

Childhood Onset Conduct Problems: A Preliminary Investigation into the Role of Mothers' Interpersonal Schemas and their Relationship to Parenting Behaviour

Joanne Potier

Royal Liverpool Children's NHS Trust, Liverpool, UK

Crispin Day

South London and Maudsley NHS Trust, London, UK

Abstract. Childhood onset conduct problems present some of the most significant challenges to mental health and public services today. Parent management training is among the most effective treatments for conduct problems, and yet a significant proportion of families do not benefit from this approach. This may be because key elements of parenting, such as parental cognitions, are not directly addressed in such interventions. This study investigated the role of mothers' interpersonal schemas in the maintenance of conduct problems and their relationship to parenting behaviour. It examined whether mothers of 7 to 11-year-old boys with conduct problems would have more negative child-related interpersonal schemas (Hill and Safran, 1994), and related negative parenting behaviours, observed during two parent-child interaction tasks, than mothers in a comparison group. The findings showed that there was a significant difference between the two groups in both maternal Negativity and Warmth and child-related interpersonal schemas. However, no relationship was found between parenting behaviour and child-related interpersonal schemas. The results suggest that targeting maternal cognitions in addition to negativity and warmth may enhance interventions for childhood onset conduct problems. However, more research needs to be done to ascertain which kinds of cognitions relate most closely to parenting behaviour in stressful situations.

Keywords: Interpersonal schemas, parental cognitions, conduct problems, parent-child interactions, parenting behaviour.

Introduction

Childhood onset conduct problems, that is behaviour problems that begin before 11 years of age, present some of the most significant challenges to social and health services today (Carr, 1999; Scott, Knapp, Henderson and Maughan, 2001). These problems account for a third to a

Reprint requests to Crispin Day, Centre for Parent and Child Support, Child and Adolescent Mental Health Service Research Unit, South London and Maudsley NHS Trust, Munro Centre, 66 Snowsfield, Guy's Hospital, London SE1 3SS, UK. E-mail: crispin.day@iop.kcl.ac.uk

© 2007 British Association for Behavioural and Cognitive Psychotherapies

half of all referrals to child and family services and lead to a range of negative individual, peer, family and social outcomes in childhood and adolescence, often continuing into adulthood (Carr, 1999; Hill, 2002; Moffitt, Caspi, Harrington and Milne, 2002; Webster-Stratton, 1991). Although there is general consensus that no single factor or theory can fully account for the development of conduct problems, research has largely focused on the role of parenting behaviour, and particularly parental warmth and control (Dadds, 1987; Hudson and Rapee, 2001; Patterson, 1982; Webster-Stratton, 1985). Parent training programmes, which aim to break maladaptive learning cycles by changing parent behaviour (e.g. Forehand and McMahon, 1981; Puckering, Rogers, Mills, Cox and Mattsson-Graf, 1994; Webster-Stratton, 1994), are currently among the more effective treatments for childhood onset conduct problems (Brestan and Eyberg, 1998; Kazdin and Weisz, 1998).

However, many, and possibly a third of all families, do not benefit from these approaches (Hartman, Stage and Webster-Stratton, 2003; Scott, 2001; White, McNally and Cartwright-Hatton, 2003). Furthermore, the long-term benefits of parent management training are unknown and many of those who show significant improvement remain in the clinically impaired range of functioning (Doubleday and Hey, 2004; Greene and Doyle, 1999). Research suggests that this is because vital components may be missing from parent training programmes that are crucial to parenting practices (Greenberg, Speltz, Deklyen and Endriga, 1991; Hill, 2002; Sutton, 2001). Research has also demonstrated that mothers of children with conduct problems are more likely to be depressed and stressed, which affects how they perceive their child's behaviour, how they respond to their child, and how well they engage with and make use of parent training programmes (Cornah, Sonuga-Barke, Stevenson and Thompson, 2003; Dadds, 1987; Dix, 1991; Krech and Johnston, 1992; Patterson, Dishion and Chamberlain, 1993; Webster-Stratton and Hammond, 1990). Further, research relating to parents' attachment status suggests that mothers of children with conduct problems engaging in parent training programmes are likely to have poorer outcomes if they have a "disorganised" attachment style (Green and Goldwyn, 2002; Routh, Hill, Steele, Elliot and Dewey, 1995). Studies have also shown that parents' attachment status influences the quality of their child's attachment to them (see van IJzendoorn, 1995). Although strong evidence supporting the relationship between attachment and conduct problems "is not yet in" (Burke, Loeber and Birmaher, 2002, p.1279), attachment research has highlighted the possibility that parent training programmes may be enhanced by addressing and changing parents' mental representations of childhood attachment experiences and not just parenting behaviour (van IJzendoorn, 1995). This research suggests that interventions that are based upon a broader conceptualization of parenting that includes relational, cognitive and affective, as well as behavioural components, may help to improve treatment outcomes (Deklyen, 1996; Dumas and LaFreniere, 1995; Hill, 2002; Maccoby, 1992; Schaffer, 1996; Scott, 2003; Sutton, 2001).

Although it has been proposed that parent training implementation and parental engagement may be improved by the addition of a component that addresses parents' thoughts (White et al., 2003), parent management training programmes do not at present incorporate explicit strategies that systematically address negative parental cognitions. It is clear that we still know very little about which parental representations or cognitions are important in the development and maintenance of conduct problems and how these operate (Stallard, 2002). Most research to date has focused on parental attributions and demonstrates a relationship between levels of child aggression and the likelihood of parents attributing problematic child behaviours to factors that are global, stable and internal to the child (Baden and Howe, 1992; Beauchaine,

Strassberg, Kees and Drabick, 2002; Bugental and Johnston, 2000; Hassall and Rose, 2005). However, it is not clear where these attributions come from and how they relate more broadly to parent-child relationships and interactions. Indeed, cognitive research in this area has focused almost exclusively on beliefs about the self or other in isolation. Other areas of research focusing on relationships, such as attachment research, have on the whole remained distinct and unintegrated, despite a growing acknowledgement that parenting is a dynamic interplay between parents and their children with each interaction being informed by the whole history of interactions between parents and their children and including parents' own experiences of being parented (Belsky, 1984; Davis, Day and Bidmead, 2002; Dumas and LaFreniere, 1995).

One approach that integrates both cognitive and attachment theory, and highlights the links between the relational and representational, is an interpersonal approach (Safran, 1990a, 1990b). One could argue that mothers come to the task of parenting with a range of expectations about their children's behaviour, based on their own experiences of close relationships. If these experiences are positive, then one could expect mothers to have positive expectations of others' behaviour. However, research suggests that mothers of children with conduct problems are more likely to have been subject to maladaptive social learning experiences (Cornah et al., 2003; Dix, 1991; Krech and Johnston, 1992; Patterson et al., 1993). Safran has suggested that such negative early experiences, if not altered by current more positive interpersonal experiences with, for example, romantic partners or friends, affect our interpersonal expectations or schemas regarding significant others in our lives (Safran, 1990a, 1990b). According to interpersonal schema theory, difficulties arise in functioning and relationships when our mental maps, or interpersonal schemas, regarding how to maintain closeness to important people cannot adapt to new and changing situations and become restricted (Safran and Segal, 1990, p. 68). It could be argued that mothers with such early experiences will thus begin to selectively attend to aspects of their child's behaviour that confirms their (negative) expectations of them, and respond to their child in ways that also serve to confirm these expectations, in order to maintain closeness with their child. Safran refers to this process as a "cognitive-interpersonal cycle" (1990a). Given the interactional and developing nature of parent-child interactions, children with conduct problems will also learn that a wide range of feelings and actions will jeopardise interpersonal relatedness and so the intergenerational transmission of conduct problems may continue.

This study aimed to examine whether the interpersonal schemas of mothers of children with conduct problems are different from those of other mothers. Based on the findings from previous research, it was hypothesized that:

1. Mothers of children with conduct problems would have more negative child-related interpersonal schemas than mothers in a comparison group. Specifically this study aimed to test the hypothesis that:
 - mothers of children with conduct problems would anticipate more hostile, mistrusting, distant and controlling responses from their children and
 - rate their children's responses as less desirable.
2. The second hypothesis stated that these schemas would relate to parenting behaviours, with mothers in the conduct problems group showing more negativity and more dysfunctional types of control in their interactions with their children than mothers in the comparison group.

Table 1. Mean SDQ and CBCL subscale scores for each group.

| SDQ/CBCL subscale | Conduct problems group (<i>n</i> = 16) | Comparison group (<i>n</i> = 16) | <i>t</i> (30) | <i>p</i> |
|------------------------|--|--------------------------------------|---------------|----------|
| | M (<i>SD</i>) | M (<i>SD</i>) | | |
| SDQ emotional symptoms | 1.56 (1.20) | 0.81 (0.98) | 1.92 | .064 |
| SDQ conduct problems | 6.31 (1.66) | 1.06 (1.18) | 10.29 | .001 |
| SDQ hyperactivity | 4.75 (2.14) | 1.75 (1.57) | 4.51 | .001 |
| SDQ peer problems | 3 (2.39) | 1.06 (1.23) | 2.87 | .007 |
| SDQ prosocial | 6.68 (1.88) | 8.87 (1.31) | 3.80 | .001 |
| SDQ total difficulties | 16 (5.27) | 4.81 (3.69) | 6.94 | .001 |
| CBCL externalizing | 31.93 (9.36) | 7.62 (5.63) | 8.89 | .001 |

Method

Design

Parental interpersonal schemas and their relationship to parenting behaviour were examined in a community sample of mother-child dyads, comprising a group of 7 to 11-year-old boys with conduct problems and their mothers, and an age matched comparison group of boys without any significant problems and their mothers. Although conduct disorder is a relatively common diagnosis in girls (Loeber, Burke, Lahey, Winters, and Zera, 2000), boys were the focus of this study because they appear to be more likely than girls to develop both aggressive and non-aggressive behaviour problems (Lahey, Waldman, and McBurnett, 1999). Boys are also more likely than girls to develop conduct problems in the pre-school years which persist into adolescence and adulthood (Carr, 1999).

Previous studies examining the relationship between attachment style and parenting behaviour have reported large effect sizes when comparing groups of problem and non-problem children and their parents. For example, Crowell and Feldman (1988), in their study of the relationship between mother's attachment status and mother-child interaction, showed that mothers classified as preoccupied or detached were more likely to be confusing or controlling when assisting their children across a range of tasks than mothers in a comparison group ($F(2,49) = 7.6$). Given the similarities between the attachment and interpersonal schema constructs, and the lack of previous research in this area, the power analysis for the present study was based on the assumption of a large effect size. It was estimated that a sample size of 16 dyads in each group was needed to have 80% power at $\alpha = .05$.

Participants

The sample consisted of 32 boys aged between 7 and 11 and their mothers recruited from five primary schools in one London borough. There were two groups: a conduct problems group ($N = 16$, mean age = 10.06, $SD = 1.24$) and a comparison group ($N = 16$, mean age = 9.65, $SD = 1.35$). The difference in age between the two groups was not statistically significant ($t(30) = -.80, p = .42$). Children were included in the conduct problems group if they obtained scores in the abnormal range on the Strengths and Difficulties Questionnaire (SDQ) Conduct Problems subscale (i.e. a raw score of between 4 and 10) (Goodman, 1997) and borderline or abnormal scores on the Child Behaviour Checklist (CBCL) externalizing subscale (i.e. a raw score of greater than or equal to 17) (Achenbach, 1991) (see Table 1). Children were excluded

Table 2. Demographic information: mothers.

| | Conduct problems group (<i>n</i> = 16) | Comparison group (<i>n</i> = 15) |
|---------------------------------------|--|--------------------------------------|
| Ethnicity | | |
| White British | 14 (87.5%) | 13 (86.6%) |
| White Irish | 1 (6.3%) | 1 (6.6%) |
| Black African | 0 | 1 (6.6%) |
| White and Black Caribbean | 1 (6.3%) | 0 |
| Marital status | | |
| Single | 8 (50%) | 7 (46.6%) |
| Married | 5 (31%) | 7 (46.6%) |
| Separated | 1 (6.3%) | 1 (6.6%) |
| Divorced | 2 (12.5%) | 0 |
| Education | | |
| No qualifications | 10 (62.5%) | 1 (6.6%) |
| <5 O Levels/CSEs/GCSEs | 2 (12.5%) | 2 (13.3%) |
| >5 O Levels/CSEs/GCSEs | 1 (6.3%) | 11 (73.3%) |
| NVQ (Level 1–3) | 3 (18.7%) | 1 (6.6%) |
| Occupation | | |
| Professional post/White collar worker | 2 (12.5%) | 5 (33.3%) |
| Skilled/Semi-skilled manual | 5 (31.3%) | 4 (26.6%) |
| Homemaker | 5 (31.3%) | 3 (20%) |
| Without income | 4 (25%) | 4 (26.6%) |

from this group if they had scores on the abnormal range on the SDQ Emotional Symptoms subscale. The comparison group comprised boys whose scores on the SDQ and CBCL did not reach clinical significance on any subscale. The differences between the two groups on all subscales except for the emotional symptoms subscale of the SDQ were significant at the $p < .01$ level of significance.

Demographic information collected about the two groups (see Table 2) suggests that although mothers were similar in marital status and ethnicity, they differed in educational and occupational status.

Measures: Questionnaires

Interpersonal Schema Questionnaire (ISQ: Hill and Safran, 1994). The ISQ is a 48-item self-report questionnaire that measures respondents' interpersonal schemas regarding their mother (or mother figure), father (or father figure) and close friend or romantic partner. For the present study, the questionnaire was amended and piloted, with the authors' permission (J. Safran, personal communication), to simplify the language and include the participating child as one of the significant others. Respondents were asked to imagine themselves in a range of situations with their mother (or mother figure), father (or father figure) and participating child (instead of close friend or romantic partner). The section relating to close friend or romantic partner was removed for this study following the pilot study in which mothers found the questionnaire too lengthy. Although the mother data were analysed, the results are not reported in this paper. In brief, although the trend was towards mothers in the conduct problems group having negative interpersonal schemas regarding their own mothers, no significant differences were found

between the two groups. Father data were not used in the main analyses given the very small number of mothers who could recall a father figure.

The 48 items of the ISQ comprise 16 scenarios (repeated for each significant other). An example is “imagine yourself being friendly and helpful with . . .” In each situation, respondents were asked how the particular significant other would be likely to respond by choosing one of eight responses (marked A to H). For example, one of these responses is “would be warm or friendly”. For the current study the eight possible responses for each item were recoded (1–8) so that lower overall scores reflected more negative interpersonal expectations of the significant other in question. Respondents were also asked to rate how much they liked each response, ranging from 1 (not at all) to 7 (very much), and these ratings were totalled. This desirability scale derives from one of the main assumptions of the ISQ which is that in psychologically healthy relationships there is a degree of interpersonal complementarity: friendly behaviours attract other friendly behaviours whereas controlling or hostile behaviours attract submissive behaviours. The underlying assumption of interpersonal complementarity is that a complementary interaction is a satisfying one. Although the complementarity of interpersonal expectations was not analysed in this study, the desirability index provides useful information about the affective aspect of the relationships between the participating mothers and their sons.

The internal consistency, construct and content validity, and test-retest reliability of the ISQ have been shown to be satisfactory (Hill and Safran, 1994). However, as the ISQ has not been used with regards to mothers’ interpersonal expectations of their children, no psychometric data about its use with this population are available.

Screening questionnaires

Strengths and Difficulties Questionnaire (parent report) (SDQ; Goodman, 1997). The SDQ is a 25-item behavioural screening questionnaire that asks parents to rate their children’s behaviour over the past six months according to five different subscales: Emotional Symptoms, Conduct Problems, Hyperactivity, Peer Problems and Prosocial Behaviour. Each statement is rated on a three-point scale (0–2). The total possible score on each subscale is 10 and each subscale has a normal, borderline and abnormal score range.

Child Behaviour Checklist (4–18 years) (CBCL; Achenbach, 1991). The externalising subscale of the CBCL consists of 33 items and includes the syndrome scales designated Delinquent Behaviour and Aggressive Behaviour. Items on these scales include “bragging, boasting” and “physically attacks people”. Items are rated on a three-point scale (0–2). A score of 17 out of a total 66 designates the lower end of the borderline and clinical ranges combined. The externalising subscale of the CBCL has been shown to have good test-retest reliability in a non-referred sample of children (Achenbach, 1991). It has also been shown to discriminate between 6 to 11 year old boys with and without conduct problems in inpatient groups (see McMahon and Forehand, 1988).

Brief Symptom Inventory (BSI; Derogatis, 1993). The BSI is a 53-item checklist that asks respondents to rate on a five point scale (0–4) the extent to which a range of problems, including “faintness or dizziness” and “feeling hopeless about the future”, have bothered them over the past week. The Global Severity Index (GSI) score is obtained by dividing the total score by the number of items completed.

Parenting Stress Index/Short Form (PSI/SF; Abidin, 1990). The PSI/SF is a 36-item self-report questionnaire that asks parents to rate how much they agree or disagree with a number of statements on a five point scale (1–5). Examples of items include, “I often have the feeling that I cannot handle things very well” and “I feel that my child is moody and easily upset”. A Total Stress score of above 90 indicates that the parent is experiencing clinically significant levels of stress (Abidin, 1990).

Measures: Tasks

Data about the characteristics of the mother-child interactions of participants were collected using two tasks. An unsolvable anagrams task (Woodruff-Borden, Morrow, Bourland and Cambron, 2002), amended for ethical reasons so that parents were asked to help their child with anagrams that were very difficult to solve rather than unsolvable, was used and a discussion task, adapted for conduct problems, which asked mother-child dyads to discuss the most recent situation in which the child felt angry (Hudson, Angelosante, Comer, Robin and Kendall, 2003). The 10-minute anagram task sought to induce frustration so that the quality of parent-child interactions could be measured. The five-minute discussion task was used to give a more clinically relevant measure of parent-child interaction and one that did not involve the child doing an academic task. Each task was coded according to the manner in which it was conducted, rather than on task performance or on the content of the discussion.

For the anagram task, each 10-minute mother-child interaction was rated on nine global scales (ranging from 0–8) measuring the degree of maternal Negativity and Involvement. The Negativity score is a composite of i) general mood, ii) mother’s affect, iii) mother’s tension, iv) response to child. The general mood scale relates to the general atmosphere or quality of the interaction between parent and child as distinct from the other three scales which focus on the mother alone. Scores for the composite factor could range from 0–32, with high scores indicating high Negativity. The Involvement score is a composite of i) general degree of involvement, ii) amount of unsolicited help given, iii) touching of anagram sheet, iv) mother’s position/posture, and ix) mother’s focus (child focused or task focused). The general degree of involvement scale measures the degree to which the parent allows the child to complete the task on their own. Scores for the composite factor range from 0–40, with high scores indicating overinvolvement and low scores indicating underinvolvement. Interactions were coded by a trainee clinical psychologist who was blind to group membership. A third of the interactions were inter-rated by the first author. Intraclass correlations were calculated to determine the inter-rater reliability of the two raters. Inter-rater reliability for the Negativity factor was very high ($ICC = .97$). Inter-rater reliability for the Involvement factor was also high ($ICC = .84$). Approximately 30 hours, in which coders were trained using the coding system and sample video-taped interactions, was needed to achieve this level of agreement.

The discussion task was coded using the coding scales devised by Hudson (2001). Two scores were derived based on four scales (ranging from 0–5): a Warmth score and a Control score. The Warmth score is a composite of i) warmth between mother and child and ii) affect of parent. Scores on this variable could range from 0–10 with low scores indicating low warmth. The Control score is a composite of i) involvement of mother and ii) intrusiveness of mother in the discussion. The involvement of mother scale relates to the mother’s degree of involvement in the discussion and includes observations of posture, body language, tone of voice and time spent talking. The intrusiveness scale more directly relates to the degree to

which the mother was controlling during the discussion, or how much autonomy she allowed the child during the discussion. Scores on the composite variable could range from 0–10, with low scores indicating low control. The first author coded all of the discussion task interactions and a third of the interactions were inter-rated by the trainee clinical psychologist who coded the anagram tasks. Although the first author was not blind to the discussion task interactions, intraclass correlations were calculated to determine inter-rater reliability for the Warmth scales ($ICC = .80$) and for the Control scales ($ICC = .75$) and both indicated that the inter-rater reliability was sufficiently high to compensate for the lack of blindness.

Procedure

Informed consent was obtained for all participants. Mothers whose children met the study criteria were asked to fill in a pack of questionnaires (see Measures above) and return to the first author at the next meeting. The first author then met with each mother and their son at school to complete the parent-child interaction tasks. Verbal instructions for the anagrams task were given to the mothers (in their son's absence), who were told that their son had 10 minutes to try and do the best he could with a list of word puzzles and that the mother could help. Mothers were then asked to explain the task to their sons. For the discussion task, mothers and their sons were asked to talk for 5 minutes about a recent situation in which the child had felt angry. The researcher then checked that the emotion matched the situation and that mother and son were both involved. A list of questions was given to each dyad to help them to structure their discussion (What happened? What did each of you do and say? Were you pleased with the way you acted towards each other? Would you act the same way if the situation happened again?). Both tasks were video-taped. Following completion of the tasks, participants were debriefed as to the purpose of the study. During this debriefing they were told that the anagrams were in fact extremely difficult to solve and the child was given a list of (easy) age-appropriate anagrams to complete to enable them to feel positive about themselves. Data collected were not used in the study.

Analysis

Prior to testing the main hypotheses descriptive statistics were obtained and preliminary analyses completed to check that the assumptions for ANCOVA and *t* tests were met and to select covariates for the main analyses (Tabachnick and Fidell, 2001). A single case was removed from the comparison group data set due to its discrepancy from the rest of the group in its combination of scores on both the screening measures and the BSI and discussion task total warmth variables, thereby reducing the total sample size to 31. Tests of between-group differences showed that mothers differed on both the BSI ($t(29) = 3.8$, $p = .001$) and the PSI ($t(29) = 5.6$, $p = .001$) with mothers in the conduct problems group reporting more psychological distress and reporting levels of parenting stress in the clinical range (i.e. > 90). Mothers also differed in education ($\chi^2(10) = 22.3$, $p = .0001$) but not any of the other demographic variables. These variables were then correlated with the main dependent variables in order to select covariates for the main analyses. The results showed that the PSI was negatively correlated with Negativity only in the comparison group ($r = -.5$) but not in the conduct problems group ($r = -.1$). Mother's education and BSI were not correlated with any of the other dependent variables.

Table 3. Mean scores for parenting variables.

| | Conduct problems group (<i>n</i> = 16) | Comparison group (<i>n</i> = 15) |
|--------------------------|--|--------------------------------------|
| Negativity ^a | 17.5 (6.5) | 10.4 (6.7) |
| Involvement ^b | 23.5 (7.1) | 23.8 (5.8) |
| Warmth ^c | 4.9 (2.2) | 7.8 (1.1) |
| Control ^d | 6.5 (2.3) | 6.3 (1.5) |

Note: ^ascores on this variable could range from 0 to 32, with high scores indicating high negativity; ^bscores on this variable could range from 0 to 40, with high scores indicating overinvolvement and low scores indicating underinvolvement; ^cscores on this variable could range from 0 to 10, with low scores indicating low warmth; ^dscores on this variable could range from 0 to 10, with low scores indicating low control.

In summary, ANCOVA was used to test the hypotheses where there were independent variables that correlated with the main dependent variable and where the assumptions of the test were met. *T* tests were used where there were no covariates or where the assumptions of ANCOVA, chiefly that of homogeneity of regression, were violated.

Results

Main analyses

Mothers in the conduct problems group had a higher overall mean Negativity score than the comparison group (see Table 3). Analysis of covariance showed that there was a significant main effect of group after controlling for the effects of parenting stress on maternal Warmth ($F(1,29) = 11.7, p = .002$). Mother-son pairs in the conduct problems group also had lower overall Warmth scores in the discussion task than mother-son pairs in the comparison group ($t(29) = 4.5, p = .001$). These results support the hypothesis that mothers and their sons in the conduct problems group would be less warm in their interactions with their sons than mothers in the comparison group.

Examination of mothers' Involvement score from the anagrams task showed that mothers in the conduct problems group had an overall mean score similar to that of mothers in the comparison group ($t(29) = .12, p = .899$). These results suggest that mothers in both groups helped their sons appropriately in the anagrams task. There was also no significant difference found between the two groups in Control during the discussion task ($t(29) = .15, p = .816$). These results do not support the hypothesis that there would be a difference between the two groups in levels of maternal Involvement and Control.

The second hypothesis stated that mothers of children with conduct problems would have more negative interpersonal schemas regarding their child than mothers of children with no significant problems.

Mothers in the conduct problems group had significantly lower scores on the responses they expected from their child (ISQ child responses) than mothers in the comparison group (see Table 4). These results suggest that, as hypothesized, mothers in the conduct problems group anticipated more hostile, mistrusting, distant and controlling responses from their sons (and conversely, less trusting, friendly, interested and submissive responses) than mothers in the comparison group. Mothers in the conduct problems group also rated the anticipated responses

Table 4. Mean scores for ISQ child responses and desirability ratings.

| ISQ subscale | Conduct problems group (<i>n</i> = 16) | Comparison group (<i>n</i> = 15) | <i>t</i> (29) | <i>P</i> |
|-------------------------------------|--|--------------------------------------|---------------|----------|
| | M (<i>SD</i>) | M (<i>SD</i>) | | |
| ISQ child responses ^a | 73.8 (8.7) | 87.9 (12.6) | 3.6 | .001 |
| ISQ child desirability ^b | 61.7 (18.5) | 83.2 (14.0) | 3.6 | .001 |

Note: ^ascores on this variable could range from 16 to 128, with lower scores indicating more negative responses; ^bscores on this variable could range from 16 to 112, with lower scores indicating that the responses are less desirable.

Table 5. Correlations (*r*) between parenting variables and child schema variables.

| | Negativity | Involvement | Warmth | Control | PSI | BSI |
|------------------------|------------|-------------|--------|---------|------|------|
| Conduct problems group | | | | | | |
| ISQ child responses | -.38 | -.32 | .05 | .49 | -.05 | .32 |
| ISQ child desirability | .03 | -.09 | -.08 | .41 | -.41 | .15 |
| Comparison group | | | | | | |
| ISQ child Responses | -.08 | -.37 | .02 | -.08 | -.10 | -.31 |
| ISQ child desirability | .29 | -.16 | .21 | -.06 | -.46 | -.45 |

from their children as significantly less desirable than mothers in the comparison group. These results support the hypothesis that mothers in the conduct problems group would rate their expected responses of their children as less desirable than mothers in the comparison group.

The final research hypothesis stated that there would be a relationship between child-related interpersonal schemas and parenting behaviour. The within group correlations (see Table 5) show that there was not a strong relationship between any of the child schema variables and any of the parenting behaviour variables in either of the two groups, and therefore no further analyses were conducted.

Discussion

The results showed that, as hypothesized, mothers of children with conduct problems had more negative interpersonal schemas about their children, and liked the expected behaviour of their children, less than mothers in the comparison group. The hypothesis that mothers of children with conduct problems would be more negative in their interactions with their sons was supported. However, contrary to expectations, no differences were found in the extent to which mothers were involved or exercised control with their children in the tasks. No relationship was found between mothers' interpersonal schemas about their children and parenting behaviour.

Previous research has shown that children with conduct problems have hostile attributional biases (Dodge, 1993). This study suggests that their mothers may also anticipate hostility in their interactions with their children. This may contribute to the development of a negative "cognitive-interpersonal cycle" (Safran, 1990a) with the parent selectively interpreting the behaviour of their child as hostile and responding to this perceived aggression with hostility, thereby eliciting antagonistic behaviours from their child. In this way, as Safran (1990a) has

argued, interpersonal schemas guide both mothers' interpretations as well as their perceptions of their children (see also Davis et al., 2002).

The findings from the current study also indicate that mothers of boys with conduct problems do not like the expected responses of their sons. This is, perhaps, not surprising given the level of behaviour problems reported by the mothers. Of interest, however, is that this was not related to either perceived parenting stress or maternal mood state. One would imagine that mothers who dislike their children's behaviour would find this distressing (see Dix, 1991; Krech and Johnston, 1992). What is not clear is whether disliking a child's response is linked to maternal attributions, which research suggests is linked to both depression and stress in mothers of children with conduct disorders (Baden and Howe, 1992). Future studies could include a measure of maternal attributions in order to further test this hypothesis.

The differences found in maternal negativity and warmth are consistent with the findings from previous research showing that the interactions between mothers and their oppositional defiant children are more hostile and negative than those of mothers and their non-clinical children (Hudson and Rapee, 2001; Patterson and Stouthamer-Loeber, 1984; Webster-Stratton, 1985). However, the lack of a difference between the groups in the extent to which mothers were involved or exercised control with their children in this study is unexpected. Although the evidence from previous research is mixed (Gardner, 1989; Mills and Rubin, 1998), the findings from the current study suggest that mothers in both groups were appropriately involved in both the anagrams task and the discussion task.

The lack of difference may be due to a number of reasons. The null finding may reflect some of the difficulties in measuring parenting, as outlined by other researchers (Aspland and Gardner, 2003), and in particular the validity of the parenting measures as operationalized by the two parent-child interaction tasks. It may have been better to design tasks that elicit the kinds of hostile interactions that have been shown to be characteristic of parent-child interactions involving children with conduct problems (Patterson, 1982). However, ethical considerations limit the type and intensity of parent and child behaviours that can be experimentally manipulated and point towards the use of more naturalistic observations, such as the home-based observations used by Patterson and colleagues (Patterson, 1982). Further, with no measure of child behaviour or cognitions in this study, it is impossible to say whether or not the same parenting behaviours may have performed different functions and elicited different child responses in the two groups, as suggested by Patterson (1982).

Previous research has suggested that mother's representations of relationships with significant others relate to their interactions with their children. For example, parental attachment style relates to parenting behaviours in structured parent-child interaction tasks (Beauchaine et al., 2002; Bugental and Johnston, 2000; Cohn, Cowan, Cowan and Pearson, 1992; Crowell, O'Connor, Wollmers, Sprafkin and Rao, 1991; Crowell and Feldman, 1988). The lack of a relationship between child-related interpersonal schemas and parenting behaviour in this study is inconsistent with these findings. This may relate to the measurement issues as well as inherent differences between the attachment and interpersonal schema concepts. For example, attachment theory assumes that internal working models of relationships are non-conscious and therefore cannot be measured by direct means, such as self-report (Edelstein et al., 2004; Thompson and Raikes, 2003). Self-report measures by contrast assume that interpersonal schemas are consciously accessible. A potential limitation of the ISQ is that self-report may have been influenced by any number of factors, including social-desirability and defensive processes. Also, it has not been validated for use in the context of parent-child

relationships. Although the questionnaire was piloted to ensure that it was understandable and had face validity for mothers of boys with conduct problems, more formal validity and reliability checks would have enhanced the confidence in the current findings. Ideally, other tools could be developed that measure both deeper level cognitions, such as schema, and more consciously accessible cognitions, such as automatic thoughts, in relevant high affect situations. Although this has been explored in adult research (see, for example, Marks and Hemsley, 1999) the relationship between cognitions and context in parent-child interactions has received little attention (see Beauchaine et al., 2002).

Other methodological issues to consider include the fact that the groups were not matched on socio-demographic variables. Although the experimental group resembled children with conduct problems seen in routine clinical settings, and the between group differences validate the representativeness of the sample, the group differences complicated the analysis and the inferences that can be drawn from the results.

Future research needs to build on the methods used in this study to develop more reliable and valid ways of observing and measuring parental cognitions and behaviour. Cognitive theory and research highlights the importance of understanding the different roles that general and more specific cognitions may play in guiding behaviour, particularly in stressful conditions (Beck, Rush, Shaw and Emery, 1979; Baden and Howe, 1992). If cognitive structures are important in parent-child interactions, then further work needs to be done to understand the role of different types of cognitive structures, their content, and the mechanisms by which they influence the development and maintenance of conduct problems. More research is needed to identify the kinds of cognitive processing that occur in specific affectively charged instances that may mediate the relationship between higher-level cognitions, such as schema, and parenting behaviour.

In clinical settings, knowledge of the role of differences in parental interpersonal schemas may help us to enhance the effectiveness of parent management training interventions. Maternal relationships and cognitions are at present only addressed implicitly in parent training programmes. Cognitively enhanced programmes have been indicated (Webster-Stratton, 1994; White et al., 2003) but have not yet been formally tested. This study suggests that targeting parental behaviour alone will not address negative parental expectations about children's behaviour. If these expectations are negative and inflexible, one could argue that it would be harder to develop and sustain positive parenting behaviours, or even to notice and respond to positive child behaviours. This study is a small step towards developing programmes that target parental cognitions and supports the assertion from previous research that any intervention should target parental representations if treatment gains are to be sustained throughout the developing and changing relationship between mothers and their sons (van Ijzendoorn, 1995).

Acknowledgements

The authors would like to thank two anonymous reviewers for their helpful comments on an earlier draft of this manuscript.

References

- Abidin, R. R. (1990). *The Parenting Stress Index Short Form*. Charlottesville, VA: Paediatric Psychology Press.

- Achenbach, T. M.** (1991). *Manual for the Child Behaviour Checklist/4-18 and 1991 Profile*. Burlington, VT: University of Vermont Department of Psychiatry.
- Aspland, H. and Gardner, F.** (2003). Observational measures of parent-child interaction: an introductory review. *Child and Adolescent Mental Health*, 8, 136–143.
- Baden, A. D. and Howe, G. W.** (1992). Mothers' attributions and expectancies regarding their conduct-disordered children. *Journal of Abnormal Child Psychology*, 20, 467–485.
- Beauchaine, T. P., Strassberg, Z., Kees, M. R. and Drabick, D. A. G.** (2002). Cognitive response repertoires to child noncompliance by mothers of aggressive boys. *Journal of Abnormal Child Psychology*, 30, 89–101.
- Beck, A. T., Rush, A. J., Shaw, B. F. and Emery, G.** (1979). *Cognitive Therapy of Depression*. New York: The Guilford Press.
- Belsky, J.** (1984). The determinants of parenting: a process model. *Child Development*, 55, 83–96.
- Brestan, E. V. and Eyberg, S. M.** (1998). Effective psychosocial treatments of conduct-disordered children and adolescents: 29 years, 82 studies, and 5,272 kids. *Journal of Clinical Child Psychology*, 27, 180–189.
- Bugental, D. B. and Johnston, C.** (2000). Parental and child cognitions in the context of the family. *Annual Review of Psychology*, 51, 315–344.
- Burke, J. D., Loeber, R. and Birmaher, B.** (2002). Oppositional defiant disorder and conduct disorder: a review of the past 10 years, part II. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 1275–1293.
- Carr, A.** (1999). *The Handbook of Child and Adolescent Clinical Psychology: a contextual approach*. London: Routledge.
- Cohn, D. A., Cowan, P. A., Cowan, C. P. and Pearson, J.** (1992). Mothers' and fathers' working models of childhood attachment relationships, parenting styles, and child behaviour. *Development and Psychopathology*, 4, 417–431.
- Cornah, D., Sonuga-Barke, E., Stevenson, J. and Thompson, M.** (2003). The impact of maternal mental health and child's behavioural difficulties on attributions about child behaviours. *British Journal of Clinical Psychology*, 42, 69–79.
- Crowell, J. A. and Feldman, S. S.** (1988). Mothers' internal models of relationships and children's behavioural and developmental status: a study of mother-child interaction. *Child Development*, 59, 1273–1285.
- Crowell, J. A., O'Connor, E., Wollmers, G., Sprafkin, J. and Rao, U.** (1991). Mothers' conceptualisations of parent-child relationships: relation to mother-child interaction and child behaviour problems. *Development and Psychopathology*, 3, 431–444.
- Dadds, M. R.** (1987). Families and the origins of child behaviour problems. *Family Process*, 26, 341–357.
- Davis, H., Day, C. and Bidmead, C.** (2002). *Working in Partnership with Parents: the parent adviser model*. London: The Psychological Corporation.
- Deklyen, M.** (1996). Disruptive behaviour disorder and intergenerational attachment patterns: a comparison of clinic-referred and normally functioning preschoolers and their mothers. *Journal of Consulting and Clinical Psychology*, 64, 357–365.
- Derogatis, L.** (1993). *Brief Symptom Inventory (BSI): administration, scoring, and procedures manual* (3rd ed.). Minneapolis, MN: National Computer Systems.
- Dix, T.** (1991). The affective organization of parenting: adaptive and maladaptive processes. *Psychological Bulletin*, 110, 3–25.
- Dodge, K. A.** (1993). Social-cognitive mechanisms in the development of conduct disorder and depression. *Annual Review of Psychology*, 44, 559–584.
- Doubleday, E. and Hey, C.** (2004). Is statistical significance enough? Behavioural parent training programmes in real life. *Clinical Psychology*, 37, 5–9.
- Dumas, J. E. and LaFreniere, P. J.** (1995). Relationships as context: supportive and coercive interactions in competent, aggressive, and anxious mother-child dyads. In J. Edelman, R. S., Alexander, K. W.,

- Shaver, P. R., Schaaf, J. M., Quas, J. A., Lovas, G. S. and Goodman G. S. (2004). Adult attachment style and parental responsiveness during a stressful event. *Attachment and Human Development*, 6, 31–52.
- Forehand, R. L. and McMahon, R. J.** (1981). *Helping the Non-compliant Child: a clinician's guide to parent training*. London: The Guilford Press.
- Gardner, F.** (1989). Inconsistent parenting: is there evidence for a link with children's conduct problems? *Journal of Abnormal Child Psychology*, 17, 223–233.
- Goodman, R.** (1997). The Strengths and Difficulties Questionnaire: a research note. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 38, 581–586.
- Green, J. and Goldwyn, R.** (2002). Annotation: Attachment disorganisation and psychopathology: new findings in attachment research and their potential implications for developmental psychopathology in childhood. *Journal of Child Psychology and Psychiatry*, 43, 835–846.
- Greene, R. W. and Doyle, A. E.** (1999). Toward a transactional conceptualisation of oppositional defiant disorder: implications for assessment and treatment. *Clinical Child and Family Psychology Review*, 2, 129–148.
- Greenberg, M. T., Speltz, M. L., Deklyen, M. and Endriga, M. C.** (1991). Attachment security in preschoolers with and without externalising behaviour problems: a replication. *Development and Psychopathology*, 3, 413–430.
- Hartman, R., Stage, S. A. and Webster-Stratton, C.** (2003). A growth curve analysis of parent training outcomes: examining the influence of child risk factors (inattention, impulsivity, and hyperactivity problems), parental and family risk factors. *Journal of Child Psychology and Psychiatry*, 44, 388–398.
- Hassall, R. and Rose, J.** (2005). Parental cognitions and adaptation to the demands of caring for a child with an intellectual disability: a review of the literature and implications for clinical interventions. *Behavioural and Cognitive Psychotherapy*, 33, 71–88.
- Hill, J.** (2002). Biological, psychological and social processes in the conduct disorders. *Journal of Child Psychology and Psychiatry*, 43, 133–164.
- Hill, C. R. and Safran, J. D.** (1994). Assessing interpersonal schemas: anticipated responses of significant others. *Journal of Social and Clinical Psychology*, 13, 366–379.
- Hudson, J. L.** (2001). *Coding Manual for the Behavioural Observations of Family Discussions*. Unpublished manuscript, Temple University.
- Hudson, J. L. and Rapee, R. M.** (2001). Parent-child interactions and anxiety disorders: an observational study. *Behaviour Research and Therapy*, 39, 1411–1427.
- Hudson, J. L., Angelosante, A., Comer, J., Robin, J. and Kendall, P. C.** (2003). Anxiety disorders and over-involvement in parents of anxious children. In S. M. Bogels (Chair), *Parental Influence on Child Anxiety: symposium presented at the 37th Annual Convention of the Association for the Advancement of Behaviour Therapy*. Boston, Mass.
- Kazdin, A. E. and Weisz, J. R.** (1998). Identifying and developing empirically supported child and adolescent treatments. *Journal of Consulting and Clinical Psychology*, 66, 19–36.
- Krech, K. H. and Johnston, C.** (1992). The relationship of depressed mood and life stress to maternal perceptions of child behaviour. *Journal of Clinical Child Psychology*, 21, 115–122.
- Lahey, B. B., Waldman, I. D. and McBurnett, K.** (1999). The development of antisocial behaviour: an integrative causal model. *Journal of Child Psychology and Psychiatry*, 40, 669–692.
- Loeber, R., Burke, J. D., Lahey, B. B., Winters, A. and Zera, M.** (2000). Oppositional defiant and conduct disorder: a review of the past 10 years, Part I. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 1468–1484.
- Maccoby, E. E.** (1992). The role of parents in the socialization of children: an historical overview. *Developmental Psychology*, 28, 1006–1017.
- Marks, M. and Hemsley, D.** (1999). Retrospective versus prospective self-rating of anxiety symptoms and cognitions. *Journal of Anxiety Disorders*, 13, 463–472.

- McMahon, R. J. and Forehand, R.** (1988). Conduct disorders. In E. J. Mash and L. G. Terdal (Eds.), *Behavioural Assessment of Childhood Disorders* (2nd ed.) (pp. 105–153). New York: The Guilford Press.
- Mills, R. S. and Rubin, K. H.** (1998). Are behavioural and psychological control both differentially associated with childhood aggression and social withdrawal? *Canadian Journal of Behavioural Science*, 30, 132–136.
- Moffitt, T. E., Caspi, A., Harrington, H. and Milne, B. J.** (2002). Males on the life-course-persistent and adolescent-limited antisocial pathways: follow-up at age 26 years. *Development and Psychopathology*, 14, 179–207.
- Patterson, G. R.** (1982). *Coercive Family Process: a social learning approach*. Eugene, Oregon: Castalia.
- Patterson, G. R., Dishion, T. J. and Chamberlain, P.** (1993). Outcomes and methodological issues relating to treatment of antisocial children. In T. R. Giles (Ed.), *Handbook of Effective Psychotherapy* (pp. 43–88). New York: Plenum Press.
- Patterson, G. R. and Stouthamer-Loeber, M.** (1984). The correlation of family management practices and delinquency. *Child Development*, 55, 1299–1307.
- Puckering, C., Rogers, J., Mills, M., Cox, A. D. and Mattsson-Graf, M.** (1994). Process and evaluation of a group intervention for mothers with parenting difficulties. *Child Abuse Review*, 34, 299–310.
- Routh, C. P., Hill, J. W., Steele, H., Elliot, C. E. and Dewey, M. E.** (1995). Maternal attachment status, psychosocial stressors and problem behaviour: follow-up after parent training courses for conduct disorder. *Journal of Child Psychology and Psychiatry*, 36, 1179–1198.
- Safran, J. D.** (1990a). Towards a refinement of cognitive therapy in light of interpersonal theory: I. Theory. *Clinical Psychology Review*, 10, 87–105.
- Safran, J. D.** (1990b). Towards a refinement of cognitive therapy in light of interpersonal theory: II. Practice. *Clinical Psychology Review*, 10, 107–121.
- Safran, J. D.** (2003). Personal communication, 31 January and 10 April 2003.
- Safran, J. D. and Segal, Z. V.** (1990). *Interpersonal Process in Cognitive Therapy*. New York: Basic Books.
- Schaffer, H. R.** (1996). *Social Development*. Oxford: Blackwell.
- Scott, S.** (2001). Parent training: where are we now? In W. Yule and O. Udwin (Eds.), *Parenting: applications in clinical practice. Association for Child Psychology and Psychiatry, Occasional Papers No. 18* (pp. 5–16). London: ACP.
- Scott, S.** (2003). Integrating attachment theory with other approaches to developmental psychopathology. *Attachment and Human Development*, 5, 307–312.
- Scott, S., Knapp, M., Henderson, J. and Maughan, B.** (2001). Financial cost of social exclusion: follow up study of antisocial children into adulthood. *British Medical Journal*, 323, 191–194.
- Stallard, P.** (2002). Cognitive behaviour therapy with children and young people: a selective review of key issues. *Behavioural and Cognitive Psychotherapy*, 30, 297–309.
- Sutton, C.** (2001). Resurgence of attachment (behaviours) within a cognitive behavioural intervention: evidence from research. *Behavioural and Cognitive Psychotherapy*, 29, 357–366.
- Tabachnick, B. G. and Fidell, L. S.** (2001). *Using Multivariate Statistics* (4th ed.). Boston: Allyn and Bacon.
- Thompson, R. A. and Raikes, H. A.** (2003). Toward the next quarter century: conceptual and methodological challenges for attachment theory. *Development and Psychopathology*, 15, 691–718.
- van IJzendoorn, M. H.** (1995). Adult attachment representations, parental responsiveness, and infant attachment: a meta-analysis on the predictive validity of the Adult Attachment Interview. *Psychological Bulletin*, 117, 387–403.
- Webster-Stratton, C.** (1985). Mother perceptions and mother-child interactions: comparison of a clinic-referred and a non-clinic group. *Journal of Clinical Child Psychology*, 14, 334–339.

- Webster-Stratton, C.** (1991). Annotation: Strategies for helping families with conduct-disordered children. *Journal of Child Psychology and Psychiatry*, *32*, 1047–1062.
- Webster-Stratton, C.** (1994). Advancing videotape parent training: a comparison study. *Journal of Consulting and Clinical Psychology*, *62*, 583–593.
- Webster-Stratton, C. and Hammond, M.** (1990). Predictors of treatment outcome in parent training for families with conduct problem children. *Behaviour Therapy*, *21*, 319–337.
- White, C., McNally, D. and Cartwright-Hatton, S.** (2003). Cognitively enhanced parent training. *Behavioural and Cognitive Psychotherapy*, *31*, 99–102.
- Woodruff-Borden, J., Morrow, C., Bourland, S. and Cambron, S.** (2002). The behaviour of anxious parents: examining mechanisms of transmission of anxiety from parent to child. *Journal of Clinical Child and Adolescent Psychology*, *31*, 364–374.