EMOTIONAL AVAILABILITY AND TREATMENT OUTCOMES IN PARENT-CHILD INTERACTION THERAPY WITH HIGH-RISK MOTHER-CHILD DYADS

Natalie Rose Daylami
B.A., University of California, Davis, 2004

PROJECT

Submitted in partial satisfaction of the requirements for the degree of

MASTER OF SOCIAL WORK

at

CALIFORNIA STATE UNIVERSITY, SACRAMENTO

SPRING
2010
EMOTIONAL AVAILABILITY AND TREATMENT OUTCOMES IN PARENT-CHILD INTERACTION THERAPY WITH HIGH-RISK MOTHER-CHILD DYADS

A Project

by

Natalie Rose Daylami

Approved by:

__________________________________, Committee Chair
David Demetral, PhD, LCSW

__________________________________
Date
Student: Natalie Rose Daylami

I certify that this student has met the requirements for format contained in the University format manual, and that this project is suitable for shelving in the Library and credit is to be awarded for the Project.

_______________________________, Graduate Coordinator

Teiahsha Bankhead, PhD, LCSW

Date

Division of Social Work
Abstract

of

EMOTIONAL AVAILABILITY AND TREATMENT OUTCOMES IN PARENT-CHILD INTERACTION THERAPY WITH HIGH-RISK MOTHER-CHILD DYADS

by

Natalie Rose Daylami

The purpose of this project was to determine if treatment outcomes in Parent-Child Interaction Therapy (PCIT) differed by maternal level of Emotional Availability at pre-treatment in mother-child dyads with a maltreatment history. Secondary data including scores from various standardized measures and information from behavioral observations was obtained from a local agency that specializes in the mental health treatment of children who have experienced abuse and neglect. Results indicated that there was no difference between those children whose mothers exhibited optimal levels of EA and those whose mothers exhibited non-optimal levels. However, both groups demonstrated significant improvement on treatment measures at post-treatment. Results provide support for continued use of PCIT with maltreating dyads.

______________________, Committee Chair
David Demetral, PhD, LCSW

______________________
Date

iv
ACKNOWLEDGMENTS

First, I would like to thank Dr. Susan Timmer, research coordinator at the UC Davis CAARE Center, for the incredible amount of time she spent guiding me through this research project. From conceptualization to data analysis, Dr. Timmer provided countless hours helping me to understand the research process. This project would not have been possible without her and I am so grateful for the opportunity I had to work with her and learn from her.

I would also like to express my gratitude to my advisor, Dr. David Demetral, for his unending support, encouragement, and guidance over the past year. His dedication to the profession and his incredible work ethic are inspiring. It was truly a privilege to have him as both a thesis advisor and practice professor. I have learned so much about the type of social worker I want to be from Dr. Demetral.

Finally, thank you to my wonderful husband, Rouzbeh, for all of his support throughout this process. He has seen me at my worst yet still manages to love me. I am the luckiest woman in the world. I am so proud of our marriage and cannot wait to welcome our daughter to the world this August.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Acknowledgments</th>
<th>vi</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Tables</td>
<td>vii</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>1. THE PROBLEM</td>
<td>1</td>
</tr>
<tr>
<td>Background of the Problem</td>
<td>2</td>
</tr>
<tr>
<td>Statement of the Research Problem</td>
<td>4</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>4</td>
</tr>
<tr>
<td>Theoretical Framework</td>
<td>5</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>8</td>
</tr>
<tr>
<td>Assumptions</td>
<td>8</td>
</tr>
<tr>
<td>Justification</td>
<td>9</td>
</tr>
<tr>
<td>Delimitations</td>
<td>9</td>
</tr>
<tr>
<td>2. REVIEW OF THE LITERATURE</td>
<td>10</td>
</tr>
<tr>
<td>Introduction</td>
<td>10</td>
</tr>
<tr>
<td>Parent-Child Interactions</td>
<td>10</td>
</tr>
<tr>
<td>Parent Training Programs</td>
<td>23</td>
</tr>
<tr>
<td>Summary</td>
<td>27</td>
</tr>
<tr>
<td>3. METHODOLOGY</td>
<td>29</td>
</tr>
<tr>
<td>Design</td>
<td>29</td>
</tr>
</tbody>
</table>
Variables ................................................................................................................29
Participants.............................................................................................................30
Data Gathering Procedures ....................................................................................31
Instrumentation ......................................................................................................33
Protection of Human Subjects ...............................................................................39

4. RESULTS......................................................................................................................40
   Introduction ............................................................................................................40
   Demographic Differences ......................................................................................41
   Treatment Effects ...................................................................................................43

5. CONCLUSIONS AND RECOMMENDATIONS ........................................................50
   Conclusions ............................................................................................................50
   Recommendations ..................................................................................................51

References ..........................................................................................................................53
LIST OF TABLES

1. Table 1 Demographic Differences Between Non-Optimal and Optimal Groups ..........................................................................................................................42

2. Table 2 Maltreatment History Differences Between Non-Optimal and Optimal Groups ..................................................................................................................43

3. Table 3 Pre- and Post-Treatment ECBI Scores by Level of Emotional Availability .........................................................................................................................44

4. Table 4 Pre- and Post-Treatment CBCL Scores by Level of Emotional Availability .........................................................................................................................46

5. Table 5 Pre- and Post-Treatment SCI-90R/BSI Scores by Level of Emotional Availability .........................................................................................................................47

6. Table 6 Pre- and Post-Treatment PSI-SF Scores by Level of Emotional Availability .........................................................................................................................48

7. Table 7 Pre- and Post-Treatment DPCIS Scores by Level of Emotional Availability .........................................................................................................................49
Chapter 1
THE PROBLEM
Introduction

The U.S. Department of Health and Human Services reports (2010) that in 2008, approximately 772,000 children in the United States were victims of maltreatment. Child maltreatment is associated with development of a variety of problems including poor emotion regulation skills, impaired interpersonal functioning, and cognitive deficits (Schmidt and Eldridge, 1986). Additionally, many chronically maltreated children exhibit disorganized attachment styles, which may result from inconsistent and insensitive parenting as well as constant fear experienced by the child (Cicchetti, Cummings, Greenberg, & Marvin, 1990). In addition to the risk factors associated with maltreatment, children with disorganized attachment styles are at higher risk for developmental delays, behavioral difficulties, and psychopathology (van Bakel and Riksen-Walraven, 2002).

In order to improve parenting practices as well as to address the myriad of emotional and behavioral problems associated with child maltreatment, many parents and children involved with the child welfare system are referred to parent-training programs. While research indicates that parent-training programs are effective in reducing child behavior problems and parent stress, there is limited information regarding how the parent-child relationship or attachment style of the child impacts treatment outcomes. As many social workers and mental health professionals who work in the child welfare field can attest, many parents do complete services only to return to the system. Perhaps by better understanding how the more qualitative aspects of the parent-child relationship impact
the parents’ success in parent training programs, the child welfare system can be better equipped to reduce recurrent abuse and neglect.

Background of the Problem

Children who have experienced maltreatment are at higher risk for developing various emotional, psychological, and developmental problems (Robinson, Morris, Heller, Scheeringa, Boris, and Smyke 2009; Schmidt and Eldridge, 1986; van Bakel and Riksen-Walraven, 2002), which subsequently may put them at risk for further abuse as parental stress increases (McPherson, Lewis, Lynn, Hasket, and Behrend, 2008) and negative parent-child interactions are perpetuated (Urquiza & Timmer, 2002).

Although the abuse itself is damaging to children physically and psychologically, it can be argued that it is the constant disruption in the parent-child relationship that causes the most harm (Page, 1999). Urquiza and Timmer (2002) discussed how ongoing violent relationships, including maltreating parent-child dyads, are developed and maintained by the relationship dynamics. For example, maltreating parents often attend to the negative behaviors in their children while ignoring positive behaviors. Furthermore, maltreated children often do not respond as readily to positive statements or behaviors initiated by their parents. However, they often react quickly and negatively towards critical statements or adverse behavior. Therefore, reducing the risk for recurrent abuse must involve improving the emotional climate within the parent-child relationship by addressing the various factors that contribute to the coercive dynamics.

Of the 772,000 children who were victims of maltreatment in the United States in 2008, approximately 36.7% are between the ages of 2 and 7 years old (DHHS, 2010).
Parent-Child Interaction Therapy (PCIT) is an empirically supported behavioral intervention for children between the ages of 2 and 7 years old who exhibit disruptive behaviors such as non-compliance, defiance, excessive tantrums, poor emotion regulation, and aggression. Unlike many parent-training programs, which use a didactic approach, PCIT skills are coached to parents while they are with their child via a ‘bug in the ear’ (Hembree-Kigin and McNeil, 1995). Though not developed specifically for maltreating dyads, PCIT has been found to be an effective intervention in reducing behavior problems in children with a history of maltreatment (Timmer, Urquiza, Zebell, & McGrath, 2005) and in reducing risk for repeated maltreatment (Chaffin, Silovsky, Funderburk, Valle, Brestan, Balachova, Jackson, Lensgraf, & Bonner, 2004).

Emotional Availability (EA) is a relationship construct that describes the manner in which each partner expresses emotions and how they respond to the emotions of the other (Emde and Easterbrooks, 1985). EA is similar to Ainsworth’s concept of maternal sensitivity (Emde, 2000) and in part describes the parental behaviors that provide foundation for attachment security (Lehman, Steier, Guidash, & Wanna, 2002). While the concept of EA was developed in the 1970s (Emde, 2000) and there has been much research on how higher levels of EA contribute to higher levels social, emotional, and behavioral functioning (Emde and Easterbrooks, 1985; Kogan and Carter, 1996; Lehman, Steier, Guidash, & Wanna, 2002; Volling, McElwain, Notaro, & Herrera, 2002) there is little research on the interaction between EA and PCIT. Furthermore, there is no current data examining how EA impacts treatment outcomes in PCIT. Therefore, it remains unclear whether there is a different treatment trajectory for those parents with higher
levels of EA versus those with lower levels. A better understanding of this interaction may provide information regarding needs for modifications to PCIT or additional treatment services in order to address the EA in the parent-child dyad and potentially prevent further abuse.

Statement of the Research Problem

The research problem is that there is a lack of knowledge regarding the impact of EA on treatment outcomes in PCIT in maltreating parent-child dyads. Although PCIT has demonstrated that it is an effective treatment for reducing behavioral problems in children ages 2 to 7 years, there is no research that describes how the level of parental EA at pre-treatment affects treatment outcomes. Given the research that indicates there is significant disruption in the parent-child relationship that occurs as a result of maltreatment, there is a need to explore this interaction.

Purpose of the Study

The primary purpose of the study is to examine whether mothers’ level of EA with their child has an impact on treatment outcomes in PCIT in mother-child dyads in which there is a history of or significant risk for maltreatment. The study will compare two groups, which will be defined by the mothers’ level of EA exhibited towards their child at pre-treatment. These groups will be defined as “Optimal” and “Non-Optimal”. Please note that operational definitions for these two groups are provided in Chapter 3. Standardized measures and a structured behavioral observation will be used to determine if there are differences in treatment effect sizes between the two groups.
Theoretical Framework

This study is rooted in attachment theory, which was developed by John Bowlby in the 1950s and 1960s. Bowlby argued that the predominant theories of the time, psychoanalytic theory and social learning theory, were misguided in their explanations for the bond the child had to the mother. These earlier theories argued that this bond was due to the mother feeding the infant, which the infant associated with pleasure and therefore began to view the mother positively (Cassidy, 1999). However, Bowlby (1980) argued that this was not true as the child would become attached to whoever fed him or her. Instead, Bowlby (1958) proposed a biological basis for the infant-mother attachment which was rooted in the infant’s desire to maintain close proximity to the mother for protection. Utilizing an evolutionary perspective, Bowlby (1969/1982) posited that this innate drive in the infant to be close to the mother is a behavioral adaptation that is useful for the survival not only of the individual, but of the genes that the individual is carrying. Bowlby (1969/1982) suggested that the child may adapt his or her behaviors in order to maintain the proximity to the parents. In addition, they engage in these behaviors regardless of whether the interactions are pleasurable, such as with parents who are abusive (Bowlby, 1956).

Though attachment behavior is that which maintains an infant’s proximity to the mother, the attachment bond refers to an affectional tie to another person (Cassidy, 1990). Ainsworth (1989) described the attachment bond as one that is persistent, involves a specific person, the relationship is emotionally significant, involves that individual’s
wishes to be in close proximity to the person, one in which the individual experiences distress when separated from the person, and the individual seeks security in the relationship with the person. Ainsworth (1972) discussed the need to clarify the difference between attachment bond and attachment behaviors as well as to distinguish between strength of attachment behaviors and the quality of the attachment bond. For example, she explained that children who have a healthy attachment often feel free to explore away from their parent as they feel secure in this relationship.

Ainsworth, Blehar, Waters, and Wall (1978) later developed a classification system for defining the quality of the child’s attachment to mother as well as an empirical method, known as the strange situation, to measure the attachment style. The researchers utilized a method in which they separated infants (ages 12-18 months) from their mothers and subsequently reunited them. Three attachment styles were identified through this research including secure, insecure-avoidant, and insecure-ambivalent. Infants identified as securely attached demonstrated initial distress upon the separation from their caregiver but sought their mother and were easily soothed upon reunification. Those identified as insecure-avoidant, exhibited minimal to no distress when the mother left and did not seek comfort upon the reunification. Finally, those described as insecure-ambivalent, became highly distressed upon the separation from the mother but upon reunification, demonstrated opposition and hostility towards the mother and were challenging to console. A fourth attachment style, the disorganized-disoriented style, was developed by Main and Solomon (1986). This style is representative of children who do not fit into the other categories previously developed as they displayed distress when in the presence of
the mother but did not have a clear manner in which they went about coping with this distress. Carlson, Cicchetti, Barnett, and Braunwald (1989) found that many of these children with the disorganized-disoriented attachment style have a history of maltreatment. Although Bowlby (1956) noted that children do become attached to even abusive mother, the qualities of these attachment bonds are not equivalent.

Ainsworth, Blehar, Waters, and Wall (1978) also identified various styles of parenting that were associated with the child’s attachment style. Those children who were insecure-anxiously attached tended to have mothers who were less sensitive, more intrusive, and less accessible to the child. Additionally, those children with insecure-avoidant attachment styles tended to have mothers who were less emotional during interactions and exhibited aversion to physical contact with their child. Carlson, Cicchetti, Barnett, and Braunwald’s (1989) findings that maltreatment is associated with the insecure-disorganized attachment style also speak to the role that the mother has in providing the foundation for a secure attachment. In fact, Cicchetti, Cummings, Greenberg, and Marvin (1990) discussed how maltreated children may receive a combination of insensitive overstimulation and insensitive understimulation from their mother which leads to a blending of the insecure-avoidant and insecure-ambivalent attachment styles, which results in a disorganized attachment style.

Given the impact the mother has on the development of attachment security in the child, the EA scales (Biringen, 2000; Biringen, Robinson, & Emde, 1998), which were developed in the context of attachment theory, are useful in assessing the quality of the parent-child relationship. These scales are described in depth in Chapter 3. Although the
original scales include measures of the child’s level of EA, this study will focus on the level of the mothers’ EA with the child and only utilizes the parent scales.

Hypothesis

The hypothesis for this research is that those children whose mothers exhibit optimal levels of emotional availability at pre-treatment will demonstrate greater treatment effect sizes after PCIT than those children whose mothers exhibited non-optimal levels of emotional availability. Treatment effects will be measured by standardized parent-report instruments. Additionally, this researcher hypothesizes that those mothers who exhibit optimal levels of emotional availability will demonstrate greater mastery over parenting skills learned in PCIT as indicated by a structured behavioral observation. The skills measured will include praising and describing the child’s appropriate behavior, reflecting the child, and minimizing questions, commands, and criticisms.

Assumptions

There were several assumptions made by this researcher in this study. First, this researcher assumed that the therapists who provided PCIT to the study participants were comparable in skills level and education as they were all trained by the same program and have their master’s degree or above. Second, this researcher assumed that all of the children required PCIT services as determined by a mental health assessment. For example, while courts mandated many of the mothers to participate in treatment, the child must have meet medical necessity in order for services to be provided within the agency. Third, this researcher assumed that no other treatment service could account for the child’s change in functioning due to the specific funding source that was utilized by
treatment participants. Specifically, the funding source allows the child to participate in only one treatment type at a time.

Justification

Social workers are on the front lines when working with children and parents in the child welfare system. Whether they are serving in the capacity as mental health therapists or child welfare workers, social workers are continually striving to rehabilitate families in order to improve the parent-child relationship and decrease the risk for subsequent abuse. Therefore, obtaining a better understanding of the factors that influence this change process is key to realizing these goals. This research seeks to identify whether the parents emotional availability, which is an indicator of the quality of the parent-child relationship, affects the treatment outcome in PCIT. As PCIT is often court-ordered or part of a reunification plan, the results from this study may be helpful in determining if additional services or modifications to the service should be explored.

Delimitations

The main delimitation in this study is that only biological mothers were used. This was due to the limited sample size of biological fathers. Additionally, the majority of the time, biological mothers are the primary caregiver. Furthermore, while foster and adoptive parents often participate in PCIT, they were not included in the study in order to increase internal validity.
Chapter 2

REVIEW OF THE LITERATURE

Introduction

The literature review provides an overview of research related to parent-child interactions and parent training programs. Specifically, this researcher provides information regarding the origins and current data on emotional availability as well as research that examines factors that contribute to the quality of the parent-child relationship including child maltreatment, parent psychopathology, and child temperament. The effectiveness of parent training programs and factors associated with effectiveness are also discussed. Finally, a description of Parent-Child Interaction Therapy (PCIT) and an overview of the research describing its efficacy are provided.

Parent-Child Interactions

Emotional Availability

Emotional availability is a relationship construct that describes “the degree to which each partner expresses emotions and is responsive to the emotions of the other” (Emde and Easterbrooks, 1985, p. 80). Emotional availability emerged during 1970s and 1980s as theoretical models were shifting from viewing emotions as disruptive states to adaptive processes (Emde, 2000). Emotional availability has many similarities to attachment theory, which is also based on adaptive processes, which involved both the biological functions of the infant and the quality of early caregiving (Emde, 2000). Ainsworth’s concept of maternal sensitivity is closely related to the concept of emotional availability (Emde, 2000). While Ainsworth was able to identify a link between maternal sensitivity
and security in attachments, research indicated that there were likely other important influences on attachment with regard to emotional exchange (Emde, 2000). Emotional availability is “a component of the sensitive caretaking that is a parental antecedent of infant attachment security” (Cassidy, 1994 as cited in Lehman, Steier, Guidash, & Wanna, 2002, p. 308).

As emotional availability is defined as a relationship construct, it requires assessment of both the parent and the child’s behaviors. Biringen and Robinson (1991) developed a theoretical basis of emotional availability for researchers and they identified maternal sensitivity, structuring, nonintrusiveness, child responsiveness, and child involvement as important measures of the quality of the parent-child relationship. In addition, they developed the emotional availability scales used in research. The scales currently also include nonhostility (Biringen, 2000).

Emde and Easterbrooks (1985) asserted that emotional availability between children and their primary caregivers and the child’s ability to self-regulate are closely related and subsequent research has supported this. In their study examining the effects of maternal emotional availability on 4-month-old infants’ ability to reengage with their mother following the “still face”, Kogan and Carter (1996) found that those infants whose mothers exhibited higher levels of sensitivity during play prior to still-face were better able to regulate their affect versus those infants whose mothers were less sensitive. In addition, Volling, McElwain, Notaro, and Herrera (2002) conducted a study of one-year-old infants and both their mothers and fathers, in which they examined the relationship between their parents’ emotional availability and the infant’s emotional competence. The
Researchers found that while mothers were more emotionally available as a group, those infants with fathers who had high levels of emotional availability exhibited more emotional competence than those with father’s who were less emotionally available.

Factors Affecting Parent-Child Interactions

Maltreatment. Maltreatment during childhood has been associated with many negative effects including poor emotion regulation skills, impaired interpersonal functioning, and cognitive deficits (Schmidt and Eldridge, 1986). Robinson, Morris, Heller, Scheeringa, Boris, and Smyke (2009) found that maltreated children exhibited more internalizing symptoms, anger, and less positive affect than a non-maltreated control group. Additionally, studies have demonstrated that many children, as high as 82%, with a history of maltreatment exhibit disorganized attachment styles (Cicchetti, Cummings, Greenberg, & Marvin, 1990). Cicchetti, Cummings, Greenberg, and Marvin (1990) discussed various studies that may explain this development of disorganized attachment. As maltreated children experience inconsistent care, they may receive a combination of insensitive overstimulation and insensitive understimulation. While these experiences alone have been linked to avoidant and resistant attachment respectively, the chronic blending of these opposite parenting styles may result in disorganized attachment. Additionally, fear and parentification in children with a history of maltreatment may also contribute to the attachment style. Children with disorganized attachment styles are at a particularly high risk for the development of developmental delays, behavioral difficulties, and psychopathology (van Bakel and Riksen-Walraven, 2002).
The disruption that occurs in the attachment relationship in maltreating dyads appears to occur over time rather than during isolated incidents of abuse. Urquiza and Timmer (2002) discussed how continual negative parent-child interactions perpetuate the abusive relationship and Lyons-Ruth, Connell, Zoll, and Stahl (1987) posited that infant development may be more affected by constant “covert hostility” and “interfering manipulation” found in maltreating mothers than by the abuse itself (as cited in Page, 1999, p. 428). Wilson, Rack, Shi, and Norris (2008) conducted a meta-analysis of observational studies that compared parent-child dyads of parents with a history of inflicting physical abuse or neglect with parents who had no history of maltreating. The results indicated that those parents with a history of maltreating their children displayed more aversiveness, less positivity, and less involvement than those parents with no reported child maltreatment history.

High levels of parental stress may contribute to maltreatment. McPherson, Lewis, Lynn, Hasket, and Behrend (2008) compared predictors of parenting stress in abusive and non-abusive mothers. Although psychological functioning was the predominant determinant of parental stress in both groups, the researchers found that the relationship between maternal intolerance for child behavior problems and parental stress was significant only in abusive parents, with higher intolerance being associated with higher stress levels. The researchers discussed how this finding is consistent with other research that indicates that abusive parents may have increased stress levels due to their negative perceptions of their child’s behavior. However, the researchers found that the children with a history of abuse did in fact exhibit more noncompliance and emotion
dysregulation than the non-abused children. This contradicted some previous studies that
demonstrated that abusive parents describe their children’s behaviors more negatively
than non-abusive parents even when there have been no differences observed between
groups.

Parental Psychopathology. Parent psychopathology, in particularly depression,
has been associated with increased risk for insecure attachment styles in children
(Cummings & Davies, 1994; Seifer, Sameroff, Dickstein, Keitner, Miller, Rasmussen, &
Hayden, 1996; Teti, Gelfand, Messinger, & Isabella, 1995). In their longitudinal study
examining the association between maternal depression and attachment in both infants
and preschoolers, Teti, Gelfand, Messinger, and Isabella (1995) found that infants
classified as having disorganized attachment had mothers who reported significantly
more depressive symptoms on the Beck Depression Inventory than those mothers of
securely attached infants. Additionally, mothers of securely attached infants reported
fewer depressive symptoms when compared to those mothers of infants who were
insecurely attached. When the infants were at the preschool age, those children who were
classified as securely attached had mothers were less likely to be depressed. Cummings
(1990) discussed how insecure attachment styles may be a result of depressed mothers
being less emotionally available during depressive episodes as there is a relationship
between insecure attachment styles and maternal unresponsiveness. Furthermore,
Cicchetti, Cummings, Greenberg, and Marvin (1990) posited that there may be a higher
risk of development of disorganized attachment in children of parents with affective
disorders due to the inconsistent parenting that can result from the cyclical nature of these
disorders. They also discussed research that has indicated that there is a higher rate of mood disorders in maltreating mothers compared with non-maltreating mothers, which would further confound the risk for developing a disorganized attachment style.

Campbell, Cohn, and Meyers (1995) studied the impact of post-partum depression and its chronicity in first-time mothers on the mother-infant relationship in married, middle-class women. The researchers observed the mother-child dyads at 2, 4, and 6 months and found that while there were no differences in interactions between depressed and non-depressed mothers at 2 months, those women who continued to have experience depression at the 6 month observation were less positive and less engaged in their interactions with their infants than the non-depressed group as well as those women whose depression was short-term. The researchers discussed the importance of the chronicity of depression as it relates to the effect it has on the parent-child relationship. This highlights Cummings and Davies (1994) argument that while children of depressed parents are at a higher risk of developing problems, it is not causal and there are a variety of family and psychosocial factors that may also contribute to poor child development as well as to resiliency.

attachment and temperament while in-clinic observations utilizing structured activities were used to examine conflict when the children were 30 months old. Additionally, standardized measures were repeated when the children were 36 months old but the conflict observation was done in home in a more naturalistic fashion. The researchers found that children who exhibited high levels of negative reactivity at 30 months of age had mothers who were more likely to utilize aggravation, or use threats or teasing, as a conflict strategy, with their child during conflict rather than justification, or clarification and reasoning, as a strategy. These children were also more likely to utilize aggravation during conflict. Highly active children at 30 months of age were more likely to engage in more frequent and unresolved conflicts and the mothers of these children were more likely to aggravate during a conflict. Additionally, those children who at 30 months exhibited high levels of effortful control had mothers who were more likely to utilize compromise as a conflict strategy. At 36 months, negative reactivity was not related to conflict in home observations. However, children with high levels of effortful control had fewer conflicts and those children with active temperaments were more likely to aggravate during a conflict, had fewer resolved conflicts, and had mothers who were less likely to use justification as a conflict strategy than those without active temperaments. Furthermore, children with active temperaments were more likely to have conflict over destruction, space, aggression, and independence. Additionally, Lehman, Steier, Guidash, and Wanna (2002) also found that toddlers who were less socially fearful and exhibited less anger exhibited higher levels of compliance with their mothers.
Laible (2004) examined mother-child discourse and its links with child temperament, attachment security, and socio-emotional competence in mother-child dyads in which the children were between 3-5 years old utilizing standardized measures and structured observations. Results indicated that mothers elaborated more during a reminiscing task, during which they discussed two incidences in the past week in which the child behaved well and when the child misbehaved, when the mothers perceived their children to have high levels of negative reactivity and/or effortful control. However, temperament was not related to the mother-child discourse during which the mother read a story to their child.

With regards to attachment, research has varied as to whether the child’s temperament is associated with attachment security. Van den Boom (1994) conducted a study in which 100 6-month old infants, who were identified as having high levels of irritability and were of low socio-economic status, were randomly assigned to control and intervention groups to determine if improving maternal responsiveness improved mother-child interactions and attachment. The study determined that significantly more dyads that participated in the treatment were securely attached compared to the control group. The author asserted that infant irritability directs affects the parent-child relationship in the first year of life but that mothers can be provided skills to improve the interactions. To the contrary, Sroufe (1985) argued that research promoting a temperament perspective for attachment security was without basis as they are different constructs and instead argued for a relational concept. Wong, Mangelsdorf, Brown, Neff, and Schoppe-Sullivan (2009) identified Thomas and Chess’s (1977) goodness-of-fit model, in which a good fit between the child’s temperament and family context is required for a secure
attachment, as the best explanation for the association between temperament and attachment. Wong, et. al. (2009) studied the associations of mother-child and father-child attachments with parental beliefs, infant temperament, and marital quality. They found that when mothers viewed the paternal caregiving role as important and the infant had high levels of fussiness, these children were less securely attached. However, when the father’s viewed the paternal caregiving role as important, they were more likely to have securely attached infants, but only in cases when the infant exhibited high levels of fussiness. The researchers discussed that infants with high levels of fussiness may elicit feelings of disappointment and high stress levels in mothers who perceive the paternal caregiving role as important but have less assistance from the father. However, in the cases in which the father perceives the paternal caregiving role as important, these infants with high levels of fussiness may benefit from the increased involvement of the fathers who provide additional emotional and psychological support to the infant.

**Quality of Parent-Child Interactions and Compliance**

Research indicates that the quality of parent-child interactions in early childhood contributes greatly to a child’s level of acceptance and cooperation with the parents’ values and instructions (Kochanska, Aksan, and Koenig, 1995; Laible & Thompson, 2009). Kochanska, Aksan, and Koenig (1995) posited that the affective exchange in the parent-child relationship is likely indicative of the level of cooperation and responsiveness in young children. While positive parent-child interactions are associated with increased levels of compliance, emotionally negative interactions may contribute to noncompliance, emotion dysregulation, and the development of behavioral difficulties.
Several studies have examined the impact of attachment security on levels of compliance in young children and have found that securely attached children are more likely to comply with their mother’s directives (Londerville & Main, 1981; Van Bakel and Riksen-Walraven, 2002). Londerville and Main (1981) assessed the security of the attachment of children at 12 months of age utilizing Ainsworth’s strange situation. At 21-months, the researchers assessed the level of compliance in the children. The results indicated that the securely attached children were more compliant and more emotionally regulated than insecurely attached children. Additionally, six of the 14 insecurely attached children demonstrated “angry active disobedience” during which they engaged in severe tantrumming (p. 295). Van Bakel and Riksen-Walraven (2002) analyzed the differences in negativity, avoidance, compliance, and positive affect shown towards the caregiver between securely and insecurely attached 15-month old infants. Additionally, the researchers assessed variations in the type of insecure attachment. The results demonstrated that securely attached infants were significantly less hostile and demonstrated more engaged and compliant with their caregiver than those children who were identified as having an avoidant or disorganized attachment style. However, children with resistant attachment styles did not demonstrate any significant differences from the securely attached children. Those children with a disorganized attachment style, which is associated with child maltreatment, parental psychopathology, and high-risk for...
later psychopathology, demonstrated the highest levels of anger, hostility, and noncompliance with their parents.

Despite the evidence that secure attachment results in more compliance with parents directives, Matas, Arend, and Sroufe (1979) found that while securely attached children demonstrated more compliance than insecure children during a teaching task, they were less compliant during the clean-up task. Laible, Panfile, and Makariev (2008) argued that those children who are securely attached may not necessarily engage in less frequent conflict, but rather the quality of the conflict may be different between securely and insecurely attached children. In their study examining contributing factors to mother-toddler conflict, the results supported their hypothesis in that those parent-child dyads in which the child was securely attached were more likely to use positive communication to resolve conflict. Additionally, while there was no significant difference between the frequencies of the conflict between securely and insecurely attached children, the themes of the conflict varied. Securely attached children argued more about possessions and independence while insecurely attached children exhibited more aggression and destruction.

In addition to secure attachment, increased maternal sensitivity and emotional availability have also been associated with higher levels of compliance in children. Research has suggested that children of mothers who allow their children to have control during playtime, are more engaged in the child’s play, and exhibit warmth are more cooperative than parents who are controlling and intrusive (Londerville & Main; Lytton,
Rocissano, Slade, and Lynch (1987) studied the effects of synchrony, or the ability to maintain a common focus, between mother and child on levels of compliance in toddlers. The study found that compliance was positively correlated with dyadic synchrony and children whose mother’s were highly synchronous were more compliant. The results indicated that the more willing the mother was to follow the child’s lead during the play, the more compliant the child. In addition to secure attachment, Londerville and Main (1981) found increased levels of compliance in young children when the mother exhibited more warmth in verbal and physical interactions. Notably, those mothers of securely attached children exhibited more warmth that those of insecurely attached children. In their longitudinal study evaluating factors that contribute to committed compliance, or compliance in which the child is committed to the parents’ instructions, in female toddlers at 16 and 22 months, Van der Mark, Bakermans-Kranenurg, and van IJzendoorn (2002) found that maternal sensitivity was predictive of compliance in prohibitive tasks, while maternal intrusiveness lead to more non-compliance in the tasks in which the child was asked to perform a task. However, the researchers found no relationship between attachment, child temperament, or parental behavior at 16 months and compliance at 22 months.

Lehman, Steier, Guidash, and Wanna (2002) studied predictors of compliance in 51 mother-child dyads and found that emotional availability, which was measured during free play, was the strongest predictor of compliance during a clean-up task when
compared to child temperament and maternal personality. In particular, those children whose mother’s scored higher on the sensitivity and structuring scales were more compliant. The authors noted that the mothers structured the play without being intrusive and demonstrated high levels of responsiveness and sensitivity. Volling, McElwain, Notaro, and Herrera (2002) also found significant longitudinal associations between parental emotional availability and infant emotional competence at 12 months with compliance at 16 months.

*Attachment and Treatment Effectiveness*

Although there are few studies that examine the impact of the parent-child relationship on outcomes in treatment, there is research that indicates that attachment style does contribute to treatment outcomes. In their case series study, Stubenbort, Greeno, Mannarino, and Cohen (2002) posited that secure attachment resulted in better treatment outcomes and fewer trauma-related symptoms in adolescents who had experienced sexual abuse. The authors also discussed how those individuals with insecure attachment styles are more likely to utilize maladaptive coping strategies and therefore exhibit higher levels of anxiety and distress.

Additional studies have examined how attachment impacts functioning in adolescents and adults with histories of sexual abuse. Aspelmeier, Ellitt, and Smith (2007) studied the moderating effects of attachment in outcomes in childhood sexual abuse in college females. Though results indicated that attachment only modestly moderated the effects of the sexual abuse, the authors reported that attachment does serve as a protective factor against the negative affects of childhood sexual abuse. Shapiro and Levendosky (1999)
also asserted that a secure attachment style may provide a survivor with a better ability to cope with the trauma than those who are insecurely attached.

Parent Training Programs

*Effectiveness of Parent Training Programs*

Multiple research studies have demonstrated that parent-training programs are effective in reducing child behavior problems, improving parent-child interactions, and improving parent’s ability to manage their child’s challenging behaviors. Additionally, they are some of the most frequently studied interventions for children with behavioral difficulties and are considered to be an efficacious intervention for the treatment of disruptive behaviors in children (Conners, Edwards, & Grant, 2006; Lauth, Otte, & Heubeck, 2009). Additionally, some parent-training programs have also had the effect of increasing the emotional warmth that parents felt towards their children (Lauth, Otte, & Heubeck, 2009; Sheeber and Johnson, 1994). Forgatch and Patterson (1989) asserted that changes in child behavior are brought about by changes in parenting (as cited in Patterson and Forgatch, 1995) and subsequent research has supported this (DeGarmo, Patterson, and Forgatch, 2004). Although there has been some debate among researchers as to whether parent-training programs are effective when implemented in community settings rather than the ideal conditions of university clinics, several studies have indicated that parent-training programs are effective under these less than optimal conditions (Lauth, et. al 2009, Conners, et. al. 2006, Sheeber & Johnson, 1994).

In their meta-analysis of 77 parent-training programs targeted to children ages 0-7, Kaminski, Valle, Filene, and Boyle (2008) identified various components associated with
program effectiveness. Components that were associated with larger effect sizes, that is improved parenting skills and decreased child behavior problems, included providing parents in-vivo training with their child, teaching parents skills to enhance parent-child interactions, teaching parents more effective emotional communication skills, teaching parents how to use time out, and insistence on consistency in discipline strategies. Skills that lead to enhanced parent-child interactions included providing praise and enthusiasm for desired behaviors and allowing the child to lead the play-time interactions. Emotional communication skills included active listening skills, reflection, acceptance and identification of the child’s emotions, and decreased negative interactions. Those components that were associated with weaker effect sizes included teaching parents problem-solving skills, teaching skills to enhance the child’s cognitive and academic abilities, teaching parents how to improve their child’s social skills, as well as providing families with services in addition to the parent training program. The authors discussed how the components associated with larger effect sizes are consistent with programs that have followed Constance Hanf’s two-stage model in which desired behaviors are given much positive attention in the first stage and undesired behaviors are addressed via discipline strategies in the second phase. Parent training programs that have followed the Hanf model include Barkley’s Defiant Children parent training program (Barkley, 1997), Helping the Non-compliant Child program (McMahon and Forehand, 2003), The Incredible Years (Webster-Stratton, 2000), and Parent-Child Interaction Therapy (Eyberg, 2003).
**Parent-Child Interaction Therapy**

Parent-Child Interaction Therapy (PCIT), developed by Dr. Sheila Eyberg, is a parent-training program rooted in social learning theory, which incorporates operant theory and traditional play therapy. The model addresses a variety of social, emotional, and behavioral difficulties in children ages 2-7 years old. These difficulties may include externalized behavioral problems such as non-compliance, defiance, aggression, whinyness, and hyperactivity as well as internalized emotional difficulties such as anxiety and low self-esteem (Hembree-Kigin and McNeil, 1995).

Consistent with the Hanf (1969) two-stage model, PCIT is composed of two phases. The first phase of treatment is the child directed interaction (CDI) phase, during which the goal is to increase positive parent-child interactions. Parents are first taught various skills to enhance the parent-child relationship via a didactic. These skills include praising, describing, reflecting, and imitating appropriate behaviors while ignoring negative behaviors. In addition, as the name of the phase implies, parents are taught to allow their child to lead the play. In subsequent sessions, parents are coached in-vivo to use the skills with their child via a ‘bug in the ear’. The second-phase of treatment is the parent directed interaction (PDI) phase. While parents continue to use the skills learned in the CDI phase of treatment, parents are also taught various discipline strategies to address ongoing problematic behaviors. Skills including giving effective commands followed by consistent praise for compliance as well as implementing consequences such as time-out or removal of privileges for non-compliance are first taught via a didactic and then
practiced in-vivo via the ‘bug in the ear’ coaching. Consistency is highly stressed during this phase of treatment (Hembree-Kigin & McNeil, 1995).

Multiple studies have indicated that PCIT is effective in reducing disruptive behaviors and improving parent-child interactions (Hembree-Kigin & McNeil, 1995; McNeil, Capage, Bahl, & Blanc, 1999; Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998). Additionally, follow-up studies have demonstrated the longevity of gains made during PCIT (Eyberg, Funderburk, Hembree-Kigin, McNeil, Querido & Hood, 2001; Hood and Eyberg, 2003). While one of the goals of PCIT is to improve the parent-child relationship and much research has indicated that the treatment is successful in doing so, there is limited research that has specifically examined PCIT and emotional availability.

However, Dombrowski, Timmer, Blacker and Urquiza (2005) conducted a single case study of a 23-month old toddler in which they examined the effectiveness of Parent-Child Attunement Therapy (PCAT), an adaptation of PCIT for children 12-30 months. In their case study, the researchers found that most of the majority of the mother-child dyad’s scores on the emotional availability scales improved after the PCAT intervention.

In addition to the aforementioned research, PCIT has also been shown to be effective in cases in which there is a history of maltreatment as it not only reduces disruptive behaviors (Timmer, Urquiza, Zebell, and McGrath, 2005) but also reduces future reports of abuse (Chaffin, Silovsky, Funderburk, Valle, Brestan, Balachova, Jackson, Lensgraf, and Bonner, 2004). PCIT has been identified as one of three best practices for treating child abuse, the other two being Abuse-Focused Cognitive Behavioral Therapy and Trauma-Focused Cognitive Behavioral Therapy (Kauffman Best Practices Project, 2004).
Herschell and McNeil (2005) outlined the rational for using PCIT in dyads where there is a history of child physical abuse. These included high correlations between physical abuse and disruptive behaviors, poor emotion regulation in children with a history of physical abuse, poor language development as a result of physical abuse, inconsistent discipline practices by parents who have inflicted physical abuse, ongoing coercive parent-child interactions in maltreating dyads, and poor problem-solving skills of many abusive parents. The PCIT model is able to address these various problems associated with child physical abuse.

Parent training programs, such as PCIT, are often utilized by child welfare services to improve parenting skills of parents with a history of maltreating (Kaminski, Valle, Filene, & Boyle, 2008) and these programs are often court-mandated (Marsh, Green, Culver, & Timmer). While there are debates in the field over the effectiveness of court-mandated services, studies by Chaffin, Silovsky, Funderburk, Valle, Brestan, Balachova, Jackson, Lensgraf, and Bonner (2004) and Marsh, Green, Culver, and Timmer (2009) have demonstrated that PCIT is effective for these populations. In fact, Marsh, Green, Culver, and Timmer (2009) found that court-mandated mother-child dyads actually had higher rates of completion and equally significant treatment gains as voluntary dyads despite the mothers being more defensive in their reporting of child behavior problems and parent stress at the onset of treatment.

Summary

The literature demonstrates that positive parent-child interactions and higher levels of emotional availability are the foundation for secure attachment styles in children.
Additionally, these interactions may be adversely affected by maltreatment, parental depression, and difficult child temperament. Furthermore, these factors are not mutually exclusive and the risk for insecure attachment styles may be augmented by the combination of these individual risks. Children who are in securely attached relationships with parents who are emotionally available appear to be more compliant and less disruptive than those children with insecure, and in particular, disorganized attachment styles. While securely attached children will likely have conflict with their parents, the communication patterns that emerge during these conflicts is more positive than in insecurely attached children.

Parent training programs are an effective way of decreasing disruptive behaviors in children. Parent-Child Interaction Therapy (PCIT) is an evidenced-based parent training program that has been shown to be effective in reducing disruptive behavior disorders and improving the parent-child relationship in children ages 2-7 years old. Additionally, there is significant research documenting the effectiveness of PCIT with maltreating dyads both in reducing the disruptive behaviors of the child and in reducing future abuse reports.

As indicated in the literature review, little research has been conducted on emotional availability and PCIT specifically. Therefore, this research project will study the effects of emotional availability on treatment outcomes in PCIT in a high-risk sample of mother-child dyads that have completed treatment.
Chapter 3

METHODOLOGY

Design

This researcher utilized a quasi-experimental research design, which attempts have a high level of internal validity for purpose of making a causal inference (Rubin & Babbie, 2008), in order to examine differences in treatment outcomes in children who participated in Parent-Child Interaction Therapy (PCIT) depending on the mothers’ level of emotional availability. In this study, the experimental group is considered the group with optimal emotional availability. However, the groups were defined by natural occurrence rather than a manipulation of the variables. While the purpose of the study was to compare treatment outcomes in two groups, those mothers with optimal and those with non-optimal emotional availability, there was no random assignment or control group, which is the hallmark of an experimental design (Rubin & Babbie, 2008). Instead, this researcher compared two non-equivalent comparison groups and worked to increase the level of internal validity by testing other potential variables such as ethnicity, age of parent and child, maltreatment history, mother’s marital status, and whether the dyad was court-mandated in order to ensure that the groups were similar and treatment effect sizes could not be attributed to these other variables (Rubin & Babbie, 2008).

Variables

The primary hypothesis in this study was that children whose mothers exhibit optimal levels of emotional availability at pre-treatment will demonstrate significantly greater treatment effects of PCIT at post-treatment than those mothers who exhibit non-optimal
levels of emotional availability at pre-treatment. This was reflected in parent report on standardized measures. Additionally, those mothers who exhibit optimal levels of emotional availability at pre-treatment will also demonstrate significantly greater mastery over PCIT concepts at post-treatment than those who exhibited non-optimal emotional availability. The independent variables include the levels of emotional availability while the dependent variables are the treatment effect sizes. Please note that operational definitions for optimal and non-optimal are provided under Emotional Availability Scales in the Instruments section.

Participants

The study utilized secondary data which included treatment information from 123 biological mother-child dyads that completed the Parent-Child Interaction Therapy (PCIT) program. The dyads had participated in the PCIT program at the UC Davis Child and Adolescent Resource, Evaluation (CAARE) Diagnostic and Treatment Center, which is a hospital-based outpatient mental health agency that specializes in the treatment of maltreated children. The criteria for inclusion into the study included that the mothers were the biological mother, the children were between the ages of 2 and 8 years old, the dyad completed the PCIT program, and there was at least one available measure of child behavior or parent stress. Additionally, it was required that the pre-treatment Emotional Availability and both the pre- and post-treatment DPICS scores were available. All of the children were assessed for and met the criteria for medical necessity as well as for the appropriateness of PCIT.
The mean age of the children was 4.48 years (Range=2.14-7.92) while the mean age of the mothers was 28.76 (Range=18-42). The sample included 83 male children (67.5%) and 40 female children (32.5%). The ethnicity of the mothers was 60.2% White/Non-hispanic, 12.2% African-American/Black, 7.9% were Latino, and 9.8% were Asian, Native-American, or other ethnicity. The ethnicity of the children was 58.2% White/Non-hispanic, 16.4% Black/African-American, 20.5% Latino/Hispanic, and 5.7% Asian, Native-American, or other ethnicity. Differences in ethnicity between mothers and children are due to children potentially being of mixed ethnic heritage. The majority of the mothers (61.8%) defined themselves as single while 38.2% stated they were married or co-habiting. With regards to maltreatment history, 44.7% had a history of physical abuse, 54.5% had a history of neglect, 52.8% were exposed to domestic violence, 47.5% had a documented or suspected history of pre-natal exposure to drugs or alcohol, and 5% had a history of documented or suspected sexual abuse. Additionally, 69.1% of the children had resided in foster care, 21.1% were in the process of reunifying with their mother at the time of PCIT services, and 29.3% had resided with their biological mother since birth.

Data Gathering Procedures

Measures and Demographic Information

Secondary data was collected from the UC Davis CAARE Center for biological mother-child dyads who participated in the Parent-Child Interaction Therapy (PCIT) program between August 1996 and November 2008. Only data from those dyads who met the study criteria was used. All dyads participated in a mental health assessment by a
master’s level or above clinician, which served to both determine if the child met medical necessity and to ensure that PCIT was the most appropriate intervention for their behaviors. Prior to starting treatment, each mother was given a battery of measures including the Child Behavior Checklist (CBCL), Eyberg Child Behavior Inventory (ECBI), Parent Stress Index-Short Form (PSI-SF), and a Symptom Checklist 90-R (SCL-90-R) or Brief Symptom Inventory (BSI). Additionally, a structured behavioral observation was conducted prior to treatment in order for the therapist to assess the mother’s baseline of PCIT skills and the child’s behaviors. The videotapes from the behavioral observation were later coded by research assistants for the mothers’ pre-treatment level of emotional availability as well as baseline of the parents PCIT skills, which is also known as the Dyadic Parent-child Interaction Coding System (DPICS).

Coding observational assessment

Emotional availability and DPICS coders were doctoral level researchers, or undergraduate and graduate students in psychology or human development. Each coder was given didactic training in emotional availability and DPICS coding and procedures. With regards to emotional availability coding, two separate research assistants coded each tape, and were required to agree on 85% of the codes. The coders discussed the codes on which they disagreed and decided on the best code. If the coders did not agree on 85% of the codes, they discussed the codes on which they disagreed, agreed on the best codes, and put the videotape aside for another coder to assess. No tape was considered “coded” until at least two coders agreed on 85% of codes. Research assistants
were permitted to code DPICS by the agency research coordinator after demonstrating consistent reliability. The DPICS required only one coder.

Data analysis

In order to analyze the data, a multivariate analysis of covariance was conducted in order to determine if there was a significant difference in treatment effect sizes due to pre-treatment emotional availability scores (optimal vs. non-optimal). An analysis was performed on each standardized measure and the DPICS behavioral observation. This was done in order to maximize the sample size, as several dyads did not have all measures available but did have at least a CBCL, ECBI, or PSI-SF in addition to DPICS behavioral observation.

Instrumentation

Child Behavior Checklist (CBCL)

The CBCL (Achenbach, 2001) is a standardized measure that asks caregivers to identify the frequency of approximately 100 externalizing and internalizing child behavior problems utilizing a 3-point-scale (0=never, 1=Somewhat/Sometimes True, 2=Very True/Often). There are two versions of the CBCL. One is tailored to young children (2 - 3 years old, Achenbach, 1994a; 1 ½ - 5 yrs, Achenbach & Rescorla, 2000), contains 100 items, and asks caregivers to consider behaviors if they have occurred in the past two months. The other version is more specific to behaviors found during middle childhood and adolescence (4 - 18 years, Achenbach, 1994b; 6 - 18 years, Achenbach, 2001), contains 112 items, and examines behaviors that have occurred in the past six months. Separate norms are provided for boys and girls. The study included both
broadband measures (externalizing and internalizing behaviors) as well as the total score. The CBCL was updated in 2001 (Achenbach, 2001). The therapists in the agency began utilizing the updated versions of the CBCL in 2003. Therapists administered the same version at both pre- and post-treatment, to ensure that one version of the instrument measured the child’s progress. The old and updated versions of the broadband scales of the CBCL are highly correlated (Achenbach & Rescorla, 2000; Achenbach, 2001). Therefore, this researcher did not distinguish between the scores. The clinical cut-off for the CBCL is a T-score above 65.

Eyberg Child Behavior Inventory (ECBI)

The ECBI (Eyberg & Pincus, 1999) is a 36-item instrument that is designed to measure caregiver report of the number and frequency of behavior problems in children and adolescents between the ages of 2 and 16 years old. The ECBI lists behaviors that are often associated with childhood disruptive behavior disorders. The ECBI asks caregivers to rate both the frequency of the behaviors using a 7-point-scale (1=never to 7=all the time) as well as answer whether the behavior is a problem for them or not (1=Yes, 0=No). Resulting scales reflect the intensity and problem score respectively. The ECBI has been found to have high levels to validity and reliability (Eyberg & Pincus, 1999). Test-retest reliability scores over a three-week period of time demonstrated coefficients of \( r=.86 \) and \( r=.88 \) for the intensity and problem scales respectively (Robinson, et al., 1980). In addition, the two scales are highly correlated with the externalizing behavior scale of the CBCL (Boggs, Eyberg, & Reynolds, 1990). The clinical cutoff scores are an
intensity score of greater than 131 or a problem score of greater than 15 (Eyberg & Pincus, 1999).

*Parenting Stress Inventory-Short Form (PSI-SF)*

The PSI-SF (Abidin, 1995) is a 36-item measure designed to identify stress and potential dysfunction in the parent-child relationship. In addition, it serves to identify children who are at risk for developing behavior problems. Caregivers are asked to answer questions on a 5-point scale (1=Strongly Disagree to 5=Strongly Agree). These questions are divided into three scales. The Parent Distress (PD) scale asks parents questions related to their feelings of competence, social isolation, attachment to the child, health, role restriction, depression, and their spouse. The Difficulty Child scale includes questions related to the child’s distractibility/hyperactivity, adaptability, demandingness, mood, acceptability, and how much the child reinforces the parent. The Parent-Child Dysfunctional Relationship (P-C Dys), The Parent-Child Dysfunctional Relationship scale measures parent’s perceptions related to how happy and healthy the child is, how much the child enjoys being with the parent, and how rewarding the relationship is. Test-retest coefficients for the three PSI-SF scales were found to be PD- $r= .85$, P-C Dys- $r= .68$, and DC- $r= .78$ over a 6 month period. The clinical range for the PSI-SF includes a raw score above 33 for the Difficult Child and Parent Distress scales and a raw score above 26 for the Parent-Child Dysfunction scale.

*Symptom Checklist 90-R (SCL-90-R) and Brief Symptom Inventory (BSI)*

The SCL-90-R and the BSI (Derogatis, 1994) are self-report questionnaires, which consist of 90 and 52 items respectively, that were developed to assess the current
presence of psychological symptom patterns in adolescents and adults. Each measure has a brief description of a psychological symptom, which the respondents rate on a 5-point scale (0=not at all to 4=extremely) as to whether they have experienced discomfort related to the symptom within the past seven days. Both the BSI and the SCL-90-R have nine symptom dimensions including: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Due to the length of the SCL-90-R, the agency began to use the BSI instead of the SCL-90-R in 2002 to reduce the amount of paperwork for parents. The measures of the BSI and SCL-90-R are highly correlated (all above $r = .90$) (Derogatis, 1994); therefore this study does not distinguish the scores between the two. The test-retest reliability coefficient was $r = .90$ over a two-week period.

*Dyadic Parent-Child Interaction Coding System (DPICS)*

The DPICS is a behavioral coding system, which was designed to assess the quality of parent-child social interactions (Eyberg and Robinson, 1983). Although the original DPICS consisted of behavioral categories for both children and parents, the categories for the children are not used at the UC Davis CAARE Center and therefore were not included in this study. The DPICS consists of a 15-minute behavioral observation, which is divided into three 5-minute segments, which are labeled Child-Directed Interaction (CDI), Parent-Directed Interaction (CDI), and Clean-up (CU). However, only the first five minutes, or the CDI, is coded while the therapist simply observes during the last 10 minutes. The parent verbalizations that are coded include unlabeled praise, labeled praise, behavioral descriptions, reflections, questions, commands, and criticisms. Praises are
positive evaluations of a child’s behaviors or attributes. A labeled praise offers the child a specific description for the reason the praise is given (e.g. ‘Great job playing gently with the toy!’) while an unlabeled praise is more vague (e.g. ‘Good job!’). Behavioral descriptions are statements that describe the child’s behavior (e.g. ‘You are putting the green block on the red block’). Reflections are verbalizations that repeat what the child has said (e.g. child states, ‘I’m making a tower’; parent states, ‘You are making a tower’). Questions are statements that are seeking a response from the child (e.g. ‘What color is this?’). Commands are directions that are indicating that the parent wants a task performed (e.g. ‘Hand me that block.’). Criticisms are negative or critical evaluations of a child’s behaviors (e.g. ‘You made a big mess’).

In order to reach mastery and graduate from the PCIT program, parents are expected to verbalize 25 descriptions and reflections, 15 praises, and less than three combined questions, commands, and criticisms. These parent verbalizations are thought to enhance the parent-child relationship and decrease dysfunctional patterns of interaction.

Emotional Availability Scales

The Emotional Availability Scales (EA 3rd Ed., Biringen, 2000; Biringen, Robinson, & Emde, 1998) include four global parent scales and two child scales that measure specific characteristics of the parent-child relationship. Only parent scales were used in this study. The parent scales measure their sensitivity to the child, their non-hostility, non-intrusiveness, and their ability to structure the interaction. While Biringen (2000) provides specific criteria for “optimal” and “non-optimal” categorization of each scale, for purposes of this study, those mothers who scored just below the optimal cut-off, or
were in the borderline range, were put in the optimal group. Due to the high-risk population served at the CAARE Center, few of the mothers would have been classified as “optimal” under the original criteria. Therefore, it was adjusted to reflect the population being studied. The parent’s sensitivity score is measured on a scale of 1-9, and represents the degree to which the parent is engaged with the child, responds to their cues during the interaction, and maintains interest in the child’s activity, as well as the parent’s overall affect. Although Biringen (2000) defines “optimal” as a parent who receives a score between 6 and 9 in sensitivity is considered “optimal” and while 5 or below is considered “non-optimal”, for purposes of this study, “optimal” was considered to be a score between 5 and 9, while “non-optimal” was 4 or below. Parental non-hostility refers to the degree to which the parent’s actions and tone of voice convey impatience, boredom, or anger. Non-hostility is measured on a scale of 1-5. Biringen (2000) requires a score of 5 to be considered “optimal”, indicating that the parent exhibited no observable hostility toward the child. In this study, a 4 was also considered to be in the “optimal” range. Parental non-intrusiveness is also measured on a 1-5 scale, and reflects the parent’s ability to structure the interaction without being controlling or lessening the child’s autonomy. According to Biringen (2000), a parent who receives a 5 in non-intrusiveness is in the “optimal” range and does not show any signs or instances of being intrusive, such as taking a toy away from the child, or attempting to direct the play session entirely. In the present study, a score of 4 was also considered to be in the “optimal” range. Parental structuring scores refers to the parent’s ability to successfully structure the interaction so that the child responds positively. Parental structuring is
measured on a scale of 1-5. Biringen (2000) considers scores 4 and above to be in the “optimal” range and requires that the parent be able to successfully maintain the child’s interest in the activity without being overbearing or over-directing. A score of 3 was also considered “optimal” in the present study. In order to differentiate between the “Optimal” and “Non-Optimal” groups in the present study, dummy variables for each of the scale scores in each of the analogs were created. The study utilized 3 analogs, which included the Child Directed Interaction, Parent Directed Interaction, and Clean-Up behavioral observations from the DPICS videotapes. This yielded 12 scores indicating the presence (1) or absence (0) of a non-optimal score. The 12 scores were then added together. Scores ranged from 0 (no non-optimal scores) to 9 (9 non-optimal scores). Mothers showing zero or one non-optimal score out of 12 possible scores were coded as "Optimal". Mothers with two or more non-optimal scale scores were coded as "Non-Optimal".

Protection of Human Subjects

With permission from the Director of Research and Mental Health Services, this study used secondary data from the UC Davis CAARE Center. Previous consent was obtained from the parents of the children to use treatment data for subsequent research. This researcher received no identifying data. In compliance with University requirements, a request for review by the Committee for the Protection of Human Subjects was submitted and approved by the University as “exempt”. The Committee provided the following approval number: 09-10-044.
Chapter 4

RESULTS

Introduction

Data for the study was obtained both upon the participants’ initiating Parent-Child Interaction Therapy (PCIT) and at the end of treatment. During the intake assessment, therapists obtained demographic information from the child’s mother as well as referral source. The therapists also provided mothers with a battery of measures to complete prior to treatment. These measures included the Eyberg Child Behavior Inventory (ECBI), the Child Behavior Checklist (CBCL), the Parenting Stress Index-Short Form (PSI-SF), and the Brief Symptom Inventory/Symptom Checklist 90-R (BSI/SCL-90-R). Furthermore, a 15 minute structured behavioral observation, referred to as the Dyadic Parent-Child Interaction Coding System (DPICS), was utilized to measure and assess the quality of the communication the parent engaged in with the child as well as the child’s response to the parent. The observation was divided into three five-minute segments including Child-Directed Interaction (CDI), Parent-Directed Interaction (PDI), and Clean-Up (CU).

Various parent verbalizations were coded in the DPICS observations including praising, reflecting, behavioral descriptions, questions, commands, and criticisms during the CDI segment. In order to complete services, parents must be able to utilize 25 descriptions and reflections, 15 praises, and less than three combined questions, commands, and criticisms in a five minute period. Utilizing the videotapes from the pre-treatment DPICS observations, the mothers’ level of Emotional Availability (EA) was assessed during the CDI, PDI, and CU segments of the observation. In order to define the “Optimal” and
“Non-Optimal” EA groups in the study, dummy variables for each of the scale scores in each of the analogs (CDI, PDI, and CU) were created. This yielded 12 scores indicating the presence (1) or absence (0) of a non-optimal score. The 12 scores were then added together. Scores ranged from 0 (no non-optimal scores) to 9 (9 non-optimal scores). Mothers showing zero or one non-optimal score out of 12 possible scores were coded as "Optimal". Mothers with two or more non-optimal scale scores were coded as "Non-Optimal". This researcher included dyads in the study if they had at least one measure of child behavior (EBCI, CBCL, or PSI-SF), an available DPICS observation, and available pre-treatment EA scores. The results section will provide an analysis of the demographic differences between the Optimal and Non-Optimal groups. In addition, the treatment effect size on each standardized measure and DPICS observation is provided. Finally, in order to test the hypothesis, analyses were run on each measure to determine if there was a difference between treatment effect sizes between Optimal and Non-Optimal groups.

Demographic Differences

Table 1 describes the demographic differences between the Optimal and Non-Optimal EA groups. A Pearson’s chi-square analysis was used to determine if there were differences between the groups with respect to sex of child, ethnicity of child and mother, mother’s marital status, mother’s education level, and whether treatment was court mandated. An analysis of variance was used to identify differences between the groups with respect to age of child and mother. No significant differences were found between the two groups. Table 2 provides information regarding the differences in maltreatment history between the Optimal and Non-Optimal groups. There were no significant
Table 1

*Demographic Differences Between Non-Optimal and Optimal Groups*

<table>
<thead>
<tr>
<th></th>
<th>Non-Optimal (N = 86)</th>
<th>Optimal (N = 37)</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex of child (% male)</td>
<td>64.7%</td>
<td>73.7%</td>
<td>$\chi^2(1, N=123)=0.97, p=0.33$</td>
</tr>
<tr>
<td>Age of child (in years)</td>
<td>4.53 (1.4)</td>
<td>4.35 (1.0)</td>
<td>$F(1, 123)=0.49, p=0.48$</td>
</tr>
<tr>
<td>Ethnicity of child</td>
<td></td>
<td></td>
<td>$\chi^2(3, N=123)=1.60, p=0.66$</td>
</tr>
<tr>
<td>% Caucasian</td>
<td>54.7</td>
<td>64.9</td>
<td></td>
</tr>
<tr>
<td>% African American</td>
<td>17.4</td>
<td>13.5</td>
<td></td>
</tr>
<tr>
<td>% Latino/a</td>
<td>18.8</td>
<td>15.8</td>
<td></td>
</tr>
<tr>
<td>% Other</td>
<td>7.1</td>
<td>15.8</td>
<td></td>
</tr>
<tr>
<td>Age of mother (in years)</td>
<td>29.1 (5.9)</td>
<td>28.1 (5.4)</td>
<td>$F(1, 121)=0.86, p=0.36$</td>
</tr>
<tr>
<td>Ethnicity of mother</td>
<td></td>
<td></td>
<td>$\chi^2(3, N=123)=3.02, p=0.39$</td>
</tr>
<tr>
<td>% Caucasian</td>
<td>60.0</td>
<td>60.5</td>
<td></td>
</tr>
<tr>
<td>% African American</td>
<td>14.1</td>
<td>7.9</td>
<td></td>
</tr>
<tr>
<td>% Latina</td>
<td>18.8</td>
<td>15.8</td>
<td></td>
</tr>
<tr>
<td>% Other</td>
<td>7.1</td>
<td>15.8</td>
<td></td>
</tr>
<tr>
<td>% Mother- single marital status</td>
<td>61.2</td>
<td>63.2</td>
<td>$\chi^2(1, N=123)=0.04, p=.83,$</td>
</tr>
<tr>
<td>% Mother- high school or less</td>
<td>77.5</td>
<td>71.1</td>
<td>$\chi^2(1, N=118)=0.58, p=0.45$</td>
</tr>
<tr>
<td>% Court-Mandated Participation</td>
<td>44.6</td>
<td>59.5</td>
<td>$\chi^2(1, N=123)=0.58, p=0.45$</td>
</tr>
</tbody>
</table>
differences found with respect to physical abuse, neglect, or sexual abuse history. However, there was a significant difference between groups with respect to prenatal exposure to alcohol or drugs. Those children whose mothers were in the Non-Optimal group were significantly more likely to have been exposed to alcohol or drugs in-utero than were those children whose mothers were in the Optimal group. Therefore, this variable was controlled for in the subsequent analyses.

Table 2

*Maltreatment History Differences Between Non-Optimal and Optimal Groups*

<table>
<thead>
<tr>
<th></th>
<th>Non-Optimal</th>
<th>Optimal</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Physical Abuse history</td>
<td>41.2</td>
<td>52.6</td>
<td>$\chi^2(1, N=123) = 1.39, p=0.24$</td>
</tr>
<tr>
<td>% Neglect history</td>
<td>58.5</td>
<td>44.7</td>
<td>$\chi^2(1, N=123) = 2.10, p=0.15$</td>
</tr>
<tr>
<td>% Sexual Abuse history</td>
<td>6</td>
<td>2.7</td>
<td>$\chi^2(1, N=121) = 0.58, p=0.45$</td>
</tr>
<tr>
<td>% Prenatal exposure to AOD</td>
<td>54.1</td>
<td>31.6</td>
<td>$\chi^2(1, N=123) = 5.35, p=0.02$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$\varphi = -0.21$</td>
</tr>
</tbody>
</table>

Treatment Effects

A repeated measures multivariate analysis of co-variance were performed on each of the standardized measures and the DPICS information in order to test the hypothesis that those children whose mothers exhibited Optimal levels of EA will demonstrate greater treatment effects than those who were classified as Non-Optimal. The repeated measures refers to the assessment point, as they were given at pre- and post-treatment and the
between subjects factor was the level of EA (Optimal vs. Non-Optimal). Due to there
being differences between groups with respect to pre-natal exposure to drugs and alcohol,
this was controlled for in each analysis.

Table 3

*Pre- and Post-treatment ECBI Scores by Level of Emotional Availability*

<table>
<thead>
<tr>
<th></th>
<th>Non-Optimal (N = 81)</th>
<th>Optimal (N = 35)</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECBI-Problem score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw score</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>131.5 (40.1)</td>
<td>118.6 (42.3)</td>
<td>Tx: F(1,113)=68.8,</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>83.9 (32.7)</td>
<td>83.0 (36.0)</td>
<td>p&lt;.001, $\eta^2=.38$, Power=1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tx x EA: F(1,113)=2.34,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>p=.13, $\eta^2=.02$, Power=.33</td>
</tr>
<tr>
<td><strong>ECBI-Number score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw score</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>15.8 (8.1)</td>
<td>11.9 (8.0)</td>
<td>Tx: F(1,113)=119.4,</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>4.9 (6.3)</td>
<td>2.6 (3.9)</td>
<td>p&lt;.001, $\eta^2=.51$, Power=1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tx x EA: F(1,113)=2.13,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>p=.15, $\eta^2=.02$, Power=.30</td>
</tr>
<tr>
<td><strong>ECBI-Overall F</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tx: F(2,112)=61.17,</td>
<td>$p&lt;.001$, $\eta^2=.51$, Power=1.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$p&lt;.001$, $\eta^2=.51$, Power=1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tx x EA: F(2,112)=1.37, $p=.26$, $\eta^2=.02$, Power=.29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tables 3 and 4 describe the pre- and post-treatment measures of child behavior and
treatment effects. Table 3 provides specific information regarding ECBI scores, which is
a measure that reflects the parent report of the number and frequency of various behavior
problems that are associated with disruptive behavior disorders. While there was a significant overall treatment effect as both groups demonstrated a significant decrease in the problem score and number score, there was no variation in treatment effects by level of EA. Table 4 describes the pre- and post-treatment CBCL scores. The CBCL is also a parent-report measure that includes externalizing, internalizing, and overall broadband scores. Again, as with the ECBI, there was a significant overall treatment effect for both groups as problems on all three scales decreased from pre- to post-treatment, but there was no significant interaction by EA. This indicates that both groups demonstrated significant improvement on these measures from pre- to post-treatment and there was no difference in the level of improvement between the two groups.

Table 5 refers to pre- and post-treatment scores on the SCI-90R/BSI measures, which are measures of parental psychopathology. A significant main effect for treatment was found, however, there were no differences in treatment effects found between Non-Optimal and Optimal groups. Table 6 refers to the scores from the PSI-SF. There was a strong overall treatment effect, but again, no difference in treatment effects between Non-Optimal and Optimal groups.

Mean DPICS scores and treatment effects are described in Table 7. A main effect for treatment was found such that from pre to post-treatment, all parents increased in their use of praises, behavioral descriptions, and reflections while reducing negative communication skills. Although there were no significant interactions by EA, a marginally significant interaction was detected for reflections (F(1, 79) = 3.74, p = .06). Over the course of treatment, those mothers in the Optimal EA group showed a slightly
greater, though not significant, increase in their use of reflections compared to mothers in the Non-Optimal EA group.

Table 4

*Pre- and Post-treatment CBCL Scores by Level of Emotional Availability*

<table>
<thead>
<tr>
<th></th>
<th>Non-Optimal</th>
<th>Optimal</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N = 77)</td>
<td>(N = 35)</td>
<td></td>
</tr>
<tr>
<td>CBCL-Externalizing (t-score)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>60.26 (12.41)</td>
<td>55.57 (12.74)</td>
<td>$p &lt; .001$, $\eta^2 = .32$, Power = 1.0</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>48.49 (12.26)</td>
<td>48.37 (11.81)</td>
<td>$p = .09$, $\eta^2 = .03$, Power = .40</td>
</tr>
<tr>
<td>CBCL-Internalizing (t-score)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>55.09 (10.84)</td>
<td>52.26 (11.13)</td>
<td>$p &lt; .001$, $\eta^2 = .41$, Power = 1.0</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>43.79 (11.31)</td>
<td>44.11 (39.87)</td>
<td>$p = .16$, $\eta^2 = .02$, Power = .29</td>
</tr>
<tr>
<td>CBCL-Total Score (t-score)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>58.13 (11.49)</td>
<td>54.77 (13.12)</td>
<td>$p &lt; .001$, $\eta^2 = .40$, Power = 1.0</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>46.35 (11.90)</td>
<td>46.97 (12.10)</td>
<td>$p = .09$, $\eta^2 = .03$, Power = .41</td>
</tr>
<tr>
<td>CBCL-Overall F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F(3, 108) = 26.95$, $p &lt; .001$, $\eta^2 = .43$, Power = 1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F(3, 108) = 1.04$, $p = .38$, $\eta^2 = .03$, Power = .27</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5

*Pre- and Post-treatment SCL-90R/BSI Scores by Level of Emotional Availability*

<table>
<thead>
<tr>
<th></th>
<th>Non-Optimal (N = 70)</th>
<th>Optimal (N = 31)</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean (SD)</strong></td>
<td>52.2 (15.1)</td>
<td>49.2 (11.8)</td>
<td>Tx: F(1,98)=12.48, $p&lt;.001$, $\eta^2=.11$, Power=.94</td>
</tr>
</tbody>
</table>
| **SCL-90R/BSI (T-scores)** |                       |                   | Tx x EA: F(1,91)=.04,  
| Pre-treatment        | 46.1 (12.2)           | 43.4 (10.9)       | $p=.84, \eta^2=0$, Power=.06 |
| Post-treatment       |                       |                   |                  |
Table 6

*Pre- and Post-treatment PSI-SF Scores by Level of Emotional Availability*

<table>
<thead>
<tr>
<th></th>
<th>Non-Optimal (N = 63)</th>
<th>Optimal (N = 26)</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean (SD)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSI-SF Difficult Child (raw scores)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>35.2 (9.0)</td>
<td>31.8 (9.7)</td>
<td>$\eta^2=.18$, Power=.99</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>28.0 (8.8)</td>
<td>26.7 (9.5)</td>
<td>$\eta^2=1.05$, $p=.31$, $\eta^2=0.01$, Power=.17</td>
</tr>
<tr>
<td>PSI-SF Parent Distress (raw scores)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>26.1 (7.8)</td>
<td>23.5 (7.6)</td>
<td>$\eta^2=.04$, Power=.46</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>23.3 (7.5)</td>
<td>21.6 (6.0)</td>
<td>$\eta^2=0.24$, $p=.63$, $\eta^2=0.003$, Power=.08</td>
</tr>
<tr>
<td>PSI-SF Parent-Child Relationship Dysfunction (raw scores)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>25.6 (5.7)</td>
<td>24.0 (6.2)</td>
<td>$\eta^2=.04$, Power=.51</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>22.7 (6.1)</td>
<td>22.0 (6.8)</td>
<td>$\eta^2=0.30$, $p=.59$, $\eta^2=0.003$, Power=.08</td>
</tr>
<tr>
<td>PSI-SF Overall F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$F(3,86)=6.29$, $p&lt;.001$, $\eta^2=.18$, Power=.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$F(3,86)=.35$, $p=.79$, $\eta^2=.01$, Power=.12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 7

*Pre- and Post-treatment DPICS Scores by Level of Emotional Availability*

<table>
<thead>
<tr>
<th></th>
<th>Non-Optimal (N = 62)</th>
<th>Optimal (N = 19)</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
</tr>
<tr>
<td>Praise</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>1.95 (2.62)</td>
<td>3.0 (3.17)</td>
<td>$p &lt; .001, \eta^2 = .69, \text{Power} = 1.0$</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>15.32 (7.15)</td>
<td>15.32 (8.9)</td>
<td>$p = .56, \eta^2 = .004, \text{Power} = .08$</td>
</tr>
<tr>
<td>Behavioral Descriptions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>.18 (.50)</td>
<td>.47 (.96)</td>
<td>$p &lt; .001, \eta^2 = .22, \text{Power} = 1.0$</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>3.74 (4.98)</td>
<td>2.68 (3.82)</td>
<td>$p = .28, \eta^2 = .02, \text{Power} = .19$</td>
</tr>
<tr>
<td>Reflections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>1.65 (1.87)</td>
<td>2.16 (2.27)</td>
<td>$p &lt; .001, \eta^2 = .22, \text{Power} = 1.0$</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>3.47 (3.03)</td>
<td>4.95 (4.13)</td>
<td>$p = .33, \eta^2 = .01, \text{Power} = .16$</td>
</tr>
<tr>
<td>Questions/Commands/Criticisms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-treatment</td>
<td>38.37 (15.75)</td>
<td>37.42 (16.36)</td>
<td>$p &lt; .001, \eta^2 = .64, \text{Power} = 1.0$</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>12.89 (8.57)</td>
<td>11.21 (6.87)</td>
<td>$p = .87, \eta^2 = .00, \text{Power} = .05$</td>
</tr>
</tbody>
</table>

Tx: $F(1, 79) = 178.34, \eta^2 = .69, \text{Power} = 1.0$

Tx: $F(1, 79) = 21.82, \eta^2 = .22, \text{Power} = 1.0$

Tx: $F(1, 79) = 21.66, \eta^2 = .22, \text{Power} = 1.0$

Tx: $F(1, 79) = 143.17, \eta^2 = .64, \text{Power} = 1.0$
Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This researcher utilized a multivariate analysis of covariance in order to test the hypothesis that children whose mothers exhibit optimal levels of Emotional Availability (EA) at pre-treatment would exhibit significantly greater treatment effect sizes in Parent-Child Interaction Therapy (PCIT) than those children whose mothers exhibit non-optimal levels of EA. The analysis indicated that there was no statistical difference found in the treatment effect sizes between these two groups. However, it must be noted that the study was underpowered due to the small number of mothers who met criteria for the “Optimal” group despite this researchers attempt to maximize the sample size and the number in both groups. Not only did the study widen the inclusion criteria by requiring only one measure of child behavior, but the criteria for the Optimal group was also more liberal due to the high-risk nature of the sample. While lowering the optimal criteria increased the group size, this may contributed to the groups being more similar than different. The small size of the Optimal group is reflective of the research, which indicated that children with a maltreatment history often have disorganized attachment styles, which may result from unpredictable and insensitive parenting (Cicchetti, Cummings, Greenberg, & Marvin, 1990).

Although there were no statistical differences between Optimal and Non-Optimal groups with regards to treatment effects, the Optimal group did demonstrate notably higher levels of reflections at both pre- and post-treatment. Though the differences were
not statistically significant, this was interesting in light when compared to Rocissano, Slade, and Lynch’s (1987) research on dyadic synchrony which indicated that those children whose parents who are able to follow their play and maintain synchrony, are more likely to be compliant with directives. Reflections are a clear indicator that the parent is following the child’s lead as the parent is repeating what the child says. The higher level of reflections at pre-treatment may be a contributor to the lower levels of disruptive behaviors reported by the Optimal group at pre-treatment.

While the hypothesis was not supported by the data, the overall treatment effect size for both groups was significant and adequately powered. In addition to a reduction in externalizing behaviors as indicated by the Eyberg Child Behavior Inventory (ECBI) and the Child Behavior Checklist (CBCL), the mothers also reported reductions in their own psychiatric symptoms on the Symptom Checklist 90-R (SCL-90-R)/Brief Symptom Inventory (BSI). Furthermore, there was a significant overall treatment effect on the Parent Stress Index-Short Form (PSI-SF). This data supports extensive research that demonstrates that PCIT is an effective treatment for reducing disruptive behaviors in children ages 2 to 7 years old and for improving the parent-child relationship. Additionally, it also supports research that has identified PCIT as an effective intervention with maltreating mother-child dyads.

Recommendations

According to the findings in this study and various other studies, PCIT is an effective treatment for children who have experienced maltreatment and are exhibiting clinical levels of disruptive behaviors. Additionally, it is likely that future abuse may be
prevented by decreased behavior problems, decreased parent stress, as well as an overall improvement in the parent-child relationship. Therefore, when possible, social workers should consider PCIT when either referring or treating children with the aforementioned risk factors. Regardless of the level of EA, parents and children can benefit from the intervention.

With regards to future studies, this researcher recommends that an increased sample size be utilized in order to increase the power of the study. Additionally, it may be more feasible to conduct additional studies with a lower risk sample. In the present study, it was challenging to obtain an adequate number for the Optimal group with the high-risk population utilized. In a lower risk sample, the EA scales may be utilized without requiring adjustment. Continued research in issues pertaining to EA and attachment is necessary in order to identify preventative interventions for parents who are at high-risk for maltreating.
REFERENCES


Campbell, S., Cohn, J., & Meyers, T. (1995). Depression in first-time mothers: Mother-


curriculum for parents of young children: Parenting the strong-willed child. 


