Mother-Child Interactions and Childhood OCD: Effects of CBT on Mother and Child Observed Behaviors

Running Head: Mother-child interactions in Childhood OCD

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Abstract

Background: This waitlist-controlled study investigates the impact of a group-based cognitive-behavioural therapy with family involvement (CBT-F) on observed mother and child behaviours in children with obsessive-compulsive disorder (OCD). **Method:** 44 children and adolescents with OCD and their mothers were observed during family discussions before and after treatment/waitlist. Participants were rated on behavioural dimensions of criticism, overinvolvement, doubt, avoidance, warmth, confidence, positive problem-solving, rewarding independence. **Results:** Significant differences between treatment and waitlist condition occurred from pre- to post-treatment, with ratings of negative behaviours decreasing and ratings of positive behaviours increasing in the treatment group. **Conclusions:** Findings suggest that CBT-F has the potential to improve mother and child interactions in families with a child diagnosed with OCD.

Keywords: Childhood obsessive-compulsive disorder, mother-child interactions, cognitive-behavioural therapy, family involvement, observational methods.

Introduction

Obsessive-compulsive disorder (OCD) in childhood occurs to a great extent within the home environment and interferes in not only the child's life, but also disrupts the entire family (Farrell & Barrett, 2007). Research investigating the role of familial factors associated with OCD in children and adolescents has explored family context and family interactions as possible factors associated with the maintenance of the disorder (see Farrell & Barrett, 2007; Waters & Barrett, 2000, for a review). The nature of the relationship between a child's OCD symptoms and family factors, such as parent-child interactions and family involvement and accommodation, is thought to be bi-directional from a maintenance perspective (March, 1995). On the one hand, research has found that family members of children with OCD often report elevated levels of stress, depression, anxiety and involvement in OCD symptoms (Barrett, Rasmussen, & Healy, 2001; Barrett, Shortt, & Healy, 2002; Calvocoressi et al., 1995; Cooper, 1996). Such parental and sibling distress may result from family members' involvement in and accommodation of the child's OCD symptoms (Barrett et al., 2001; Cooper, 1996), indicating the impact of child disorder on family functioning. On the other hand, parents' and siblings' behaviours, such as critical comments or rejecting attitude towards the child with OCD, as well as active accommodation to symptoms, may have a negative impact on a child's OCD symptoms (Amir, Freshman & Foa, 2000).

Although a recent meta-analysis of 47 studies examining the impact of parenting characteristics on child anxiety (McLeod, Weisz, & Wood, 2007) provides little evidence in the way of a causal model for parenting and child anxiety, there does appear to be sufficient research suggesting that family factors may play a role in *maintaining* symptoms, and perhaps may *moderate outcome* in treatment, although the research is

less extant in this area. Research in the area of adult OCD indicates that improvements in family interactions may be associated with lower rates of relapse at follow-up (e.g. Chambless & Steketee, 1999; Emmelkamp, Kloek & Blaauw, 1992; Steketee, 1993). Similarly, a number of studies in the area of childhood OCD have proposed specific child and parent behaviours that may influence the maintenance and/or treatment of the disorder. Parents of children with OCD show higher levels of expressed emotion compared to parents of nonpsychiatric controls (Hibbs, Hamburger, Kruesi, & Lenane, 1993; Hibbs et al., 1991), and high levels of expressed emotion predicted a poorer level of general functioning at 2- and 7-year follow-up in a pharmacotherapy trial (Leonard et al., 1993).

Taken together, the research suggests that family interaction patterns may be linked to the maintenance of the disorder and to long-term treatment outcome. As such, further exploration of family interactions, and in particular the effect of evidence-based treatment on the way families interact with each other, is warranted. It seems apparent that treatments including the family have the potential to improve interactions and thus may contribute to maintaining treatment gains in the long-term. The majority of treatment trials conducted to date for childhood OCD have included families, or at least parents (Barrett et al., 2004; Franklin et al., 1998; Knox, Albano & Barlow, 1996; Livingston-Van Noppen, Rasmussen, Eisen, & McCartenay, 1990; March & Mulle, 1998; Piacentini, Gitow, Jaffer, Grae, & Whitaker, 1994; Storch et al., 2007; Thienemann, Martin, Cregger, Thompson, & Dyer-Freidman, 2001); however, we do not know yet how these interventions might affect parent-child interactions in families with a child suffering from OCD. To the author's best knowledge, no study has

examined the impact of a CBT treatment including family involvement for childhood OCD on observed family interactions following treatment.

The primary goal of the present study was to investigate changes in observed mother and child behaviours during family discussions from pre- to post-treatment. This study is extending the observational work of Barrett and colleagues (2002) who reported that parent-child interactions in families with OCD children were different to other clinic (i.e., other anxiety disorders and externalising disorders) and non-clinic groups. Based on these findings, the present study using the same macro-coding approach, investigates the impact of a cognitive-behavioural treatment with family involvement (CBT-F) for childhood OCD on observed interactions between mothers and children, compared to a waitlist control condition.

The treatment used in the current study is arguably a family-enhanced approach to CBT; such that the protocol includes a structured and manualised weekly parent training component, involvement of sibling's in psycho-education, and structured family reviews of the treatment at the end of each session. Observed behavioural dimensions included criticism, over-involvement, doubt, avoidance, warmth, confidence, positive problem-solving, and rewarding independence. It was hypothesised that the treatment condition involving CBT-F, compared to the waitlist condition, would produce significant reductions in observed negative behaviours, and significant increases in observed positive behaviours for both children and mothers. Secondary to the effect of treatment on behavioural interaction variables, this study also examined the *process of change*; by looking specifically at the relationship between change on a measure of OCD symptomatology and change observed across behavioural dimensions following treatment. It was hypothesised that there would be a significant correlation

between symptom change and change on mother and child behavioural observations, such that, greater improvements in OCD would be associated with improvements on behavioural dimensions.

The second goal of this study was more exploratory in nature and involved an examination of age on treatment outcome. Although previous studies in the area of childhood OCD have not found any differences in treatment response between younger children and adolescents (e.g., Barrett et al., 2004; Piacentini et al., 2002), it was hypothesized that there may be age-related differences in mother-child behaviours during interactions, and change in such as a result of therapy, due to the child's developmental age.

Treatment outcome is not reported here, as this data has been previously published by Barrett and colleagues (Barrett et al., 2004), demonstrating efficacy of CBT-F compared to a waitlist condition, and durability of outcomes up to 18 months follow-up (Barrett, Farrell, Dadds, & Boulter, 2005).

Method

Participants

Forty-four children and adolescents aged 7 to 17 years (M = 12.05, SD = 2.84) and their mothers consented and participated in this study, as part of their involvement in a large controlled treatment trial of CBT for pediatric OCD (see Barrett et al., 2004). Children were recruited through referrals from community mental health agencies, general practitioners, child mental health specialists, and via parental interest following media announcements. Children and adolescents were selected into this study on the basis of a Diagnostic and Statistical Manual (DSM-IV; American Psychiatric Association, 1994) primary diagnosis of OCD. Exclusionary

criteria included primary major depression or another primary anxiety disorder, primary externalizing disorder (including attention deficit / hyperactivity disorder, oppositional defiant disorder, or conduct disorder), Tourette's syndrome, autistic spectrum disorder, schizophrenia, organic mental disorder or mental retardation. All participating children were required to have an IQ suspected to be within the normal range, and at least one parent willing to attend weekly sessions.

Children who met DSM-IV criteria for OCD based on initial interviews were randomly assigned to either group CBT treatment condition, or a waitlist control, ethically bound to a 4-6-week period based on the severity of distress typically associated with OCD. Subjects were assigned to group intervention in a randomised block design that accounted for child's age and timing of referral to this study. Whenever 3 or more children of the same age bracket (i.e., children = 7-12 years; adolescents = 13-17 years) were referred within in a two-week period, these children were entered into the group condition. This procedure ensured participants were not waiting long intervals for sufficient numbers to run the group intervention. Children meeting exclusionary criteria for participation in this research, based on these initial interviews, were referred to appropriate community agencies as required.

The final cohort for this study consisted of 25 participants in the group CBT-F condition (i.e., 6 groups ranging in number of participants from 3 to 6 subjects per group), and 19 participants in the waitlist control condition. The majority (80%, n = 35) of participants met criteria for a secondary comorbid disorder, most commonly Generalised Anxiety Disorder (GAD; 34%, n = 15), Separation Anxiety Disorder (SAD; 16%, n = 7), Social Phobia (14%, n = 6), Specific Phobia (9%, n = 4), Major Depression (5%, n = 2), and Dysthymia (2%, n = 1). Fifty-seven percent (n = 25) of participants

had a third diagnosis including GAD (n = 12), Specific Phobia (n = 9), Social Phobia (n = 2), Major Depression (n = 1), and Dysthymia (n = 1).

Measures

Children's Yale-Brown Obsessive-Compulsive Scale (CY-BOCS; Goodman et al., 1989). The CY-BOCS is a widely used, clinician-rated, semi-structured interview, assessing severity of OCD symptomatology. The CY-BOCS rates severity of obsessions and compulsions across five scales: (a) time occupied by symptoms, (b) interference, (c) distress, (d) resistance, and (e) degree of control over symptoms, and also provides a total severity score. Cut-offs generally used in evaluating the CY-BOCS total score are: (a) mild (10-18; distress but not necessarily functional impairment), (b) moderate (19-29; distress and functional impairment), and (c) severe (30 or above; severe distress and serious impairment; March and Mulle, 1998). The CY-BOCS shows reasonable reliability and validity, with good to excellent inter-rater agreement and high internal consistency for total score (Scahill et. al., 1997). This measure has been included in the present study to examine OCD symptom change, in regards to exploring the relationship between OCD symptomatic change and change in observed mother and child behaviours.

Family Interaction Task

The family interaction task consisted of a 5-minute problem focused family discussion developed by Barrett et al. (2002). Participants were instructed to discuss either a child

or a parent problem ("hot topic") they had noticed in the family (i.e., issue or conflict/ concern, e.g. fighting with siblings, getting ready for school) and come up with possible solutions. It was emphasized that the mother could help the child in developing a solution, however the final decision was to be made by the child.

Coding Procedure

Family discussions were videotaped and coded based on a Revised Version of the Macro-coding Schedule for Parent and Child Behaviours (MPCB; Barrett, Shortt, Healy & Hartmann, unpublished). Behavioural dimensions that were coded are displayed in Table 1. The coders were two postgraduate students trained in the use of the coding procedure and blind to the group membership of participants or treatment status (pre- versus post-treatment). The coders stopped the videotape after each minute of the family discussion, and then rated observed mother and child behaviours on a 6-point likert scale (0= absent to 5 = very high). A mean score was then obtained for each dimension.

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Interrater reliability on the MPCB ratings of behavioural dimensions was conducted on a random sample of 25% of the videotapes at both pre- and post-treatment, by an independent assessor blind to participants treatment condition, treatment status (i.e., pre- or post-treatment) and the original coding. Table 2 displays interrater reliability kappas for each mean score of a behavioural dimension of mother and child behaviours at pre- and post-treatment. The interrater reliability estimates indicated that 73% of

coded dimensions (across mother and child, and pre- and post-treatment) were rated as at least *substantial agreement between raters* or higher. Only one variable was rated as *fair agreement between raters*, which was the lowest reliability rating (for mother doubt at pre-treatment), based on Landis and Koch (1977).

----------INSERT TABLE 2 HERE ----------

Treatment Protocol

The CBT treatment protocol (Barrett et al., 2004) involved 14 weekly 90-minutes group sessions. Each session included group CBT with the children (50 minutes), parent skills training (30 minutes), and a family review of progress (10 minutes). The child sessions focused on psychoeducation, cognitive training, anxiety management training, graded exposure and response prevention, and relapse prevention. Parent sessions were conducted by the same therapist following the child session and focused on psychoeducation, problem-solving skills, strategies to reduce parental involvement in the child's symptoms, and encouraging family support of home-based exposure and response prevention. Siblings were also involved in the protocol, attending brief sibling psycho-education components (30 minutes) at three different times throughout the protocol.

Data Analysis

Separate mixed-factorial repeated measure multivariate analysis of variance were performed for treatment outcome with the following dependent variables: (1) ratings of observed mother behaviours, and (2) ratings of observed child behaviours. We were

particularly interested in the time X treatment condition X age interaction, to examine whether there were age-related changes in response to treatment across time.

To control for error rates across the multiple outcome variables, p-values obtained from the analyses were corrected using the Holm modified Bonferroni-correction. This procedure is more powerful than the traditional Bonferroni-based approach, with this leading to less inflated experimentwise error rates across the multiple tests. P-values were corrected for both sets of analyses (ratings of mother behaviours; ratings of child behaviours) separately. For a detailed description of the Holm modified Bonferroni correction see Jaccard & Guilamo-Ramos (2002).

Results

Primary Analyses

Table 3 presents means and standard deviations across all dependent variables, for treatment and waitlist condition, at pre- and post-treatment, for both children and adolescents. Prior to examining the treatment condition and time interaction across the dependent variables, pre-treatment analyses were conducted to examine differences across the two treatment conditions (group CBT-F, waitlist), to determine group equivalence across demographic and dependent variables at pre-treatment. There were no significant differences across the treatment conditions on age, gender, presence of comorbidity, or on any mother or child behavioural variable. There was a significant group difference on OCD severity at pre-treatment however $F_1 = 5.38$; $p < 0.05$; with children in the treatment condition significantly less severe at pre-treatment (M = 20.80; SD = 4.48) compared to children in the waitlist condition (M = 24.84; SD =

7.05). For all further analyses, pre-treatment OCD severity (CY-BOCS scores) is entered into analyses as a covariate.

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Observed Mother Behaviours

A multivariate mixed-factorial repeated measures analysis of variance was conducted to examine the multivariate time X treatment condition X age interaction (co-varying pre-treatment CY-BOCS ratings) on ratings of observed mother behaviours. Following examination of the multivariate interaction, examination of univariate analyses were conducted across the eight mother behavioural interaction variables including; mother criticism, over-involvement, doubt, avoidance, warmth, confidence, positive problem solving, and rewarding independence.

There was no significant multivariate effect of time X treatment condition X age interaction on the mother behavioural interaction variables. There was however, a significant multivariate time X treatment condition interaction, $F_{8, 31} = 9.60$; $p < 0.001$. Examination of univariate tests revealed significant time X treatment condition interactions for mother criticism ($F_1 = 15.47$, $p < .001$), overinvolvement ($F_1 = 26.39$, $p < .001$), doubt ($F_1 = 17.83$, $p < .001$), warmth ($F_1 = 8.16$, $p < .01$), confidence ($F_1 = 14.34$, $p < .005$), positive problem solving ($F_1 = 8.38$, $p < .01$), and rewarding independence ($F_1 = 18.60$, $p < .001$). No significant time X group interaction was found for ratings of mother avoidance. Reductions in ratings of negative behaviours such as criticism, overinvolvement and doubt were greater in the treatment condition than in the waitlist group. Improvements in ratings of positive behaviours such as

warmth, confidence, positive problem solving, and rewarding independence were significantly greater in the treatment than in the waitlist group.

Observed Child Behaviours

A multivariate mixed-factorial repeated measures analysis of variance was conducted to examine the multivariate time X treatment condition X age interaction (co-varying pre-treatment CY-BOCS ratings) on ratings of observed child behaviours. Following examination of the multivariate interaction, examination of univariate analyses were conducted across the five child behavioural interaction variables including; child doubt, child avoidance, child warmth, child confidence, and child positive problem solving.

There was no significant multivariate effect of time X treatment condition X age interaction on the child behavioural interaction variables. There was however, a significant multivariate time X treatment condition interaction, $F_{5, 35} = 8.13$; $p < 0.001$. Examination of univariate tests revealed significant time X treatment condition interactions for child avoidance ($F_1 = 11.44$, $p < .001$), warmth ($F_1 = 6.95$, $p < .01$), confidence ($F_1 = 23.06$, $p < .001$), and positive problem solving ($F_1 = 25.61$, $p < .001$). There was no significant time X group interaction found for ratings of child doubt. Reductions in ratings of negative behaviours (avoidance) and improvements in positive behaviours (warmth, confidence, positive problem solving) were significantly greater following treatment than after the waitlist period.

Secondary Analyses

Secondary analyses were conducted to examine the relationship between OCD symptom change (CY-BOCS) following treatment, and change on mother and

child behavioural variables from pre- to post-treatment. Change scores for the treatment condition were computed for child CY-BOCS ratings, and for all of the mother and child behavioural dimensions from pre- to post-treatment. Pearson correlations were conducted to examine the relationship between change variables. The results of these analyses indicated there were no significant correlations between child CYBOCS change scores from pre- to post-treatment, and change on the mother and child observed behaviours across time.

Discussion

With treatment efficacy already being established (Barrett et al., 2004) on child OC symptoms and diagnosis, the primary aim of this study was to investigate the impact of the CBT treatment with family involvement on observed mother-child behaviours during interactions in a problem-solving discussion. A standardised coding system for behavioural observations of mother and child behaviours was used, which was already established in Barrett and colleagues (2002).

The results of the present study demonstrated that both mother and child observed behaviours during the problem-solving discussion were generally more positive (except on dimensions of child doubt and mother avoidance) following CBT with family involvement, compared to the waitlist. This finding suggests that CBT with family involvement may help to improve mother-child behavioural interactions in families with a child suffering from OCD. An alternative hypothesis is that interactions may be improved as a result of the general improvement in OC symptomatology. Interestingly, this study examined the correlations between symptom change (child CY-BOCS change ratings) and change on mother and child behavioural interaction variables

and found no significant relationships. This unexpected finding suggests that change in interactions might be an effect of psychotherapy process rather than OCD symptom change. Clearly, studies including CBT-F compared to control conditions without any family involvement are warranted to draw more definite conclusions about the specific effectiveness of different treatment components (e.g., introducing problem solving strategies and communication skills in the family) in the treatment of childhood OCD. Furthermore, studies identifying possible mechanisms of change during treatment of childhood OCD could clarify the association between family focussed interventions and treatment outcome.

Analyses investigating the effects of age on mother and child behavioural interaction following CBT-F were in line with previous studies which have not found any age-related differences in treatment response. This study found no differences in outcomes for families who had a child with OCD versus families who had an adolescent with OCD.

A number of limitations need to be addressed. First, the relatively small sample size limits the findings and generalisability of this study. Second, only mothers were involved in the family interaction task. Due to the lack of fathers and siblings in the assessment task, it is difficult to generalise the results to the entire family unit. The lack of ecological validity is another limitation of the present study, with all observations made in the clinic and with participants aware of the videotaping procedure. Future research could implement all observations in a more naturalistic setting, such as the home environment. Furthermore, the nature of the problem-solving task may not be adequate to provide a realistic reflection of the true family process. Framing the scenario as a conversation about a current problem with less emphasis on

solving it might provide more valuable information about family interactions in daily life. Also of note and central to the findings of the current study, was the reduced kappa values in reliability estimates of some of the behavioural dimensions being coded (i.e, mother positive problem solving = 0.43), calling into question reliability of the observational variables. The reliability of the coding system is paramount in observational research, and naturally one of the most difficult aspects of this kind of study. Overall however, the reliability ratings were very acceptable, so while some variables suggest questionable reliability of the constructs, overall this study did an adequate job in reliably capturing the variables in question. Future research would benefit from using multi-modal approaches to measure the behavioural constructs, such as parent and child self-report and idiographic ratings. In addition, future observational studies should strive towards improving the reliability of the coding procedure, for example by initially training coders to a minimum reliability threshold, or retraining coders when they fall below a set threshold, or by implementing a consensus procedure for addressing potential disagreements.

Conclusion

These findings suggest that CBT with family involvement, may have the potential to improve mother and child behaviours during interactions, and possible intervene in any maintaining role that family interactions may play in childhood OCD. Future studies comparing CBT involving the family, with other forms of treatment (e.g. family therapy, child focussed treatment, or medication management) are needed to examine whether changes in mother and child behaviours are due to family involvement in CBT, a response to psychotherapy more generally, or rather a consequence of the child's

general improvement in diagnostic status and OCD symptom severity. Addressing family interaction processes more directly in the treatment of childhood OCD, may also further improve the quality of family relationships, which may in turn lead to lower risk of relapse and to stabilisation of long-term treatment success. Investigating family processes and family approaches to improving treatments for paediatric OCD presents an important next step in the treatment literature and will likely improve outcomes for both children and families living with OCD.

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Table 1. Behavioural dimensions on the Macro-coding Schedule for Parent and Child Behaviours (MPCB), revised version.

Dimension	**Description**
Criticism (Mother only)	Expression of disapproval. Negative and personalised verbal comments, e.g., "You are bad/ naughty", "You can never do anything right". Non-verbal disapproval, e.g., frowning, finger pointing.
Over-involvement (mother only)	Constraining child's individuality by not allowing individual thinking. Not including child in decision making, answering for the child, and/or interrupting. High proximity, loud overpowering voice.
Doubt	Questioning own and/or others' ability to successfully complete task. Verbalised doubt, e.g., "Are you sure?"' "I don't know", "Is this really what you think?", "Would this be true?". Shrugging/ looking confused.
Avoidance	Displaying poor motivation to complete the task, e.g., not talking, sitting in silence. Distraction from task, e.g. running around, redirecting conversation to other issues. Disinterested body language, e.g., leaning away, doing something other than task.

	Verbal statements such as “How should I know”, “I’m tired of this”, “I don’t want to do this”.
Warmth	Responsive and engaged in conversation, e.g., listening, laughing, pleasant tone of voice. Open body language, e.g., maintaining eye contact, high proximity, leaning over, positive touching, hugging, stroking, holding hands.
Confidence	Expressed belief that one can solve the problem or achieve a result: statements such as “I can do this”, “You can do this”, “You have done this very well before”. Non-verbal confidence including straight posture, direct eye contact, firm tone of voice.
Positive Problem-Solving	Encouragement to complete the task, e.g. “Come on, let’s come up with some solutions”, brainstorming and developing a plan together as a family, expressions of opinion, reflecting back ideas, summarising.
Rewarding Independence (Mother only)	Modelling and encouraging independent thinking about how to solve the problem, e.g. “What else do you think could we do?”, “Remember when you did…”. Open-ended questions to facilitate child’s opinion.

Table 2. Kappa reports on ratings of behavioural dimensions for mother and child behaviours, before and after treatment/ waitlist (Tx/WL).

Behavioural Dimension	**Mother**		**Child**	
	Pre-Tx/WL	Post-	Pre-Tx/WL	Post-
Criticism	.98****	.54**	-	-
Over-Involvement	.50**	.81****	-	-
Doubt	.40*	.72***	.67***	.96****
Avoidance	.79***	.89****	.65***	.81****
Warmth	.87****	.96****	.53**	.98****
Confidence	.79***	.95****	.91****	.86****
Positive Problem-Solving	.43**	.84****	.93****	.98****
Rewarding Independence	.59**	.44**	-	-

Note: * denotes fair agreement, ** denotes moderate agreement, *** denotes substantial agreement, and **** denotes almost perfect agreement (Lanis & Koch, 1977)

Table 3. Means and Standard Deviations across Treatment Groups and Age at Pre- and Post-treatment/ Waitlist.

	TREATMENT Mean (SD) *N* = 25				**WAITLIST** Mean (SD) *N* = 19			
	Pre-		**Post-**		**Pre-**		**Post-**	
Observed Mother Behaviours	Child	Adol	Child	Adol	Child	Adol	Child	Adol
Criticism***	1.89 (1.36)	3.11 (1.41)	1.46 (0.79)	0.81 (.094)	1.82 (1.45)	3.00 (1.42)	1.78 (1.53)	2.86 (1.42)
Over-involvement***	3.15 (0.81)	3.07 (1.01)	1.61 (1.02)	0.98 (0.51)	3.24 (1.17)	3.38 (1.46)	3.07 (1.12)	3.24 (1.22)
Doubt***	0.66 (0.48)	2.18 (1.21)	0.25 (0.30)	0.68 (0.83)	1.33 (1.44)	2.18 (1.40)	1.33 (1.44)	2.18 (1.42)
Avoidance	0.78 (0.78)	1.05 (1.30)	0.48 (0.51)	0.52 (0.95)	0.98 (1.25)	1.20 (1.50)	0.90 (1.10)	0.98 (1.23)
Warmth*	2.84 (1.25)	1.76 (1.13)	3.10 (1.00)	3.28 (1.22)	2.04 (1.00)	1.42 (0.72)	2.24 (1.02)	1.66 (0.77)
Confidence**	2.53 (0.80)	1.40 (0.39)	3.20 (0.76)	2.75 (0.82)	2.17 (0.91)	1.76 (0.82)	2.16 (1.06)	1.60 (1.04)
Positive Problem Solving*	3.07 (0.80)	1.40 (1.01)	3.87 (0.90)	3.18 (1.05)	1.90 (1.30)	1.36 (1.18)	2.09 (1.36)	1.26 (1.02)
Rewarding Independence***	3.15 (0.84)	0.86 (0.93)	3.96 (0.57)	2.73 (1.27)	1.83 (1.47)	0.78 (1.06)	1.86 (1.47)	0.86 (0.98)
Observed Child Behaviours								
Doubt	0.66 (0.56)	2.35 (1.45)	0.85 (0.92)	0.56 (0.97)	1.51 (1.55)	1.62 (1.37)	1.73 (1.12)	1.78 (1.39)
Avoidance***	2.55 (1.02)	2.66 (1.34)	1.66 (1.13)	0.51 (0.67)	1.15 (1.06)	2.98 (1.34)	1.35 (0.86)	2.56 (1.13)
Warmth*	2.74 (1.08)	1.63 (0.52)	3.43 (0.74)	2.71 (1.37)	2.33 (0.74)	0.86 (0.81)	2.28 (1.34)	1.02 (0.75)
Confidence***	2.87 (1.38)	1.58 (0.81)	3.76 (0.98)	3.35 (1.06)	2.44 (1.04)	0.92 (0.82)	2.06 (1.00)	1.02 (0.75)
Positive Problem Solving***	1.70 (1.05)	0.53 (0.39)	2.89 (0.98)	3.03 (1.07)	1.93 (1.15)	0.78 (0.72)	1.84 (1.12)	2.84 (0.65)

Note: Significant time X group interactions are denoted by asterisks besides the variable name: *$p < .01$ **$p < .005$; ***$p < .001$