04	.09	−.03
Parent control																							
16. M Physical take															–	−.07	−.19	.05	.09	.06	.18	.14	−.04
17. M direct com																–	−.10	.02	.07	−.05	−.15	−.14	−.05
18. M verb inst.																	–	.19	.15	−.05	−.30**	−.17	.10
19. F physical take																		–	.11	.02	.07	.25*	.33**
20. F direct com																			–	.16	.11	.13	.13
21. F verb inst.																				–	.02	−.03	−.09
Child outcomes																							

Table 2 continued

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
22. SPAIC																					–	.69**	.36**
23. MASC																						–	.31**
24. CDI																							–

M mother, *F* father, *PBI* parent bonding instrument, *SPAI* Social Phobia and Anxiety Inventory, *BAI* Beck Anxiety Inventory, *BDI 2* Beck Depression Inventory—second edition, *SPAI-C* Social Phobia and Anxiety Inventory-Child, *MASC* multidimensional anxiety scale for children, *CDI* child depression inventory. Child gender coded as Boys = 0; Girls = 1

** $p < .01$; * $p < .05$

parenting role that limits child behavior (Bögels and Phares 2008), designing interventions that target fathers' overt controlling behavior may have important implications for program efficacy.

In addition to physically restricting children's behavior, parents also may engage in more subtle control strategies, such as reiterating instructions. The link between parental verbal instruction and child depression and anxiety symptoms appeared a bit more nuanced and largely contingent on parent and child gender. For instance, mothers' verbal instructions were associated with lower social and general anxiety for all youth, and lower depression symptoms for boys, but higher depression symptoms for girls. Fathers' verbal instructions were associated with lower social anxiety for girls, but greater social and anxiety symptoms for boys—providing partial support for our hypothesis on the association between father control and social anxiety in boys. Together, these findings suggest that verbal instructions during task-based interactions may be beneficial for anxiety and depression for many children, but perhaps promote anxiety or depression within mother–daughter and father–son dyads. Verbal instruction may be engaging for children and provide them with explicit expectations for their behavior, thereby reducing feelings of uncertainty and anxiety. While little research has examined parent–child gender differences within family interactions, it is possible that boys and girls may differentially interpret the meaning of verbal instructions from their mothers and fathers. Consistent with gender role theory (Hosley and Montemayor 1997), boys may be more aware and concerned with their performance on the task and view their fathers' (who are also thought to be more task-oriented) verbal instructions as being evaluative, thus potentially prompting greater anxiety responses. Our finding that greater mothers' verbal instructions is associated with greater depressive symptoms among girls is less clear, and future research is needed in this area. Specifically, future research is warranted regarding whether the affective tone or form of verbal instruction used varies by parent and child gender.

Results from the current study should be taken in light of certain limitations. Cross-sectional data does not allow for the determination of directionality and causal effects. Thus, we are unable to disentangle whether parenting behaviors lead or are in reaction to internalizing symptoms. Additionally, the sample size did not allow for a structural comparison for mothers and fathers. Multi-group, cross-lagged autoregressive modeling is needed to determine temporal sequencing of these effects, and whether structural pathways significantly differ for mothers and fathers. Additionally, participants sampled in this study were primarily European–American, well-educated, and from two-parent families. Future research is needed to examine

Table 3 Multiple regression predicting child-report social anxiety, general anxiety, and depression from parent behavior during the observed origami task

	SPAI-C		MASC		CDI	
	Mother β	Father β	Mother β	Father β	Mother β	Father β
Covariates (step 1)						
Child age	−.11	−.12	.19*	−.17	−.08	−.09
Child gender	.15	.24*	−.21	.31*	−.05	−.04
Parents' education	.09	.05	.12	.05	−.05	−.04
Parent internalizing symptom	.03	.13	−.04	.06	.29**	−.20
PBI care	−.25*	−.12	−.08	−.06	−.25*	−.02
Observed parent rejection (step 2)						
Critical statements	−.16	.34**	−.20	.07	−.14	.28**
Denied reassurance	.10	.00	.22*	.13	.09	.05
Observed parent control (step 3)						
Physical takeover	.21*	.09	.16	.30*	−.10	.45***
Direct commands	−.10	−.07	−.06	−.10	−.03	−.16
Verbal instructions	−.33**	.11	−.21*	.03	.06	−.10
Parent × child gender (step 4)						
Gender × verbal instructions	–	−.42**	–	−.27*	.44***	–
Gender × denied reassurance	–	–	–	–	−.21*	−.26*
Overall Adj. R^2	.18	.16	.20	.17	.28	.19
Overall F	2.93**	2.48*	3.16**	2.59**	3.94***	2.80**
Df	(10,79)	(11,78)	(10,79)	(11,78)	(12,77)	(11,78)

Variables in step 1 and step 2 were directly entered in the model, while interactions terms in step 3 Were stepwise entered into the model *SPAI-C* Social Phobia and Anxiety Inventory-Child, *MASC* multidimensional anxiety scale for children, *CDI* child depression inventory *** $p < .001$; ** $p < .01$; * $p < .05$. Reported coefficients are from the final step of each model

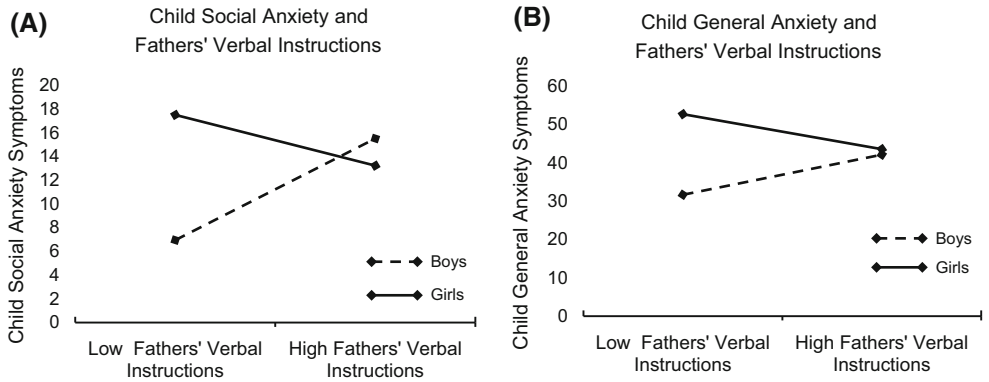

Fig. 1 Child gender differences in associations between fathers' verbal instructions and child social anxiety (**a**) child general anxiety (**b**)

whether similar associations are found with families from more diverse backgrounds. Some evidence has shown that the effects of physical discipline on externalizing symptoms may be less severe for African American youth (Deater-Deckard et al. 1996). Potentially, children from different racial and ethnic cultures may have different responses to parental controlling and rejecting behaviors.

Despite these limitations, the current study provides important evidence that specific types of parenting behaviors are closely tied to child general anxiety, social anxiety, and depression, and these associations vary by child gender. Specifically, the use of an observed, semi-structured family interaction task provided a comprehensive measure of a wide range of parenting behavior that may be less

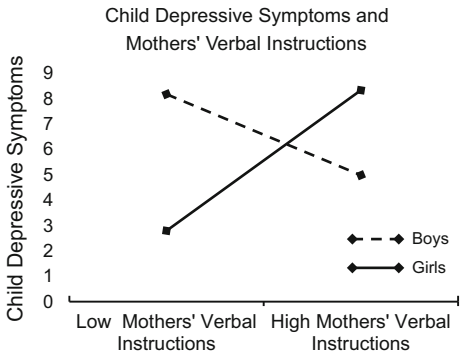

Fig. 2 Child gender differences in associations between mothers' verbal instructions and child depressive symptoms

susceptible to social desirability biases. A particular strength of the study is the inclusion of fathers. The influence of paternal variables on the development of child psychopathology largely has been neglected. While our analyses did not directly compare mother and father parenting behaviors, they do provide initial evidence that specific types of mother *and father* control and rejecting behaviors may undergird the development of internalizing symptoms.

Findings from this study present several implications for future research and for practitioners interested in designing interventions targeting child anxiety and depression. First, by isolating and identifying specific parenting behaviors associated with child anxiety and depression, efficacious interventions may be tailored to address specific parenting actions that may be linked with maladaptive outcomes. Moreover, practitioners should consider how mothers and fathers differentially influence boys and girls. Theoretical and empirical work suggests that children are differentially socialized based on their gender (Gilligan and Attanucci 1996; Wichstrøm 1999). Designing interventions that are sensitive to gender difference within parent–child relationships may help increase overall efficacy and success. Future research should continue to identify specific parenting behaviors that are linked with child anxiety and depression, and further elucidate how these processes differ for mothers, fathers, boys, and girls.

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