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*'A noted paucity
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A Positive Behavioural Intervention for Toddlers: Parent– Child Attunement Therapy

Parent–child attunement therapy (PCAT) is a promising intervention for toddlers (aged 12–30 months) who have experienced maltreatment. PCAT has two overall purposes: (1) to strengthen caregivers' relationship with their children; and (2) to facilitate caregivers' learning of appropriate child management techniques. PCAT represents an adaptation of parent–child interaction therapy (PCIT), which has been empirically documented in preschool and early elementary schoolchildren to improve behavioural adjustment and engender a stronger bond between caregiver and child. There is, however, a noted paucity of intervention research for toddlers, specifically maltreated toddlers. As toddlerhood represents a critical period for enhancing the relationship between caregivers and children and is a stage when youngsters are at increased risk for maltreatment, the objectives of PCAT become even more salient during the toddler years. The purpose of this study, therefore, is to introduce PCAT and then examine its effectiveness through a single case study of a 23-month-old maltreated toddler and his biological mother. Pre- and post-assessment measures included the Parenting Stress Index, the Dyadic Parent–Child Interaction Coding System (DPICS), the Achenbach Child Behavior Checklist (CBCL), the Emotional Availability (EA) Scales and the Eyberg Child Behavior Inventory (ECBI). The results of this study demonstrate the effectiveness of PCAT in increasing the number of positive caregiver–toddler interactions and enhancing the overall quality of the caregiver–toddler relationship. Practitioners will be able to use the techniques described in this manuscript to improve the parent–toddler relationship and ameliorate many commonly experienced behavioural difficulties found among maltreatment-prone parent–toddler dyads. Therapeutic progress is easily charted so that

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effectiveness may be documented and termination of therapy may be easily discerned. Copyright © 2005 John Wiley & Sons, Ltd.

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Parent-child attunement therapy (PCAT) is a behaviourally oriented intervention for maltreated toddlers (aged 12–30 months) and toddlers experiencing attachment difficulties. It is adapted from parent–child interaction therapy (PCIT), an empirically validated parent skills training programme that has a solid research basis and uses therapist coaching of caregivers through a bug-in-the-ear device and a two-way mirrored window (Eyberg, 1988; Hembree-Kigin and McNeil, 1994). Like PCIT, PCAT focuses on enhancing the caregiver–child relationship by improving the toddler’s behaviour. This is accomplished by increasing parents’ attention to children’s positive and appropriate behaviour, decreasing attention to inappropriate behaviour, and teaching parents to follow their children’s lead in play, supporting and elaborating upon it rather than directing it (Dombrowski and Timmer, 2001; Paravicini, 2000; Paravicini *et al.*, 2000). Because the goals of PCAT involve consistent attention to their children’s good behaviour, parents become more accessible and their behaviour becomes more predictable. Since inconsistent responsiveness and a lack of positive interactions characterize abusive family contexts (Cerezo and D’Ocon, 1999; Wolfe, 1987), we argue that PCAT is well suited for toddlers who have experienced maltreatment and who might possibly suffer attachment difficulties. The purpose of this study is to introduce PCAT through an examination of its effectiveness with a 23-month-old maltreated toddler and his biological mother. Although this study offers a useful introduction to PCAT, the effectiveness of PCAT will require further empirical validation in subsequent research.

Background Information

Toddlerhood is an important stage in the development of children. This period represents a significant period for developing attachment security, enhancing the relationship between caregivers and children and acquiring cognitive and language skills (Cicchetti and Toth, 1995). It is also a period in which the attachment relationship emerges and then is continually negotiated between caregiver and child

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(Cummings *et al.*, 2000). Emerging out of this process is a new set of developmental tasks that focus on self-development (Cole, 1990), emotion regulation (Smetana *et al.*, 1999) and social representational models (Toth *et al.*, 1997). Research is also clear in indicating that toddlerhood represents a stage where children are at increased risk for maltreatment (Wolfe, 1987, 1999). Child maltreatment during any phase of development has adverse implications, robbing children of their fundamental human dignity and placing them at great developmental disadvantage compared with non-abused children (Shengold, 1989). During the toddler years, maltreatment may interrupt critical developmental processes that, without intervention, may continue to disrupt later cognitive, social and emotional functioning (Manly *et al.*, 2001).

During the toddler stage, neurological development progresses at an accelerated rate and maltreatment has been found to perturb the development of specific neurological structures implicated in behavioural, cognitive and social-emotional functioning (Lowenthal, 1998; Schore, 2001; Teicher *et al.*, 2002). For instance, early maltreatment has been linked to abnormal cerebral cortex and limbic system development (Glaser, 2000; Teicher *et al.*, 2002). These structures are associated with regulation of cognition, attention and emotion (Kalat, 2002). The toddler years are also thought to be important for the formation of attachment security (Youngblade and Belsky, 1989) and self-representation (Cicchetti and Toth, 1994). Maltreatment during this stage of development disrupts these formative processes, contributing to a host of later cognitive, academic, psychological and relationship problems that may persist well into adulthood (Dombrowski, 2003; Dombrowski *et al.*, 2003). Unfortunately, there is a relative paucity of interventions not only for maltreated toddlers specifically, but for maltreated children more generally.

There are, however, numerous parent training programmes targeted at improving parental sensitivity and children’s attachment security. Bakermans-Kranenburg *et al.* (2003) conducted a meta-analysis of 70 parent training programmes targeted at improving parental sensitivity and children’s attachment security. These authors found evidence for the effectiveness of parent training programmes, particularly if the training programmes had a clear-cut behavioural emphasis. Of the 70 programmes evaluated within the meta-analysis, none were focused on children or toddlers who experienced maltreatment. Thus, there is significant need for intervention research for those who have been maltreated or who may be at risk for

maltreatment. There is an even greater need for intervention research on maltreated toddlers.

The purpose of this study is to describe PCAT, an initial step in filling the intervention gap, and its effectiveness for a mother–toddler dyad with a history of abuse and domestic violence. We also discuss some of the supports and barriers to treatment success. Subsequent research on PCAT will be necessary to ultimately determine its effectiveness. A discussion of the tenets of parent–child interaction therapy, the progenitor of PCAT, will be helpful in understanding PCAT, as both the philosophy and procedures overlap.

Parent–Child Interaction Therapy (PCIT)

PCIT is a behaviourally oriented, empirically validated parent training model that has been cited as effective in increasing positive caregiver–child interactions, enhancing the parent–child relationship, reducing parenting stress and decreasing dysfunctional parent–child relationship patterns (Eyberg and Robinson, 1982). It has also been documented to be effective in ameliorating those same problems among maltreated children (Borrego *et al.*, 1999; Urquiza and McNeil, 1996). PCIT contains two phases, each of which is preceded by a didactic session. During the didactic session, the caregiver and child are instructed in the mechanics of the particular phase and provided with a rationale for practising concepts. In subsequent treatment sessions, the parent practises these skills as they play with their children. While parent and child play together, the parent is coached by their therapist. The coaching is conducted from an observation room via a ‘bug-in-the-ear’ receiver that the parent wears behind the ear. Parents continue to be taught and practise specific communication skills with their children. In the relationship enhancement phase (typically seven to ten sessions), termed child directed interaction (CDI), the primary goal is to create or strengthen a positive and mutually rewarding relationship between parents and their children by modifying the way parents speak to their children. Parents are taught to follow their children’s lead in play by describing their activities and reflecting their appropriate verbalizations. They are also taught to praise their children’s positive behaviour and to ignore (in this phase of treatment) the children’s negative behaviour. By the end of the ‘relationship enhancement’ phase, parents have generally shifted from rarely attending to their children’s positive behaviour to frequently and consistently praising appropriate child behaviour. They also shift from trying to

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‘While parent and child play together, the parent is coached by their therapist’

‘Once parents master giving effective commands, they learn to give children choices to comply’

control their children’s play to describing their play in a way that conveys their interest in the child’s activity. In the second phase, termed parent directed interaction (PDI) (typically seven to ten sessions following CDI), the primary goal is to provide effective parenting skills for parents to use in managing their child’s behaviour. Often, many of the child’s difficult behaviours decrease by the end of CDI, which makes the process of training parents to obtain compliance with commands easier (Eisenstadt *et al.*, 1983). In PDI, therapists continue to focus parents’ attention on their children’s positive behaviours. However, they also begin training in giving clear, direct commands and avoiding indirect commands such as those in the form of a question (e.g. ‘Do you want to clean up your toys now?’) that imply that the child has the option to avoid the unpleasant task. Once parents master giving effective commands, they learn to give children choices to comply that may result in time-outs or a removal of privileges. By the end of PDI, the processes of giving commands and gaining compliance are predictable and safe (Eyberg, 1988). Parents are generally able to obtain compliance without giving a time-out, but if they need to give a time-out, it is a comfortable, predictable and well-practised process for which the parent has acquired mastery (see Hembree-Kigin and McNeil, 1995, for a full description of the PCIT programme). PCIT offers a structured, individualized, behavioural yet manualized approach to attain this goal.

Parent–Child Attunement Therapy (PCAT)

PCAT uses PCIT techniques that have been altered to be more developmentally appropriate for children younger than 30 months of age. (A comparative summary of PCAT and PCIT is provided in Table 1.) Like PCIT, PCAT requires the collection of pre- and post-intervention comprehensive assessment data that include an evaluation of the caregiver–child interaction pattern. The assessment of the relationship dyad serves as baseline data against which intervention progress is monitored. Next, the caregiver is introduced to the mechanics and rationale of PCAT in an initial training session. Following this didactic session and in all subsequent sessions, caregivers are taught the tenets of child directed interaction (i.e. how to follow the toddler’s lead in play), which is the foundation of the relationship enhancement phase of PCIT. This includes training on the use of non-directive types of verbalizations or communication (e.g. appropriately praising, describing and reflecting toddlers’ behaviour).

Table 1. Comparison of PCAT and PCIT

Similarities	Unique to PCAT
1.	Didactic training session
2.	Use similar technology (e.g. remote hearing device; two-way mirror)
3.	Data collection
4.	Avoid criticism, commands & threats
5.	Mastery criteria
6.	Limit questions
7.	Daily 10-minute practice assignment
8.	Emphasize non-directive play
1.	Simpler language structure
2.	Reduced session length (30–45 min)
3.	Greater focus on parent enthusiasm
4.	Lack of discipline phase (e.g. time-out)
5.	Flexibility to deal with diaper soiling
6.	Toddler fatigue
7.	Focus on increasing positive touching (e.g. hugs)
8.	Requires developmentally younger toys

In PCAT, therapists teach and serve as a model to caregivers on how to differentially reinforce children for appropriate behaviours (e.g. enthusiastic praise after putting the toys away; ignore when the toddler displays temper outbursts). As in PCIT, this is accomplished through real-time coaching via a bug-in-the-ear device and a two-way mirror. During initial sessions, the therapist asks the caregiver to repeat their words as closely as possible. Therapists model both the verbal (e.g. ‘I like how you listen to me’) and non-verbal (e.g. give the toddler a hug after successful completion of a task) aspects of the session. Over the course of treatment, the therapist encourages the parent to tailor the interaction by giving more general instructions (e.g. ‘Go ahead and describe what Tim is doing’) or prompting the parent (‘Tim is really playing gently with the toys’). In this way, therapists gradually lead the caregivers towards an understanding of their children and the skills they need to ensure their children’s psychological well-being.

Caregivers are taught specific strategies that are aimed at giving the toddler control during play. For instance, parents are taught to describe what the toddler is doing and how to reflect and imitate the toddler’s own verbalizations or actions (when they are appropriate). Reflection might include the caregiver repeating, imitating or elaborating on what the toddler has just said or done. Additionally, the caregiver is taught to use simple, more developmentally appropriate language, a high degree of enthusiasm and non-verbal signs of approval (e.g. ‘Good job’ stated enthusiastically followed by a hug or hand clapping).

Caregivers are also coached to limit their use of commands and questions. These verbalizations are perceived as demanding a response from the toddler, and therefore taking control

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of the interaction, rather than following the toddler’s lead in play. Excessive parent control during playtime is common in abusive mother–child dyads (Bousha and Twentyman, 1984) and this coercive interaction style may foster resistance to parents’ commands (Kochanska and Aksan, 1995). These characteristics detract from efforts to enhance the parent–toddler relationship.

Caregivers are taught to control their toddler’s behaviour by ignoring inappropriate behaviour while redirecting behaviour towards more appropriate and praiseable activity. For instance, the caregiver might remove an undesirable toy from the toddler’s hands and provide the child with a different, but functionally similar toy when the toddler engages in inappropriate behaviour with that toy. Or, for example, the caregiver might physically redirect a child if the toddler attempts to run out of the door. In this instance, the toddler may be picked up, returned to the play location and redirected to another activity while the caregiver places him/herself in between the toddler and the door, blocking any further attempts to leave. Throughout all PCAT sessions, the therapist must remain flexible and make allowances for unexpected events (e.g. soiling of diapers, extreme crankiness). This might include abbreviating the session or cancelling the session altogether. Finally, PCAT sessions are shorter (only 30–45 minutes) than an average PCIT session (60 minutes), generally less structured and allow the toddler greater freedom to move around the room and play on the floor or at the table. The following is a brief example of a typical PCAT coaching session [Caregiver and toddler are sitting on the floor while the toddler plays with a red truck]:

Therapist: Tell Tim, ‘Tim, you’re driving the truck’.

Caregiver: ‘Tim, you’re driving the truck.’ [Describing appropriate behaviour]

Therapist: That was a terrific description of Tim’s behaviour. You will help him maintain his interest in playing with the toy.

Toddler: Verbalizes ‘red truck’.

Therapist: Now state to Tim, ‘That’s right you’re playing with a red truck’.

Caregiver: ‘That’s right! You’re playing with a red truck!’ [Reflecting Tim’s verbalizations and describing his behaviour]

Therapist: That was a great reflection of what Tim has just said. You show interest in what he is doing when you restate what he says.

Toddler: Want candy. [Knocking the truck over as he says this]

Therapist: Ignore his request for candy and his knocking over of the truck. Instead, get the other truck and begin to

enthusiastically roll it on the floor, making an engine sound as you roll it.

Caregiver: ‘Vroom, Vroom, Vroom.’ [While rolling the truck on the floor]

[Tim resumes his interest in the toy and forgets about the candy]

Therapist: Notice how Tim has forgotten about the candy and resumed playing with the toy. Very good job ignoring his inappropriate behaviour.

Therapist: Tell Tim that you really like playing with him and give him a hug.

Caregiver: ‘Tim, I really like playing with you.’ [Hugs Tim]

Therapist: Very good praise. I also really liked how you hugged Tim. Tim seemed to like it as well as he smiled when you hugged him. This shows interest in Tim and will help to make him feel special.

Throughout each session, caregivers are provided with instruction regarding simple behavioural reinforcement techniques (e.g. praising and positive attention for appropriate behaviours). Caregivers are also taught to avoid using statements that promote coercive or negative interactions (e.g. commands, criticism, threats) as these behaviours are thought to harm the relationship process and promote a cycle of negative interactions. When a toddler engages in behaviour that is inappropriate, the caregiver is taught to either ignore that behaviour or redirect the toddler to a more appropriate behaviour.

Method

Subject

The subject of this study is L, a 23-month-old male toddler, and his 25-year-old biological mother. The referral for treatment stated that the toddler had been removed at birth from his parents’ care due to mother’s drug use and father’s unwillingness and inability to care for L and his three siblings (all under 4 years of age) on his own. However, when L was born, his mother was in jail, which also contributed to her inability to care for the child. It is suspected that L had been exposed prenatally to drugs since his mother was reported to have used drugs before going to jail, though not documented. L lived with one foster family until the time he was reunified with his biological parents and siblings at 22 months of age. Shortly after reunification, the toddler was referred to the University of California, Davis Children’s Hospital for court-mandated PCAT following concerns about temper tantrums (including

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throwing objects), aggression towards younger sister and head-banging when his parents set limits on his behaviour.

Measures

Five measures were used to evaluate the effectiveness of PCAT in this case study: the Achenbach Child Behavior Checklist (CBCL), Dyadic Parent–Child Interaction Coding System (DPICS), Eyberg Child Behavior Inventory (ECBI), the Parenting Stress Index—Short Form (PSI-SF) and the Emotional Availability Scales (EA).

Dyadic Parent–Child Interaction Coding System (DPICS)

The DPICS is a behavioural coding system designed to assess the quality of parent–child social interactions through observation of parent–child dyads (Eyberg and Robinson, 1982). The DPICS consists of behavioural categories for both children and caregivers. Although the DPICS was designed to measure 20 different non-verbal and verbal parent–child behaviours and verbalizations (e.g. whining, laughing), parental verbal behaviour was given primary consideration during PCAT coding sessions. The therapist coded the mothers’ use of praise, descriptions, reflections, questions, commands and critical statements in the first 5 minutes of each treatment session. Half of these sessions were recoded in order to ensure the reliability of the therapist’s codes. Intraclass correlation coefficients (a measure of intercoder reliability) for the coding categories were the following: descriptions/reflections = 0.76; praises = 0.94; questions/commands = 0.97.

Consistent with the PCIT coding approach, PCAT coding focuses on verbalizations that are thought to be important in enhancing the caregiver–child relationship and reducing dysfunctional relationship patterns. Specific ‘mastery’ criteria are established at PCIT levels with respect to descriptive and reflective statements (25) and praises (15). Question mastery criteria are established at PCIT levels of 3 or less. Caregiver commands are discouraged during playtime as they serve to remove control from the child. The following is a more precise operational definition of descriptions, reflections, praises, questions and commands:

Descriptions: statements or sentences that describe the child, the objects with which the child is playing and the activity in which the child is engaging (e.g. ‘You’re playing with the red truck’, ‘You’re sitting in your seat’).

Reflections: statements that repeat or rephrase a preceding toddler verbalization (e.g. toddler states ‘Want car’; caregiver states ‘You want the car’).

Praise: positive evaluation of attributes or behaviour of the child. There are generally two types of praise that are coded: labelled and unlabelled. Labelled praises are very precise, describing the reason the praise was offered (e.g. ‘Good job rolling the truck!’). Unlabelled praises are vague and non-specific (e.g. ‘Great job!’).

Questions: verbal statements that invite or call for a reply (e.g. ‘Do you want to play with the dolls?’).

Commands: directions from caregivers to toddler indicating that a verbal or motor activity should be performed (e.g. ‘Pick up the truck from the floor’).

Child Behavior Checklist (CBCL)

The CBCL (Achenbach, 1991) is a standardized instrument that lists 112 problem child behaviours. This version is completed by a parent or regular caregiver and describes the behaviour of children between the ages of 4 and 16 years. Separate norms are provided for both boys and girls in three age groups. Normative data are derived from a large sociologically diverse population of both non-referred and clinically referred children and their parents. The CBCL is composed of a total problem score, two broadband scales (internalizing, externalizing) and eight narrow-band scales for each age group and sex (e.g. withdrawn, somatic complaints, delinquent behaviour, aggressive behaviour). The clinical cutoff score for the broadband scales is a *T*-score greater than or equal to 65.

Eyberg Child Behavior Inventory (ECBI)

The ECBI is a 36-item scale that measures specific behaviour problems exhibited by children aged 2–16 years. Parents indicate the frequency of certain behaviours (intensity score) and whether they are considered to be problems (problem score) (Eyberg and Robinson, 1982; Eyberg and Ross, 1978). The ECBI has been standardized on a number of populations (Eyberg and Robinson, 1982; Eyberg and Ross, 1978). Test–retest reliability scores across a 3-week timespan on the ECBI intensity and problem scales were 0.86 and 0.88 respectively (Robinson and Eyberg, 1981; Robinson *et al.*, 1980). The published clinical cutoff scores are an intensity score of greater than 131 or a problem score of greater than 16.

Parenting Stress Index—Short Form (PSI-SF)

The PSI-SF (Abidin, 1990) is a 36-item inventory designed to identify parent–child dyads that are experiencing stress and are at risk for developing dysfunctional parenting and child behaviour problems. The PSI-SF consists of three subscales: difficult child, parent distress, and dysfunctional parent–child

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‘Four global parent scales and two child scales that measure specific dimensions of the caregiver–child relationship’

relationship. The PSI-SF also contains a measure of defensive responding. Low scores (<15th percentile) on this scale have been shown to indicate that parents are minimizing problems associated with the parent role, that they do not have a close relationship with the children and are therefore unaffected by their behaviour, or that they are simply not stressed by situations that stress normal parents. The test–retest and internal consistency reliability of the PSI on various scales ranges from 0.68 to 0.84 (Abidin, 1990).

Emotional Availability Scales (EA)

The EA Scales (Biringen *et al.*, 1998) consist of four global parent scales and two child scales that measure specific dimensions of the caregiver–child relationship. Parent scales measure their sensitivity to the child, their non-hostility, non-intrusiveness and ability to structure the interaction. Child scales measure their responsiveness to the parent and the degree to which they involve the parent in their activities. Parent sensitivity scores reflect the degree to which the parent perceives and responds to the child’s cues, the parent’s engagement and interest in the child’s activity, as well as the affective quality and conflict management. Parental structuring scores reflect the parent’s ability to give structure to an interaction (i.e. scaffold) so that the child responds positively. Parent non-intrusiveness refers to the parent’s ability to give structure to the interaction without over-controlling and diminishing the child’s autonomy. Parental non-hostility scores reflect the degree to which the parent’s actions and tone of voice convey anger, impatience or boredom. Child responsiveness refers to the degree to which the child responds to the parent in a positive, emotionally available manner and the degree to which the child balances autonomous pursuits and interest in the parent’s activities. Child involvement measures the degree to which the child involves the parent in his or her play, taking into account the balance of child-initiated and parent-initiated interactions. Higher scores reflect more optimal emotional availability. According to Biringen *et al.* (1998, cited in Easterbrooks *et al.*, 2000), parent sensitivity scores above 4 are in the optimal range. Additionally, non-hostility scores above 4 and non-intrusiveness and structuring scores above 3, and child responsiveness and involvement scores above 4, are in the optimal range.

Procedure

While learning PCAT, caregivers are taught to follow their child’s lead in play, to praise the child for behaving

appropriately and to limit the number of questions and commands elicited during play. Caregivers are also taught to ignore inappropriate behaviour and to redirect the child’s behaviour when appropriate. In this study, PCAT was taught to the mother through an initial child directed interaction (CDI) didactic training session. Prior to the initial didactic session, before each weekly coaching session and at the end of treatment, the mother and toddler were coded for 5 minutes using the DPICS. (The caregiver was instructed to follow the toddler’s lead in play during which time the trained therapist coded the parent–child interactions.) Following the 5 minute DPICS coding, the therapist coached the parent on appropriate parent–child interaction through the use of a one-way mirror and a bug-in-the-ear device. In this case study, the mother and the toddler participated in an initial pre-treatment DPICS coding session followed by nine coaching sessions and a post-treatment session. During the post-treatment session, the caregiver was coded using the DPICS and the EA Scales. The caregiver was asked to complete a battery of standardized measures (e.g. ECBI, PSI, CBCL) during the initial intake interview and again after the last PCAT session.

‘Caregivers are also taught to ignore inappropriate behaviour’

Results

Figure 1 presents the results of DPICS coding. As shown, the mother’s use of praise, descriptions and reflections significantly increased from pre-treatment to post-treatment. In the first 5 minutes of the DPIC session at pre-treatment, the mother praised her son five times. In contrast, during the first 5 minutes of the post-treatment DPICS, the mother used 46 praises, well beyond the 15-praise mastery threshold. A similar increase

‘Mother’s use of praise, descriptions and reflections significantly increased from pre-treatment to post-treatment’

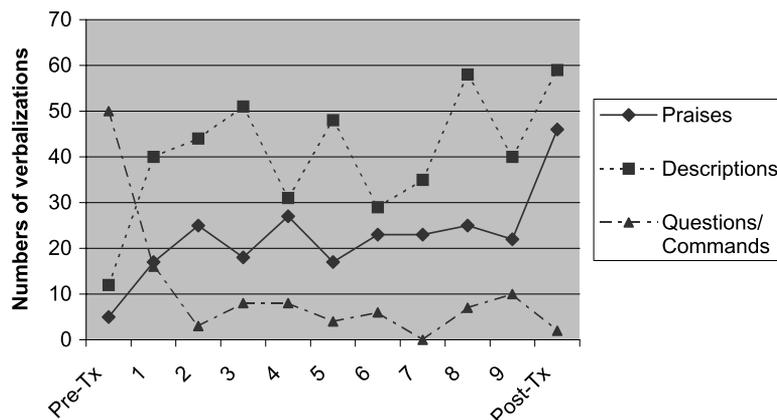


Figure 1. Performance in Weekly Treatment Sessions

Table 2. Measures of child and parent functioning: pre- vs post-treatment

Measures	Pre-treatment	Post-treatment
ECBI (<i>T</i> -scores)		
Intensity score	55	65*
Problem score	59	—
CBCL (<i>T</i> -scores)		
Internalizing score	53	58
Externalizing score	45	56
Total problem score	45	57
PSI-SF (percentile scores)		
Parent distress	7.5	5
Dysfunctional relationship	50	45
Difficult child	90*	85*
Defensive responding	5*	5*

* Scores at or above the clinical cutoff.

was reflected in the number of descriptions and reflections provided by the mother. At pre-treatment, the mother had 12 descriptions/reflections, below the mastery threshold of 25. This increased to 59 descriptions/reflections by post-treatment, representing another significant gain. The number of questions the mother asked her child decreased from a pre-treatment level of 50 to a post-treatment level of two. Overall, the mother attained mastery on all criteria coded within PCAT.

Table 2 shows the mother's ratings of her child's behaviour at pre-treatment and post-treatment, as well as ratings of her own functioning. In contrast to scores on observational measures, the mother rated the child's problem behaviours as having increased slightly from pre- to post-treatment on both the ECBI and the CBCL. In the case of the ECBI intensity score, a measure of more everyday problem behaviours, the score moved from below the clinical cutoff into the clinical range. In contrast, scores on the PSI-SF decreased very slightly. It is interesting to note that the mother showed elevated levels of defensive responding (lower percentile scores indicate higher defensive responding), perhaps indicating a desire to present herself and her relationship with her son in a positive light.

Table 3 shows the results of the EA rating of this dyad. Pre-treatment scores on parent emotional availability scales are mixed: some are optimal (non-hostility), some are in the low-optimal range (sensitivity) and some are non-optimal (structuring, non-intrusiveness). The child's emotional availability scores were all non-optimal. The mother's sensitivity scores were in the low-optimal range throughout the DPICS session. Throughout pre-treatment CDI and clean-up, her affect was positive and consistent and she was engaged in her interaction with the child, although the child did not respond to her overtures with a similar level of enthusiasm. In CDI, the

'The mother showed elevated levels of defensive responding'

Table 3. EA results: mean scores and per cent score across DPICS scenarios

	Pre-treatment scores		Post-treatment scores	
	CDI	CU	CDI	CU
<i>Parent scales</i>				
Sensitivity (9-pt scale)	6	5	7	7
Non-hostility (5-pt scale)	5	5	5	5
Non-intrusiveness (5-pt scale)	3	2	4	4
Structuring (5-pt scale)	3	3	4	5
<i>Child scales</i>				
Responsiveness (7-pt scale)	4	2	6	6
Involvement (7-pt scale)	4	2	6	5

CDI, child directed interaction; CU, clean-up.

mother played with the child for a short time, but the child's interest in the play waned and the mother questioned him about what he wanted to do. The child got down from his chair and walked around the therapy room and the mother directed his attention to the toys on the table, asking him to help her clean them up. She continued to direct his cleaning up until the therapist switched the activity. During the 'clean-up,' L ignored her requests to pick up the toys and tantrumed. Her inability to support his play, and her over-directing of the 'child-directed' play, reduced her structuring and non-intrusiveness scores. The child's continual need to be prompted by his mother in order to sustain his engagement with her and his tantrum during 'clean-up' reduced his responsiveness and involvement scores.

At post-treatment, most of the mother and child's emotional availability scores improved to the optimal range. The dyad showed one non-optimal score in parent structuring and child responsiveness and involvement. During the post-treatment DPICS, mother and son sat together on the floor playing with playdough forms. The mother followed the child's lead and elaborated his play. The child was highly engaged in play with his mother, handing her the playdough forms and saying, 'Here, Mommy!'. At one point, he tried to take a sticker off a toy, but his mother successfully redirected his attention elsewhere.

The child and his mother's emotional availability scores showed great improvement from pre- to post-treatment. Overall, the mother tried to verbally engage the child pre- and post-treatment. However, the mother was less directive, more positive and more creative in her play with the child at post-treatment than pre-treatment. She also seemed more comfortable playing with her son at post-treatment and involved herself in his play more easily. The mother did not seem as disturbed by his non-compliance by post-treatment, handling

'Her inability to support his play, and her over-directing of the 'child-directed' play'

'The child, for his part, appeared more cheerful and talkative'

'It is difficult to take this mother's evaluation as reflective of the effectiveness of the treatment'

the 'active ignore' with ease, although she did need some assistance from the therapist. The child, for his part, appeared more cheerful and talkative. He spent more time interacting positively with his mother and was able to control his negative emotions quickly (once given the 'active ignore' framework).

Discussion

The results of this single case study suggest that PCAT with this 23-month-old maltreated toddler was successful, increasing the number of positive caregiver–toddler interactions and improving the emotional availability of the dyad. The mother learned how to play with L, responding appropriately to his cues. In turn, L responded positively to his mother's praise and involved her in his play. While the treatment itself may have contributed to the improved emotional availability scores, it is also possible that the toddler's reunification with his biological mother may have also played a role in increased EA scores. In our experience, newly reunified parents lack self-assurance in their interactions with their children and the children tend to be less responsive to them. Furthermore, the scores on the standardized measures suggest that PCAT might not have been completely successful in shifting the mother's perception of her son's behaviours. However, for several reasons, it is difficult to take this mother's evaluation as reflective of the effectiveness of the treatment. First, the court mandated PCAT for this mother and her toddler following their reunification. In our experience, biological parents who are ordered to participate in PCAT by the court often minimize their children's problems. This mother's tendency to minimize is reflected in her elevated defensive responding score on the PSI-SF. It is also reflected in the fact that the ECBI and CBCL scores were all in the normal range, although she reported concerns about temper tantrums (including throwing objects), aggression towards his younger sister, head-banging and non-compliance. It is difficult to observe expected treatment-related reductions in behaviour problems when parents minimize the child's problems.

Another obstacle to measurable treatment success in any treatment involving parent–child dyads is the quality of the marital relationship, and environmental stressors. Over the course of treatment, the therapist reported several incidences where conflict between the parents led to one parent leaving for a while. Also noted was L's increased tendency to tantrum when the parents were not getting along. The parents were advised of their need to improve their own relationship and

referred to marriage counselling in order to provide more stability for L. High levels of marital conflict can affect parents' ratings of their children's behaviour in two ways. First, L could have reacted to the conflict in the household by continuing to tantrum and act out aggressively. Research has shown that children in families with high levels of domestic violence act out more than children in families with low levels of domestic violence (Davies *et al.*, 2002; Jouriles *et al.*, 1989). In fact, future research studies using behavioural-oriented parent training models might benefit from incorporating a more global assessment of both marital relationship and environmental risk factors (e.g. unemployment, unstable housing, community violence). Second, because the mother was already highly stressed by difficulties in her marital relationship post-PCAT, she could have been more sensitive to any additional stress caused by L's negative behaviour than she had been pre-PCAT. Research in the child abuse literature has shown that levels of distress increase the chances of physically abusing children (Milner and Chilamkurti, 1991). Finally, L's biological father was incarcerated about midway through PCAT and L's mother reported that she was quite depressed by this event. It is possible that her elevated levels of depression influenced her ratings (see Kamphaus and Frick, 2001) such that she rated L as being more difficult, even though clinic-based observations noted improved behavioural performance. Although the mother reported more behaviour problems, she also reported to the therapist (recorded in clinical case notes) that the toddler seemed less of a behaviour problem and that her relationship with him had improved considerably. While clinic-based observations (e.g. DPICS) and emotional availability ratings indicated improvement, standardized measures indicated a degree of deterioration, providing equivocal evidence for therapeutic improvement.

Overall, the results of this study suggest that PCAT is a promising therapeutic programme that increases the number of positive parent–child interactions and may contribute to enhancing the parent–toddler relationship. At the same time, we point out the possibility that environmental risks (e.g. marital conflict) may be barriers or increase the difficulty of making progress in treatment. In so far as proper parent–toddler interactions set the stage for more harmonious interactions at later stages of development, a more harmonious relationship might help steer the parent–child dyad away from coercive interactional patterns that are common among maltreated children and their caregivers even under the most difficult circumstances (Urquiza and McNeil, 1996). Further, the formation of a secure parent–child relationship can enhance

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the toddler's ability to form future healthy relationships (Cicchetti and Olsen, 1990; Sroufe and Fleeson, 1986). It may also buffer the toddler from the onset of later psychopathology and language/cognitive delays that are commonly associated with maltreated children (Aber and Allen, 1987). These findings remind us that treatment does not take place in a vacuum and that external stressors often impinge upon the magnitude of its effectiveness. In the present case, we observed improvements in parent-child relationship functioning despite the possibly traumatic effects of concurrent marital conflict.

This paper represents an important initial step in establishing PCAT as a potentially effective behavioural treatment for improving toddler-parent relationships and decreasing behaviour problems. PCAT is also a short-term, positive behavioural intervention for maltreated toddlers and toddlers who experience attachment difficulties. We have presented some of the difficulties of demonstrating treatment effectiveness in this population. These findings remind us that treatment occurs within the context of a larger environment that does not always support positive change. However, these same limitations also show the robustness of the treatment. In spite of the high stress level of the family environment, we were able to observe positive changes in the quality of the parent-child relationship. Future research with a larger sample of toddlers and their parents that includes follow-up data will more appropriately determine the effectiveness of PCAT for the treatment of toddlers and for the enhancement of the parent-toddler relationship.

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