



Anxiety levels in clinically referred children and their parents: Examining the unique influence of self-reported attachment styles and interview-based reflective functioning in mothers and fathers

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Objective. Although much is known about childhood anxiety disorders, the differential contributions by mothers and fathers to child anxiety is poorly understood. This study examined the relation between child anxiety and parental level of psychopathology, attachment style, and reflective functioning (RF).

Design. Thirty-eight clinically anxious children aged 7–12 years (55.3% female) referred for treatment and their parents (37 mothers, 34 fathers) participated in the study.

Method. Reflective functioning was coded based on Adult Attachment Interviews. Self-report questionnaires on attachment and psychopathology were administered.

Results. Paternal psychopathology, attachment avoidance, and attachment anxiety as well as maternal attachment anxiety were associated with child anxiety. Mothers had higher RF abilities than fathers. Lower levels of RF in mothers and higher levels of attachment avoidance in fathers explained 42% of the variance in anxiety levels of the child.

Conclusion. Mothers and fathers may provide unique contributions to the development of child anxiety. The findings highlight the importance of considering fathers as well as mothers in research and treatment for childhood anxiety disorders.

Practitioner points

- Anxiety in children may be related to attachment avoidance in fathers and low levels of reflective functioning in mothers.
- Fathers as well as mothers should be involved in research and treatment of childhood anxiety disorders.
- The study is exploratory and findings must be replicated before firm conclusions can be drawn.
- Data were derived from families whose children suffer from clinical levels of anxiety, and they may not be representative of non-clinical samples.

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Despite a marked rise in studies examining childhood anxiety disorders since the 1990s, our understanding of the condition is still limited (Rapee, Schniering, & Hudson, 2009). Attachment insecurity in childhood may be regarded as a precursor to the onset of anxiety (e.g., Fonagy, Gergely, Jurist, & Target, 2002; van IJzendoorn, 1995). The existing empirical data indicate that an insecure attachment relationship increases the risk of developing anxiety disorders (see Brumariu & Kerns, 2010), with anxious/ambivalent (but not anxious/avoidant) insecure attachment relationships being associated with anxiety disorders in childhood (Colonnesi *et al.*, 2011). Parental psychopathology, overinvolved parental behaviour, and anxious modelling have also been reported to be associated with childhood anxiety (see, e.g., McLeod, Wood, & Avny, 2011; Murray, Creswell, & Cooper, 2009; Nolte, Guiney, Fonagy, Mayes, & Luyten, 2011). As the majority of research on parental factors' influence on childhood anxiety has focused on mothers, research regarding the differential influence of mothers and fathers is sparse (Field, Cartwright-Hatton, Reynolds, & Creswell, 2008).

Differential influence of mothers and fathers on child anxiety

Existing research suggests differences in the relation between maternal and paternal factors and childhood anxiety (Bögels & Phares, 2008); however, it remains unclear how mothers and fathers may differentially affect outcome. Some studies report elevated levels of anxiety among children of anxious mothers but not among children of anxious fathers (McClure, Brennan, Hammen, & Le Brocque, 2001). In contrast, studies report that the child's perception of anxious paternal behaviour but not of anxious maternal behaviour was associated with increased levels of anxiety in children with high levels of social anxiety (Bögels, Stevens, & Majdandzic, 2010). Rejecting paternal behaviour has also been found to predict poorer treatment outcomes in anxious children (Liber *et al.*, 2008).

Studies have also investigated how the parent–child attachment relationship affects the development of anxiety in the child (e.g., Warren, Huston, Egeland, & Sroufe, 1997). Insecure attachment in the child has been associated with elevated levels of anxiety (e.g., Brumariu & Kerns, 2010). Studies of the differential effects of attachment to mothers and fathers suggest that fathers have unique influence on their children's emotional development (e.g., Steele, Steele, & Fonagy, 1996). Father–child attachment is significantly more related to anxious/withdrawn behaviour in the child than mother–child attachment (Verschueren & Marcoen, 1999), and to increased anxious behaviour in toddlers when interacting with adult strangers compared to mother–child attachment (Bögels & Brechman-Toussaint, 2006). However, overall the impact of the father–child relationship on child anxiety has received minimal attention (for a review, see Bretherton, 2010).

The abovementioned studies provide evidence for the contribution of the mother–child and father–child attachment relationship. However, they do not assess the influence of the attachment relationship between the parents or of the generalized attachment working models of the parents. From a different line of research, it has been suggested that a high level of fear of abandonment or rejection as measured by high levels of anxious attachment in close relations between parents may result in anxiety in the child. Costa and Weems (2005) reported that maternal anxious attachment beliefs in current close romantic relations mediated the effect of maternal anxiety on child anxiety. Fathers were not involved in this study. Studies of marital conflict also provide some evidence that avoidance may be of importance in fathers, as the use of avoidance in conflicts between

parents is associated with internalizing disorders in the child, especially when the father is withdrawn (Restifo & Bögels, 2009).

Generally, the specific role of fathers in development has been described as providing encouragement to the child to explore the external world, beyond the child–mother relationship (Steele & Steele, 2005). It has been suggested that parenting mechanisms are in part differentiated by children relying on fathers for information on the social environment, but on mothers for insight into emotional states (Bögels & Perotti, 2011). However, this healthy influence of fathers on developmental outcome may be compromised when the father neglects or rejects the child.

Reflective functioning as a mediating factor

One mechanism that has been proposed to be of influence in the intergenerational transmission of psychopathology is the concept of reflective functioning (RF), which is an operationalization of the concept of mentalization (Fonagy *et al.*, 2002). RF is defined as the capacity to understand oneself and others as ‘motivated by internal mental states such as feelings, beliefs, intentions and desires’ (Fonagy, Target, Steele, & Steele, 1998, p. 8). Individuals with high RF are better able to understand their own and others’ emotions, intentions, and actions, and this ability is supposed to lead to a heightened ability to regulate affects (Fonagy & Bateman, 2006). RF thus offers a way of systematically studying cognitions that serve to contain the escalating and disruptive influence of negative emotions such as anxiety (Fonagy, Steele, Steele, Moran, & Higgitt, 1991). Adequate RF in the parent enables him or her to not only feel anxious but also to represent in thought and language what feeling ‘anxious’ is like, the reasons for feeling anxious, and how such feelings can be regulated or modified.

Several studies have found high levels of parental RF to be significantly correlated with secure attachment classification in the offspring (e.g., Slade, Grienenberger, Bernbach, Levy, & Locker, 2005), and have a significant bearing on the offspring’s later self-esteem and mental health (Steele & Steele, 2008). This finding holds for both mothers and fathers, and no differences in RF have been found between mothers and fathers (Fonagy *et al.*, 1991).

Purpose of the study

Despite the interest in attachment, parental psychopathology, and parental behaviour within the field of childhood anxiety disorders, there are to the best of our knowledge no studies that have examined the relation between parental RF abilities and anxiety disorders in children. The aim of this study was to conduct an exploratory study of these variables in a sample of mothers and fathers of clinically anxious children. The study explored the association between psychopathology, attachment, and the level of RF skills in mothers and fathers and the levels of anxiety in clinically anxious children. Based on the scarce literature, we formulated the following hypotheses: (1) that there would be a positive association between parental levels of anxiety and psychopathology and child anxiety, (2) that fathers and mothers attachment in close relations would provide a differential contribution to the child’s anxiety, that is, paternal attachment avoidance and maternal attachment anxiety would be associated with child anxiety, and (3) that fathers’ and mothers’ level of RF would provide a unique contribution to the child’s anxiety above and beyond their current level of psychopathology and attachment in close romantic relations.

Method

Participants

Participants were 38 clinically anxious children referred for cognitive behaviour therapy (CBT) treatment at a university clinic and their parents (37 mothers and 34 fathers). All participants were ethnic Danes. The clinic covers a large area, including urban and rural populations. Parents contacted the clinic themselves; however, some had been informed about the clinic and encouraged to go by school psychologists, psychiatrists, etc. If families met inclusion criteria, they were assigned to treatment. The distribution of primary diagnoses for the children was 17 (44.7%) with separation anxiety, 10 (26.3%) with specific phobia, 9 (23.7%) with generalized anxiety disorder, and 2 (5.3%) with social phobia. The children had a mean age of 10.1 ± 1.7 years (age span: 7–12 years), and 21 (55.3%) were female. Due to the small number of participants, cases were included when data were present for the individual assessments of hypotheses.

Procedure

The families participated in a screening procedure to ensure that the children met the inclusion criteria. These were as follows: (1) the child had a primary diagnosis of separation or generalized anxiety disorder, social or specific phobia, and (2) an $IQ \geq 70$, (3) at least one parent was a native speaker of Danish. The families participated in a 3-hr-long assessment, comprising a large testing battery including diagnostic interviews (ADIS-c/p) and an intelligence test (WISC-III). If inclusion criteria were met, the families participated in further testing including the Adult Attachment Interview and questionnaires that were administered in a predetermined order. All assessment was conducted by child clinicians and/or master-level psychology students, who had all received training in the applied measures. Ongoing supervision was provided by specialists in child psychotherapy. The study complies with ethical standards in assessment and treatment in Denmark for children enrolled in psychological research studies.

Measures

The overall testing comprised a large number of questionnaires, interviews, and observations. In this study, focus will primarily be on parental variables.

Symptom Checklist – 92 (SCL-92)

The Danish version of the SCL-92 (Olsen, Mortensen, & Bech, 2004) was used. The SCL is a widely used questionnaire that assesses psychological symptoms and distress in adults. We used the global severity index (GSI). The GSI is calculated as the total sum divided by number of items. Each item consists of a statement that is rated on a scale ranging from 0 to 4, where 0 = *not at all*, 2 = *somewhat*, and 4 = *very much* (low scores indicate lower levels of psychopathology). The psychometric properties for the GSI are satisfactory (e.g., Cronbach's alpha of .97; Derogatis, 2007).

Beck Anxiety Inventory (BAI)

The BAI (Beck & Steer, 1990) is a 21-item self-report questionnaire that measures anxiety levels in adults. Each item is rated from 0 to 3 giving a total score from 0 to 63. A total score

of 0–9 points indicates normal levels of anxiety; 10–18 mild to moderate levels; 19–29 moderate to severe levels; and 30–63 severe levels of anxiety. It has a high internal consistency with reported Cronbach's alpha of .90 (Creamer, Foran, & Bell, 1995).

Experiences in Close Relationships-Revised (ECR-R)

The ECR-R (Fraley, Waller, & Brennan, 2000) is the most widely used and extensively validated self-report questionnaire measuring attachment anxiety and avoidance in current and past close relationships. It consists of 18 items on the avoidance subscale and 18 items on the anxiety subscale. Attachment avoidance taps into feelings of being uncomfortable with intimacy and reliance on others, whereas anxiety taps into the individuals' fear of rejection and of being unloved. Each item is rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores indicate higher levels of anxiety or avoidance in attachment relationships. The ECR-R demonstrates excellent psychometric properties (e.g., test–retest reliability of above .90; Fraley *et al.*, 2000).

Reflective functioning

Reflective functioning (Fonagy *et al.*, 1998) is coded based on an Adult Attachment Interview, which is a semistructured interview consisting of 20 questions and standardized probes (George, Kaplan, & Main, 1996). When coding RF, raters look for passages which show evidence of (1) awareness of the nature of mental states, (2) an explicit effort to tease out mental states underlying behaviour, (3) a recognition of the developmental aspects of mental states, or (4) interaction with the interviewer indicative of the awareness of the mental states of that person (Fonagy *et al.*, 1998, p. 40). RF is coded both from specific 'demand' questions, where the interviewee is directly queried about why their parents behaved as they did during childhood, and whether they believe childhood has an influence on the kind of person they are today, and from passages where the clients spontaneously reflect on own or others' state of mind. The RF scale (Fonagy *et al.*, 1998) ranges from –1 to 9. The score of –1 is given when the interviewee actively avoids, and is hostile towards, taking a reflective stance. The score of 0 is given for absence of or disavowal towards a reflective stance. Scores of 1–3 are given for miscellaneous difficulties in maintaining an organized reflective stance, including a bizarre or atypical stance, an unintegrated stance, a self-serving stance, a hyperactive stance, or a superficial stance. Persons who infer intentions and mental states of others in a plausible way when requested to do so are thought to have an ordinary RF (and receive a score of 5), whereas 7 represents a marked RF, suggesting that the person shows a diverse understanding of mental states and their links to behaviour in the self and others, as well as developmental features of mental states, with this skill being shown in plausible ways in response to questions that both demand RF as well as those that simply permit RF. The ceiling of 9 is reserved for exceptionally high RF speech that robustly satisfies many features of each of the four broad sets of operationalized criteria for judging RF in Adult Attachment Interviews (Fonagy *et al.*, 1998). Interviews were audio taped and transcribed verbatim. All interviews were coded by one of three reliable RF coders. Reliability had been obtained through participation in RF workshops including reliable coding of 15 training interviews. Inter-rater reliability rating in the present sample was performed on 33 interviews (29% of all interviews ($n = 113$) administered as part of the larger ongoing project, using intraclass correlation coefficients (ICC). The 113 interviews represent all that were collected at intake and 6 months follow-up. Coders were blind to time of assessment and gender of the

participant. The first author was the primary coder (Coder A) and reliability testing was performed in relation to her coding. The agreement was strong between Coders A and B (ICC = .79) and excellent between Coders A and C (ICC = .89). In the remaining analyses in this study only intake data are considered.

Screen for Child Anxiety-Related Emotional Disorders (SCARED-R)

SCARED-R (Muris, Merckelbach, van Brakel, & Mayer, 1998) measures DSM-IV-related anxiety in children. It consists of 69 items scored on a 3-point scale (0 = *almost never*, 1 = *sometimes*, and 2 = *often*). Higher scores indicate higher levels of anxiety. To avoid biases due to shared variance we applied the child's own report of anxiety symptoms on SCARED-R. The SCARED-R has a satisfactory test-retest reliability and good internal consistency (Muris *et al.*, 1998).

Results

Descriptive analyses

The mean level of self-reported anxiety for the 38 children as measured on the SCARED-R was 44.2 ± 23.8 . Means and standard deviations on the parental measures are reported in Table 1. Parental level of psychopathology and anxiety was within the normal range for both mothers and fathers.

We also assessed possible differences between mothers and fathers regarding attachment anxiety, attachment avoidance, RF, and level of psychopathology using paired samples *t*-tests. No significant differences between mothers and fathers were found for levels of anxiety, overall psychopathology, attachment avoidance, or attachment anxiety. However, mothers were significantly more reflective than fathers (mean \pm *SD*: 4.67 ± 1.7 vs. 3.42 ± 1.3 , $p < .01$; Cohen's $d = 0.83$, 95% CI_{95} for d : 0.25–1.29).

Parental psychopathology and child anxiety

Our first hypothesis was that there would be a positive association between parental level of anxiety and psychopathology and the child's self-reported level of anxiety. We assessed this association using Pearson's product-moment correlation. The results showed that an increased level of self-reported psychopathology in fathers was significantly associated with increased levels of anxiety in the child ($p = .04$; see Table 2 for further details).

Table 1. Means and standard deviations on psychopathology and attachment variables for fathers and mothers

	Fathers	Mothers
Reflective functioning	3.42 (1.3)	4.67 (1.7)
Attachment anxiety (ECR-R)	41.90 (18.7)	39.17 (15.4)
Attachment avoidance (ECR-R)	37.77 (18.6)	34.13 (12.0)
Anxiety (BAI)	5.32 (6.4)	6.57 (6.0)
Overall psychopathology (GSI)	0.32 (0.3)	0.40 (0.2)

Note. BAI = Beck Anxiety Inventory; GSI = global severity index; ECR-R = experiences in close relationships-revised.

Table 2. Correlations between child anxiety reported on SCARED-R and parental attachment and psychopathology variables

	N	Pearson's <i>r</i>	Cohen's <i>d</i>
Fathers			
Anxiety (BAI)	29	.36	
Overall psychopathology (GSI)	27	.40*	0.87
Attachment avoidance (ECR-R)	30	.48**	1.09
Attachment anxiety (ECR-R)	30	.41*	0.90
Reflective functioning	33	.01	
Mothers			
Anxiety (BAI)	33	-.002	
Overall psychopathology (GSI)	29	.17	
Attachment avoidance (ECR-R)	34	.17	
Attachment anxiety (ECR-R)	34	.43*	0.95
Reflective functioning	36	-.23	

Note. BAI = Beck Anxiety Inventory; GSI = global severity index; ECR-R = experiences in close relationships–revised; SCARED-R = Screen for Child Anxiety-Related Emotional Disorders.

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

We also found a tendency for an increased level of anxiety in fathers to be associated with anxiety in the child ($p = .06$). However, we found no significant association between mothers' level of anxiety or overall psychopathology and the child's level of anxiety.

Parental attachment and child anxiety

Our second hypothesis was that mothers and fathers would provide a differential contribution to child anxiety. Specifically, we expected that paternal attachment avoidance and maternal attachment anxiety would be associated with child anxiety. As shown in Table 2, increased levels of attachment anxiety in mothers were associated with increased levels of anxiety in the child ($p = .01$). Attachment avoidance ($p < .01$) as well as anxiety ($p = .02$) in fathers were associated with increased levels of anxiety in the child.

As our modest sample size entails an increased risk of Type II error, we conducted correlational analyses using a p -value of .05. However, if Bonferroni corrections are applied, the only aspect of parent self-reported psychopathology and attachment that remains significantly related to child anxiety is the paternal level of attachment avoidance.

Predicting levels of child anxiety

Finally, we aimed at assessing the contribution of RF on child anxiety above and beyond parental psychopathology and attachment. We analysed the contribution of RF, attachment avoidance and anxiety, and levels of anxiety and overall psychopathology in both parents to the child's reported level of anxiety using linear regression analysis with backward deletion. We added the parental variables for both parents as independent predictors of the child's level of anxiety. All independent variables were entered in one step, gradually removing the poorest predictor until the model could no longer be improved. Backward deletion of possible predictors was set to $p < .10$. A significant model fit was found that included mothers' (low) level of RF and fathers' (high) level of attachment avoidance as significant predictors of child anxiety. *Post-hoc* analyses

Table 3. Linear regression analysis for variables predicting child anxiety

Variable	B_{coeff}	SE B	Beta	p
Constant	40.01	11.17		.001
Reflective functioning (mother)	-4.24	1.88	-.34	.033
Attachment avoidance (father)	.66	.18	.57	.001

Note. $R^2 = .42$ (adj. $R^2 = .38$), CI_{95} for R^2 : 0.14–0.57; Cohen's $d = 1.70$; one outlier case eliminated.

included case diagnostics for outliers and the total model fit. On the basis of case-wise diagnostics we eliminated one case that had a standardized residual well above 2 SD (std. res. = 2.31), and thus might be biasing the model fit.

As shown in Table 3, the final model fit was found to be significant and explain 42% of the variance in the child's level of anxiety ($R^2 = .42$ (adj. $R^2 = .38$), CI_{95} : 0.14–0.57; Cohen's $d = 1.70$; $F(2, 25) = 9.2$, $p < .01$). Higher levels of RF in mothers combined with lower levels of attachment avoidance in fathers significantly accounted for lower levels of child anxiety, and vice versa.

Discussion

Differences between mothers and fathers

As part of our descriptive analyses, we assessed if there were any differences between mothers and fathers on the measures obtained. The separate analysis of parental measures is highly warranted as most studies within the fields of attachment theory and childhood anxiety disorders have primarily focused on mothers (Bögels & Brechman-Toussaint, 2006; Field *et al.*, 2008). As expected, there were no differences between mothers and fathers on level of overall anxiety or psychopathology, both groups reported levels within the non-clinical range. In spite of recent meta-analytical demonstration of sex differences in romantic attachment styles (Del Giudice, 2011), we did not find any differences between mothers and fathers in attachment avoidance or anxiety. The only significant difference between the parents was the finding that mothers showed significantly higher levels of RF than fathers did. This is partly in contrast to a previous finding of a normal sample reporting RF mean score for the total group of fathers to be 4.2 compared to 4.5 for the group of mothers (Fonagy *et al.*, 1991). The fathers' ability to reflect was markedly lower in our sample. Even though fathers reported normal levels of anxiety and overall psychopathology, their mean RF score resembles that reported for psychiatric inpatients (Fonagy *et al.*, 1996: RF mean = 3.7), but markedly higher than that reported for mothers of daughters with anorexia nervosa (Ward *et al.*, 2001: RF mean = 2.4).

Although mothers in our sample possess RF abilities comparable with that found in mothers of normally developing children, one cannot automatically conclude that this is also the case for mothers of non-referred children suffering from anxiety. Anxiety is an internalizing disorder and is difficult to detect. It is possible that mothers of non-referred anxious children in general do not possess RF abilities resembling that of mothers in a normal population, like those participating in our study. It may well be that parents who reflect on their child's difficulties are more likely to seek treatment than those who lack such RF. In this study, it may be that had the fathers (with their lower RF skills) been solely responsible for seeking help for their children, they might not have done so. Due to the lack of studies that assess general gender differences in RF, our finding of significantly lower RF in the fathers of anxious children is difficult to evaluate at present.

Association between parental psychopathology and child anxiety

We assessed the association between parental psychopathology and child levels of anxiety. Paternal but not maternal level of anxiety and overall psychopathology was associated with child anxiety. That psychopathology in parents was associated with anxiety in the child was an expected finding, as a moderate heritability from parent to child is well established (e.g., see review by Rapee *et al.*, 2009). However, most studies have not compared the possibly distinct influence of anxiety in mothers and fathers on childhood anxiety. The lack of an association between maternal and child anxiety in our study may be attributed to the lack of clinically elevated anxiety in the parents. However, a normal level of anxiety and psychopathology is also reported in other samples of parents of children referred for treatment at a university setting (Rapee, 2000). It may also be that paternal psychopathology contributes to a greater extent than maternal anxiety, a finding that is supported by recent studies comparing the influence of maternal and paternal anxiety on child outcomes (Bögels & Perotti, 2011; Bögels *et al.*, 2010).

Association between parental attachment and child anxiety

We found that attachment anxiety in mothers and attachment avoidance and attachment anxiety in fathers were related to child anxiety. That maternal attachment anxiety was associated with child anxiety was consistent with the findings by Costa and Weems (2005). We found a similar influence of paternal attachment anxiety on child outcomes. Costa and Weems (2005) conducted mediational analyses that confirmed the influence of maternal attachment as a mediating mechanism in the intergenerational transmission of anxiety from parent to child. Our sample size did not allow for such analyses, and the mechanisms of influence in our sample can therefore not be determined at present. The strongest relationship in our data was the association between paternal avoidant attachment and child anxiety. Although previous studies have not reported on this specific association, studies of marital conflict have reported that avoidance in the father was associated with increased levels of internalizing disorders in childhood (Restifo & Bögels, 2009). Attachment avoidance is generally found to be associated with rejecting behaviour serving to avoid emotional intimacy as well as with avoidance of open conflict (Mikulincer & Shaver, 2007). This is in line with the finding that rejecting behaviour in the father was associated with poorer treatment outcome in clinically anxious youth (Liber *et al.*, 2008). The findings of a distinct yet shared relevance of both parents is also consistent with longitudinal studies reporting that sometimes mothers' and sometimes fathers' RF and attachment security significantly influence the child's mental health at various points in development (Steele & Steele, 2008).

Predicting anxiety levels in the child

Most studies report significant associations between parental anxiety and child anxiety (Murray *et al.*, 2009). In this study, levels of anxiety or psychopathology did not significantly predict levels of child anxiety when these were analysed together with RF and attachment. Rather, mothers' RF ability and fathers' attachment avoidance were the only significant contributors in explaining the variance of the child's own report of anxiety before treatment. That mothers' RF scores linked up with childhood anxiety is consistent with empirically based proposals that the unique and distinctive influence of mothers on children's development rests in the domain of emotion, and the inner set of thoughts and feelings concerning relationships (Steele & Steele, 2005).

The lack of significant contributions by parental anxiety and psychopathology when controlling for the effect of parental attachment and RF may be partly attributed to the lack of variance within these variables. Both overall level of psychopathology and levels of anxiety were within the normal range in mothers and fathers. From the parental interviews, we have the clinical impression that they underreported their own anxiety, an impression which cannot, however, be empirically underpinned. It is likely that anxiety levels in parents may contribute significantly in populations where parents themselves report elevated levels of anxiety, although further studies are needed before firm conclusions can be drawn.

Our finding that fathers' attachment avoidance but not mothers' attachment significantly predicted the levels of child anxiety in a statistical model is corroborated by previous studies suggesting that fathers' rejecting behaviour and father-child attachment provide unique contributions to the child's level of anxiety (Bögels & Phares, 2008; Liber *et al.*, 2008). Although we did not assess the parent-child relation directly, it is plausible that avoidant attachment in the father may lead to rejection in the father-child interaction.

Attempts to understand our findings in the light of the existing literature lead us to the following tentative model of differential influence of mothers and fathers on childhood anxiety. In line with the model suggested by Bögels and Perotti (2011), children turn to their fathers for information on the social environment, but to mothers for an understanding of emotional matters. When the child is met by rejection by fathers, elicited by a paternal avoidant attachment script, they are not provided with adequate information to become familiar with the external environment. In face of an increased anxiety level, they turn to mothers for comfort and an understanding of emotional states. When mothers are low in RF they may not be able to provide the child with an adequate understanding of the mental states in the father leading to the rejection of the child, nor of the mental and intentional states of others. This increases the anxiety levels, and tentatively results in a reduced RF in the child and thereby a reduced capacity for regulating their own emotions (Fonagy *et al.*, 1991). The impact of the avoidance of fathers is thus exacerbated by the lack of provision of an understanding of emotional states by the mothers in clinically anxious children. The model is tentative and further research providing empirical support is required before firm conclusions can be drawn.

Implications for further research and clinical practice

Our suggestion of a model of a differential influence of mothers and fathers on child anxiety is in line with findings from a qualitative study of parental perceptions of fathers' involvement in their child's treatment (Iversen, Esbjørn, Christensen, & Hansen, 2012). The study reported that parents believed that the participation of the father in treatment had strengthened the fathers' general involvement in his child's development. Combined with findings from this study that fathers' avoidance in attachment relationships was associated with increased levels of anxiety in the child, especially when accompanied by low RF skills in the mother, it highlights the importance of rethinking the involvement of fathers in everyday clinical practices. Surveys show that fathers are less likely to participate in the child's treatment than mothers (e.g., Duhig, Phares, & Birkeland, 2002). It is not clear whether this lack of involvement of fathers is due to the clinicians' failure to encourage fathers to participate or to fathers declining participation (Phares, Fields, & Binitie, 2006). Our results suggest that fathers should be encouraged to participate in treatment and clinical research, together with the mothers.

Limitations

To minimize common method variance, we scored RF based on the Adult Attachment Interviews, whereas attachment avoidance and anxiety were assessed using a self-report questionnaire. However, self-report measures of adult attachment have not been as consistently linked to behaviour in relation to one's own children as attachment states of mind evaluated based on the Adult Attachment Interview (Main, Goldwyn, & Hesse, 2003; Main, Hesse, & Goldwyn, 2008), which is not systematically related to attachment self-report measures (Roisman *et al.*, 2007). It is likely that our results had been different, had we classified attachment based on the Adult Attachment Interviews from the present sample.

Although the results found in this study are new and potentially important, we caution the reader against drawing firm conclusions at present. Our sample size is modest, and the cross-sectional nature of the study only allows us to investigate correlations between the mentioned constructs rather than conclude any causal associations. Our sample was referred for treatment, which may increase referral bias. Great care has, however, been taken to reduce this bias by informing school nurses, general practitioners, etc. about the clinic, to ensure referrals from parents, who had not sought information about treatment options. Nonetheless, further studies from independent research groups should confirm the present findings before conclusions can be generalized to other samples and settings.

Conclusion

The study provides the first assessment of the relation between RF and attachment in parents and childhood anxiety disorders. The results support the assumption that fathers and mothers differ in their contributions to childhood anxiety disorders and that fathers play a larger role than previously assumed. Mothers of children referred for treatment of an anxiety disorder had RF skills within the normal range, and significantly higher than that of fathers. The RF skills of mothers and avoidant attachment of fathers explained 42% of the variance in the child's self-reported level of anxiety before treatment.

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