Perceived parental rearing behaviour and anxiety disorders symptoms in normal children

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Abstract

The present study examined the relationship between perceptions of parental rearing behaviours and anxiety disorders symptomatology in a sample of normal school children. 45 children, aged 8 to 12 years, completed the EMBU for children, a questionnaire that measures perceptions of parental rearing practices. Additionally, they filled in the Screen of Child Anxiety Related Emotional Disorders (SCARED), an index of DSM-defined anxiety disorders symptoms. Significant and positive relationships were found between anxious rearing behaviours and parental control, on the one hand, and anxiety disorders symptomatology, in particular symptoms of generalized anxiety disorder, separation anxiety disorder and environmental–situational phobia, on the other hand. © 1998 Elsevier Science Ltd. All rights reserved.

Key words: Parental rearing; Anxiety disorders symptoms; Children

1. Introduction

Fear and anxiety are common among children. In community samples, estimates for the presence of anxiety disorders range between 5 and 20%, with half of the estimates lying above 10% (Costello and Angold, 1995). In most children, fear and anxiety occur as part of the normal development. However, in some children, anxiety symptoms become worse over time and interfere with the child’s daily routine (Bernstein et al., 1996).

Parental rearing behaviours are believed to play a role in the development of anxiety disorders (Rapee, 1997). The empirical evidence for this idea comes from two sources. Firstly, surveys that obtained retrospective judgements of adult anxiety disordered patients about the rearing practices
of their parents suggest a connection between certain anxiety disorders and rearing practices. For example, Arrindell et al. (1983, 1989) found that patients with social phobia, agoraphobia, and height phobia more often attribute characteristics like rejection and control to their parents’ rearing style compared to persons without an anxiety disorder. Secondly, a number of studies have calculated correlations between retrospective measures of child rearing and measures of anxiety in nonclinical adult subjects (e.g. De Man, 1986; Eastburg and Johnson, 1990). Results indicate that higher anxiety levels are associated with more rejection and control. Taken together, clinical as well as nonclinical studies in this domain suggest that parental rejection and control may be risk factors for developing high levels of anxiety or even anxiety disorders.

Admittedly, questions can be raised concerning the validity of retrospective reports of parental rearing behaviour (but see Brewin et al., 1993). Even if one assumes that adults are able to retrieve information about the behaviours of their parents, it is clear that their recollections may be biased in various ways. To begin with, adults may unintentionally give an inaccurate report due to a changed (but not necessarily correct) understanding of their youth. Furthermore, adults may ascribe those behaviours to their parents that they believe to be responsible for their current problems. In other words, patients with an anxiety disorder may be convinced of the idea that they have developed this type of psychopathology because of certain parental rearing practices (see, for a review, Gerlsma et al., 1990).

To circumvent these problems, attempts have been made to examine the connection between rearing practices and anxiety in a cross-sectional manner. A first line of research relies on the direct observation of parent–child interactions. Following such an approach, Dadds and colleagues (Barrett et al., 1996a; Dadds et al., 1996; see, for a review, Dadds and Barrett, 1996) found evidence to suggest that parents of anxious children often encourage their children to rely on avoidant coping strategies. A second line of research makes use of questionnaires that intend to measure children’s perceptions of parental rearing behaviours. An example of such a scale is the child version of the EMBU (Egna Minnen Betraflende Uppfostran, My memories of upbringing; Castro et al., 1993; Muris et al., 1998), a scale that taps three important domains of parental rearing behaviour: emotional warmth, rejection and control. Thus, the EMBU-C measures children’s perceptions of parenting while they still live at home.

So far, only two studies have investigated the connection between parental rearing behaviours as measured by the EMBU-C and fear and anxiety symptoms. In a first study (Muris et al., 1996), 64 clinically referred children completed the EMBU-C, the Fear Survey Schedule for Children (Ollendick, 1983) and the Child Behaviour Checklist (Achenbach and Edelbrock, 1983). Results showed that there was no association between parental rearing practices, on the one hand and fearfulness or internalizing problem behaviours (including anxiety problems), on the other hand. In addition, parental rearing behaviours described by children with an anxiety disorder were found to be highly similar to those described by clinically referred children who did not suffer from a severe type of psychopathology.

A second study by Grüner et al. (submitted) examined the association between parental rearing behaviour and anxiety disorders symptoms in an analogue sample of children. More than 100 children recruited from regular primary schools completed the Children’s Anxiety Scale (Spence, 1997) and a modified version of the EMBU-C (see below). The Children’s Anxiety Scale is a questionnaire that measures symptoms of anxiety disorders that, according to the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association, 1994), may
occur in children, viz., generalized anxiety disorder, separation anxiety disorder, social phobia, obsessive–compulsive disorder, panic disorder and agoraphobia and physical injury fears (replacing specific phobias). The modified EMBU-C version employed by Grüner et al. (submitted) not only assessed emotional warmth, rejection and control, but also parental rearing behaviours that may be more directly involved in the development of childhood anxiety symptoms, namely anxious rearing behaviours (e.g. “My parents warn me for all kinds of possible dangers”). Results showed that there were significant and positive associations between anxious rearing, control and rejection, on the one hand, and anxiety symptomatology, on the other hand. These associations were particularly robust for symptoms of generalized anxiety disorder, separation anxiety disorder and obsessive–compulsive disorder.

The current study sought to replicate and extend these findings. Forty-five normal school children completed the modified version of EMBU-C mentioned above as well as the Screen of Child Anxiety Related Emotional Disorders (SCARED; Birmaher et al., 1997; Muris et al., in press). The SCARED is a concurrent measure of the Children’s Anxiety Scale. That is, the SCARED also measures DSM-defined anxiety disorders symptomatology. More specifically, the scale contains 66 items that can be allocated to 9 separate subscales: panic disorder, separation anxiety disorder, generalized anxiety disorder, social phobia, obsessive–compulsive disorder, traumatic stress disorder and three specific phobias types (i.e. animal phobia, situational–environmental phobia and blood–injection–injury phobia).

2. Method

2.1. Subjects and procedure

45 primary school children (19 boys and 26 girls) were recruited from a primary school in Kerkrade, The Netherlands. All children were given permission by their parents to participate in the study. Mean age of the children was 9.8 years (SD = 1.2, range 8–12 years). Percentages of children with low, middle and upper socio-economic background were 32.3, 67.7 and 0.0%, respectively. More than 90% of the children were caucasian. The EMBU-C and the SCARED were administered to the children during class. The teacher and the first author were present in order to answer questions and provide information if necessary.

2.2. Questionnaires

The modified version of the EMBU-C consists of 40 items that can be allocated to four subscales: emotional warmth (10 items; e.g. “Your parents show that they love you”), rejection (10 items; e.g. “Your parents wish that you were like somebody else”), control (10 items; e.g. “Your parents want you to reveal your secrets to them”) and anxious rearing (10 items; e.g. “Your parents are scared when you do something on your own”). All items have to be answered on a 4-point Likert scale (1 = No, never, 2 = Yes, but seldom, 3 = Yes, often, 4 = Yes, most of the time). For each EMBU-C item, children first assessed father’s rearing behaviour and then mother’s rearing behaviour. In passing, it should be noted that Grüner et al. (submitted) found tentative evidence for the differential validity of the 4 parenting factors of the modified EMBU-C. That is, factor analysis of
the EMBU-C, in particular of scores that pertained to mother’s rearing behaviour, revealed a satisfactory 4-factor solution in which items loaded convincingly on their supposed factor.

The SCARED is a 66-item self-report questionnaire measuring the frequency of anxiety disorders symptoms (Birmaher et al., 1997; Muris et al., in press). Children rate each symptom on a 3-point scale: “almost never”, “sometimes” or “often”. These are scored 0, 1 and 2, respectively. SCARED total and subscale scores can be obtained by summing relevant items. The SCARED consists of 9 DSM-IV linked subscales: panic disorder symptoms (13 items; e.g. “When frightened, my heart beats fast”; range 0–26), generalized anxiety disorder symptoms (9 items; e.g. “I worry about things working out for me”; range 0–18), social phobia symptoms (4 items; e.g. “I don’t like to be with unfamiliar people”; range 0–8), separation anxiety disorder symptoms (12 items; e.g. “I don’t like being away from my family”; range 0–24), obsessive–compulsive disorder symptoms (9 items; e.g. “I have thoughts that frighten me”; range 0–18), traumatic stress disorder symptoms (4 items; e.g. “I have frightening dreams about a very aversive experience I once had”; range 0–8), animal phobia symptoms (3 items; e.g. “I am afraid of an animal that is not really dangerous”; range 0–6), blood–injection–injury phobia symptoms (7 items; e.g. “I am afraid to go to the dentist”; range 0–14) and environmental–situational phobia symptoms (5 items; e.g. “I am scared to fly in an airplane”; range 0–10).

3. Results

3.1. General statistics

Before discussing the main results of the present study, five remarks are in order. First of all, both questionnaires were found to possess sufficient internal consistency. Cronbach’s alphas of EMBU-C scales pertaining to father and mother were 0.80 and 0.78, respectively, for emotional warmth, 0.52 and 0.68, respectively, for rejection, 0.60 and 0.67, respectively, for control, 0.78 and 0.80, respectively, for anxious rearing. For the SCARED, Cronbach’s alphas were 0.92 for the total score, 0.86 for panic disorder symptoms, 0.82 for generalized anxiety disorder symptoms, 0.70 for social phobia symptoms, 0.77 for separation anxiety disorder symptoms, 0.68 for traumatic stress disorder symptoms, 0.70 for obsessive–compulsive disorder symptoms, 0.74 for animal phobia symptoms, 0.80 for blood–injection–injury phobia symptoms and 0.60 for environmental–situational phobia symptoms. Second, t-tests revealed that there were no significant sex differences on any of the EMBU-C or SCARED scales. Third, significant associations between age, on the one hand and SCARED total score ($t = -0.29$, $P < 0.05$), environmental–situational phobia symptoms ($t = -0.29$, $P < 0.05$), blood–injection–injury phobia symptoms ($t = -0.39$, $P < 0.01$) and separation anxiety disorder symptoms ($t = -0.31$, $P < 0.05$), on the other hand, emerged. In other words, these anxiety symptoms tended to decline with age. Fourth, paired t-tests revealed that children perceived rearing behaviours of their mother as more anxious (means being 24.8, SD = 6.0 versus 23.5, SD = 5.4; $t(44) = 2.4$, $P < 0.05$), controlling (means being 21.7, SD = 4.4 versus 20.5, SD = 3.2; $t(44) = 2.8$, $P < 0.01$), and rejective (means being 15.3, SD = 3.4 versus 14.6, SD = 2.9; $t(44) = 2.3$, $P < 0.05$) than those of their father. Fifth, correlations between anxious rearing, on the one hand, and rejection, emotional warmth and control, on the other hand, were, respectively, 0.17 (non-significant), 0.33 ($P < 0.05$) and 0.52 ($P < 0.001$) for EMBU-C scales pertaining to mother,
and 0.14 (non-significant), 0.45 ($P < 0.005$) and 0.34 ($P < 0.05$) for EMBU-C scales pertaining to father. These results indicate that anxious rearing is a factor which is relatively independent of the other parental rearing dimensions of the EMBU-C.

3.2. Relationship between parental rearing behaviours and anxiety disorders symptoms

Table 1 shows partial correlations between parental rearing behaviours as measured with the EMBU-C and anxiety disorders symptoms as assessed by the SCARED while holding age constant. As can be seen, anxious rearing and control of both father and mother were positively related to the total score of the SCARED. In other words, the more children perceived their parents’ rearing behaviours as anxious and controlling, the higher their levels of anxiety disorders symptomatology. Furthermore, a small but significant positive relationship was found between emotional warmth of the father and anxiety disorders symptoms. Finally, no significant association was found between rejection and anxiety disorders symptoms.

Additional partial correlations between EMBU-C and SCARED subscales (corrected for age) were calculated. Results can be summarized as follows. First of all, anxious rearing was found to be predominantly associated with symptoms of generalized anxiety disorder (mother: $r = 0.41$, $P < 0.01$; father: $r = 0.31$, $P < 0.05$) and separation anxiety disorder (mother: $r = 0.51$, $P < 0.005$; father: $r = 0.48$, $P < 0.005$). Second, control was particularly connected to symptoms of generalized anxiety disorder (mother: $r = 0.41$, $P < 0.01$), separation anxiety disorder (mother and father: $r = 0.40$, $P < 0.01$) and environmental–situational phobia (mother: $r = 0.42$, $P < 0.01$; father: $r = 0.40$, $P < 0.01$). Third, emotional warmth of the father was positively related to symptoms of

<table>
<thead>
<tr>
<th>Table 1 Partial correlations between EMBU scales and SCARED total score while holding age constant</th>
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<tr>
<td>SCARED total score</td>
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<tr>
<td>EMBU-C mother</td>
</tr>
<tr>
<td>Emotional warmth 0.23</td>
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<tr>
<td>Rejection 0.15</td>
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<tr>
<td>Control 0.41**</td>
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<tr>
<td>Anxious rearing 0.42**</td>
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<tr>
<td>EMBU-C father</td>
</tr>
<tr>
<td>Emotional warmth 0.31*</td>
</tr>
<tr>
<td>Rejection 0.07</td>
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<tr>
<td>Control 0.35*</td>
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<td>Anxious rearing 0.37*</td>
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</tbody>
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* $P < 0.05$, ** $P < 0.01$.

Note: SCARED = Screen for Child Anxiety Related Emotional Disorders; EMBU-C = Child version of the Egna Minnen Betaflande Uppfostran ("My memories of upbringing"); $N = 45$. 
generalized anxiety disorder \( r = 0.31, P < 0.05 \) and separation anxiety disorder \( r = 0.33, P < 0.05 \).

Fourth, no significant associations between rejection and SCARED subscales were found.

4. Discussion

The present study examined the relationship between perceptions of parental rearing behaviours and anxiety disorders symptomatology in a sample of normal school children. Significant and positive relationships were found between anxious rearing and control, on the one hand, and anxiety disorders symptomatology, especially symptoms of generalized anxiety disorder, separation anxiety disorder and environmental–situational phobia, on the other hand. These results largely confirm those of a previous study by Gruner et al. (submitted).

Surprisingly, a significant positive relationship emerged between emotional warmth of the father and anxiety disorders symptoms \( r = 0.31, P < 0.05 \). Yet, it should be noted that there was a substantial connection between anxious rearing of the father and emotional warmth of the father \( r = 0.45, P < 0.005 \). When controlling for anxious rearing, the correlation between emotional warmth and anxiety symptoms no longer attained significance \( r = 0.19, \) non-significant. This implies that emotional warmth was only indirectly related to anxiety through its connection with anxious rearing.

The results of the present study fit well with those of other studies on childhood anxiety. First of all, as mentioned earlier, there is tentative evidence for the suggestion that anxious parental rearing behaviours may encourage anxious cognitions and avoidance behaviours in children (e.g. Barrett et al., 1996a). In addition, it is plausible to assume that children who are strictly controlled and overprotected by their parents, do not have enough opportunities to explore their environment. This may undermine the development towards an autonomic position (potentially accompanied by relatively high levels of separation anxiety) and may reduce exposure to unfamiliar stimuli (possibly resulting in high levels of environmental–situational phobia symptoms; see Rapee, 1997).

Both the current study and the study by Grüner et al. (submitted) found children’s perception of parental rearing behaviours to be associated with anxiety symptoms. However, Muris et al. (1996) failed to find such a connection. How can these conflicting results be explained? It is important to note that the Muris et al. study was different in two respects. First of all, whereas the present study as well as the study by Grüner et al. (submitted) relied on samples of normal children, the Muris et al. study examined a sample of clinically referred children who suffered from diverse psychopathological symptoms (i.e. only 14 children had an anxiety disorder). It may well be the case that the heterogeneity of that sample contributed to a failure to find a connection between parental rearing and anxiety. Second, the Muris et al. study employed the Fear Survey Schedule for Children and the Child Behaviour Checklist to assess children’s levels of anxiety. Several authors have pointed out that these instruments are less suitable as pure or specific anxiety measures (Perrin and Last, 1992; Stallings and March, 1995). The SCARED and the Children’s Anxiety Scale as employed by Grüner et al. (submitted) are probably better indices of childhood anxiety. Clearly, then, future studies concerned with the relationship between perceived parental rearing behaviours and anxiety symptomatology should preferably include nonclinical as well as clinical samples and should employ a broad range of childhood anxiety measures.

There is a growing body of evidence indicating that anxiety disorders are familial (Last et al.,...
Furthermore, it can be assumed that both genetic and environmental factors contribute to the development of childhood anxiety and anxiety disorders. As to the environmental factors, parental rearing behaviours are believed to account for a small but significant proportion of the variance of children’s level of anxiety (Rapee, 1997). The results of the current study seem to be in line with this idea. Note that the notion that parental rearing practices affect children’s level of anxiety symptoms may have therapeutic relevance. Treatment studies have shown that cognitive-behavioural therapy (CBT) is highly successful in treating childhood anxiety disorders (Kendall, 1994; Kendall et al., 1997). A recent study by Barrett et al. (1996b) shows that CBT can be even more effective when it is combined with family management training. Such training teaches parents how to extinguish the excessive anxiety, anxious thinking and avoidance behaviour of their children.

One important limitation of the present study has to do with its correlational approach. It is obvious that such an approach precludes strong causal interpretation of the correlations that were found. On a related note, it cannot be ruled out that the positive connection between anxious rearing practices and anxiety symptoms is genetically-mediated. That is, it may well be the case that the present findings are merely due to the fact that anxious parents have anxious children (see, for a similar discussion, Fyer et al., 1990). Future studies in which the relationship between anxious rearing and children’s anxiety symptoms is examined while controlling for anxiety levels of the parents may clarify this issue.

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References


