Parental discipline behaviours and beliefs about their child: associations with child internalizing and mediation relationships

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Abstract

Introduction Internalizing disorders of childhood are a common and disabling problem, with sufferers at increased risk of subsequent psychiatric morbidity. Several studies have found associations between parenting styles and children’s internalizing, although few have considered the role of parental discipline. Parental discipline style may exert an effect on children’s internalizing symptoms. Anxiety and depression are reliably found to run in families and parental anxiety has been shown to effect parenting behaviour. This study set out to examine the links between parental anxiety, parental discipline style and child internalizing symptoms.

Method Eighty-eight parents of children aged 4–10 years were recruited through primary schools. All parents completed questionnaires including measures relating to: adult anxiety (State-Trait Anxiety Inventory – Trait version, Penn State Worry Questionnaire), parental depression (Beck Depression Inventory – Fastscreen), parental discipline (The Parenting Scale), parenting-related attributions (Parenting Attitudes, Beliefs and Cognitions Scale) and child psychological morbidity (Child Behaviour Checklist 4–18 version).

Results Significant correlations were found between both parental anxiety and child internalizing symptoms with ineffective discipline and negative beliefs about parenting. Particularly strong correlations were found between parental anxiety and child internalizing symptoms with harsh discipline. Parents of anxious/withdrawn children were more likely to hold negative beliefs about their child. The link between parental anxiety and child internalizing symptoms was mediated by harsh discipline. The link between parental anxiety and harsh discipline was mediated by parental beliefs about the child.

Conclusion Discipline style may be an important factor in the relationship between parent anxiety and child internalizing symptoms.

Introduction

Internalizing disorders of childhood are more common than once thought. Recent epidemiological studies suggest that at least 3% of children aged 11 years or below will experience a diagnosable anxiety disorder at any one time, with around 1% experiencing depressive disorders (Ford et al. 1999). Some studies suggest substantially higher figures (e.g. Sugawara et al. 1999). A proportion of childhood internalizing disorders remit without treatment, however, many persist or recur in the medium or long term (Last et al 1996; Dadds & Barrett 2001; Woodward & Fergusson 2001). In addition, children with internalizing
disorders are at greater risk of social and academic difficulties (e.g. Pine 1997), subsequent internalizing disorders (e.g. Kovacs et al. 1989; Kroll et al. 1996) and substance abuse difficulties (e.g. Lehman et al. 1998), compared with non-anxious peers.

Cognitive behaviour therapy has been shown to be effective for treating anxiety and depression in children (Cartwright-Hatton et al. 2004; Lyneham & Rapee 2006; NICE 2005). Given the constraints on individual therapy with younger children, because of their developmental stage, interventions that focus on parents may be a more promising option. Indeed, intervention with younger anxious children often includes parental involvement (e.g. Lyneham & Rapee 2006). If parentally focused approaches are to be effective, we need to know more about the role of parents in the genesis and maintenance of internalizing problems in childhood.

A number of studies now suggest an association between parenting and childhood internalizing. The literature is elegantly reviewed by Rapee (1997), Wood and colleagues (2003) and McLeod and colleagues (2007), and will not be repeated here. Research in this area has focused on dimensions of ‘parenting style’ (including warmth/rejection, control/autonomy and modelling in the case of anxiety), which are defined somewhat imprecisely or inconsistently. Parental behaviours may prove a more productive focus of study than parenting style (Wood et al. 2003). An aspect of parenting that has received little direct research attention is the role of parental discipline in the development of children’s internalizing symptoms. This is surprising, as managing children’s behaviour is a fundamental part of parenting, especially in the early years. Parental discipline may overlap with both dimensions of warmth/rejection and autonomy/control and the potential impact on children, of certain practices, is direct. The use of harsh or inconsistent discipline practices could lead to a threatening and unpredictable home environment, which may be fertile ground for the development of anxiety and depression in a vulnerable child. Additionally, this is an area where it may be relatively straightforward clearly to operationalize behaviours for measurement and potential intervention. Moreover, mental health professionals are well equipped to manage deficits in parental discipline style, armed as they are, with a plethora of well-validated behavioural parent skills programmes (Webster-Stratton & Hammond 1997).

We now know that internalizing disorders tend to aggregate in families. For example, it has been found that children whose mothers have an anxiety disorder are more than twice as likely to have an anxiety disorder before the age of 15 years old than children of mothers without an anxiety disorder (McClure et al. 2001). Similarly, a study looking at the children of agoraphobic parents found that 56% met diagnostic criteria for DSM-III-R diagnosis of separation anxiety disorder (Capps et al. 1996).

There are many reasons why children with anxious parents are at increased risk of developing internalizing problems. There is likely to be some vulnerability conferred by genetic factors. However, there is also evidence that a substantial portion of the association is accounted for by environmental factors (Eley et al. 2003). As parents are the primary determinant of children’s environment in the early years, it is likely that some of the association is due to parenting factors. Indeed, there is now evidence that parents who have mental health problems may parent differently to parents without such difficulties (Reder et al. 2000). For instance, mothers with depression are more likely to display disorganized, inconsistent parenting, and to communicate less frequently, for shorter periods of time and more negatively with their children than non-depressed mothers (Oyserman et al. 2000).

Research into parenting and anxiety has tended to focus on the parenting received by anxious children (bottom-up studies) rather than on the parenting styles of anxious parents (top-down studies). However, there are now a small number of studies that examine the parenting provided by adults with anxiety difficulties. One observational study (Hirshfeld et al. 1997), looking at the levels of expressed emotion in parenting, found that mothers with anxiety disorders expressed higher levels of criticism towards their children, especially towards children with high levels of behavioural inhibition. Whaley and colleagues (1999) compared parent–child interactions in anxious and non-anxious mothers and found that anxious mothers were more critical, less warm, more catastrophising and less granting of psychological autonomy. However, both of these studies examined the parent–child relationships during stressful interactions, which may affect the generalizability of the findings. A study (Turner et al. 2003), looking at interactions in more neutral settings, found no significant differences in expressions of anxious affect, warnings, directing of child’s activity, encouragement or criticism between anxious and non-anxious parents. However, anxious parents were less physically close and involved with their children’s activities and reported significantly higher levels of anxiety during children’s play. The authors acknowledged the possibility that the failure to find other differences between groups of parents may have been due to low power of this study. Moore and colleagues (2004) found that maternal anxiety did not predict warmth or autonomy granting of mothers, but that catastrophising was predicted by maternal anxiety status. These findings were contrary to previous findings, that maternal warmth was best predicted by
mother anxiety. This was a relatively small study (n = 68) with an unusually high proportion (38.6%) of the anxious children presenting with obsessive-compulsive disorder and a predominantly Caucasian, middle-class sample and there may therefore be limitations on the generalizability of the findings. Nevertheless, this study supports the emerging picture of intergenerational anxiety transmission as a complex, multi-factorial, multi-directional process likely to be influenced by a combination of parent, child and environmental factors.

Despite the research indicating that anxiety in an individual may impact on parenting, there is very little research examining the relationship between parental anxiety and parental discipline style. It seems likely that, if anxious parents select ineffective disciplinary tactics, this may be impact on children’s well-being and their vulnerability to developing internalizing problems. For example, inconsistent adherence to rules and boundaries would be likely to produce an unpredictable home environment, undermining a vulnerable child’s sense of control. Overly harsh or punitive discipline could impact on a child’s sense of autonomy, security and availability of parental support, linking with concepts of rejection and authoritativeness. For this reason, the relationship between parental anxiety and parental disciplinary style was examined in this study.

There is a growing body of research considering the relationship between parental cognitions and parenting outcomes, which until now has focused on cognitions associated with increased levels of aggressive child behaviour (Bugental & Johnston 2000). For example, negative parental attributional biases are associated with excessive parental control, coerciveness and harshness. Specifically, when parents perceive themselves as lacking power relative to their child, they experience: higher levels of negative affect, reduced use of positive control strategies and greater use of verbal insults and physical force when managing their children’s behaviour (Morrissette-Kane & Prinz 1999; Bugental & Johnston 2000). Rubin and Mills (1990) compared parents of normal, aggressive and withdrawn preschoolers. They found that mothers of withdrawn children were more likely to ascribe maladaptive behaviours to child disposition and endorsed more coercive strategies to address such behaviours than parents of normal children. This suggests that children with internalizing behaviours are more likely to experience negative parental beliefs and harsh parenting practices than their peers. One might hypothesize that an anxious or withdrawn child who finds themselves the target of negative parental beliefs and harsh parenting is likely to display increasingly internalized behaviour, eliciting further unsupportive parenting and creating a negative feedback loop.

Hypotheses

1. There will be a significant positive association between self-reported ineffective discipline practices as measured by the Parenting Scale and children’s internalizing scores on the Child Behaviour Checklist (CBCL) anxious-depressed and internalizing subscales.

2. There will be a significant positive association between self-reported parental anxiety scores on the State-Trait Anxiety Inventory – Trait version (STAI-T) and self-reported ineffective discipline practices as measured by the Parenting Scale.

3. There will be a significant negative association between self-reported negative parental beliefs [Parenting Attitudes, Beliefs and Cognitions Scale (P-ABC scores)] and parental anxiety as measured by the STAI-T. That is, higher parental anxiety scores are associated with greater reporting of negative parental beliefs.

4. There will be a significant negative association between self-reported negative parental beliefs (P-ABC scores) and child internalizing symptoms as measured by the CBCL anxious-depressed and internalizing subscales, such that higher levels of child internalizing symptoms are associated with greater reporting of negative parental beliefs.

5. Any relationship between parental anxiety and child internalizing symptoms will be mediated by parenting behaviour.

6. Any relationship between parental anxiety and parenting behaviour will be mediated by parental cognitions.

Methods

Ethical approval was provided by Thames Valley Multisite Research Ethics Committee.

Participants

Participants were 88 English-speaking adults with children aged between 4 and 10 years, inclusive, living with them. There were 79 mothers, eight fathers and one grandmother; the mean age was 37 years, with a range from 26 to 56 years. Participants had a mean of 2.56 children with a range from 1 to 8. Children, for whom questionnaires were completed, had a mean age of 7 years 5 months, with a range from 4 years 1 month to 10 years 10 months. Thirty-eight children were boys. Seventy-five participants lived with their partners and children, 12 lived only with their children (single parent families), and data were unavailable for one participant. Information was not collected...
relating to reconstituted families. The sample was predominantly White British (79%) with small numbers of: Pakistani (5%), African (3%), Caribbean (2%), Chinese (2%), Indian (1%) and 8% ‘Not Stated’. The majority of the sample owned their own homes (70%) with the rest split equally between private rented (10%), council (10%) and housing association properties (10%). Seventy-two people were born within the UK and 70 spoke English as their first language.

Procedure
Participants were recruited through eight primary schools. Permission to contact parents was given by the headteacher of each participating school. Participants were contacted by letter, or by the researcher attending the school, as agreed with each headteacher. Participants received an information sheet and questionnaire pack. Questionnaires were completed at a single time point and returned in sealed envelopes via schools.

Anonymity
To protect anonymity, participants were asked not to put their name on questionnaires and were identified by a participant number on the questionnaire and information sheet.

Measures
All measures were questionnaires, completed solely by the participating parent. The measures employed were as follows:

The STAI-T (Spielberger et al. 1983): a 20-item self-report measure of adult trait anxiety, which has been well standardized and has well-established psychometric properties (Wells 1997).

The Penn State Worry Questionnaire (Meyer et al. 1990): a 16-item self-report trait measure of pathological worry in adults, which has been shown to possess high levels of validity and reliability (Molina & Borkovec 1994).

The Beck Depression Inventory – Fastscreen (Beck et al. 2000): a seven-item derivative of the 21-item Beck Depression Inventory II (Beck et al. 1996) with good internal consistency and demonstrated construct validity. The results from this questionnaire will not be reported here.

The Parenting Scale (Arnold et al. 1993): a 30-item measure of dysfunctional parenting in discipline situations with adequate test–retest reliability, internal consistency and construct validity. It yields a total score and three subscales of parenting behaviour (Lax discipline, Over-reactive discipline and Verbose discipline) and has been demonstrated to be a useful measure of ineffective parenting of children as old as 14 years (Irvine et al. 1999).

The CBCL 4–18 version problem scale (Achenbach 1991): a parent-report questionnaire, which comprises 118 items and yields separate internalizing and externalizing problem scores and nine subordinate problem subscales. The CBCL has been well standardized and shows good reliability and validity. For the purposes of this study, only the internalizing scale and the anxious-depressed subscales were used.

The P-ABC (D. McNally, C. White & S. Cartwright-Hatton, unpublished data): a 30-item measure of parental beliefs about a range of parenting variables yielding six subscales and a total score. Each item is scored on a 6-point Likert scale with responses ranging from ‘strongly agree’ to ‘strongly disagree’. The total scores range from 30 to 180 with higher scores representing more adaptive responses. The six subscales are characterized as follows: subscale one: Beliefs about child behaviour (Cronbach’s alpha = 0.82. Sample item: ‘My child does not respect me.’); subscale two: Beliefs about self as a parent (Cronbach’s alpha = 0.76. Sample item: ‘I have no confidence in my ability as a parent.’); subscale three: Beliefs about ignoring child misbehaviour (Cronbach’s alpha = 0.74. Sample item: ‘Ignoring my child’s bad behaviour will make it worse.’); subscale four: Beliefs about discipline (Cronbach’s alpha = 0.70. Sample item: ‘Smacking children makes them listen to you.’); subscale five: Beliefs about professional parenting advice (Cronbach’s alpha = 0.73. Sample item: ‘Professionals give different advice about parenting my child.’); subscale six: Beliefs about the use of praise and attention (Cronbach’s alpha = 0.61. Sample item: ‘Praising my child is a waste of time.’). The P-ABC demonstrates high overall internal consistency (Cronbach’s alpha = 0.85), good test–retest reliability (intra-class correlation = 0.92) and good construct and concurrent validity, producing significant correlations with widely used questionnaire measures of parenting and child behaviour [with Parenting Sense of Competence Scale (Gibaud-Wallston & Wandersman 1978) Pearsons rho = –0.493, \( P < 0.001 \); with Parenting Stress Index/Short Form (Abidin 1990) Pearsons rho = 0.454, \( P < 0.001 \); with Eyberg Child Behaviour Inventory (Eyberg 1980) Pearsons Rho = 0.399, \( P < 0.001 \)].

Results
In cases where 20% or more of data points were missing from a subscale, data were excluded from relevant analyses. This was necessary for two participants on STAI-T, one participant on Parenting Scale and one participant on CBCL. After this, missing data accounted for only 0.24% of the total remaining data (STAI-T, 6 items, 0.3%; P-ABC, 16 items, 0.6%; Parenting Scale, 5 items, 0.2%; CBCL, 14 items, 0.1%). Missing data were replaced with the relevant scale or subscale mean scores. Vari-
ables were examined for skewness and kurtosis. CBCL subscales that were not normally distributed were successfully transformed using square root transformations. Several subscales of the P-ABC were not normally distributed and were not amenable to transformation; therefore, analyses involving this instrument employed non-parametric statistical tests (Table 1).

All statistical analyses employed two-tailed significance tests. The use of more conservative alpha values for post hoc than planned tests has been recommended (Tabachnick & Fidell 1996). In this study, alpha was set at 0.05 for planned tests and at 0.01 for post hoc tests. The hypotheses made no predictions about specific subscales of the Parenting Scale or P-ABC. Therefore, analyses involving subscales of these measures had the status of post hoc tests (alpha = 0.01). All other analyses had the status of planned tests (alpha = 0.05).

Consistent with previous research, significant correlations were found between parental anxiety scores (STAI-T) and child internalizing scores [CBCL internalizing subscale (0.288, P = 0.007) and CBCL anxious-depressed subscale (0.322, P = 0.002)].

**Hypothesis 1:** Positive association between ineffective discipline (Parenting Scale) and children’s internalizing (CBCL anxious-depressed and internalizing sub-scales). The results of these analyses are presented in Table 2.

As reported in Table 2, Parents who reported using higher levels of dysfunctional parenting techniques reported that their children displayed higher levels of anxious-depressed symptoms and internalizing symptoms.

Parents who reported using higher levels of ‘over-reactive discipline’ techniques (corresponding to aggressive and coercive parenting behaviour) reported that their children displayed higher levels of internalizing symptoms. There was no significant statistical association between internalizing symptoms and lax or verbose discipline.

**Hypothesis 2:** Positive association between parental anxiety scores (STAI-T) and self-reported ineffective discipline (Parenting Scale). The results of these analyses are presented in Table 3.

### Table 1. Descriptive information for study variables

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean score</th>
<th>Median score</th>
<th>Standard deviation</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAI-T</td>
<td>36.90</td>
<td>37</td>
<td>10.008</td>
<td>21</td>
<td>61</td>
</tr>
<tr>
<td>P-ABC total</td>
<td>132.49</td>
<td>136</td>
<td>20.463</td>
<td>48</td>
<td>170</td>
</tr>
<tr>
<td>P-ABC 1</td>
<td>25.49</td>
<td>27</td>
<td>5.006</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>P-ABC 2</td>
<td>27.26</td>
<td>29</td>
<td>3.743</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>P-ABC 3</td>
<td>23.50</td>
<td>24</td>
<td>4.649</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>P-ABC 4</td>
<td>13.52</td>
<td>13</td>
<td>6.390</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>P-ABC 5</td>
<td>22.59</td>
<td>24</td>
<td>4.721</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>P-ABC 6</td>
<td>20.13</td>
<td>20</td>
<td>4.938</td>
<td>9</td>
<td>28</td>
</tr>
<tr>
<td>Parenting Scale (P.S.) total</td>
<td>3.05</td>
<td>3.03</td>
<td>0.524</td>
<td>1.93</td>
<td>4.47</td>
</tr>
<tr>
<td>P.S. Lax</td>
<td>2.92</td>
<td>3.00</td>
<td>0.655</td>
<td>1.82</td>
<td>4.36</td>
</tr>
<tr>
<td>P.S. Over-reactive</td>
<td>2.64</td>
<td>2.50</td>
<td>0.875</td>
<td>1.30</td>
<td>5.50</td>
</tr>
<tr>
<td>P.S. Verbose</td>
<td>3.98</td>
<td>4.00</td>
<td>0.802</td>
<td>1.86</td>
<td>5.86</td>
</tr>
<tr>
<td>CBCL total</td>
<td>6.48</td>
<td>5</td>
<td>4.868</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>CBCL anxious-depressed</td>
<td>3.49</td>
<td>3</td>
<td>3.036</td>
<td>0</td>
<td>14</td>
</tr>
</tbody>
</table>

CBCL, Child Behaviour Checklist; P-ABC, Parenting Attitudes, Beliefs and Cognitions Scale; STAI-T, State-Trait Anxiety Inventory – Trait version.

### Table 2. Correlation coefficients and alpha values for Pearson correlations between CBCL and Parenting Scale scores

<table>
<thead>
<tr>
<th>Parent-reported ineffective parental discipline: Parenting Scale scores</th>
<th>Lax discipline subscale</th>
<th>Over-reactive discipline subscale</th>
<th>Verbose discipline subscale</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent-reported child symptoms (CBCL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety-depression subscale</td>
<td>0.171</td>
<td>0.376</td>
<td>0.270</td>
<td>0.381</td>
</tr>
<tr>
<td>*P = 0.112</td>
<td>*P &lt; 0.001</td>
<td>*P = 0.012</td>
<td>*P &lt; 0.001</td>
<td></td>
</tr>
<tr>
<td>Internalizing subscale</td>
<td>0.139</td>
<td>0.296</td>
<td>0.223</td>
<td>0.292</td>
</tr>
<tr>
<td>*P = 0.198</td>
<td>*P = 0.005</td>
<td>*P = 0.039</td>
<td>*P = 0.006</td>
<td></td>
</tr>
</tbody>
</table>

*P < 0.05, **P < 0.01.

n = 87 except for Verbose discipline subscale where n = 86.

CBCL, Child Behaviour Checklist.
As shown in Table 3, Participants who reported experiencing higher levels of anxiety reported using higher overall levels of dysfunctional parenting techniques and higher levels of over-reactive discipline techniques. There was no statistically significant association between parental anxiety and lax or verbose discipline.

**Hypothesis 3:** Negative association between parental beliefs (P-ABC scores) and parental anxiety. The results of these analyses are presented in Table 4; Spearman’s correlations are used because of deviations from normal distribution.

Parents who reported higher levels of anxiety were more likely to hold negative and unhelpful beliefs about parenting in a range of domains (P-ABC subscales 1, 2, 4, 5 & 6). There was no significant correlation between STAI-T score and P-ABC subscale 3 (beliefs about ignoring child misbehaviour).

**Hypothesis 4:** Negative association between parental beliefs (P-ABC scores) and child internalizing symptoms. The results of these analyses are presented in Table 5. Parents who reported higher levels of internalizing symptoms in their children were more likely to hold negative and unhelpful beliefs about parenting. Specifically, these parents were more likely to hold negative beliefs about their child.

To test hypotheses 5 and 6, mediation analyses were carried out following Baron and Kenny (1986). To conclude that full mediation is present, a number of assumptions must be met. There must be significant correlations between the Independent Variable (IV) and both the Dependent Variable (DV) and the proposed Mediator (M). There must also be a significant correlation between the M and the DV. Finally, in a regression analysis including both IV and M, the contribution of IV to DV must lose its significance while the contribution of M remains significant.

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**Table 3.** Correlation coefficients and alpha values for Pearson correlations between STAI-T and Parenting Scale scores

<table>
<thead>
<tr>
<th>Parent-reported ineffective parental discipline: Parenting Scale scores</th>
<th>Lax discipline subscale</th>
<th>Over-reactive discipline subscale</th>
<th>Verbose discipline subscale</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent-reported parental anxiety (STAI-T)</td>
<td>0.245</td>
<td>0.341</td>
<td>0.151</td>
<td>0.361</td>
</tr>
<tr>
<td>P = 0.024</td>
<td>P = 0.001</td>
<td>P = 0.170</td>
<td>P = 0.001</td>
<td></td>
</tr>
<tr>
<td>n = 85</td>
<td>n = 85</td>
<td>n = 84</td>
<td>n = 85</td>
<td></td>
</tr>
</tbody>
</table>

STAI-T, State-Trait Anxiety Inventory – Trait version.

**Table 4.** Correlation coefficients and alpha values for Spearman’s correlations between STAI-T and P-ABC scores

<table>
<thead>
<tr>
<th>Parent-reported unhelpful beliefs about parenting (P-ABC)</th>
<th>Subscale 1</th>
<th>Subscale 2</th>
<th>Subscale 3</th>
<th>Subscale 4</th>
<th>Subscale 5</th>
<th>Subscale 6</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent-reported parental anxiety (STAI-T)</td>
<td>–0.368</td>
<td>–0.525</td>
<td>–0.008</td>
<td>–0.358</td>
<td>–0.312</td>
<td>–0.351</td>
<td>–0.446</td>
</tr>
<tr>
<td>P = 0.001</td>
<td>P = 0.001</td>
<td>P = 0.940</td>
<td>P = 0.001</td>
<td>P = 0.003</td>
<td>P = 0.001</td>
<td>P &lt; 0.001</td>
<td></td>
</tr>
</tbody>
</table>

All correlations are two-tailed Spearman’s Rho correlations; n = 86.

P-ABC, Parenting Attitudes, Beliefs and Cognitions Scale; STAI-T, State-Trait Anxiety Inventory – Trait version.

**Table 5.** Correlation coefficients and alpha values for Spearman’s correlations between CBCL anxiety-depression/internalizing subscales and P-ABC scores

<table>
<thead>
<tr>
<th>Parent-reported unhelpful beliefs about parenting (P-ABC)</th>
<th>Subscale 1</th>
<th>Subscale 2</th>
<th>Subscale 3</th>
<th>Subscale 4</th>
<th>Subscale 5</th>
<th>Subscale 6</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent-reported child internalizing (CBCL)</td>
<td>–0.407</td>
<td>–0.265</td>
<td>–0.113</td>
<td>–0.238</td>
<td>–0.152</td>
<td>–0.090</td>
<td>–0.303</td>
</tr>
<tr>
<td>Anxiety-depression subscale</td>
<td>P = 0.001</td>
<td>P = 0.012</td>
<td>P = 0.294</td>
<td>P = 0.026</td>
<td>P = 0.156</td>
<td>P = 0.405</td>
<td>P = 0.004</td>
</tr>
<tr>
<td>Internalizing subscale</td>
<td>–0.375</td>
<td>–0.242</td>
<td>–0.042</td>
<td>–0.245</td>
<td>–0.189</td>
<td>–0.158</td>
<td>–0.291</td>
</tr>
<tr>
<td>P = 0.001</td>
<td>P = 0.023</td>
<td>P = 0.698</td>
<td>P = 0.022</td>
<td>P = 0.077</td>
<td>P = 0.142</td>
<td>P = 0.006</td>
<td></td>
</tr>
</tbody>
</table>

All correlations are two-tailed Spearman’s Rho correlations; n = 88.

CBCL, Child Behaviour Checklist; P-ABC, Parenting Attitudes, Beliefs and Cognitions Scale.
The variables selected for these analyses were chosen based on the previous correlational analyses. The mediation analyses in this study were post hoc tests with alpha set at $P = 0.01$.

**Hypothesis 5:** Any relationship between parental anxiety and child internalizing symptoms will be mediated by parenting behaviour.

The variables selected for this analysis were as follows: IV: STAI-T score (parental anxiety); M: Parenting Scale: overreactive discipline subscale (parenting behaviour); DV: CBCL anxious-depressed subscale score (child internalizing). The results of the mediation analyses are reported in Fig. 1 and Table 6.

All requisite assumptions were met for a full mediation of the effects of parental anxiety on child internalizing symptoms through parenting behaviour.

**Hypothesis 6:** Any relationship between parental anxiety and parenting behaviour will be mediated by parental cognition.

The variables selected for this analysis were as follows: IV: STAI-T score (parental anxiety); M: P-ABC subscale 1 (negative beliefs about child behaviour); DV: Parenting Scale: overreactive discipline subscale (parenting behaviour). The results of this mediation analysis are presented in Fig. 2 and Table 7.

All requisite assumptions were met for a full mediation of the effects of parental anxiety on parenting behaviour through parental cognition.

Finally, to investigate the impact of age on the results found in this sample, two correlational analyses were repeated (posthoc analysis) using a median split by child age (younger children 49–91 months; older children 91–132 months). The

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**Table 6. Regression outputs testing mediation of relationship between parental anxiety and child internalizing by parenting behaviour**

<table>
<thead>
<tr>
<th>Model</th>
<th>IV regressed with DV</th>
<th>B</th>
<th>SE</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
<td>0.524</td>
<td>1.226</td>
<td>0.267 ($P = 0.013$)</td>
</tr>
<tr>
<td></td>
<td>STAI-T</td>
<td>0.082</td>
<td>0.032</td>
<td>-0.108 ($P &lt; 0.001$)</td>
</tr>
</tbody>
</table>

Model 1: $R^2 = 0.711; \Delta R^2 = 0.071$. Model 2: $R^2 = 0.182; \Delta R^2 = 0.062$. DV, Dependent Variable; IV, Independent Variable; M, Mediator; STAI-T, State-Trait Anxiety Inventory – Trait version.

**Table 7. Regression outputs testing mediation of relationship between parental anxiety and parenting behaviour by parental cognition**

<table>
<thead>
<tr>
<th>Model</th>
<th>IV regressed with DV</th>
<th>B</th>
<th>SE</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
<td>1.551</td>
<td>0.343</td>
<td>0.341 ($P = 0.001$)</td>
</tr>
<tr>
<td></td>
<td>STAI-T</td>
<td>0.030</td>
<td>0.009</td>
<td>0.350 ($P = 0.001$)</td>
</tr>
</tbody>
</table>

Model 1: $R^2 = 0.116; \Delta R^2 = 0.105$. Model 2: $R^2 = 0.182; \Delta R^2 = 0.162$. DV, Dependent Variable; IV, Independent Variable; M, Mediator; P-ABC, Parenting Attitudes, Beliefs and Cognitions Scale; STAI-T, State-Trait Anxiety Inventory – Trait version.
analyses conducted were child internalizing scores (CBCL anxiety-depression subscale, CBCL internalizing subscale) against parental discipline (Parenting Scale total score and subscales), and parental beliefs (P-ABC total score and subscales) against child internalizing (CBCL anxiety-depression subscale, CBCL internalizing subscale). Analyses that did not contain a child variable were not repeated with reference to child age effects (e.g., parental anxiety against parental discipline).

In both repeated analyses for the older age group, the general pattern of results found for the whole sample was replicated with the same relationships attaining significance after correction for multiple testing. For parental discipline against parentally rated child internalizing both total ineffective discipline score [Pearson’s correlations: 0.516, P < 0.001, n = 43 (CBCL anxiety-depression); 0.463, P = 0.002, n = 43 (CBCL internalizing)] and the over-reactive discipline subscale [Pearson’s correlation: 0.513, P < 0.001, n = 43 (CBCL anxiety-depression); 0.455, P = 0.002, n = 43 (CBCL internalizing)] demonstrated significant results. For parental beliefs against parentally rated child internalizing only beliefs about the child [Spearman’s correlations: −0.534, P < 0.001, n = 43 (CBCL anxiety-depression); −0.474, P = 0.001, n = 43 (CBCL internalizing)] achieved significance. Total belief scores approached significance [Spearman’s correlation: −0.373, P = 0.014, n = 43 (CBCL anxiety-depression); 0.374, P = 0.013, n = 43 (CBCL internalizing)].

In the younger age groups, no statistically significant relationships were identified in either analysis.

Discussion

Using a single-informant questionnaire design, this study found moderate associations between parental anxiety, parental cognitions, parental discipline style and child internalizing symptoms.

Parents who reported high levels of personal anxiety were more likely to report using high levels of ineffective discipline, particularly harsh discipline techniques. Parents who reported that their children displayed high levels of internalizing (CBCL anxiety-depression and internalizing subscales) were more likely to report high usage of ineffective discipline techniques, particularly harsh or punitive discipline (Parenting Scale over-reactive subscale).

It seems that families reporting anxiety in the parent or internalizing in the child may be characterized by elevated levels of harsh or aggressive discipline practices style in dealing with children’s misdemeanours. The over-reactive discipline subscale of the Parenting Scale includes items on physical punishment, shouting, holding grudges, and excessive criticism and taps into the extent to which a parent’s own levels of stress impact on their discipline style. It appears that parents who are themselves anxious, or who report that their children are prone to anxiety, may find it difficult to control their own emotions when dealing with difficult behaviours from their children, and may be more likely to use harsher techniques to deal with these behaviours, such as shouting, verbally abusing the child or using physical punishment.

Parents who reported that they experienced high levels of anxiety were also more likely to endorse high numbers of unhelpful beliefs about parenting (total P-ABC score), with the exception of beliefs about ignoring inappropriate behaviour (subscale 3). This suggests that parents with high levels of anxiety are likely to hold unhelpful beliefs about parenting in several domains (attributions about child behaviour, perceptions of self as a parent, beliefs about the use of punitive discipline strategies, attitude to parenting advice from professionals, beliefs about effects of praise and attention). It is likely that holding such unhelpful beliefs may impact adversely on some aspects of parenting behaviour.

Parents who endorsed more unhelpful parenting beliefs (as measured by P-ABC total score) were more likely to report higher levels of internalizing symptoms in their children. However, the only P-ABC subscale that correlated independently with child internalizing symptoms was beliefs about child behaviour (subscale 1). This subscale consists of the following items: ‘My child does not respect me’; ‘My child is manipulative’; ‘My child does not listen to anything I tell him/her’; ‘My child is uncontrollable’; ‘My child deliberately annoys me’.

This relationship between unhelpful parental beliefs and child internalizing symptoms may have arisen for two reasons. First, it is possible that children with higher levels of internalizing symptoms are, or appear to be, more disrespectful, manipulative and uncontrollable. A second possibility relates to the finding that parents who attribute defiant intent to their children are more likely to employ harsher and more physical discipline strategies (Bugental & Johnston 2000). Therefore, a parent’s negative perception of their child may lead them to select punitive discipline strategies, which could undermine the child’s confidence or raise their vulnerability to internalizing problems. It is possible that both pathways might operate in tandem to form a maintenance cycle.

The two mediation analyses in this study suggest that the link between parental anxiety and child internalizing symptoms may be elucidated by consideration of both parental cognition and parental discipline practices. Specifically, the analyses suggest that parental cognitions (about child behaviour) may be more important than parental anxiety in predicting parental...
discipline practices and that (harsh) parental discipline may be more important than parental cognitions in predicting child internalizing symptoms.

Hence, a possible pathway from parental anxiety to child internalizing presents itself, as follows: anxious parents appear to be at greater risk of holding negative beliefs about parenting in a number of domains. Among these domains are negative beliefs about child behaviour (‘My child does not respect me; ‘My child is manipulative’). Holding negative beliefs in this domain may increase the likelihood of a parent selecting harsh or punitive discipline strategies. The use of these discipline strategies may maintain or increase child internalizing symptoms (Fig. 3).

Because this study was cross-sectional, it was not possible to draw firm conclusions regarding causality. Nevertheless, irrespective of initial causality, a child living with a parent who holds negative beliefs about that child and who employs harsh and punitive strategies to manage discipline situations is likely to experience frequent, unpleasant and anxiety-provoking situations and associated elevated anxiety or depression.

When child age was included in analyses, no significant associations were found for the younger age group between child internalizing and either parental discipline or parental beliefs. However, in the older age group the same pattern of results was found as that pertaining to the whole sample analysis. That is, both over-reactive discipline and total parenting scale scores, and negative beliefs about the child were significantly associated with child internalizing scores.

This analysis appears to suggest that the relationship between unhelpful parental beliefs and parental discipline with child internalizing symptoms becomes more pronounced as children become older.

It may be that younger children are less susceptible to environmental influences on internalizing than are their older counterparts. However, if we assume that parents’ beliefs about their children and parenting behaviour are generally stable, and exert influence on child internalizing symptoms, then the increased association over time between parenting behaviour and internalizing symptoms may simply be a cumulative effect of time spent by the child in certain parental environments.

Another possibility is that the stress of parenting a child with high levels of internalizing difficulties may impact adversely on parenting behaviour and that parents’ tolerance may be eroded down by cumulative unsuccessful attempts to promote children’s confidence, or that as children become older they present with more challenging behaviours (linked with their internalizing symptoms) which elicit negative parenting behaviours from their caregivers.

These interpretations would appear to suggest a role for early intervention with these families to break such negative cycles and optimize children’s outcomes in this area; if similar patterns are found in clinical samples. Future research may allow for further exploration of age effects in the relationship between parenting and child internalizing symptoms.

Despite these interesting results, the current research was not without its limitations. Although the questionnaire measures selected to assess child internalizing (CBCL) and parental discipline (the Parenting Scale) have good psychometric properties and have been found to correlate well with observable behaviour (Achenbach 1991; Arnold et al. 1993), the single informant, single time point design of this study carries a risk that part of the correlation between scales arose as a result of shared method variance. A second informant on parenting and child internalizing symptoms might help to clarify these findings.

Future research into this area might include asking children to report on the parenting they receive and on their own internalizing symptoms. However, children in this age range (4–10 years) are unable to produce valid, consistent reports of either their own anxiety (Schniering et al. 2000) or their parents’ discipline practices. Observation of parents’ management of discipline situations by a researcher may produce more objective assessments of discipline style, but would be likely to produce demand characteristics exerting an impact on behaviour. Formal assessment by clinical interview would address this difficulty but is resource-intensive.

It is anticipated that future research will include longitudinal studies to investigate causality and attempts to replicate the current findings in a clinical sample.

Although these findings have yet to be replicated in a clinic population, some tentative conclusions can be drawn regarding the clinical implications of this study. If anxious parents, and parents of anxious or withdrawn children, are less likely to use positive and gentle behavioural principles to manage their children’s behaviour, is it possible that this is involved in the genesis, or maintenance, of internalizing symptoms in their children? A cursory glance at the literature examining cognitive style of anxious people (e.g. Beck et al. 1985) would suggest that this is possible. Anxious people are characterized by a subjective
feeling of a lack of control over their environment, the belief that they are at risk in some way, and that unpredictable negative events can befall them with little warning (Carr 1999). It seems likely that this style could be shaped by early learning experiences such as those invoked by the negative discipline practices that are the focus of this paper. If this is so, it raises the possibility that anxious children could be helped by improvements in their parents’ child-management skills.

Clinical assessment of anxious families may benefit from covering both parental cognitions and beliefs regarding the index child and parental discipline practices. Unaddressed unhelpful beliefs could potentially pose a threat to the process of intervention, with parents likely to have less patience and sympathy for a child’s distress, and being more likely to revert to previous unhelpful management strategies at the conclusion of therapy. Inconsistent, harsh and punitive parenting practices, if identified, are amenable to change and there are a number of well-validated and widely available behavioural parenting skills programmes for this purpose (NICE 2006).

Despite the limitations discussed, this study has begun to highlight a role for parental discipline in the early development of internalizing symptoms, and suggests a number of new pathways that may be used in its amelioration.

### Key messages

- Internalizing disorders in childhood are common with disabling short- and long-term consequences.
- Anxiety and depression run in families. Although genetics play a role in transmission, a proportion of child internalizing is accounted for by family environmental factors.
- Parents with high levels of anxiety may behave differently towards their children than other parents.
- The link between parental anxiety and child internalizing symptoms was mediated by harsh and punitive discipline and by negative parental beliefs about their child.
- Clinicians working with anxious families may consider assessing and intervening with discipline style and child-focused parental cognitions.

### References


Parenting and child internalizing


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