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Maternal Disciplinary Style with Preschool Children: Associations with Children's and Mothers' Trait Anxiety

Rebecca Robinson and Sam Cartwright-Hatton

University of Manchester, UK

Abstract. This study explored associations between maternal discipline, maternal trait anxiety and anxiety in preschool-aged children. The sample comprised 47 mothers and their children, aged 2–3 years. Maternal discipline was assessed by maternal self-report; and child anxiety by maternal and play leader report. Positive associations were found between self-reported, ineffective, maternal discipline and symptoms of anxiety in preschool-aged children. Associations were not found between self-reported "verbose" discipline (long reprimands or reliance on talking) and preschoolers' anxiety. There were also no associations between play leaders' reports of preschoolers' anxiety and any of the mothers' self-reported discipline measures. Positive associations were found between maternal trait anxiety and the use of self-reported ineffective disciplinary behaviours. Over-reactive discipline was shown to be a stronger predictor of preschoolers' anxiety symptoms than maternal anxiety or lax discipline. It was concluded that children's internalizing symptoms (according to mother report) may be associated with use of ineffective disciplinary strategies. Increased use of these strategies was also associated with anxiety in mothers, and it is suggested that use of ineffective discipline strategies might partially account for the association between maternal and child anxiety.

Keywords: Maternal-discipline, child anxiety, maternal-anxiety.

Introduction

It is now recognized that anxiety runs in families, and that children of anxious parents have an increased risk of developing anxiety difficulties themselves (e.g. McClure, Brennan, Hammen and Le Brocque, 2001). Although part of this familial concordance is likely to be due to genetic factors (e.g. Eley, Bolton, O'Connor et al., 2003), a large part of the variance is also likely to be due to environmental factors. In particular, researchers have focused on the role of parenting styles in the development or maintenance of anxiety disorders in children.

A better understanding of the role of parenting processes in the development and/or maintenance of child anxiety is crucial. Most published interventions for childhood anxiety now incorporate some role for the parents (although this role is very variable). This is particularly crucial when treating younger children, for whom directly administered interventions (such as CBT) may not always be appropriate (Grave and Blissett, 2004).

Reprint requests to Rebecca Robinson, Academic Division of Clinical Psychology, 2nd Floor Zochonis Building, Brunswick Street, University of Manchester, Manchester M13 9PL, UK. E-mail: rebrobdelosrios@yahoo.co.uk

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An excellent review of the relationship between parenting styles and childhood anxiety is provided by Wood, McLeod, Sigman, Hwang and Chu (2003). This review concluded that there was some evidence of a role for parental acceptance/rejection, parental control/autonomy granting, and parental modelling in the aetiology/maintenance of childhood anxiety. Whilst interesting, however, the extant research has clearly only tapped a small part of the extremely complex construct that we know as "parenting". The present study was devised as part of an attempt to explore other aspects of parenting that might have a role in the development or maintenance of anxiety. In particular, we were concerned to explore aspects of parenting that would have substantial clinical implications. In particular, we were aware that widely used behavioural parent management training programmes have recently been shown to have an impact on internalizing as well as externalizing symptoms in children (Cartwright-Hatton, McNally and White, 2005; Cartwright-Hatton, McNally, White and Verduyn, 2005). Parenting programmes such as those explored in these papers operate largely by attempting to modify parents' methods for disciplining their children. In particular, they attempt to teach parents calm, consistent methods for obtaining positive behaviours and extinguishing negative behaviours, using standard behavioural principles. However, there has been very little research exploring the role of parents' discipline style in the genesis and maintenance of childhood internalizing symptoms.

In addition, we know little about the effect of parental anxiety on parents' discipline style. We now have substantial evidence that other parental mental health problems have a deleterious impact on parenting (e.g. see Berg-Nielsen, Vikan and Dahl, 2002 for a review). Moreover, a small body of research has been suggestive of a relationship between maternal anxiety and ineffective parenting behaviours. For example, Hirshfeld, Biederman, Brody, Faraone and Rosenbaum (1997) reported that anxious mothers showed increased expressed emotion towards their 4 to 11-year-old children. Similarly, Whaley, Pinto and Sigman (1999) showed that anxious mothers were more controlling of their 7 to 14-year-old children's behaviour, and showed less acceptance and warmth towards them. Finally, Moore, Whaley and Sigman (2004) found that anxious parents were more likely to catastrophize when discussing a stressful topic with their 7 to 15-year-old child than less anxious mothers (although notably in this study, maternal anxiety was not associated with decreased warmth or autonomy granting).

Moreover, there is now evidence from other quarters that the relationship between parental and child mental health is at least partially mediated by the parenting style experienced by the child. For instance, Chorpita and Barlow (1998) and Nolen-Hoeksema, Wolfson, Mumme and Guskin (1995) both showed that in samples of depressed parents, the child's psychopathology was more closely associated with the parenting that they received than to their parents' level of psychopathology. Similarly, there is evidence indicating that when the children of parents with schizophrenia experience effective parenting, they appear to be at lower risk of developing mental health problems themselves than similar children who have experienced less effective parenting (Downey and Walker, 1992). Therefore, in the present study, we wanted to explore whether discipline style partially mediated the known relationship between parental and child anxiety.

Measuring parenting behaviour is clearly a complex task, but for an initial exploration of discipline style we identified one self-report measure that appeared appropriate. The Parenting Scale (Arnold, O'Leary, Wolff and Acker, 1993) measures parenting style, with a focus on methods for behavioural control. It yields a total score and three subscale scores, representing three parenting factors: laxness (e.g. not following through with threatened consequences for misbehaviour, inconsistency of rules); overreactivity (e.g. displays of anger, use of harsh

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punishments); and verbosity (use of excessively long reprimands or reliance on talking as methods of behaviour management). In addition, there are four items that do not load onto a subscale, but which are included in the total score. The authors report acceptable correlations between parenting as reported on this scale and independent reports of observed parenting. The Parenting Scale was included in the current study for its ability to assess a number of behaviourally operationalized parenting behaviours of the kind that are routinely addressed in parent training programmes.

The literature indicates that the relationship between reported parenting styles and childhood anxiety may vary as a function of the person reporting the parenting behaviour, and the person reporting the child's level of anxiety. In this study, therefore, we chose two informants on the child's anxiety, namely mothers and a member of staff at the children's nursery. It was not possible to obtain an objective assessment of the parents' discipline style, but as outlined above, the measure that we chose to examine this does purport to have some validity when compared to observations of parenting behaviour.

It seems likely that as children grow older, what is deemed an "appropriate" parental discipline style will change. For instance, it is probably more appropriate to chastise an 8 year old for a misdemeanour (e.g. causing damage to another's possession) than it would be to chastise a 2 year old for the same act. Therefore, to increase the internal validity of this study, we chose a very narrow age band of children (24 to 48 months). We chose this young age group for a number of reasons: first, it seemed that children at this age would be more vulnerable to the effects of parenting than an older group who are subject to a much wider range of influences. Second, children of this age are currently very underserved in terms of treatment options. According to a recent review of treatments for childhood anxiety, no published treatment trial has attempted to treat a child younger than 6 years of age for an anxiety disorder (Cartwright-Hatton, Roberts, Chitsabesan, Fothergill and Harrington, 2004). This situation has probably arisen as a function of the difficulties that are inherent in using CBT with young children (all of the current non-medication based trials have used CBT). It is likely that any clinical approach for children in this age group will depend heavily on parental input; therefore it is crucial that we understand more about the role of parenting for these children.

It was hypothesized that ineffective, maternal discipline style would be significantly and positively associated with anxiety in preschool-aged children; and that ineffective, maternal discipline would be significantly and positively associated with maternal trait anxiety. The study also aimed to compare the predictive strength of maternal discipline style and maternal trait anxiety on preschoolers' anxiety.

Method

A power calculation indicated that 40 mother–child pairs were required for the study to have 80% power to detect correlations of .45 or more between mothers' ineffective discipline and child anxiety. Based on the recommended 15:1 ratio of subjects to predictor variables, it was also calculated that 45 participant pairs were required for the multiple regression analysis involving up to three independent variables. Mothers and children aged 2–3 years were approached in adult-and-toddler groups or nurseries of mixed socio-economic status. Children or parents with severe learning disabilities, a lack of fluency in the English language, or who had previously, or were currently attending parent training groups were excluded from the study.

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Sample

All of the mothers who were approached agreed to take part in the study, making the participation rate 100%. Assessments were made of 47 participants. Forty completed play leader questionnaires were returned. Seven nurseries and adult-and-toddler groups failed to return the questionnaires, making a completion rate of 85% for the play leader questionnaires. Mothers of 21 boys and 26 girls participated, who were aged 24 to 47 months. The sample's average age was 34 months (standard deviation 7 months). Forty-three participants were white European, three participants were British Afro-Caribbean, and one participant was of Asian origin.

Measures

Three parental and one play leader measure were employed in the study, all of which are well standardized, with acceptable psychometric properties. Each measure was completed with regard to the child's behaviour and symptoms over the preceding 2 months.

The Child Behaviour Checklist (CBCL/2-3) (Achenbach, 1992) is a widely used, well-standardized, parent-report inventory of current behavioural and emotional problems (Achenbach, 1992). This measure was selected as it is the most well-researched measure of internalizing symptoms that is available for children in this very young age group and has good psychometric properties of reliability and validity (Cronbach's alpha for total score = 0.96, internalizing = 0.88, anxiety/depression = 0.78). Newer parent-report measures of child anxiety for this group are now available, but at the time of planning this research none could demonstrate psychometric properties that were as adequate as for the widely used CBCL. The CBCL can be used to provide a total problem score, several subscale scores (including anxiety/depression), or scores on the two dimensions of internalizing and externalizing. Although scores on these two dimensions are known to be correlated, they have also been clearly shown to be measuring separate phenomena (McConaughy, Achenbach and Gent, 1988). The Internalizing and Anxious-Depressed subscales were used to measure symptoms of anxiety in this study.

As an additional measure of children's symptoms, the play leader-reported Social Competence and Behaviour Evaluation 30-item scale (SCBE-30) (La Freniere and Dumas, 1996) was employed. This instrument focuses on current affective expression and emotion regulation in the context of social interaction in the environment of preschool-aged children. The Anxiety-Withdrawal subscale was used to measure symptoms of anxiety in the environment of preschool-aged children. This measure was chosen in order that an objective (i.e. non-maternal) report of symptoms could be obtained. Cronbach's alpha coefficients for the three scales in each of three normative samples were reported to range from 0.80 to 0.92.

The Parenting Scale (Arnold et al., 1993) is a 30-item standardized parent-report questionnaire that measures current, behaviourally operationalized, ineffective parenting in discipline situations with young children. It yields a Total Ineffective Discipline score (30 items) and three subscale scores based on three disciplinary strategies: Lax discipline (overly permissive discipline e.g. not sticking to threats or commands; inconsistency in response to difficult child behaviour); Over-reactive discipline (authoritarian discipline style, e.g. displays of anger and irritability); and Verbose discipline (overly long reprimands or reliance on talking as a behaviour management strategy) (Arnold et al., 1993). Cronbach's alphas were 0.84, 0.83, 0.82 and 0.63 for the total, laxness, overreactivity, and verbosity scales respectively.

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Table 1. Correlations between total, lax, over-reactive, and verbose discipline and preschool anxiety

	Parent-reported child anxiety		Play leader-reported child anxiety
	CBCL/2-3		SCBE-30
Self-reported discipline $n = 47$	Internalizing $n = 47$	Anxious/depressed $n = 47$	Anxiety-withdrawal $n = 39$
Total ineffective discipline	.469 $p < .001$	.377 $p = .005$	−.032 $p = .423$
Over-reactive discipline	.455 $p < .001$	.255 $p = .042$	.027 $p = .436$
Lax discipline	.257 $p = .041$	.201 $p = .088$	.014 $p = .467$
Verbose discipline	.083 $p = .290$	.231 $p = .059$	−.173 $p = .146$

The trait anxiety version of the State–Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, Lushene, Vagg and Jacobs, 1983) is a 20-item measure of trait anxiety, which is described as a relatively stable characteristic of anxiety-proneness. This was completed by mothers to measure maternal anxiety. Cronbach's alpha coefficient for the trait anxiety scale is reported to be 0.90.

Results

The distribution of the scores was examined for normality of distribution using the Kolmogorov-Smirnov test. This suggested that all of the variables were normally distributed and that parametric tests could be used to analyse these variables.

In order to examine whether, as has previously been consistently demonstrated, parental and child anxiety were correlated, three Pearson correlations were computed, between maternal trait anxiety and a) children's internalizing score on the CBCL; b) children's anxiety/depression score on the CBCL; and c) play leaders' SCBE anxiety-withdrawal score. For a and b the correlation was significant at $< .05$ ($r = .42$ and .34 respectively). However, there was no significant correlation between maternal trait anxiety and play leaders' ratings of children's anxiety-withdrawal score.

Hypothesis 1: Ineffective, maternal discipline is significantly and positively associated with anxiety in preschool-aged children

This hypothesis was investigated using four measures of maternal, ineffective, discipline and three measures of child anxiety. A series of one-tailed correlation analyses were calculated to investigate the associations shown in Table 1.

A significant, positive correlation was shown between the self-reported Total Ineffective Discipline Scale and the parent-reported, Internalizing and Anxious/Depressed scales of the CBCL/2-3. Self-reported Lax discipline showed a significant, positive correlation with the parent-reported Internalizing scale of the CBCL/2-3. The association between self-reported Lax discipline and the parent-reported Anxious/Depressed scale of the CBCL/2-3 was approaching significance. A significant, positive correlation was shown between self-reported Over-reactive discipline and the parent-reported Internalizing and Anxious/Depressed scales

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Table 2. Correlations between ineffective discipline and maternal trait anxiety

Self-reported discipline		STAI-T trait anxiety Pearson's r $n = 47$
Parenting scale	Total ineffective discipline $n = 47$	.481 $p < .001$
	Lax discipline $n = 47$	.251 $p = .044$
	Over-reactive discipline $n = 47$	.610 $p < .001$
	Verbose discipline $n = 47$	-.044 $p = .384$

of the CBCL/2-3. Significant correlations were not shown between self-reported Verbose discipline and either of the parent-reported Internalizing and Anxious/Depressed scales of the CBCL/2-3. In summary, the results for Total ineffective discipline, Over-reactive and Lax discipline supported the hypothesis, whereas those for Verbose discipline did not. A significant correlation was not shown between any of the self-reported, ineffective discipline scales and the play leader-reported Anxiety-Withdrawal scale of the SCBE-30.

Hypothesis 2: Ineffective, maternal discipline is significantly and positively associated with maternal trait anxiety

This hypothesis was investigated using four measures of maternal, ineffective, discipline and one measure of maternal trait anxiety. A series of one-tailed Pearson correlations were calculated to investigate the associations shown in Table 2.

A significant, positive correlation was shown between the Trait anxiety scale and the self-reported Total ineffective discipline scale, the self-reported Lax discipline scale, and the self-reported Over-reactive discipline scale, all of which supported the hypothesis. A significant correlation was not, however, shown between the Trait anxiety scale and the self-reported, Verbose discipline scale.

Further analyses

A multiple regression was performed to investigate the independent variance in child anxiety explained by ineffective, maternal discipline and maternal trait anxiety. At least 15 subjects per predictor variable have been recommended for multiple regression analyses, which limited the regression model to three predictor variables. The strongest univariate association between any discipline predictor variable and child anxiety outcome variable was between self-reported Over-reactive discipline and child internalizing ($p < .001$). A significant, positive association was also found between self-reported, Lax discipline and child internalizing ($p < .05$), and between mothers' Trait anxiety and child internalizing. Therefore, the multiple regression investigated the contribution of mothers' Over-reactive and Lax discipline and Trait anxiety in predicting internalizing in preschool-aged children.

As an a priori theory was not available regarding the relative levels of unique variance that each of the predictors would explain, a forward stepwise method of multiple regression was deemed most appropriate (Field, 2000). The results of the regression are presented in Tables 3 and 4.

The only predictor variable to be entered into the regression model was Over-reactive discipline, which was shown to make a significant contribution to the multiple regression

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Table 3. Regression statistics for model with mothers' over-reactive discipline as the single independent predictor of child internalizing

	B	SE B	β
Over-reactive Discipline	3.03	.885	.46*

Note: $R^2 = .21$ for step 1. $^*p < .001$.

Table 4. Variables excluded from regression model of child internalizing

Excluded variables	β	t	Significance level	Partial correlation coefficient
Lax discipline $n = 47$	.16	1.179	$p = .245$	.175
Trait anxiety $n = 47$	.219	1.317	$p = .195$	.195

model, indicating that it is a significant independent predictor of internalizing ($t\,(45) = 3.423$, $p < .001$).

The amount of variance in internalizing (the outcome variable) accounted for by Over-reactive discipline, (R^2), was .21. The adjusted R^2 value was .189. The difference between the R^2 value and the adjusted R^2 value was small (.018), suggesting that the model had an acceptable level of generalizability.

Table 4 shows estimates of the β values for Lax discipline and Trait anxiety, if they were to be entered into the regression equation. There was an acceptably low level of collinearity for multiple regression analyses. Examination of the residuals indicated that: the sample conformed to the expectations of an accurate model; there was an acceptable level of independence of residuals; the assumptions of linearity and homoscedasticity were met; and the residuals conformed to the normal distribution.

Discussion

The main purpose of this study was to investigate associations between maternal discipline style, maternal trait anxiety, and anxiety in preschool-aged children. The results indicated that mothers' self-reported, total ineffective discipline, and over-reactive discipline were positively associated with maternal report of children's internalizing and anxious/depressed behaviours.

Further positive associations were found between self-reported, lax discipline and maternal report of children's internalizing and anxious/depressed behaviours. However, although the former was significant, the latter association was approaching significance only. This may reflect the inherent difficulty in assessing constructs such as lax discipline, which are characterized by an intermittent absence of behaviours (George and Bloom, 1997).

The hypothesized associations between verbose discipline and parent-reported, child anxiety were not supported by the results. Verbose disciplinary strategies are thought to be ineffective by reinforcing misbehaviours through parental attention, and by modelling reiterative negotiation in disciplinary contexts (Kuczynski, Kochanska, Radke-Yarrow and Girnius-Brown, 1987). It is possible that children learn negotiation strategies through modelling maternal verbosity, which may have the effect of empowering children in disciplinary situations, thus leading to the present finding that this maternal discipline style was unrelated to anxiety.

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The hypothesized associations between ineffective, maternal discipline and play leader reports of anxiety in preschool-aged children were also not supported by the results. It is known that agreement between parents and teachers is low for internalizing problems (Achenbach, McConaughy and Howell, 1987), and particularly with regard to younger children (Verhulst and Akkerhuis, 1989; Vitaro, Gagnon and Tremblay, 1991). There is some evidence that in reporting internalizing problems, the mothers are more likely to be presenting an accurate picture than the teachers (Hinshaw, Han, Erhardt and Huber, 1992). Moreover, mothers and teachers were asked to complete slightly different instruments, measuring closely related but differing constructs. It is possible that the discrepant results arose as a result of this. However, it is likely that the conflicting results reflect the complex nature of interpretations of others' emotional states, and this will be further discussed below.

The results of the multiple regression analysis show that mothers' self-reported, over-reactive discipline is a significant, independent predictor of internalizing behaviours in preschool-aged children, when maternal anxiety and lax parenting are taken into account. Therefore, it is possible that over-reactive discipline is a potential transmission mechanism of parent–child anxiety. These results are consistent with those reported by studies of other parental mental health difficulties, which also suggest that adequate parenting can reduce the risk of mental health difficulties in children being raised by parents with significant psychopathology (Chorpita and Barlow, 1998; Downey and Walker, 1992; Nolen-Hoeksema et al., 1995).

These findings suggest that interventions focusing on deficits in parental discipline style might now be a fruitful avenue. Indeed, research examining the impact of interventions targeted at changing parental discipline style have met with early success in treating anxiety in children (Cartwright-Hatton, McNally and White, 2005; Choate, Pincus, Eyberg and Barlow, 2005). Moreover, a parent-based approach such as this is likely to be particularly useful for the treatment of anxiety in younger children, for whom current CBT and medication interventions may be inappropriate.

A few methodological issues must be taken into account when interpreting the results of this study. First, the use of the Internalizing scale of the CBCL/2-3 (Achenbach, 1992) may have led to data that incorporated symptoms of both anxiety and depression. There are, however, trivial differences between, and much overlap in the symptoms of anxiety and depression in preschool-aged children (Achenbach, 1992; Campbell, 1995; Ollendick and King, 1994); and anxiety and depression may be indistinguishable in this age group. Furthermore, there is extremely limited availability of validated assessment instruments to measure internalizing symptoms in preschool-aged children, and the Internalizing scale of the CBCL/2-3 is the most widely used instrument for this purpose.

Second, there is an issue of shared method variance in this study. Although play leader reports of symptoms were sought, in order to circumvent this issue, the relationships between the play leader data and other variables failed to support the hypotheses. As outlined above, this may have arisen because parents are much better reporters of their child's psychological status than teachers. However, it may also have arisen because of systematic biases in reporting on the part of the mothers. In particular, there is evidence that parents who are themselves anxious are more likely to inaccurately identify anxiety in their children (Treutler and Epkins, 2003). It is possible, therefore, that the more anxious mothers in the present study were over-identifying anxiety in their own children.

Similarly, it is possible that anxious mothers produced reporting-biases when reporting on their own discipline style. Although there is evidence that, in general, the measure in use in

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this study has been demonstrated to have good validity and, in particular, good correspondence with objectively observed parental discipline style (e.g. Arnold et al., 1993; Sanders, Markie-Dadds, Tully and Bor, 2000), it is possible that anxious mothers, particularly those who are highly self-critical, may have rated themselves relatively more negatively on this instrument than the less anxious mothers.

Another methodological issue pertains to one of the inherent problems in the assessment of self-reported, maternal discipline - the risk of social desirability bias. Previous research has, however, shown that mothers do not under-report ineffective disciplinary strategies when assessed by the Parenting scale (Arnold et al., 1993; Sanders et al., 2000).

Finally, assuming that the results reported in this study are an accurate reflection of the processes at play, the current design does not allow for causal inferences to be drawn. It is possible, for instance, that the experience of having an anxious child causes mothers to become more anxious, or causes their discipline style to become less optimal. In reality, the relationships between all of these factors are likely to be reciprocal.

In order to further tease out the relationships suggested in this paper, to explore causality, and to rectify some of the confounds that were present in this exploratory study, further studies of parenting and child anxiety, using longitudinal designs and experimental designs, are required.

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References

Achenbach, T. M. (1992). *Manual for the Child Behaviour Checklist/2-3 and 1992 profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach, T. M., McConaughy, S. H. and Howell, C. T. (1987). Child/adolescent behavioural and emotional problems: implications of cross-informant correlations for situational specificity. *Psychological Bulletin, 101*, 213–232.

Arnold, D. S., O'Leary, S. G., Wolff, L. S. and Acker, M. M. (1993). The Parenting Scale: a measure of dysfunctional parenting in discipline situations. *Psychological Assessment, 5*, 137–144.

Berg-Nielsen, T. S., Vikan, A. and Dahl, A. A. (2002). Parenting related to child and parental psychopathology: a descriptive review of the literature. *Clinical Child Psychology and Psychiatry, 7*, 1359–1045.

Campbell, S. B. (1995). Behaviour problems in preschool children: a review of recent research. *Journal of Child Psychology and Psychiatry, 36*, 113–149.

Cartwright-Hatton, S., McNally, D. and White, C. (2005). A new cognitive behavioural parenting intervention for families of young anxious children: a pilot study. *Behavioural and Cognitive Psychotherapy, 33*, 243–248.

Cartwright-Hatton, S., McNally, D., White, C. and Verduyn, C. (2005). Parenting skills training: an effective intervention for internalising symptoms in younger children? *Journal of Child and Adolescent Psychiatric Nursing, 18*, 45–52.

Cartwright-Hatton, S., Roberts, C., Chitsabesan, P., Fothergill, C. and Harrington, R. (2004). Systematic review of the efficacy of cognitive behaviour therapies for childhood and adolescent anxiety disorders. *British Journal of Clinical Psychology, 43*, 421–436.

https://doi.org/10.1017/S1352465807003797 Published online by Cambridge University Press

Choate, M. L., Pincus, D. B., Eyberg, S. M. and Barlow, D. H. (2005). Parent-child interaction therapy for treatment of separation anxiety disorder in young children: a pilot study. *Cognitive and Behavioral Practice, 12*, 126–135.

Chorpita, B. F. and Barlow, D. H. (1998). The development of anxiety: the role of control in the early environment. *Psychological Bulletin, 124*, 3–21.

Downey, G. and Walker, E. (1992). Distinguishing family-level and child-level influences on the development of depression and aggression in children at risk. *Development and Psychopathology, 4*, 81–95.

Eley, T., Bolton, D., O'Connor, T., Perrin, S., Smith, P. and Plomin, R. (2003). A twin study of anxiety-related behaviours in pre-school children. *Journal of Child Psychology and Psychiatry, 44*, 945–960.

Field, A. (2000). *Discovering Statistics using SPSS for Windows*. London: Sage.

George, E. L. and Bloom, B. L. (1997). A brief scale for assessing parental child-rearing practice: psychometric properties and psychosocial correlates. *Family Process, 36*, 63–80.

Grave, J. and Blissett, J. (2004). Is cognitive behavior therapy developmentally appropriate for young children? A critical review of the evidence. *Clinical Psychology Review, 24*, 399–420.

Hinshaw, S. P., Han, S. S., Erhardt, D. and Huber, A. (1992). Internalizing and externalizing behaviour problems in preschool children: correspondence among parent and teacher ratings and behaviour observations. *Journal of Clinical Child Psychology, 21*, 143–150.

Hirshfeld, D. R., Biederman, J., Brody, L., Faraone, S. V. and Rosenbaum, J. F. (1997). Expressed emotion toward children with behavioral inhibition: associations with maternal anxiety disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 910–917.

Kuczynski, L., Kochanska, G., Radke-Yarrow, M. and Girnius-Brown, O. (1987). A developmental interpretation of young children's non-compliance. *Developmental Psychology, 23*, 799–806.

La Freniere, P. J. and Dumas, J. E. (1996). Social competence and behavior evaluation in children aged 3 to 6 years: the short form (SCBE-30). *Psychological Assessment, 8*, 369–377.

McClure, E. B., Brennan, P. A., Hammen, C. and Le Brocque, R. M. (2001). Parental anxiety disorders, child anxiety disorders, and the perceived parent-child relationship in an Australian high-risk sample. *Journal of Abnormal Child Psychology, 29*, 1–10.

McConaughy, S. H., Achenbach, T. M. and Gent, C. L. (1988). Multiaxial empirically based assessment: parent, teacher, observational, cognitive and personality correlates of child behaviour profiles for 6–11 year old boys. *Journal of Abnormal Psychology, 16*, 485–509.

Moore, P. S., Whaley, S. E. and Sigman, M. (2004). Interactions between mothers and children: impacts of maternal and child anxiety. *Journal of Abnormal Psychology, 113*, 471–476.

Nolen-Hoeksema, S., Wolfson, A., Mumme, D. and Guskin, K. (1995). Helplessness in children of depressed and non-depressed mothers. *Developmental Psychology, 31*, 377–387.

Ollendick, T. H. and King, N. J. (1994). Diagnosis, assessment and treatment of internalizing problems in children: the role of longitudinal data. *Journal of Consulting and Clinical Psychology, 62*, 918–927.

Sanders, M. R., Markie-Dadds, C., Tully, L. A. and Bor, W. (2000). The triple P-positive parenting program: a comparison of enhanced, standard, and self-directed behavioral family intervention for parents of children with early onset conduct problems. *Journal of Consulting and Clinical Psychology, 68*, 624–640.

Spielberger, C., Gorsuch, R. L., Lushene, R., Vagg, P. R. and Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press.

Treutler, C. M. and Epkins, C. C. (2003). Are discrepancies among child, mother, and father reports on children's behavior related to parents' psychological symptoms and aspects of parent-child relationships? *Journal of Abnormal Child Psychology, 31*, 13–27.

Verhulst, F. C. and Akkerhuis, G. W. (1989). Agreement between parents' and teachers' ratings of behavioural-emotional problems of children aged 4–12. *Journal of Child Psychology and Psychiatry, 30*, 123–136.

https://doi.org/10.1017/S1352465807003797 Published online by Cambridge University Press

Vitaro, F., Gagnon, C. and Tremblay, R. E. (1991). Teachers' and mothers' assessment of children's behaviors from kindergarten to grade two: stability and change within and across informants. *Journal of Psychopathology and Behavioural Assessment, 13*, 325–343.

Whaley, S. E., Pinto, A. and Sigman, M. (1999). Characterizing interactions between anxious mothers and their children. *Journal of Consulting and Clinical Psychology, 67*, 826–836.

Wood, J., McLeod, B. D., Sigman, M., Hwang, W.-C. and Chu, B. C. (2003). Parenting and childhood anxiety: theory, empirical findings and future directions. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 44*, 134–151.

https://doi.org/10.1017/S1352465807003797 Published online by Cambridge University Press