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Treatment Response in Families of Children with Externalizing Disorders: A Family Functioning Model

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UNIVERSITY OF MIAMI

TREATMENT RESPONSE IN FAMILIES OF CHILDREN WITH EXTERNALIZING
DISORDERS: A FAMILY FUNCTIONING MODEL

By

Hallie Robyn Bregman

A THESIS

Submitted to the Faculty
of the University of Miami
in partial fulfillment of the requirements for
the degree of Master of Science

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DISORDERS: A FAMILY FUNCTIONING MODEL

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This study evaluated the efficacy of a parent training and a family-based intervention targeting externalizing behavior in school-age boys. This study examined the impact of psychosocial treatments on family functioning, and investigates dimensions of family functioning as mechanisms of therapeutic change. A predominately Hispanic sample of 46 families were recruited as part of a larger research project. Study participants ranged in age from 7 to 12 years and exhibited significant behavioral difficulties related to either ADHD or oppositionality and defiance. Measures used to assess changes in child behavior and family functioning included the Eyberg Child Behavior Inventory, the Family Interaction Scale, and the System for Coding Interactions and Family Functioning. Clinically relevant and statistically significant improvement in child behavior problems and dimensions of family functioning were found at post-treatment. These findings are clinically important as they identify parent training and family therapy as efficacious in treatment both child behavior problems and family functioning.

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Chapter 1: Introduction

Externalizing behavior problems are among the most common and, if untreated, the most pernicious of the mental health disorders that affect children, especially boys (Archer & Côté, 2005; McMahon, Wells, & Kotler, 2006; Webster-Stratton, 1993). Externalizing problem behavior is a broadband term that includes impulsivity, defiance, spiteful and vindictive behaviors, and subsumes specific disorders such as Oppositional Defiant Disorder (ODD) and Attention Deficit Hyperactivity Disorder (ADHD; Nigg & Nikolas, 2008; Lahey, 2008). Median estimates for the prevalence of diagnosable behavior problems in community samples are about 3%, with rates as high as 16% when less stringent criteria are employed (Costello, Egger, & Angold, 2005; Loeber, Burke, Lahey, Winters, & Zera, 2000). Research has shown that externalizing behavior problems are highly stable and associated with a range of negative outcomes, including criminal activity, poor health and educational outcomes, and early pregnancy (Coie & Dodge, 1998; McMahon, Wells, & Kotler, 2006).

Fortunately, several treatment approaches have been established as efficacious or probably efficacious for reducing child behavior problems (Eyberg, Nelson, & Boggs, 2008). Psychosocial treatments are among the most promising interventions and when compared to waitlist or no-treatment control groups, studies consistently show these types of treatment approaches to be highly effective at reducing externalizing behavior problems (Eyberg, Nelson, & Boggs, 2008). Among the evidence-based psychosocial treatments, approaches with strong empirical support include parent management training programs (e.g., Incredible Years Parent Training, Parent-Child Interaction Therapy, Enhanced Triple P; Webster-Stratton & Reid, 2003; Brinkmeyer & Eyberg, 2003;

Sanders, 1999) and also those that target patterns of family interaction (e.g., Multisystemic Therapy; Henggeler & Lee, 2003; Eyberg, Nelson, & Boggs, 2008).

While parent training programs have been shown to be efficacious across a range of ages, family-based programs, although shown to reduce disruptive behavior with preschoolers and adolescents, are less well tested in school age populations. In addition, factors that might predict or impact treatment response are not well understood for either parent training or family therapy. The present study seeks to understand the impact of parent training and family therapy on family functioning and to understand the role of family functioning as a mechanism of treatment efficacy. The current study will examine treatment efficacy, family functioning, and child behavior in a multi-ethnic group of school-age boys.

The Efficacy of Parent Training

Parent training interventions are based on the premise that parenting practices contribute to the development and progression of conduct problems in youth and of all the psychosocial treatments available, these are the most common (Lundahl, Risser, & Lovejoy, 2006). Parent training programs attempt to address change in children's behavior by modifying parenting behaviors, perceptions, and communication and by teaching parenting strategies based on social-learning and behavioral principles (Lundahl, Risser, & Lovejoy, 2006; Kazdin, 2005). Although there is some variability across parent training programs, a foundation in social-learning theory and behaviorism remains constant. Often, parent management training programs focus on teaching parents how to apply operant conditioning principles, including punishment and reinforcement in response to children's behavior (Kazdin, 2005). Parents typically are taught how to give

proper commands, reward appropriate behavior, provide consequences consistently, provide differential attention, and manage future behavior problems (Kazdin, 2005; McMahon & Forehand, 2003).

The efficacy of parent training as treatment for child problem behavior is well-established. In fact, in their review of the literature from 1996 to 2007, Eyberg, Nelson, and Boggs (2008) identified sixteen evidence-based psychosocial treatments for children with disruptive behavior, six of which were classified as parent training programs. Furthermore, multiple studies have found that interventions with parent training are, at a minimum, equally successful at improving child externalizing behaviors as interventions that did not include parent training, such as teacher training and child-focused treatment (Beauchaine, Webster-Stratton, & Reid, 2005; Webster-Stratton & Hammond, 1997). Although parent training has repeatedly been shown to reduce child behavior problems, less well understood is the impact of parent training on dimensions of whole family functioning. However, an indirect relationship between parent training and family functioning is expected through changes in parenting behaviors and parent-child relationships. While some parent training interventions, such as the Parent-Child Interaction Therapy (PCIT; Werba, Eyberg, Boggs, & Algina, 2006), have examined the impact of parent training on parenting behaviors, such as negative reinforcement and skill encouragement, and parenting stress (Costin & Chambers, 2007; Forgatch & DeGarmo, 1999; Webster-Stratton & Hammond, 1997), limited research has been conducted examining the impact of parent training on dimensions of whole family functioning, such as family conflict, family cohesion, and family subsystem relationships. One of the goals of the present study is to contribute to this gap in the literature.

Parent training has been shown to be effective across a range of demographic factors, including socioeconomic status and marital status, although parent training has been found to be less effective with economically disadvantaged families and single-parent families (Lundahl, Tollefson, Risser, & Lovejoy, 2008; Serketich & Dumas, 1996). The efficacy of parent training has been demonstrated for both boys and girls and across a wide age range, from 3 to 16 years of age. In addition, parent training interventions have been documented to be effective in improving an assortment of child behavior problems, including attention deficit hyperactivity disorder (ADHD) and disruptive behaviors such as aggression, noncompliance, defiance, antisocial behavior, and conduct disorder behavior.

The efficacy of parenting programs with ethnic minority samples, however, is not well examined. In fact, in four meta-analyses examining the efficacy of parent training conducted in the past 15 years, ethnicity was not reported or analyzed in any of them (Kaminski, Valle, Filene, & Boyle, 2008; Lundahl, Risser, & Lovejoy, 2006; Maughan, Christiansen, Jenson, Olympia, & Clark, 2005; Serketich & Dumas, 1996). Examination of ten randomly selected studies from the 245 studies considered in the above meta-analyses showed that most of the work with parent training to date has been done with Caucasian samples. Hispanic families, in particular, are under-represented. In Eyberg, Nelson and Boggs' (2008) recent review of the literature of evidence-based psychosocial treatments for disruptive behavior, Hispanic families were included in just 7 of the 28 studies examined. However, Hispanic families were less than 10% of the study population in all studies and were not the focus of any of the studies. Across the 28

studies, it is estimated that only 4% of the participants were Hispanic. Clearly, more research on the efficacy of parent training in Hispanic populations is needed.

Most studies of parent training rely on self or parent report to measure change, though some studies also employ teacher report (Eyberg, Nelson & Boggs, 2008; Lundahl et al., 2008; Maughan et al., 2005; Ollendick, Jarrett, Grills-Taquechel, Hovey, & Wolff, 2008; Serketich & Dumas, 1996). Fewer than half of the studies in the Eyberg review included observational assessments (Eyberg, Nelson and Boggs, 2008) and in a meta-analysis of parent training efficacy that included 19 studies, a majority (approximately 2/3 of the studies) relied solely on self-report methodology (Reyno & McGrath, 2006). In the large majority of the studies in both reviews that did use observational assessment, the children were under eight years of age and most used observational methods only to assess child behavioral outcomes (Eyberg, Nelson & Boggs, 2008; Reyno & McGrath, 2006). Thus, there is limited use of observational measurement in school-age samples and very few studies have explored the impact of treatment on whole family functioning. Observational methodology is an important research tool for family-based research because many constructs are difficult for parents to self-report on, especially in terms of interactional processes whereby some patterns might be difficult to self-observe (e.g., subsystem alliances) or may be subject to social desirability (e.g., cohesion). In addition, the perspective of an “outsider” provides a less biased and a unique perspective.

The Efficacy of Family-based Approaches

In general, there is support for the efficacy of a range of family therapies as treatment for youth problem behaviors, although the body of work is much smaller than

the literature on parent training efficacy (Carr, 2000; Cottrell & Boston, 2002; Hazelrigg, Cooper, & Borduin, 1987). Schools of family therapy are influenced by family systems theory and the key premise behind all types of family therapy is that children's problem behaviors must be understood and treated in the context of the family system (Hazelrigg, Cooper, & Borduin, 1987). Family therapy emphasizes family relationships as an important factor in psychological health; communication patterns among family members are common targets of change.

Two of the more prominent family therapy approaches in the treatment of externalizing behavior problems are functional family therapy and structural family therapy. Functional family therapy aims to engage and motivate families by decreasing negativity among family members. It focuses on reducing behavior problems and improving family relational patterns through interventions such as skills training in family communication, parenting, problem solving and conflict management (Sexton & Alexander, 2000). Structural family therapy targets familial systems and subsystems, focusing on the development of clear and appropriate subsystem boundaries (Minuchin, 1974). According to structural family therapy, in healthy families, parent-child boundaries are clear and permeable, allowing parents to interact together with some degree of authority in negotiating between themselves and the methods and goals of parenting (Minuchin & Fishman, 1981). Parents are distant enough from the child to allow for some autonomy, but not so rigid or aloof as to ignore the child's needs for support and nurturance. Dysfunctional families exhibit coalitions and an aim of structural family therapy is to help families see the imbalances and be open to

restructuring. The present study combines elements of functional and structural family therapy to treat child behavior problems.

A vast majority of the research on family therapy focuses on either very young children or on adolescent populations, especially adolescents experiencing problems related to delinquency and substance use/abuse (e.g., Santisteban et al., 2003; Sexton & Alexander, 2000). Of the 28 well-conducted evidence-based treatment studies identified by Eyberg, Nelson and Boggs (2008), three efficacious or probably efficacious family treatments were identified. Two treatments targeted severely disturbed adolescents (Multidimensional Treatment Foster Care, Multisystemic Therapy) and one targeted preschoolers (Triple P Enhanced). None targeted school age children. Even when family models are used with youth under 13 years of age, the emphasis tends to be on youth already involved in the juvenile justice system (e.g., Harrison, Boyle, & Farley, 1999). Perhaps due to the severity of the populations, family approaches with adolescents tend to be multisystemic or multidimensional in nature, thus making it difficult to examine the efficacy of family therapy in and of itself (e.g., Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Liddle et al., 2001).

In sum, although there is burgeoning evidence that family-based approaches work well with preschoolers and that intensive therapy involving multiple systems is effective with adolescents with severe cases of delinquency and drug addiction, the promise of family treatment models for school-age populations with less severe problems is not well studied. Little is known about the ability of traditional, once-per-week office-based family therapy models to improve functioning in school-age children with mild to moderate conduct difficulties. In addition, many studies of family therapies are

methodologically flawed, most commonly due to a failure to include control groups or poor outcome measurement (Hazelrigg, Cooper, & Borduin, 1987). This study seeks to correct such flaws by including a waitlist control group, a comparison treatment group, and by using established measures of family processes and child problem behaviors.

As with the study of parent training, few studies of family therapy include ethnic minority samples, Hispanic families in particular. An exception to this are the series of studies conducted by Jose Szapocznik, Dan Santisteban and their colleagues (e.g., Santisteban et al., 2003; Szapocznik et al., 1989). This research group employs structural and strategic family therapy interventions to treat externalizing behavior problems in Hispanic youth. Although most of this work focuses on adolescents with serious difficulties (e.g., drug use, violent behavior, trouble with police), one study focused on children ages 6 to 12 (Szapocznik et al., 1989). This study found that structural family therapy was effective at reducing emotional and behavioral problems and it was superior to individual psychodynamic play therapy in improving family functioning long-term. This study was limited in its measurement of outcome (one questionnaire regarding behavior completed by the mother and a depression questionnaire completed by the son) and it did not examine mediators of treatment efficacy (Szapocznik et al., 1989). In addition, the comparison treatment (psychodynamic) was not the strongest possible available.

Though the work of Szapocznik and his colleagues was ground-breaking for its focus on Hispanic families, there remain relatively few studies that focus on family-based interventions with this ethnic group, and even fewer that focus on school-age children specifically. It is important to examine the efficacy of family therapy differentially with

Hispanic versus Caucasian families due to cultural differences. In particular, familism, or the prioritizing of the family above personal self-interest, has significant value in the Hispanic culture (Sue & Sue, 1990). Based on the investment of all parties in the success of the family, family therapy may be especially effective for those of Hispanic ethnicity (Flicker, Waldron, Turner, Brody, & Hops, 2008).

To summarize thus far, parent training is well established as a treatment for child behavior problems, but the impact of this intervention on family functioning is not well understood. Family therapy has shown to be effective in its ability to improve family functioning in specific populations, but its impact on behavior problems in the school age years is not well studied. For both treatment approaches, data with Hispanic families are limited. The present study seeks to contribute to these gaps in the literature.

Demographic Predictors of Treatment Response

Although psychosocial interventions for child problem behavior have been established as efficacious, less is known about how treatment works, for whom treatment works, and under what conditions treatment works. There is a need to understand the answers to these questions in order to most effectively use these treatments. The majority of existing research studying differential treatment efficacy examines predictors of treatment success. Predictors are pre-treatment conditions that show a universal relationship with treatment response; in other words, the influence of a predictor does not change across intervention conditions (Johansson & Hoglend, 2007).

Comorbidity and ethnicity are two demographic predictors of treatment response that have recently been examined, though data are limited. Ollendick and colleagues (2008) conducted a review that examined comorbidity as a predictor and moderator of

treatment outcome for children with ODD; of the 28 studies included, 8 studies considered comorbidity as a predictor and one study examined comorbidity as a moderator. Comorbid conditions that were examined included depression, ADHD, adjustment disorder, bipolar disorder, and anxiety. The studies reviewed were a combination of cognitive-behavioral child treatment and parent training interventions, but no family-based approaches were included. In their review, most studies did not find comorbid conditions to have a significant impact on treatment outcome (Ollendick et al 2008). Similarly, comorbid ADHD also has not been shown to predict differences in treatment outcome in youth with conduct problems following either parent training interventions or multisystemic treatment (Beauchaine, Webster-Stratton, & Reid, 2005; Hartman, Stage, & Webster-Stratton, 2003; The Conduct Problems Prevention Research Group, 2002).

Although most studies to date have not found comorbidity to predict treatment success, Kazdin and Whitley (2006) did find comorbid diagnoses, including ADHD, depression, and anxiety, to affect treatment outcome in children who were diagnosed with ODD or CD, such that children with multiple diagnoses were likely to show greater therapeutic change following parent training intervention. This study was the first to examine number of comorbid diagnoses as a predictor of treatment response, and results showed that youth with 2 or more comorbid diagnoses were more likely to show greater treatment response than youth with 0 or 1 comorbid diagnoses. Thus, depending on the classification of comorbidity (i.e., any comorbid disorders vs. # of comorbid disorders), there are mixed findings about the role of comorbidity in treatment response following

parent training and comorbidity has not been well-studied as a predictor of family therapy efficacy.

Of the few studies that have examined ethnicity as a predictor of treatment response, ethnicity has not been found to predict treatment response for either parent training or family therapy (Brondino, Henggeler, Rowland, & Pickrel, 1997; Henggeler, Melton, & Smith, 1992; Reid, Webster-Stratton, & Beauchaine, 2001; Strain, Young, & Horowitz, 1981). For instance, Henggeler, Melton, and Smith (1992) found that multisystemic family therapy was not differentially effective for adolescent juvenile offenders across ethnic groups. Reid, Webster-Stratton, and Beauchaine (2001) found no treatment differences across ethnicity following a parent training intervention for Head Start students (Reid et al., 2001). However, some studies have found minority status to predict dropout (Holden, Lavigne, & Cameron, 1990; Kazdin, Mazurick, & Bass, 1993). In a treatment study of children exhibiting antisocial behavior, those of minority status were more likely to drop-out of treatment than children of Caucasian ethnicity (Kazdin, Mazurick, & Bass, 1993). Although the limited data to date suggest that ethnicity does not predict treatment response, few families of Hispanic origin are included in these studies.

Family Functioning, Links with Child Adjustment and Psychosocial Interventions

Several types of psychosocial interventions have been shown to be effective in reducing child behavior problems, but less clear are the mechanisms of change or the factors that predict which families will be maximally responsive to treatments (Johansson & Hoglend, 2007; Kazdin, 2006; Kazdin, 2007). Although dimensions of family functioning such as family cohesion, family conflict, and subsystem alliances have not

been examined as mediators of treatment effects, each of these family processes has been linked to youth behavior problems and thus are potential candidates to serve as mechanisms of change.

Family conflict. There is little debate that there is an inverse relationship between conflict in the home and youth problem behaviors (Buehler, Anthony, Krishnakumar, & Stone, 1997; Cummings & Davies, 1994; Davies & Cummings, 1994; Grych & Fincham, 1990). Buehler and colleagues (1997) conducted a meta-analysis of 68 studies examining the relationship between interparental conflict and youth behavior problems in both clinical and community samples. Family problems such as interparental conflict were consistently linked to disruptive behavior problems in youth. This finding has been replicated across child and adolescent samples and across Caucasian, African-American, and Hispanic families (Buehler et al., 1997; Lindahl & Malik, 1999). Although the impact of marital conflict on child functioning is well studied, limited data exist with respect to whole family conflict (i.e., conflict interactions that include the child). It has been suggested that whole family processes are especially important because the family should be considered as a complete unit whose subsystems cannot be understood apart from the whole family system (Cox & Paley, 2003).

Only one study was identified that examined the impact of parent training or family therapy on family conflict. Harrison, Boyle, and Farley (1999) found significant improvements in family conflict following a family skills training program for troubled children ages 9 to 12 (Harrison et al., 1999). However, this study has a number of limitations. First, the sample was predominately Mormon (78%), which limits the generalizability of the findings to non-Mormon populations. Also, only parent-report

measures were used in this study; this may be problematic in that studies have suggested that parents are likely to overestimate change following treatment (Patterson, 1982).

Several studies have found parent training to reduce marital conflict or enhance marital satisfaction (Dadds, Schwartz, & Sanders, 1987; Zubrick et al., 2005), although the impact on whole family conflict has not been examined.

Family cohesion. Family cohesion has been associated with children's externalizing behaviors, such that families with lower cohesion are more likely to have youth with increased behavior problems, as reported by self, mothers, and teachers (Barber & Buehler, 1996; Lucia & Breslau, 2006). Lindahl (1998) found low family cohesion to differentiate disruptive behavior problems, with families with a son with ODD showing less cohesiveness than families with a son with ADHD (who did not differ from a control group). Lindahl and Malik (1999) found cohesion to be associated with externalizing behavior problems, though the relationship was stronger for Hispanic-American than European-American families. Furthermore, low family cohesion has been found to predict delinquency and behavior problems in adolescents (Farrell & Barnes, 1993; Matherne & Thomas, 2001).

Consistent with the goals of family-based treatments, research has demonstrated that family therapy has an effect on family cohesion. Although several studies have demonstrated the efficacy of interventions that include a family treatment component to improve family cohesion with adolescents (Henggeler, Melton, & Smith, 1992; Hogue, Dauber, Samuolis, & Liddle, 2006; McMahon, Wells, & Kotler, 2006), the issue is less well studied with younger children. In one of the few family therapy studies with school-aged children, Harrison, Boyle, and Farley (1999) found increased cohesion following a

family skills training program. No studies were identified that examined the potential impact of parent training on family cohesiveness. It is possible that through the use of more effective skills parenting techniques, however, family cohesion would be increased.

Family alliances. Systemic and structural theories of family functioning describe several types of disturbed family alliances, including dyadic alliances and weak or disengaged alliances (Minuchin, 1974). Triangulation is the most commonly studied dyadic alliance, which occurs when a child is allied with one parent against the other, either due to pressure or influence from a parent or at their own initiative (Minuchin, 1974). Detouring alliances are dyadic alliances in which marital conflict is re-routed through the child. Minuchin (1974) suggests that detouring alliances refocus attention from marital conflict to the child, such that children's emotional well-being is affected. A weak/disengaged alliance exists when there is little closeness among any family member.

Though limited data exist, research thus far suggests that disturbed family alliances are associated with child maladjustment. Children who experience dyadic alliances are at greater risk of developing maladaptive behavior, including externalizing disorders and hostile and oppositional behavior (Kerig, 1995; Lindahl, Malik, Kaczynski, & Simons, 2004). Kerig (1995) found that children in families with both triangulated and detouring alliances have higher levels of externalizing problems than children in families with balanced relationships. A study of triangulation with adolescents found similar results (Davis, Hops, Alpert, & Sheeber, 1998). Kerig (1995) also found that families with weak or disengaged alliances tend to have children with more externalizing problems than internalizing problems and more externalizing problems than children in

families with balanced alliances. Very few studies have examined alliance formations in Hispanic families, though studies thus far have found detouring and disengaged alliances to be associated with externalizing behavior for both Hispanic-American and European-American families (Lindahl & Malik, 1999; Lindahl, Malik, Kaczynski, & Simons, 2004).

The effect of psychosocial treatments for disruptive behavior problems on family alliances has not been directly studied. It is expected that family therapy may impact alliances, because it directly targets unhealthy family interaction patterns. It is expected that family alliances will become stronger and more balanced in the context of family therapy, but not necessarily parent training.

Family Factors as Mediators of Treatment Response

Mediators are variables through which a given effect occurs; in other words, they are the mechanism by which an independent variable is related to a dependent variable (Baron & Kenny, 1986; Holmbeck, 1997). There is limited research examining mechanisms of treatment efficacy in the general literature on child psychotherapy (Kazdin, 1993; Weersing & Weisz, 2002). Even more limited is literature exploring mechanisms of treatment efficacy for behaviorally disordered youth (Hinshaw, 2002; Weersing & Weisz, 2002). Although parenting skills, treatment fidelity, and therapeutic alliance have been examined as possible mediators, family factors are not well explored (Hinshaw, 2002; Johansson & Hoglend, 2007; Weersing & Weisz, 2002).

Only three studies have directly studied mediators of treatment efficacy in populations of behaviorally-disordered children. Eddy and Chamberlain (2000) identified caregiver management skills as mediators, such that adolescents receiving

increased adult supervision and discipline and positive adult-youth relationships showed fewer antisocial behaviors following treatment. In a study of conduct-disordered school-age children, Beauchaine, Webster-Stratton, and Reid (2005) found verbal criticism and harsh parenting to mediate the relationship between a multisystemic psychosocial intervention and conduct problems. Improvement in mother-child relationship quality was found to mediate long-term treatment effects from a parent training program on adolescents' adjustment outcomes (Zhou, Sandler, Millsap, Wolchik, & Dawson-McClure, 2008).

Research has only begun to consider the role of whole family processes as mediators of the relationship between treatment and outcome. Huey, Henggeler, Brondino, & Pickrel (2000) found improvements in global family functioning and family cohesion to be significantly associated with reductions in delinquency in aggressive, substance abusing adolescents, though mediation was not formally tested. The present study aims to better understand how dimensions of family functioning, including conflict, cohesion, and alliance formation, serve as mechanisms of change following a therapeutic intervention by using formal tests of statistical mediation in a sample of school-age boys with disruptive behavior problems.

Limitations of Existing Research

The literature on processes of change related to therapeutic intervention and child outcomes has come a long way in the past couple of decades, but still contains several limitations. First, few studies have included both mothers and fathers in their evaluations. One important reason for including both mothers and fathers in the study of treatment response is that parents have been shown to differ in their perceptions of child

behavior (Duhig, Renk, Epstein, & Phares, 2000; Treutler & Epkins, 2003). In fact, a meta-analysis of studies examining interparental agreement of child externalizing disorders identified only a moderate level of agreement between parents (Duhig et al., 2000). These differences in mother and father-report are evidence that conclusions cannot be drawn about the family without report from all family members. This study includes measures of both father and mother report of youth behavior problems and family functioning.

Second, few studies examine the impact of parent training or family therapy on both child behavior and family functioning. Furthermore, no prior research to date has directly compared parent training and family therapy approaches on dimensions of child behavior or family functioning. In addition, limited research uses observational assessment to examine whole family processes such as family conflict, family cohesion or alliance formation. Instead, most research to date focuses on dyadic parent-child functioning and employs self-report measures. Family-systems theory acknowledges the presence of subsystems within the whole family, but suggests that all individuals and subsystems must be included in order to generate the complete picture. This study includes observational measurement of triadic interactions between mothers, fathers, and children, in order to assess patterns of family functioning as they relate to treatment outcome.

Third, there is little research that includes Hispanic samples to examine the effects of intervention on child behavior problems or whole family functioning. Santisteban Muir-Malcolm, Mitrani, & Szapocznik (2002) recognize important differences in family systems from different ethnicities, and identify a need to integrate ethnicity, family

functioning, and family intervention research. Thus, it is important that treatment research considers ethnic differences when examining efficacy. This study uses a predominately Hispanic sample to examine the effects of intervention on child externalizing behaviors and family functioning.

Fourth, the majority of research on psychosocial treatment efficacy uses clinical samples (Eyberg, Nelson, & Boggs, 2008; McMahon, Wells, & Kotler, 2006). However, it is important to extend findings to community samples, because not all families experiencing difficulties with their children's behavior are able to seek clinical treatment. This study uses a community sample with identified behavior problems to examine treatment success and mechanisms of change.

The Present Study

This study seeks to examine the impact of parent training and family therapy on children's externalizing behavior problems and family functioning in a multi-ethnic sample. Increased information about those families who respond best to treatment will inform the development and application of interventions in the future. The following aims were pursued.

Specific Aim 1. The study aims to replicate previous research that demonstrates the efficacy of parent training and family therapy intervention approaches in reducing problematic behavior in boys. This study differs from most earlier work in three important ways: by examining these two treatment approaches simultaneously, by including a multi-ethnic sample, and by including a family-based approach with school-aged children.

A. As previously found, it is expected that boys' behavior problems will decrease following intervention (parent training or family therapy).

B. However, because there is a more consistent literature documenting the effectiveness of parent training, it is hypothesized that subjects randomized to parent training will show a greater reduction in behavior problems than subjects randomized to family therapy.

Specific Aim 2. The study aims to examine comorbidity and ethnicity as predictors of treatment success, regardless of the specific treatment approach utilized.

A. Comorbidity is expected to predict treatment response, such that more comorbid conditions are expected to be associated with greater treatment response (i.e., greater symptom reduction).

B. Ethnicity is not expected to predict treatment response.

Specific Aim 3. The study aims to examine the effect of psychosocial treatments on whole family functioning dimensions. Although family therapy approaches have been shown to improve family functioning in preschool and adolescent samples, the ability of this approach to produce similar changes in school age samples is not clear. Studies of parent training rarely examine the impact of this treatment approach on whole family functioning, and that is another contribution of this study.

A. It is hypothesized that family conflict will decline following parent training or family therapy, but it is expected that family therapy will have a stronger effect than parent training.

- B. It is hypothesized that family cohesion will increase following parent training or family therapy. It is expected that family therapy will have a stronger effect than parent training.
- C. It is hypothesized that family alliance formation will be affected by family therapy, such that families will shift from imbalanced to balanced alliances following family therapy. It is hypothesized that parent training will have no effect on alliance formation.

Specific Aim 4. The study aims to examine dimensions of family functioning as mediators of treatment response in families with boys with conduct problems (see Figure 1). No previous research has examined dimensions of whole family functioning as mediators of treatment response for parent training or family therapy interventions.

- A. It is hypothesized that reduction in family conflict will mediate the relationship between treatment and outcome. It is expected that greater reductions in family conflict will be associated with greater decreases in child behavior problems following family treatment.
- B. It is hypothesized that increases in family cohesion will mediate the relationship between treatment and outcome. It is hypothesized that greater increases in family cohesion will be associated with greater reductions in child behavior problems following treatment targeting families.
- C. It is expected that shift in alliance formation will mediate the relationship between family therapy and child behavior for the family therapy group, but not the parent training group. It is expected that shifts to balanced alliance formations will be associated with greater reduction in youth problem

behaviors following family therapy than families with dyadic or weak alliances.

Chapter 2: Method

Participants

Participants in the study included forty-six families who participated in a previous study that recruited families with a 7 to 12 year old son from local Miami Dade County Public Schools. Both families doing well and families experiencing behavioral difficulties with their son were encouraged to participate. Families with a child who met the clinical cut-off for ADHD on the ADHD Rating Scale (DuPaul, Power, Anastopoulos, & Reid, 1998) or for ODD on the ODD Rating Scale were offered free treatment (see Measures section for specific details).

Of the 143 families participating in the larger study, 82 were offered therapy, and 51 families initially indicated interest and began therapy. 5 families dropped out of treatment but treatment drop-out did not significantly differ between treatment conditions, $\chi^2(1) = 1.54, p = .22$. No differences were found between families who completed greater than 50% of treatment sessions (completers) and families who completed 50% or less of treatment sessions (non-completers) on measures of pre-treatment child behavior or family functioning or on measures of ethnicity and family income. Because no post-treatment data was collected for non-completers, only the 46 families completing more than half of the therapy sessions are included in the present study (see Figure 2). Of the 46 families who completed 5 or more of the 8 intervention sessions, 37 completed 7 to 8 sessions and 9 completed 5 to 6 sessions.

In the present study, the boys ranged from 7 to 12 years old (mean= 8.43; standard deviation = 1.06). Participants were diverse in ethnicity (Paternal ethnicity: 46.2% Non-Hispanic, 53.8% Hispanic; Maternal ethnicity: 50.0% Non-Hispanic, 50.0%

Hispanic). Parents reported yearly incomes ranging from under \$9,000 to above \$70,000, with 21.7% of the sample earning less than \$20,000, 28.2% of the sample earning \$20,000- \$40,000, 33.9% of the sample earning \$40,000 - \$60,000, and 26.0% of the sample earning more than \$60,000 per year. There were 37 two-parent families and 7 single parent families (all mothers).

Procedures

As part of the larger study, families came to a laboratory setting for a session that lasted about two hours. Written informed consent was obtained from parents, and written assent was obtained from children. After completing questionnaires, families were videotaped during a discussion about a recent conflict situation that involved all family members (mother-father-son in two-parent families and mother-son in single parent families). Families were instructed to discuss the conflict and try to reach a solution during a 12 minute period.

Families were randomly assigned to parent management training, family therapy, or a waitlist (WL) treatment condition (see Figure 2). All families in the WL were offered therapy after being re-evaluated at the end of the WL time period (mean = 11 weeks; range = 7 weeks to 14 weeks). When families from both the initial and the waitlist conditions are combined, 26 families completed more than 50% of parent training sessions and 20 families completed more than 50% of family therapy sessions. For both the parent and the family treatment groups, the first five sessions occurred on a weekly basis and the last 3 sessions occurred every other week.

For families who were assigned to parent management training, 8 sessions were scheduled over a period of 10 to 12 weeks. Both parents were encouraged to participate.

Each session lasted 1 ½ to 2 hours and was led by two graduate student therapists. There were 2 to 4 families in each parent management treatment group. Each session began with a group segment. Group sessions were didactic and focused on educating parents about parenting behaviors and their relationship to children's acting out behavior. Parenting behaviors that were targeted included accidental reinforcement of behavior problems, active or planned ignoring, how to implement a token or point system, the use of parent-child contracts, rewarding good alternative behavior (i.e., positive behaviors that replace negative behaviors should be rewarded), and grandma's rule (i.e., "fun" activities should follow completion of less desirable tasks such as chores or homework). Following the group session, couples went to separate rooms to discuss how to implement what was learned during the group session at home. Therapists divided their time among the couples during the couple segment to provide individualized support and guidance. Homework assignments, related to the lesson of the day, were given for each treatment session.

For families who were assigned to family therapy, 8 sessions were scheduled over a 10 to 12 week period. Each session was led by one graduate student therapist. There was flexibility in the family therapy sessions in order to tailor the treatment components to the needs of each individual family, such that sessions were loosely structured using a family therapy manual. Elements of functional and structural family therapy models of family therapy were combined. The family therapy treatment adhered to three core principles: 1) identifying how the child behavior problems were maintained by the family environment, with a particular emphasis on communication patterns and subsystem alliances; 2) highlighting strengths of the family system; and 3) designing

interventions and homework assignments to target interaction sequences that were hypothesized to be maintaining the targeted problems. Goals of therapy included building conflict resolution skills, improving communication skills within and across family subsystems, reducing blame and reframing problems in a systemic context, and strengthening appropriate alliances. Thus, although there was flexibility, some elements of the therapy were consistent across families. There was an overall emphasis on striving to change the style of communication in the family and to strengthen weak alliances. No behavioral parenting strategies were explicitly taught.

The parents participated with their child in 6 of the 8 sessions, while only the parents participated in two sessions that focused on marital communication. For the two single parent families in the family therapy condition, mothers also completed the communication sessions, but no homework was assigned. The basic principles of communication skills training also were incorporated into the six whole family sessions (e.g., using “I” statements, paraphrasing, editing, adhering to ground rules, problem solving skills). In addition, one family session was explicitly focused on conflict and anger management skills.

At the conclusion of treatment, families returned to a laboratory setting for a session that lasted about two hours. The families completed a selection of the same questionnaires that were completed prior to treatment. After completing the questionnaires, families (mother-father-son or mother-son) were again videotaped during a discussion about a recent conflict situation that involved all family members.

Families in the waitlist condition had no treatment during the 10-12 week waitlist period. After a 10-12 week delay, families returned to the laboratory to complete

questionnaires. No video-taped interaction was collected after the delay to reduce the burden on the family. Following this session, families began treatment for 10-12 weeks, as described above. At the conclusion of the treatment, families returned to the laboratory to complete post-therapy questionnaires and to engage in a videotaped interaction about a conflict.

Measures

Eligibility for treatment. Parents completed Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R)-based questionnaires regarding ADHD and ODD. Parents completed the Attention Deficit Hyperactivity Rating Scale (ADHD; DuPaul et al., 1998). The ADHD Rating Scale- is a parent-report questionnaire intended to measure symptoms of ADHD. Items are rated from 0 (not at all) to 3 (very much). Both mothers and fathers completed this form. Good internal consistency has been reported for the larger study ($\alpha = .94$; Lindahl, 1998). Reliability analyses were conducted on the ADHD Rating Scale-IV for the present subsample for both mothers and fathers (mothers: $\alpha = .83$, fathers: $\alpha = .86$).

Following the example of the ADHD Rating Scale, a similar measure was devised for the purposes of the present study using the DSM-III-R criteria for ODD symptoms. For the purposes of this project, this questionnaire was named the ODD Rating Scale. This scale is similar to the ADHD Rating Scale, such that each item is a DSM-III-R criteria for ODD that is rated on a 4 point scale, from 0 (not at all) to 3 (very much). Good internal consistency has been reported for the larger sample ($\alpha = .92$; Lindahl, 1998). Both parents completed this form. Reliability analyses were conducted on the

ODD Rating Scale for the present subsample for both mothers and fathers (mothers: $\alpha = .87$, fathers: $\alpha = .86$).

The ADHD Rating Scale and the ODD Rating Scale were used to identify families eligible for treatment, using criteria that mirrored DSM-III-R diagnoses. To qualify for therapy, at least one parent needed to endorse ADHD or ODD symptomatology at an elevated level consistent with DSM-III-R cut-offs for diagnosis (12 ADHD items rated “2” or “3” or 4 ODD items rated “2” or “3”).

Child Behavior. Child behavior problems were assessed using the Eyberg Child Behavior Inventory (ECBI; Robinson, Eyberg, & Ross, 1980). Both parents independently completed this form. The ECBI is a parent-report, narrow-band questionnaire with 36 items that measure child externalizing behavior. Each problem behavior is rated on a 1 (never) to 7 (always) scale, measuring intensity. The intensity subscale has been shown to have adequate internal consistency, stability, and discriminative and predictive validity ($\alpha = .95$; Eyberg & Pincus, 1999; Hood & Eyberg, 2003). Reliability analyses were conducted in this sample for both mother and father report (mothers: $\alpha = .87$, fathers: $\alpha = .87$).

Comorbidity of children’s anxious/depressed symptoms was assessed using a subscale from the parent form of the Achenbach questionnaires: the Child Behavior Checklist (CBCL; Achenbach, 1991). Mothers and fathers individually completed this form. The CBCL is a well-standardized and well-validated 113-item parent report measure of children’s behavior problems. Responses to the *Anxious and Depressed Behavior Scale* of the CBCL were used in the present study to assess comorbidity of internalizing symptoms. Responses are scored on a scale from 0-2, where 0 is not true, 1

is sometimes true, and 2 is very true. Reliability and validity of the CBCL have been well-established ($\alpha = .91$; Achenbach, 1991). Reliability analyses were conducted for this sample for both mother and father report (mothers: $\alpha = .71$, fathers: $\alpha = .66$).

Family Functioning. The Family Interaction Scale (FIS; Bloom, 1985) was used to obtain mother and father-report of family conflict and cohesion. The FIS originally was created from a factor analysis of four self-report measures of family functioning (Family Environment Scale, Family-Concept Q Sort, Family Adaptability and Cohesion Evaluation Scales, and the Family Assessment Measure). Two scales from the FIS were used in the present study, *Conflict* and *Cohesion*. The *Conflict* scale assesses intensity of arguments, criticism expressed among family members, and physical aggression. The *Cohesion* subscale assesses time spent together, supportiveness, and emotional bonding. Adequate reliability has been found for both the conflict ($\alpha = .76- .85$) and cohesion subscales ($\alpha = .78- .89$; Bloom, 1998). In the present study, adequate reliability was found for both mother and father report (*Conflict*: mothers: $\alpha = .77$, fathers: $\alpha = .82$; *Cohesion*: mothers: $\alpha = .90$, fathers: $\alpha = .88$).

The System for Coding Interactions and Family Functioning (SCIFF; Lindahl & Malik, 2001), an observational coding system of family problem discussions, was used to rate families on dimensions of family functioning. The SCIFF is a global coding scheme, and ratings are based on the entirety of the interaction. A multiethnic team of research assistants who were not informed of study hypotheses rated the videotaped interactions using the SCIFF. Research assistants received a minimum of 15 hours of training and watched each videotaped interaction at least three times. Coders were continuously monitored and weekly feedback was given to minimize coder drift. The *Negativity and*

Conflict code assesses the overall negative tone and level of tension in the family present during the problem discussion. The *Cohesiveness* code assesses the sense of unity, togetherness, and closeness displayed by the family during the interaction. The *Negativity and Conflict* and *Cohesiveness* codes were rated using a 5-point Likert-type scale, with higher ratings indicative of higher levels of conflict or cohesion. The *Alliance Formation* code assesses the nature of alliances within the family, in terms of closeness, influence, and affection between family members. The *Alliance Formation* code is a categorical code and families were classified into 1 of 4 alliance formations, depending on the nature of their subsystem interactions: Balanced, Marital (Detouring-Attacking), Parent/Child, and Disengaged/Weak Alliances. Balanced subsystem alliances were rated when families showed no evidence that any dyad had more influence or power in the interaction as any other dyad. Marital (Detouring-Attacking) alliances were coded when the marital dyad clearly had the most power and influence in the interaction. Parent/Child alliances were rated when the primary alliance in the interaction was between one of the parents and the child. Disengaged/Weak alliances were coded when it was difficult to identify any strong alliances in the interaction. Marital and Parent/Child alliance code were combined to form a Dyadic alliance code, due to the presence of few Parent/Child alliances in the sample. Furthermore, Dyadic alliances were combined with Disengaged/Weak alliances to form an Imbalanced alliance code, due to low power.

Chapter 3: Results

Preliminary Analyses

Descriptive statistics for key study variables are presented in Table 1. Mother and father reports on FIS *Cohesion* ($r = .78, p < .001$), FIS *Conflict* ($r = .58, p < .001$), ECBI ($r = .63, p < .001$), and CBCL *Anxious and Depressed Behavior Scale* ($r = .57, p < .001$) were highly correlated. Therefore, summary codes were created by averaging mother and father report for each of these variables. The summary variables were used for all analyses. In cases of single-parent families ($n = 7$), the mother's report was used in place of the summary code.

Parental responses to the ECBI were used to confirm the validity of using the ADHD and ODD Rating Scales to screen eligibility for treatment. Eyberg and Pincus (1999) defined ECBI scores of 131 and higher as indicating a clinical level of difficulty. As seen in Table 1, children in this sample exhibited a high level of behavior problems prior to treatment (ECBI $M > 150$).

Parent report of children's anxiety and depressive symptoms on the CBCL also was near the clinical range overall. Raw scores above 10, which is approximately equivalent to a T-score of 67, are considered in the clinical range (see Achenbach, 1991). In the present sample, the mean CBCL *Anxious and Depressed Behavior Scale* raw score was greater than 8 (see Table 1). 73.9% of the children did not show clinical levels of anxious and depressed symptomatology (CBCL Anxiety/Depression scale < 10), while 26.1% of the children did show clinical levels of anxious and depressed symptomatology (CBCL Anxiety/Depression scale > 10).

Before treatment, families showed moderate levels of conflict (SCIFF $M = 3.03$; FIS $M = 13.03$) and low to moderate levels of cohesion (SCIFF $M = 2.48$; FIS $M = 15.21$). 34.8% of the families had balanced family alliances, while the remaining 65.2% of the families had unbalanced family alliances.

Bivariate correlations between key pre-treatment study variables are presented in Table 2. As expected, child behavior problems (ECBI) correlated positively with family conflict (parent report as well as observation) and negatively with family cohesion (parent report as well as observation). Child behavior problems also were associated with imbalanced family alliances. A MANOVA was run to examine ethnic group differences on key study variables. The overall main effect of ethnicity was not significant, $F(7, 38) = .40$, $p = .90$, *ns*, indicating that Hispanic and Non-Hispanic parents did not differ on the measures of family conflict, family cohesion, or child behavior problems.

For the 18 subjects randomized to the waitlist condition, a paired sample t-test was run to examine differences between ECBI scores at pre-treatment and post-waitlist time points. Pre and post ECBI scores did not differ, $t(16) = -.71$, $p = .49$. At pre-treatment, the parent training and family therapy treatment groups did not differ from each other on demographic characteristics (income, education), MANOVA $F(2, 43) = .92$, $p = .47$, *ns*, or child behavior ratings (ECBI), ANOVA $F(1, 44) = .23$, $p = .64$, *ns*.

Hypothesis testing

Hypothesis 1A: Child behavior problems will decrease following treatment.

A one-way within subjects ANOVA was conducted with the within-subjects factor being Time (pre- and post-treatment) and the dependent variable being child behavior problems as measured by ECBI scores. As seen in Table 3, for the sample as a

whole, the ANOVA indicated a significant time effect and a significant decrease in child behavior problems was found post-intervention. From pre- to post-treatment, the mean level of behavior problems on the ECBI decreased from 153 to 127. A score of 127 technically falls in the non-clinical range, as defined by Eyberg & Pincus (1999), which sets 131 as the cut-off for clinical level of disturbance. However, ECBI scores in general community (non-clinical) samples typically fall between 88 and 98 (Burns and Patterson, 1990; Burns and Patterson, 2001). Thus, the mean level of behavior problems in this sample after intervention, though showing notable improvement, is still far from being truly “non-clinical.”

To further facilitate interpretation of behavioral change, a therapeutic index of change in child outcome was calculated. For each child, a z change score was derived by subtracting the post-treatment ECBI score from the pre-treatment ECBI score, and then dividing by the pre-treatment standard deviation. This z score reflects the extent to which children’s behavior problems improved relative to pre-treatment in standard deviation units. The z scores are comparable to measures of effect size, and thus permit the evaluation of the degree of change (Kazdin and Whitley, 2006). Evaluation of the mean z change scores reveals a large effect size for children who participated in treatment ($M = 1.04$, $SD = .91$), which indicates that overall, children in this sample did show a meaningful reduction in behavioral disturbance.

Hypothesis 1B: Parent training will be more effective in reducing behavior problems than family therapy.

As noted above and as shown in Table 3, an overall treatment effect was found, but the Treatment x Time interaction was not significant, indicating that neither parent

training nor family therapy was more effective than the other at reducing boys' behavior problems. However, as the power for this analysis was less than .50, this analysis was underpowered to detect this effect.

Hypothesis 2A and 2B: Comorbidity (2A), but not ethnicity (2B), will predict treatment response.

Comorbidity was measured by the *Anxious and Depressed Behavior Scale* of the CBCL; subjects who obtained a raw score higher than 10 (T-Score = 67) were coded as in the clinical range, as per Achenbach scoring, while subjects below 10 were coded in the normal range. 34 subjects (73.9%) fell in the normal range, while 12 subjects (26.1%) fell in the clinical range. A one-way ANOVA was conducted to compare the two groups (High Anxiety/Depression vs. Low Anxiety/Depression) on the index of therapeutic change. The groups were not significantly different, $F(1, 44) = 1.09, p = .30, ns$, partial $\eta^2 = .02$. Thus, results indicated that comorbidity did not predict treatment response. However, the power needed to detect the difference between the means of the High Anxiety/Depression group and Low Anxiety/Depression group on the index of therapeutic change is .33. At least 140 subjects would be needed to detect an effect size of $d = .36$; thus, it is possible that this analysis is not significant due to insufficient power to detect a mean difference of this magnitude.

A one-way ANOVA was run to examine ethnicity as a predictor of treatment efficacy. Ethnicity was entered as a fixed factor, while the therapeutic index of change was entered as the dependent variable. As expected, results indicated that ethnicity did not predict treatment response, $F(1, 44) = 1.76, p = .19, ns$, partial $\eta^2 = .04$.

Hypotheses 3A and 3B: Parent training and family therapy will both decrease family conflict (3A) and increase family cohesion (3B), though stronger results were expected for family therapy.

Two repeated-measures MANOVAs were run to examine the effect of treatment on family conflict and cohesion. For both analyses, Time was the within-subjects factor (pre- and post-intervention) and Treatment Condition was the between-subjects factor (parent training vs. family therapy). In the first analysis, the dependent variable was family conflict, as measured by both parent-report (FIS) and observational coding (SCIFF). In the second analysis, the dependent variable was family cohesion, as measured by both parent-report (FIS) and observational coding (SCIFF). Means, standard deviation and test results are presented in Tables 4 and 5. An overall effect of Time was found for family conflict, and univariate tests showed significant declines in family conflict for both self-report as well as observational coding. An overall effect of Time also was found for family cohesion. An inspection of the univariate analyses, however, shows significant pre-post change only for observations of family cohesion, not parent-report. The Treatment x Time interaction was not significant for family conflict, but was marginally significant for family cohesion (see Figure 3). An examination of the univariate Treatment x Time interactions shows that for observations of family cohesion, family cohesion did not appreciably change for the parent training group, remaining in the low range, but did improve significantly ($p=.002$) for the family therapy group, increasing from the low to moderate range. The interaction effect for parent-report of family cohesion was not significant, likely due to being underpowered to detect such an effect (power < .50).

Hypothesis 3C: Treatment will shift family alliance formation from imbalanced to balanced.

Chi-square analyses indicated a significant shift in family alliance type from unbalanced to balanced from pre- to post-treatment, $\chi^2 = (1, N = 46) = 4.22, p < .05$. Results are presented in Table 6. Over half of the sample (63%) of the sample remained unchanged over the course of intervention in the nature of the family subsystem alliances; with 26% remaining in the “balanced” category and 37% remaining in the “unbalanced” category. Of those families that showed a shift in family subsystem alliances, 28% shifted in a healthy direction, from imbalanced to balanced, while 9% shifted in a negative direction, from balanced to imbalanced. Although the sample size does not permit a statistical analysis of group differences, is it interesting to note that while only 23% of PT families shifted from imbalanced to balanced, 35% of FT families did. More work needs to be done in this area, however, to determine if this is a replicable or significant difference.

Hypotheses 4A, 4B, and 4C: Change in family functioning, namely family conflict (4A), family cohesion (4B), and alliance formation (4C), will mediate the relationship between treatment and change in child behavior.

In order to establish mediation, change in one construct must occur prior to change in the outcome construct (Kazdin, 2007). As the measurement of study variables occurred simultaneously before and after treatment, it is impossible to determine whether change in family functioning occurred before change in child behavior. Therefore, true mediation cannot be tested.

Still, in order to preliminarily examine statistical mediation, a series of linear regressions tested the relationships between treatment condition, change in family functioning, and the therapeutic index of change in child behavior. Change in family functioning was calculated by subtracting post-treatment family functioning from pre-treatment family functioning. The first set of regressions tested the relationship between treatment condition and change in family functioning, as measured by the SCIFF for family conflict, cohesion, and alliance formation, and then as measured by the FIS for family conflict and cohesion. The overall model for did not account for significant variance in family functioning, as measured by the FIS or the SCIFF. According to Kraemer, Wilson, Fairburn, and Agras (2002), a non-significant main effect in this analysis is indicative of equal outcomes across treatment conditions. The second regression tested the relationship between treatment condition and the therapeutic index of change in child behavior. The overall model did not account for significant variance in child behavior problems. The criteria set by Kraemer and colleagues (2002) suggest that this analysis must be significant in order to establish mediation. As this analysis was not significant, no further regression analyses were conducted.

However, correlations between change in child behavior and change in family functioning variables were examined for the purpose of identifying potential mediators for future research. Change in family conflict and cohesion, as measured by the SCIFF and FIS, and alliance formation, as measured by the SCIFF, were correlated with change in child externalizing behavior, as measured by the ECBI. A significant correlation between change in family conflict as measured by the FIS and change in child behavior was identified ($r = .51, p < .001$). No other significant correlations were found. Based

on these preliminary correlations, future research should pay particular attention to family conflict as a potential mediator.

Chapter 4: Discussion

Externalizing behavior problems, including oppositional behaviors, noncompliance, and hyperactivity-impulsivity, are the most common problems for which parents seek professional help (Kazdin, Bass, Ayers, & Rodgers, 1990). Several psychosocial evidence-based treatments have now achieved the status of “probably efficacious” or “possibly efficacious” and parent training approaches in particular are among the most rigorously tested in efforts to find useful treatments for child problem behavior (see Eyberg, Nelson & Boggs, 2008 for a review). Family therapy is another approach used to reduce child behavior problems, though it has primarily been tested with preschool and adolescent populations. Although significant progress in the treatment of disruptive behaviors has been made in the past couple of decades, at least three important gaps remain in the literature. First, Hispanic representation in treatment studies to date is less than 5% overall and this is a major limitation of the existing literature. Second, few studies explore the impact of treatment on outcome variables beyond problematic child behavior and even fewer have identified mechanisms of treatment efficacy. Third, virtually all studies to date compare a treatment to a waitlist control or typical community services; almost none directly compare two empirically based treatments to each other to test relative effectiveness. This study sought to address the above gaps in the literature by including a more diverse sample of families (over 50% of the present study was Hispanic or Latino) and directly comparing parent training and family therapy. Impact on family-level outcomes such as conflict, cohesion, and alliance formations was examined and these variables also were tested as mediators.

Treatment Efficacy: Behavior Problems

Three important additions were made to existing treatment literature, replicating and extending findings that demonstrate that parent training and family therapy are efficacious treatments of child behavior problems. First, for the first time, parent training and family therapy were shown to be efficacious in a sample that was highly diverse and predominately (more than 50%) Hispanic/Latino. The significance of including a majority Hispanic/Latino sample is exemplified by the Latino population rate of increase in the United States. As the percent of United States residents of Hispanic/Latino origin is rapidly growing (increased by 57.9% from 1990 to 2000; U.S. Bureau of the Census, 2000), a better understanding of how this population responds to treatment is necessary. By demonstrating that a predominately Hispanic/Latino sample is responsive to parent training and family therapy, this study indicates that the principles of parent training and family therapy are relevant and efficacious across cultures. As people of Hispanic/Latino origin are known to emphasize the importance of the family (familism), it is not surprising that interventions that involve parenting and family values are pertinent to the treatment of child behavior problems in Hispanic families. Since it is established that such interventions are efficacious in predominately Caucasian samples as well (Beauchaine, Webster-Stratton, & Reid, 2005; Webster-Stratton & Hammond, 1997; Eyberg, Nelson, & Boggs, 2008), a shift to recognizing similarities, rather than differences, between ethnic groups may be important in the development and application of treatments. By focusing on ethnic similarities, core principles may be imparted into treatments, which might thus more effectively apply to a range of ethnic populations.

Second, family therapy was shown to be as effective as what has perhaps become the “gold standard” in disruptive behavior treatment research, parent training. No previous study could be found that directly compared these types of interventions. The pre- and post-treatment means were virtually identical for both groups. The sample size was small, however, and replication is needed before confidence in the finding is warranted.

Third, this is one of the initial studies to demonstrate the ability of a family therapy approach to reduce externalizing behavior in a school-age population. Previous studies have focused mostly on aggressive and non-compliant preschool and seriously offending adolescents (i.e. drug users, delinquents). Although family therapy has been studied and found efficacious in treating adolescents (Carr, 2000; Cottrell & Boston, 2002; Hazelrigg, Cooper, & Borduin, 1987), treatment efficacy with school-age children is largely unknown. As the median age-of-diagnosis for ADHD ranges from 7 to 9 and for ODD ranges from 7-15 and early intervention has been deemed ideal, it is important to demonstrate the efficacy of family therapy with school-age youth (Kessler, Berglund, Demler, Jin, & Walters, 2005; Webster-Stratton, 1997).

Finally, it is important to note that externalizing behaviors were reduced from the clinical to the non-clinical range following treatment, increasing the evidence that parent training and family therapy interventions not only reduce behavior problems, but decrease them a meaningful degree. Studies using school-age, clinical populations are mixed regarding clinical improvement. Some studies previously found that interventions also decreased behavior problems to a non-clinical level (Spaccarelli, Cotler, & Penman, 1992; Webster-Stratton & Hammond, 1997), while others showed significant

improvement in behavior problems, but they remained at a clinical level (Costin & Chambers, 2007). Thus, this study provided further support and clarification that there are clinically significant reductions in behavior problems following treatment in a community sample.

Demographic Predictors of Treatment Efficacy

Comorbidity and ethnicity were tested as predictors of treatment outcome. Contrary to study hypotheses, comorbidity was not found to be a predictor of treatment response. However, based on study data, this study may be underpowered to detect treatment differences based on comorbidity. For instance, the mean therapeutic index of change for children with comorbid anxiety and depression was 14.35% higher than the therapeutic index of change for children without comorbidity (Kazdin and Whitley, 2006). However, previous study findings are mixed regarding this relationship (Kazdin & Whitley, 2006; Ollendick et al 2008); thus, it is possible that comorbidity does not significantly predict treatment response. While Kazdin & Whitley (2006) identified comorbidity as a predictor of treatment response, participants were categorized as having two or more, one, or no comorbid disorders. Furthermore, they found that having two or more comorbid disorders was predictive of increased treatment response, but found that have one or no comorbid disorders did not predict increased treatment response. Thus, the present study may offer further support to the notion that one comorbid disorder is not predictive of treatment response, while greater numbers of comorbid conditions may be predictors. The presence of multiple comorbid disorders may increase overall impairment of functioning, which may amplify the need for treatment and the increased room for improvement (regression to the mean). On the other hand, the presence of

fewer (one or none) comorbid disorders may decrease the overall need for improvement and thus decrease the degree of change in child behavior problems.

With regard to ethnicity, study findings were consistent with hypotheses. Results indicated that ethnicity did not significantly predict treatment response. This also is consistent with previous studies that have examined this issue (Brondino, Henggeler, Rowland, & Pickrel, 1997; Henggeler, Melton, & Smith, 1992; Reid, Webster-Stratton, & Beauchaine, 2001; Strain, Young, & Horowitz, 1981). However, the majority of previous studies that have examined ethnicity and treatment efficacy have had a number of limitations. First, some studies classify ethnic minorities as non-Caucasian, and do not separate out different ethnic groups; by including all non-Caucasian ethnicities in a single group, differences in treatment response based on ethnicity are undetectable (Strain, Young, & Horowitz, 1981). Second, ethnicity has been used to predict pre- or post-treatment child behavior, but not to directly predict the degree of change in child behavior following treatment. Furthermore, few studies include considerable numbers of Hispanic participants, preventing the examination of the impact of Hispanic ethnicity on treatment outcomes. Lastly, ethnicity has most frequently been used to predict treatment drop-out, rather than treatment efficacy (Holden, Lavigne, & Cameron, 1990; Kazdin, Mazurick, & Bass, 1993). This study expands on previous studies by categorizing participants of Hispanic and non-Hispanic origin and by using ethnicity to predict treatment efficacy as measured by the degree of change in child behavior following treatment. Thus, as results show no differences in degree of treatment response based on ethnicity, we can more conclusively support the use of parent training as well as family therapy to address behavioral difficulties in Hispanic youth.

Impact of Treatment on Family Functioning

Despite the known associations between family dysfunction and child externalizing behavior problems, most treatment studies in this area concentrate on child behavior as the primary outcome variable of interest. Several studies have shown family-based interventions, especially parent training, to improve specific parenting behaviors such as negative reinforcement and skill encouragement, and parenting stress (Costin & Chambers, 2007; Forgatch & DeGarmo, 1999; Webster-Stratton & Hammond, 1997) and a couple of studies have examined the impact of psychosocial interventions on marital adjustment (Dadds, Schwartz, & Sanders, 1987; Zubrick et al., 2005), but larger family processes are almost never addressed. Given the reciprocal influences between child behavior problems and difficulties in family functioning that have been found in numerous studies (i.e. Buehler, Anthony, Krishnakumar, & Stone, 1997; Cummings & Davies, 1994; Barber & Buehler, 1996; Lucia & Breslau, 2006), this appears to be a significant omission. As only one study previously examined the impact of family therapy and no studies previously examined the impact of parent training on family conflict and cohesion, this study uniquely identified both parent training and family therapy as effective in reducing family conflict and increasing family cohesion. Furthermore, this study expanded on the work of Harrison and colleagues (1999) by including a predominately Hispanic community sample with externalizing behaviors, unlike Harrison and colleague's court-referred, predominately Mormon, and predominately Caucasian sample.

Additionally, the present study included observational measurement of family processes in addition to self-report as measured by Harrison and colleagues (1999).

Since it has been established that there are discrepancies between self-report and observational measurement of family processes (Noller & Callan, 1988), it is important to understand construct differences depending on form of measurement. For instance, McCubbin and Patterson (1983) suggest that the families' subjective definition of a stressor has an important influence on outcomes. Alternatively, objective measurement has the ability to include multiple family members, while self-report is limited to a single perspective. Since systemic theories of family functioning suggest that family subsystems cannot be understood apart from the larger context of the whole family (Cox & Paley, 2003) and whole-family functioning is the construct of interest, the ability to measure family conflict or cohesion in the whole family is a benefit of observational measurement. This study makes an important contribution by identifying change in family processes as measured by both observational measurement and self-report.

Both family therapy and parent training decreased family conflict and enhanced family cohesiveness. However, a significant treatment condition by time interaction for observational measurement of family cohesion indicated greater increases in family cohesion following family therapy than parent training. This result is perhaps not surprising for family therapy as family interactional sequences are a target of therapy. Yet, parent training worked as well as family therapy in decreasing family conflict, and still significantly increased family cohesion, although to a lesser extent. This shows the "ripple" effect that is possible when conducting therapy. Often unintended, but positive, results can be obtained. By changing the targeted behavioral difficulty, it appears that other family dynamics were improved as well. One consequence of modifying parenting strategies may be improvements not only in child behavior, but also in parent-child

relationships, and subsequently, family conflict lowers and family cohesion rises. For instance, if parents are taught to give positive reinforcement, their children may feel paid attention to, better understood, and as a consequence, closer to their parents and less likely to argue with them. Future research would benefit to include an assessment of parent-child relationship quality, before, during, and after treatment, in order to test this hypothesis.

Alliance formations were found to significantly shift from unbalanced to balanced alliances following psychosocial interventions. As the first study to examine the effect of treatment on family alliance formation, this finding is essential to note. Since unbalanced alliances have been identified to be related to poorer child outcomes (i.e. increased behavior problems), it is important to work to create balanced alliances (Lindahl & Malik, 1999; Lindahl, Malik, Kaczynski, & Simons, 2004). As with cohesion, family therapy was expected to target these alliances and thus help shift families towards balanced alliance formations. Since parent training does not target this construct, it was less likely that families who participate in parent training will shift from unbalanced to balanced alliances. In the present study, though no difference between parent training and family therapy was identified, study findings suggest that family therapy may be more effective at shifting alliance formations. Thirty-five percent of families in family therapy shifted from unbalanced to balanced alliances, while only 23.1% of families in parent training shifted from unbalanced to balanced alliances. Future studies, with larger samples, will be better able to examine this issue.

Mediation

Although this study successfully identified significant change in dimensions of family functioning, this study was unable to detect whether changes in family functioning mediated changes in child behavior. Statistical analyses examining mediation were not significant for family conflict, cohesion, or alliance formation. Furthermore, in order to establish mediation, change in one construct must occur before change in the outcome construct (Kazdin, 2007). As measurement of both child behavior and family functioning only occurred before and after treatment, it is impossible to determine which change occurred first.

Study Limitations

The present study had several limitations to be considered. A first limitation of the current study is the small sample size. Data was available for 46 families, split between two treatment conditions. Therefore, results should be interpreted with caution as this study was underpowered. For instance, in the analyses examining differential treatment efficacy on child behavior problems, the current study required 162 subjects in order to detect a small effect size at the .05 significance level (Erdfelder, Faul, & Buchner, 1996). For all analyses examining the treatment condition by time interaction, the power was less than .50. Alternatively, limits on power may lend additional credence to significant study findings. Future studies should be conducted with larger sample sizes in order to more sensitively detect the presence of less robust effects.

Also, the generalizability of this data is limited. While the predominately Hispanic nature of the sample is a strength of the study and study findings are consistent with previous research completed with predominately Caucasian samples, the results of

this study may not apply to other populations. Furthermore, only school-age children were included in this study; again, results may not apply to alternate age groups and may be specific to school-age children. In particular, study findings regarding the impact of treatment on whole-family functioning should be replicated across other age groups and ethnicities.

A third limitation is that only pre and post-treatment measurements were obtained. Without repeated measurements during treatment, it is impossible to detect the order of effects (i.e. did family functioning change before child behavior problems, or vice versa?). Furthermore, without long-term follow-up measurement, we are unable to conclude that improvement in child behavior and family functioning was sustained. Future studies may benefit by the inclusion of additional measurements, both during and after treatment, so that order of effects can be identified and long-term treatment efficacy can be established.

Research and Clinical Implications

The results of this study highlight many implications for future research and clinical interventions. These findings provide evidence that psychosocial interventions impact dimensions of whole-family functioning in addition to child behavior problems. This is important for future interventions, as it suggests that treatments targeting child behavior also influence families. This is valuable in that it identifies the use of one treatment to improve two outcomes. Financially, it is estimated that divorce costs taxpayers over \$112 billion dollars annually (Scafidi, 2008); by decreasing family conflict, divorce is less likely and thus, financial burden is reduced.

Also, as this study provides evidence that treatments influence family functioning, future research should investigate whether family change or child behavior change occurs first. Subsequently, mediation analyses should be conducted. If dimensions of family functioning are identified as mediators of treatment response on child behavior problems, future interventions should directly target those dimensions of family functioning. By refining treatments to target specific behaviors that are known to influence change, treatment burden, namely in time involved and length of treatment, may be reduced. By providing shorter, more effective treatments, cost will be decreased, and may allow treatment to be more widely accessible.

Further research is needed in order to better understand mechanisms of treatment efficacy. Future studies with large sample sizes and frequent measurement time points may help identify the timeline of change, and thus, mediators of treatment response. Furthermore, family constructs should be assessed using multiple types of measurement (i.e. observational, self-report, parent-report) in order to obtain the most complete and unbiased assessment of family functioning dimensions. Important questions remain regarding mechanisms of treatment efficacy that might lead to more refined, effective future treatments of externalizing behaviors in boys.

References

- Achenbach, T. M. (1991). *Manual for the child behavior Checklist/4-18 and 1991 profile*. Burlington, VT: University of Vermont Department of Psychiatry.
- Archer, J., & Côté, S. (2005). Sex differences in aggressive behavior: A developmental and evolutionary perspective. In R. E. Tremblay, W. W. Hartup, J. Archer, R. E. Tremblay, W. W. Hartup & J. Archer (Eds.), *Developmental origins of aggression*. (pp. 425-443). New York, NY US: Guilford Press.
- Barber, B. K., & Buehler, C. (1996). Family cohesion and enmeshment: Different constructs, different effects. *Journal of Marriage & the Family*, 58(2), 433-441.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Beauchaine, T., Webster-Stratton, C., & Reid, M. (2005). Mediators, moderators, and predictors of 1-year outcomes among children treated for early-onset conduct problems: A latent growth curve analysis. *Journal of Consulting and Clinical Psychology*, 73(3), 371-388.
- Bloom, B. L. (1985). A factor analysis of self-report measures of family functioning. *Family Process*, 24(2), 225-239.
- Brinkmeyer, M. Y. & Eyberg, S. M. (2003). Parent-child interaction therapy for oppositional children. In A. E. Kazdin & J.R. Weisz (Eds.), *Evidence-based psychotherapies for children and adolescents* (pp.204-223). New York: Guildford.
- Brondino, M. J., Henggeler, S. W., Rowland, M. D., & Pickrel, S. G. (1997). Multisystematic therapy and the ethnic minority client: Culturally responsive and clinically effective. In D. K. Wilson, J. R. Rodriguez, & W. C. Taylor (Eds.), *Health-promoting and health-compromising behaviors among minority adolescents*. (pp. 229-250). Washington, DC US: American Psychological Association.
- Buehler, C., Anthony, C., Krishnakumar, A., & Stone, G. (1997). Interparental conflict and youth problem behaviors: A meta-analysis. *Journal of Child and Family Studies*, 6(2), 223-247.
- Burns, G., & Patterson, D. (1990). Conduct problem behaviors in a stratified random sample of children and adolescents: New standardization data on the Eyberg Child Behavior Inventory. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 2(4), 391-397.

- Burns, G., & Patterson, D. (2001). Normative data on the Eyberg Child Behavior Inventory and Sutter-Eyberg Student Behavior Inventory: Parent and teacher rating scales of disruptive behavior problems in children and adolescents. *Child & Family Behavior Therapy, 23*(1), 15-28.
- Carr, A. (2000). Evidence-based practice in family therapy and systemic consultation: I: Child-focused problems. *Journal of Family Therapy, 22*(1), 29-60.
- Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In N. Eisenberg, & N. Eisenberg (Eds.), *Handbook of child psychology, 5th ed.: Vol. 3. Social, emotional, and personality development.* (pp. 779-862). Hoboken, NJ US: John Wiley & Sons Inc.
- Costello, E. J., Egger, H. L., & Angold, A. (2005). The developmental epidemiology of anxiety disorders: Phenomenology, prevalence, and comorbidity. *Child and Adolescent Psychiatric Clinics of North America, 14*(4), 631-648.
- Costin, J. & Chambers, S. M. (2007). Parent Management Training as a treatment for children with oppositional defiant disorder referred to a mental health clinic. *Clinical Child Psychology and Psychiatry, 12*, 511-524.
- Cottrell, D., & Boston, P. (2002). Practitioner review: The effectiveness of systemic family therapy for children and adolescents. *Journal of Child Psychology and Psychiatry, 43*(5), 573-586.
- Cox, M. J., & Paley, B. (2003). Understanding families as systems. *Current Directions in Psychological Science, 12*(5), 193-196.
- Cummings, E. M., & Davies, P. (1994). *Children and marital conflict: The impact of family dispute and resolution.* New York, NY US: Guilford Press.
- Dadds, M. R., Schwartz, S., & Sanders, M. R. (1987). Marital discord and treatment outcome in behavioral treatment of child conduct disorders. *Journal of Consulting and Clinical Psychology, 55*(3), 396-403.
- Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin, 116*(3), 387-411.
- Davis, B. T., Hops, H., Alpert, A., & Sheeber, L. (1998). Child responses to parental conflict and their effect on adjustment: A study of triadic relations. *Journal of Family Psychology, 12*(2), 163-177.
- Duhig, A. M., Renk, K., Epstein, M. K., & Phares, V. (2000). Interparental agreement on internalizing, externalizing, and total behavior problems: A meta-analysis. *Clinical Psychology: Science and Practice, 7*(4), 435-453.

- DuPaul, G. J., Power, T. J., Anastopoulos, A. D., & Reid, R. (1998). *The ADHD Rating Scale-IV: Checklists, norms and clinical interpretations*. NY: Guilford Press.
- Eddy, J. M. & Chamberlain, P. (2000). Family management and deviant peer association as mediators of treatment condition on youth antisocial behavior. *Journal of Consulting and Clinical Psychology, 68*(5), 857-863.
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments & Computers, 28*(1), 1-11.
- Eyberg, S., Nelson, M., & Boggs, S. (2008). Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child and Adolescent Psychology, 37*(1), 215-237.
- Eyberg, S. M. & Pincus, D. (1999). *Eyberg Child Behavior Inventory and Sutter-Eyberg Student Behavior Inventory- Revised: Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Farrell, M. P., & Barnes, G. M. (1993). Family systems and social support: A test of the effects of cohesion and adaptability on the functioning of parents and adolescents. *Journal of Marriage & the Family, 55*(1), 119-132.
- Flicker, S. M., Waldron, H. B., Turner, C. W., Brody, J. L., & Hops, H. (2008). Ethnic matching and treatment outcome with Hispanic and Anglo substance-abusing adolescents in family therapy. *Journal of Family Psychology, 22*(3), 439-447.
- Forgatch M. S. & DeGarmo, D. S. (1999). Parenting through change: an effective prevention program for single mothers. *Journal of Consulting and Clinical Psychology, 67*(5), 711-724.
- Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin, 108*(2), 267-290.
- Harrison, R., Boyle, S., & Farley, O. (1999). Evaluating the outcomes of family-based intervention for troubled children: A pretest-posttest study. *Research on Social Work Practice, 9*(6), 640-655.
- Hartman, R. R., Stage, S. A., & Webster-Stratton, C. (2003). A growth curve analysis of parent training outcomes: Examining the influence of child risk factors (inattention, impulsivity, and hyperactivity problems), parental and family risk factors. *Journal of Child Psychology and Psychiatry, 44*(3), 388-398.
- Hazelrigg, M. D., Cooper, H. M., & Borduin, C. M. (1987). Evaluating the effectiveness of family therapies: An integrative review and analysis. *Psychological Bulletin, 101*(3), 428-442.

- Henggeler, S. W., Melton, G. B., & Smith, L. A. (1992). Family preservation using multisystemic therapy: An effective alternative to incarcerating serious juvenile offenders. *Journal of Consulting and Clinical Psychology, 60*(6), 953-961.
- Henggeler, S. W., Schoenwald, S. K., Borduin, C. M., Rowland, M. D., & Cunningham, P. B. (1998). *Multisystemic treatment of antisocial behavior in children and adolescents*. New York, NY US: Guilford Press.
- Henggeler, S.W., & Lee, T. (2003). Multisystemic treatment of serious clinical problems. In A.E. Kazdin & J.R. Weisz (Eds.), *Evidence-based psychotherapies for children and adolescents* (pp.301-322). New York: Guilford.
- Hinshaw, S. P. (2002). Intervention research, theoretical mechanisms and causal processes related to externalizing behavior patterns. *Development and Psychopathology, 14*(4), 789-818.
- Hogue, A., Dauber, S., Samuolis, J., & Liddle, H. A. (2006). Treatment techniques and outcomes in multidimensional family therapy for adolescent behavior problems. *Journal of Family Psychology, 20*(4), 535-543.
- Holden, G. W., Lavigne, V. V., & Cameron, A. M. (1990). Probing the continuum of effectiveness in parent training: Characteristics of parents and preschoolers. *Journal of Clinical Child Psychology, 19*(1), 2-8.
- Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*(4), 599-610.
- Hood, K. K. & Eyberg, S. M. (2003). Outcomes of parent-child interaction therapy: Mothers' reports of maintenance three to six years after treatment. *Journal of Clinical Child and Adolescent Psychology, 32*(3), 419-429.
- Huey, S. J. J., Henggeler, S. W., Brondino, M. J., & Pickrel, S. G. (2000). Mechanisms of change in multisystemic therapy: Reducing delinquent behavior through therapist adherence and improved family and peer functioning. *Journal of Consulting and Clinical Psychology, 68*(3), 451-467.
- Johansson, P., & Hoglend, P. (2007). Identifying mechanisms of change in psychotherapy: Mediators of treatment outcome. *Clinical Psychology & Psychotherapy, 14*(1), 1-9.
- Kaminski, J., Valle, L., Filene, J., & Boyle, C. (2008). A meta-analytic review of components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology, 36*(4), 567-589.

- Kazdin, A. E. (1993). Psychotherapy for children and adolescents: Current progress and future research directions. *American Psychologist*, 48(6), 644-657.
- Kazdin, A. E. (2005). *Parent management training: Treatment for oppositional, aggressive, and antisocial behavior in children and adolescents*. New York, NY US: Oxford University Press.
- Kazdin, A. E. (2006). Mechanisms of change in psychotherapy: Advances, breakthroughs, and cutting-edge research (do not yet exist). In R. R. Bootzin, P. E. McKnight, R. R. Bootzin & P. E. McKnight (Eds.), *Strengthening research methodology: Psychological measurement and evaluation*. (pp. 77-101). Washington, DC US: American Psychological Association.
- Kazdin, A. E. (2007). Mediators and mechanisms of change in psychotherapy research. *Annual Review of Clinical Psychology*, 3, 1-27.
- Kazdin, A. E., Mazurick, J. L., & Bass, D. (1993). Risk for attrition in treatment of antisocial children and families. *Journal of Clinical Child Psychology*, 22(1), 2-16.
- Kazdin, A. E., & Whitley, M. K. (2006). Comorbidity, case complexity, and effects of evidence-based treatment for children referred for disruptive behavior. *Journal of Consulting and Clinical Psychology*, 74(3), 455-467.
- Kerig, P. K. (1995). Triangles in the family circle: Effects of family structure on marriage, parenting, and child adjustment. *Journal of Family Psychology*, 9(1), 28-43.
- Kessler R. C., Berglund P. A., Demler O., Jin R., Walters E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). *Archives of General Psychiatry*. 62(6), 593-602.
- Kraemer, H. C., Wilson, G. T., Fairburn, C. G., & Agras, W. S. (2002). Mediators and moderators of treatment effects in randomized clinical trials. *Archives of General Psychiatry*, 59(10), 877-884.
- Lahey, B. B. (2008). Oppositional Defiant Disorder, Conduct Disorder, and Juvenile Delinquency. In T.P. Beauchaine & S.P. Hinkshaw (Eds.), *Child and Adolescent Psychopathology*. (pp. 335-369). Hoboken, NJ: John Wiley & Sons, Inc.
- Liddle, H. A., Dakof, G. A., Parker, K., Diamond, G. S., Barrett, K., & Tejeda, M. (2001). Multidimensional family therapy for adolescent drug abuse: Results of a randomized clinical trial. *American Journal of Drug and Alcohol Abuse*, 27(4), 651-688.

- Lindahl, K. M. (1998). Family process variables and children's disruptive behavior problems. *Journal of Family Psychology, 12*(3), 420-436.
- Lindahl, K. M. & Malik, N. M. (1999). Marital conflict, family processes, and boys' externalizing behavior in Hispanic American and European American families. *Journal of Clinical Child and Adolescent Psychology, 28*(1), 12-24.
- Lindahl, K. M., & Malik, N. M. (2001). The system for coding interactions and family functioning. In P. K. Kerig & K. M. Lindahl (Eds.), *Family observational coding systems: Resources for systemic research*. (pp. 77-91). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.
- Lindahl, K. M., Malik, N. M., Kaczynski, K., & Simons, J. S. (2004). Couple power dynamics, systemic family functioning, and child adjustment: A test of a mediational model in a multiethnic sample. *Development and Psychopathology, 16*(3), 609-630.
- Loeber, R., Burke, J. D., Lahey, B. B., Winters, A., & Zera, M. (2000). Oppositional defiant and conduct disorder: A review of the past 10 years, part I. *Journal of the American Academy of Child & Adolescent Psychiatry, 39*(12), 1468-1484.
- Lucia, V. C., & Breslau, N. (2006). Family cohesion and children's behavior problems: A longitudinal investigation. *Psychiatry Research, 141*(2), 141-149.
- Lundahl, B., Risser, H.J., & Lovejoy, M.C. (2006). A meta-analysis of parent training: Moderators and follow-up effects. *Clinical Psychology Review, 26*(1), 86-104.
- Lundahl, B., Tollefson, D., Risser, H., & Lovejoy, M.C. (2008). A meta-analysis of father involvement in parent training. *Research on Social Work Practice, 18*(2), 97-106.
- Matherne, M. M., & Thomas, A. (2001). Family environment as a predictor of adolescent delinquency. *Adolescence, 36*(144), 655-664.
- Maughan, D., Christiansen, E., Jenson, W.R., Olympia, D., & Clark, E. (2005). Behavioral parent training as a treatment for externalizing behaviors and disruptive behavior disorders: A meta-analysis. *School Psychology Review, 34*(3), 267-286.
- McMahon R. & Forehand, R. L. 2003. Helping the noncompliant child: Family-based treatment for oppositional behavior, 2nd ed. New York, NY: Guilford Press.
- McMahon, R. J., Wells, K. C., & Kotler, J. S. (2006). Conduct problems. In E. J. Mash, R. A. Barkley, E. J. Mash & R. A. Barkley (Eds.), *Treatment of childhood disorders (3rd.ed)*. (pp. 137-268). New York, NY US: Guilford Press.
- Minuchin, S. (1974). *Families & family therapy*. Oxford England: Harvard U. Press.

- Minuchin, S., & Fishman, H. C. (1981). *Family therapy techniques*. Oxford, England: Harvard U Press.
- Nigg, J. & Nikolas, M. (2008). Attention-Deficit/ Hyperactivity Disorder. In T.P. Beauchaine & S.P. Hinkshaw (Eds.), *Child and Adolescent Psychopathology*. (pp. 301-334). Hoboken, NJ: John Wiley & Sons, Inc.
- Ollendick, T. H., Jarrett, M. A., Grills-Taquechel, A., Hovey, L. D., & Wolff, J. C. (2008). Comorbidity as a predictor and moderator of treatment outcome in youth with anxiety, affective, attention deficit/hyperactivity disorder, and oppositional/conduct disorders. *Clinical Psychology Review, 28*(8), 1447-1471.
- PASW Statistics, Rel. 17.0.2. 2009. Chicago: SPSS Inc.
- Patterson, G. R. (1982). *Coercive family process*. Eugene, OR: Castalia.
- Reid, M. J., Webster-Stratton, C., & Beauchaine, T. P. (2001). Parent training in head start: A comparison of program response among African-American, Asian-American, Caucasian, and Hispanic mothers. *Prevention Science, 2*(4), 209-227.
- Reyno, S., & McGrath, P. (2006). Predictors of parent training efficacy for child externalizing behavior problem—a meta-analytic review. *Journal of Child Psychology and Psychiatry, 47*(1), 99-111.
- Robinson, E. A., Eyberg, S. M., & Ross, A. W. (1980). The standardization of an inventory of child conduct problem behaviors. *Journal of Clinical Child Psychology, 9*(1), 22-29.
- Sanders, M. R. (1999). Triple p-positive parenting program: Towards an empirically validated multilevel parenting and family support strategy for the prevention of behavior and emotional problems in children. *Clinical Child and Family Psychology, 68*, 624-640.
- Santisteban, D. A., Coatsworth, J. D., Perez-Vidal, A., Kurtines, W. M., Schwartz, S. J., LaPerriere, A., et al. (2003). Efficacy of brief strategic family therapy in modifying Hispanic adolescent behavior problems and substance use. *Journal of Family Psychology, 17*(1), 121-133.
- Santisteban, D. A., Muir-Malcolm, J., Mitrani, V. B., & Szapocznik, J. (2002). Integrating the study of ethnic culture and family psychology intervention science. In H. A. Liddle, et al. (Eds.), *Family psychology: Science-based interventions*. (pp. 331-351). Washington, DC US: American Psychological Association.
- Scafidi, B. (2008). The taxpayer costs of divorce and unwed childbearing. Institute for American Values.

- Serketich, W., & Dumas, J. (1996). The effectiveness of behavioral parent training to modify antisocial behavior in children: A meta-analysis. *Behavior Therapy, 27*(2), 171-186.
- Sexton, T. L. & Alexander, J. F. (2000). Functional family therapy. *Office of Juvenile Justice & Delinquency Prevention, Juvenile Justice Bulletin*, 3-7.
- Spaccarelli, S., Cotler, S., & Penman, D. (1992). Problem-solving skills training as a supplement to behavioral parent training. *Cognitive Therapy and Research, 16*(1), 1-17.
- Strain, P. S., Young, C. C., & Horowitz, J. (1981). Generalized behavior change during oppositional child training: An examination of child and family demographic variables. *Behavior Modification, 5*(1), 15-26.
- Sue, D. W., & Sue, D. (1990). *Counseling the culturally different: Theory and practice* (2nd ed.). Oxford England: John Wiley & Sons.
- Szapocznik, J., Rio, A., Murray, E., Cohen, R., Scopetta, M., Rivas-Vazquez, A., et al. (1989). Structural family versus psychodynamic child therapy for problematic Hispanic boys. *Journal of Consulting and Clinical Psychology, 57*(5), 571-578.
- The Conduct Problems Prevention Research Group. (2002). Predictor variables associated with positive fast track outcomes at the end of third grade. *Journal of Abnormal Child Psychology, 30*(1), 37-52.
- Treutler, C. M., & Epkins, C. C. (2003). Are discrepancies among child, mother, and father reports on children's behavior related to parents' psychological symptoms and aspects of parent-child relationships? *Journal of Abnormal Child Psychology, 31*(1), 13-27.
- Webster-Stratton, C. (1993). Strategies for helping early school-aged children with oppositional defiant and conduct disorders: The importance of home-school partnerships. *School Psychology Review, 22*(3), 437-457.
- Webster-Stratton, C., & Hammond, M. (1997). Treating children with early-onset conduct problems: A comparison of child and parent training interventions. *Journal of Consulting and Clinical Psychology, 65*(1), 93-109.
- Webster-Stratton, C., & Reid, M. (2003). The incredible years parents, teachers, and children training series: A multifaceted treatment approach for young children with conduct problems. In A.E. Kazdin & J.R. Weisz (Eds.), *Evidence-based psychotherapies for children and adolescents* (pp.224-240). New York: Guilford.
- Weersing, V., & Weisz, J. (2002). Mechanisms of action in youth psychotherapy. *Journal of Child Psychology and Psychiatry, 43*(1), 3-29.

- Werba, B. E., Eyberg, S. M., Boggs, S. R., & Algina, J. (2006). Predicting outcome in parent-child interaction therapy: success and attrition. *Behavior Modification, 30*, 618-646.
- Zhou, Q., Sandler, I. N., Millsap, R. E., Wolchik, S. A., & Dawson-McClure, S. (2008). Mother-child relationship quality and effective discipline as mediators of the 6-year effects of the new beginnings program for children from divorced families. *Journal of Consulting and Clinical Psychology, 76*(4), 579-594.
- Zubrick, S. R., Ward, K. A., Silburn, S. R., Lawrence, D., Williams, A. A., Blair, E., et al. (2005). Prevention of child behavior problems through universal implementation of a group behavioral family intervention. *Prevention Science, 6*(4), 287-304.

Table 1.

Descriptive Statistics: Means, Standard Deviations, and Ranges for Study Variables at Pre-Treatment (N = 46)

Variables	Mean	SD	Range
Child Behavior			
ECBI Externalizing Behaviors	153.17	24.98	108.0-219.5
CBCL Anxiety and Depression	8.48	3.62	2.0-19.0
Family Functioning			
FIS Family Conflict	13.03	3.33	5.0-18.5
FIS Family Cohesion	15.21	3.95	6.0-20.0
SCIFF Family Negativity and Conflict	3.03	1.23	1-5
SCIFF Family Cohesiveness	2.48	0.96	1-4

Note. ECBI = Eyberg Child Behavior Inventory. CBCL = Child Behavior Checklist. FIS = Family Interaction Scale. SCIFF = System for Coding Interactions and Family Functioning.

Table 2.

Correlations between Pre-treatment Study Variables (N=46)

Variables	1	2	3	4	5	6
1. ECBI	—					
2. FIS Conflict	.33*	—				
3. FIS Cohesion	-.35*	-.42**	—			
4. SCIFF Family Conflict	.43**	.38**	-.39**	—		
5. SCIFF Family Cohesion	-.42**	-.33*	.48***	-.69***	—	
6. SCIFF Alliance (1 = Balanced, 2 = Unbalanced)	.43**	.09	-.36*	.58***	-.69**	—
7. CBCL Anxiety and Depression	.30*	-.04	-.33*	.16	-.15	.24

Note. ECBI = Eyberg Child Behavior Inventory. FIS = Family Interaction Scale. SCIFF = System for Coding Interactions and Family

Functioning. CBCL = Child Behavior Checklist.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Table 3.

Pre-Post Assessments of Child Behavior Across the Two Treatment Conditions

Dependent Measure	Parent Training (n =26)		Family Therapy (n = 20)		Repeated ANOVA F (η^2)		
	Pre	Post	Pre	Post	Treatment	Time (T)	Tr x T
							(Tr)
Child Behavior Scales							
<u>Child Behavior</u>							
ECBI					1, 44	0.65 (.02)	60.03 ^{***} (.56) 0.39 (.00)
<i>M</i>	154.73	130.50	151.15	122.68			
<i>SD</i>	28.35	25.18	20.32	30.13			

Note. ECBI = Eyberg Child Behavior Inventory.

*** $p \leq .001$.

Table 4.

Pre-Post Assessments of Family Conflict for the Two Treatment Conditions

Dependent Measure	Parent Training		Family Therapy		Repeated MANOVA $F(\eta^2)$		
	Pre	Post	Pre	Post	Treatment	Time (T)	Tr x T
							(Tr)
Family Functioning Scales							
<u>Family Conflict</u>							
					2, 43	39.59 ^{***} (.65)	1.04 (.03)
FIS Family Conflict					1, 44	64.76 ^{***} (.54)	1.72 (.01)
<i>M</i>	12.65	9.65	13.53	9.65			.20 (.01)
<i>SD</i>	3.45	2.30	3.17	2.08			
SCIFF Family Conflict					1, 44	29.16 ^{***} (.40)	.73 (.02)
<i>M</i>	3.02	2.37	3.05	2.15			.09 (.00)
<i>SD</i>	1.35	1.21	1.10	.59			

Note. FIS = Family Interaction Scale. SCIFF = System for Coding Interactions and Family Functioning. * $p \leq .05$. *** $p \leq .001$.

Table 5.

Pre-Post Assessments of Family Cohesion for the Two Treatment Conditions

Dependent Measure	Parent Training		Family Therapy		Repeated MANOVA $F(\eta^2)$		
	Pre	Post	Pre	Post	Treatment	Time (T)	Tr x T
							(Tr)
Family Functioning Scales							
<u>Family Cohesion</u>							
FIS Family Cohesion					2, 43	7.79*** (.27)	2.41 (.10)
<i>M</i>	15.60	15.52	14.70	15.10			
<i>SD</i>	4.59	4.30	2.96	3.06	1, 44	.34 (.01)	.70 (.02)
SCIFF Family Cohesion					1, 44	15.03*** (.26)	4.93* (.10)
<i>M</i>	2.46	2.81	2.50	3.35			
<i>SD</i>	1.07	1.23	.83	.88			

Note. FIS = Family Interaction Scale. SCIFF = System for Coding Interactions and Family

Functioning. * $p \leq .05$. *** $p \leq .001$.

Table 6.

Pre-Post Crosstabulation of Family Alliance Formation (N=46)

Alliance Formation	Post-Treatment		χ^2
	Balanced	Unbalanced	
Pre-Treatment	Balanced	4	4.22*
		(9%)	
	Unbalanced	17	
		(37%)	

Note. Percentages appear in parentheses below means.

* $p < .05$.

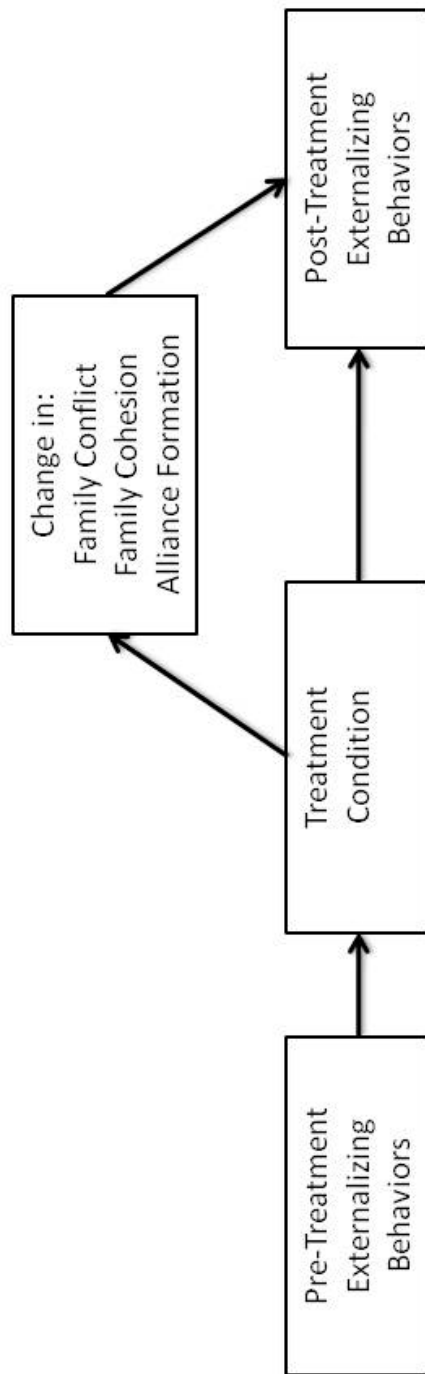


Figure 1. A mediational model.

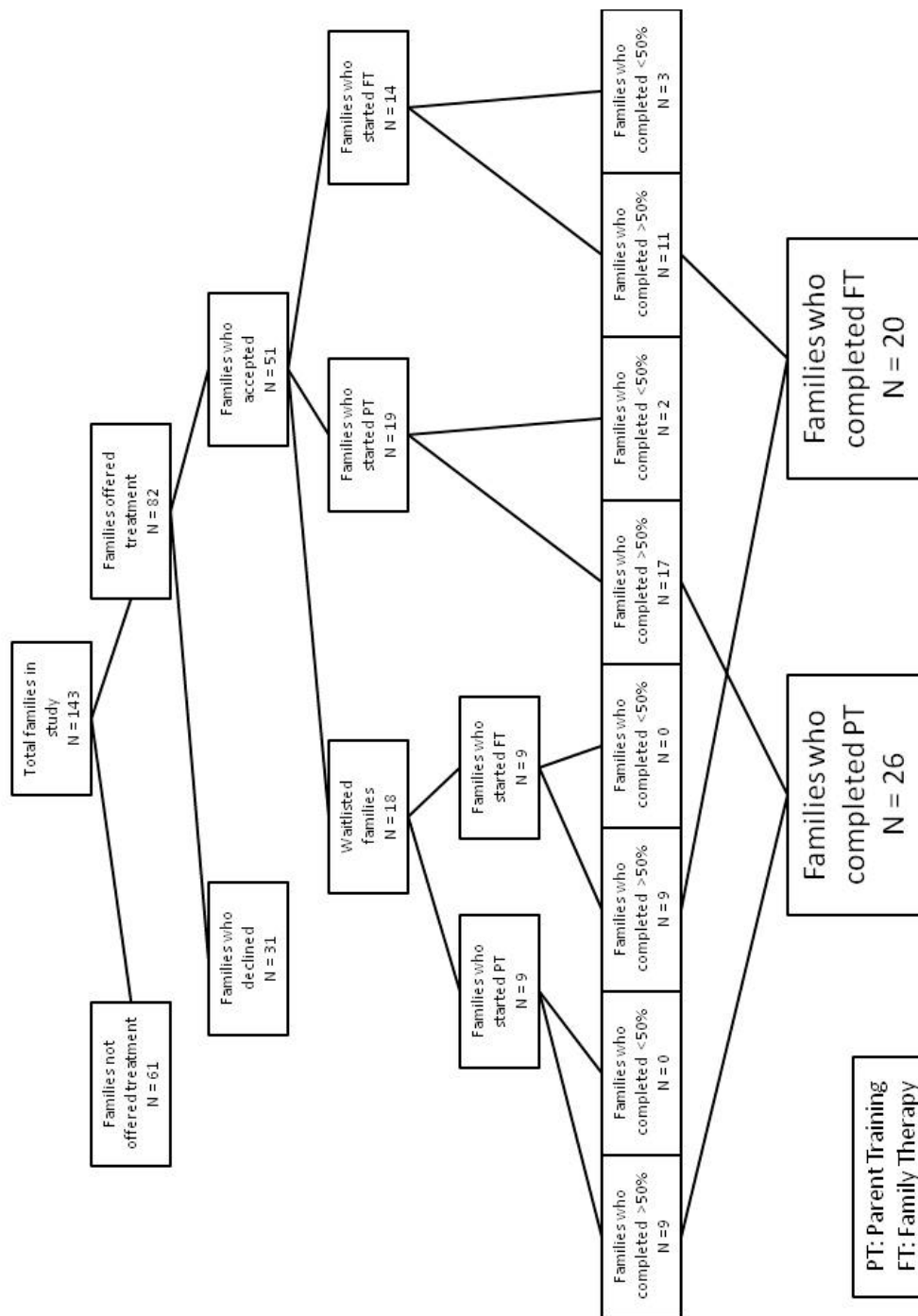


Figure 2. Study participants.

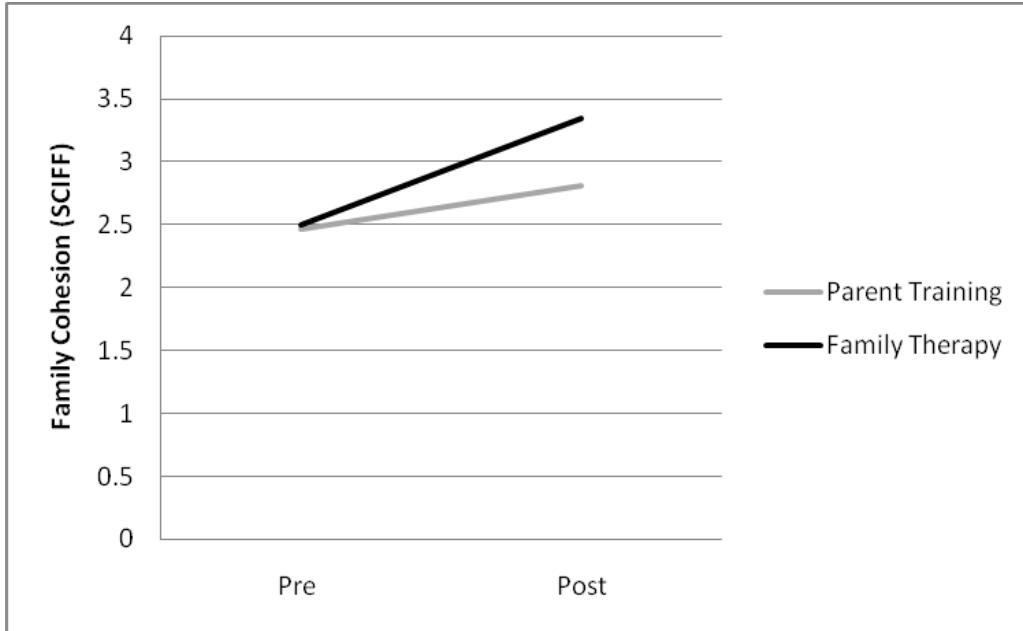


Figure 3. Pre-post change in family cohesion in two treatment conditions (SCIFF).

Appendix A
ADHD Rating Scale
(DuPaul et al., 1998)

Appendix A
ADHD Rating Scale

BEHAVIORAL RATING SCALE I

Family Id #_____

Parent: Mother Father

Date_____

Circle the number in the *one* column which best describes your child.

	Not at all	Just a little	Pretty Much	Very Much
1. Often fidgets or squirms in seat.	0	1	2	3
2. Has difficulty remaining seated.	0	1	2	3
3. Is easily distracted.	0	1	2	3
4. Has difficulty awaiting turn in groups.	0	1	2	3
5. Often blurts out answers to questions.	0	1	2	3
6. Has difficulty following instructions.	0	1	2	3
7. Has difficulty sustaining attention.	0	1	2	3
8. Often shifts from one uncompleted activity to another.	0	1	2	3
9. Has difficulty playing quietly.	0	1	2	3
10. Often talks excessively.	0	1	2	3
11. Often interrupts or intrudes on others.	0	1	2	3
12. Often does not seem to listen.	0	1	2	3
13. Often loses things necessary for tasks.	0	1	2	3
14. Often engages in physically dangerous activities without considering the consequences.	0	1	2	3

Of the problems rated 2 or 3, has each one existed for 6 months or longer? Yes No

Appendix B
ODD Rating Scale

Appendix B

BEHAVIORAL RATING SCALE II

Family Id # _____

Parent: Mother Father

Date _____

Circle the number in the *one* column which best describes your child.

	Not at all	Just a little	Pretty Much	Very Much
1. Often loses temper.	0	1	2	3
2. Often argues with adults.	0	1	2	3
3. Often actively defies or refuses adult requests or rules, e.g., refuses to do chores at home.	0	1	2	3
4. Often deliberately does things that annoy other people, e.g., grabs other children's hats	0	1	2	3
5. Often blames others for his own mistakes.	0	1	2	3
6. Is often touchy or easily annoyed by others.	0	1	2	3
7. Is often angry and resentful.	0	1	2	3
8. Is often spiteful or vindictive.	0	1	2	3
9. Often swears or uses obscene language.	0	1	2	3

Of the problems rated 2 or 3, has each one existed for 6 months or longer? Yes No

Appendix C

Child Behavior Checklist I and II

(Achenbach, 1991)

Appendix C

Family ID # _____

Parent: Mother Father

Date _____

CHILD BEHAVIOR CHECKLIST

Below is a list of items that describe children and youth. For each item that describes your child **now** or **within the past 6 months**, circle 2 if the item is **very true** or **often true** of your child. Circle 1 if the item is **somewhat** or **sometimes true** of your child. If the item is **not true** of your child, circle the 0. Please answer all items as well as you can, even if some do not seem to apply to your child.

0=Not True**1=Somewhat or Sometimes True****2=Very True or Often True**

- | | | | |
|-------|--|-------|--|
| 0 1 2 | 1. Withdrawn, doesn't get involved with others | 0 1 2 | 19. Fears he might think or do something bad |
| 0 1 2 | 2. Feels too guilty | 0 1 2 | 20. Nervous, highstrung, or tense |
| 0 1 2 | 3. Complains of loneliness | 0 1 2 | 21. Worries |
| 0 1 2 | 4. Overtired | 0 1 2 | 22. Too fearful or anxious |
| 1 2 | 5. Underactive, slow moving, or lacks energy. | 0 1 2 | 23. Would rather be alone than with others |
| 0 1 2 | 6. Feels or complains that no one loves him | | 24. Physical problems without known medical cause: |
| 0 1 2 | 7. Cries a lot | 0 1 2 | a. Aches or pains (not headaches) |
| 0 1 2 | 8. Refuses to talk | 0 1 2 | b. Headaches |
| 0 1 2 | 9. Sulks a lot | 0 1 2 | c. Nausea, feel sick |
| 0 1 2 | 10. Shy or timid | 0 1 2 | d. Problems with eyes |
| 0 1 2 | 11. Feels he has to be perfect | 0 1 2 | e. Rashes or other skin problems |
| 0 1 2 | 12. Feels dizzy | 0 1 2 | f. Stomaches or cramps |
| 0 1 2 | 13. Feels others are out to get him | 0 1 2 | g. Vomiting, throwing up |
| 0 1 2 | 14. Feels worthless or inferior | | |
| 0 1 2 | 15. Self-conscious or easily embarrassed | | |
| 0 1 2 | 16. Suspicious | | |
| 0 1 2 | 17. Secretive, keeps things to self | | |
| 1 2 | 18. Unhappy, sad, or depressed | | |

Appendix C (Continued)

Family ID # _____

Parent: Mother Father

ite _____

CHILD BEHAVIOR CHECKLIST II

Below is a list of items that describe children and youth. For each item that describes your child **now** or **within the past 6 months**, circle **2** if the item is **very true** or **often true** of your child. Circle **1** if the item is **somewhat** or **sometimes true** of your child. If the item is **not true** of your child, circle the **0**. Please answer all items as well as you can, even if some do not seem to apply to your child.

0=Not True**1=Somewhat or Sometimes True****2=Very True or Often True**

- | | | | | | | | |
|---|---|---|--|---|---|---|---|
| 0 | 1 | 2 | 1. Doesn't seem to feel guilty after misbehaving | 0 | 1 | 2 | 19. Hangs around with others who get in trouble |
| 0 | 1 | 2 | 2. Lying or cheating | 0 | 1 | 2 | 20. Disobedient at home |
| 0 | 1 | 2 | 3. Prefers being with older kids | 0 | 1 | 2 | 21. Disobedient at school |
| 0 | 1 | 2 | 4. Runs away from home | 0 | 1 | 2 | 22. Easily jealous |
| 0 | 1 | 2 | 5. Uses alcohol or drugs for nonmedical purposes | 0 | 1 | 2 | 23. Sudden changes in mood or feelings |
| 0 | 1 | 2 | 6. Destroys things belonging to his family or others | 0 | 1 | 2 | 24. Gets in many fights |
| 0 | 1 | 2 | 7. Sets fires | 0 | 1 | 2 | 25. Physically attacks people |
| 0 | 1 | 2 | 8. Steals at home | 0 | 1 | 2 | 26. Screams a lot |
| 0 | 1 | 2 | 9. Steals outside the home | 0 | 1 | 2 | 27. Showing off or clowning |
| 0 | 1 | 2 | 10. Swearing or obscene language | 0 | 1 | 2 | 28. Stubborn, sullen, or irritable |
| 0 | 1 | 2 | 11. Thinks about sex too much | 0 | 1 | 2 | 29. Talks too much |
| 0 | 1 | 2 | 12. Truancy, skips school | 0 | 1 | 2 | 30. Teases a lot |
| 0 | 1 | 2 | 13. Vandalism | 0 | 1 | 2 | 31. Temper tantrums or hot temper |
| 0 | 1 | 2 | 14. Argues alot | 0 | 1 | 2 | 32. Threatens people |
| 0 | 1 | 2 | 15. Bragging or boasting | 0 | 1 | 2 | 33. Unusually loud |
| 0 | 1 | 2 | 16. Demands a lot of attention | | | | |
| 0 | 1 | 2 | 17. Destroys his own things | | | | |
| 0 | 1 | 2 | 18. Cruelty, bullying, or meanness to others | | | | |

Appendix D

Eyberg Child Behavior Inventory

(Robinson, Eyberg, & Ross, 1980)

Appendix D

Family ID# _____

Parent: Mother Father

Date _____

EYBERG CHILD BEHAVIOR INVENTORY

Directions: Below are a series of phrases that describe children's behavior. Please (1) circle the number describing how often the behavior currently occurs with your child, and (2) circle "yes" or "no" to indicate whether the behavior is currently a problem for you.

	How often does this occur with your child?							Is this a problem for you?	
	<u>Never</u>	<u>Seldom</u>	<u>Sometimes</u>	<u>Often</u>	<u>Always</u>			<u>Yes</u>	<u>No</u>
1. Dawdles in getting dressed	1	2	3	4	5	6	7	Yes	No
2. Dawdles or lingers at mealtimes	1	2	3	4	5	6	7	Yes	No
3. Has poor table manners	1	2	3	4	5	6	7	Yes	No
4. Refuses to eat food presented	1	2	3	4	5	6	7	Yes	No
5. Refuses to do chores when asked	1	2	3	4	5	6	7	Yes	No
6. Slow in getting ready for bed	1	2	3	4	5	6	7	Yes	No
7. Refuses to go to bed on time	1	2	3	4	5	6	7	Yes	No
8. Does not obey house rules on his own	1	2	3	4	5	6	7	Yes	No
9. Refuses to obey until threatened with punishment	1	2	3	4	5	6	7	Yes	No

Appendix D (Continued)

	How often does this occur with your child?							Is this a problem for you?	
	<u>Never</u>	<u>Seldom</u>	<u>Sometimes</u>	<u>Often</u>	<u>Always</u>			<u>Yes</u>	<u>No</u>
10. Acts defiant when told to do something	1	2	3	4	5	6	7	Yes	No
11. Argues with parents about rules	1	2	3	4	5	6	7	Yes	No
12. Gets angry when doesn't get his own way	1	2	3	4	5	6	7	Yes	No
13. Has temper tantrums	1	2	3	4	5	6	7	Yes	No
14. Sassses adults	1	2	3	4	5	6	7	Yes	No
15. Whines	1	2	3	4	5	6	7	Yes	No
16. Cries easily	1	2	3	4	5	6	7	Yes	No
17. Yells or screams	1	2	3	4	5	6	7	Yes	No
18. Hits parents	1	2	3	4	5	6	7	Yes	No
19. Destroys toys and other objects	1	2	3	4	5	6	7	Yes	No
20. Is careless with toys and other objects	1	2	3	4	5	6	7	Yes	No
21. Steals	1	2	3	4	5	6	7	Yes	No
22. Lies	1	2	3	4	5	6	7	Yes	No
23. Teases or provokes other children	1	2	3	4	5	6	7	Yes	No

Appendix D (Continued)

	How often does this occur with your child?							Is this a problem for you?	
	<u>Never</u>	<u>Seldom</u>	<u>Sometimes</u>	<u>Often</u>	<u>Always</u>			<u>Yes</u>	<u>No</u>
24. Verbally fights with friends his own age	1	2	3	4	5	6	7	Yes	No
25. Verbally fights with sisters and brothers	1	2	3	4	5	6	7	Yes	No
26. Physically fights with friends his own age	1	2	3	4	5	6	7	Yes	No
27. Physically fights with brothers and sisters	1	2	3	4	5	6	7	Yes	No
28. Constantly seeks attention	1	2	3	4	5	6	7	Yes	No
29. Interrupts	1	2	3	4	5	6	7	Yes	No
30. Is easily distracted	1	2	3	4	5	6	7	Yes	No
31. Has a short attention span	1	2	3	4	5	6	7	Yes	No
32. Fails to finish tasks or projects	1	2	3	4	5	6	7	Yes	No
33. Has difficulty entertaining himself alone	1	2	3	4	5	6	7	Yes	No
34. Has difficulty concentrating on one thing	1	2	3	4	5	6	7	Yes	No
35. Is overactive or restless	1	2	3	4	5	6	7	Yes	No
36. Wets the bed	1	2	3	4	5	6	7	Yes	No

Appendix E
Family Interaction Scale
(Bloom, 1985)

Appendix E

FAMILY INTERACTION SCALE^a

Family ID # _____

Parent: Mother Father

Date _____

Circle the number in the *one* column which best describes your family.

	Very <i>Untrue</i> for my family	Fairly <i>Untrue</i> for my family	Fairly True for my family	Very True for my family
1. Family members really help and support one another.	1	2	3	4
2. We argue or fight a lot in our family.	1	2	3	4
3. We support our children to develop in their own individual way.	1	2	3	4
4. Family members make the rules for the family together.	1	2	3	4
5. Children in our family can get away with almost anything.	1	2	3	4
6. Parents make the important decisions in our family by themselves (i.e., with little input from the children).	1	2	3	4
7. There is a feeling of togetherness and unity in our family.	1	2	3	4
8. Family members sometimes get so angry that they throw things.	1	2	3	4
9. We are satisfied with the way in which we live.	1	2	3	4
10. Some family members feel they have little or no say in solving problems.	1	2	3	4
11. Family members are rarely punished or reprimanded when they do something wrong.	1	2	3	4
12. There is very strict punishment for breaking rules in our family.	1	2	3	4
13. Our family does not do things together very often.	1	2	3	4
14. Family members often lose their tempers.	1	2	3	4
15. Our decisions are not our own, but are forced upon us by things beyond our control.	1	2	3	4
16. Each family member has a say when we are making major family decisions.	1	2	3	4
17. It is unclear what will happen when rules are broken in our family.	1	2	3	4

Appendix E (Continued)

	Very <i>Untrue</i> for my family	Fairly <i>Untrue</i> for my family	Fairly True for my family	Very True for my family
18. Children are punished very strongly for things they do wrong.	1	2	3	4
19. We really get along well with each other.	1	2	3	4
20. Family members sometimes hit each other (e.g., slap, spank).	1	2	3	4
21. Our family has more than its share of bad luck.	1	2	3	4
22. Parents and children in our family decide together the method of punishment.	1	2	3	4
23. It is hard to know what the rules are in our family because they change frequently.	1	2	3	4
24. There are very few rules in our family.	1	2	3	4
25. Family members seem to avoid contact with each other when at home.	1	2	3	4
26. Family members often criticize each other.	1	2	3	4
27. Our family feels that they have relatively little influence over the things that happen to them.	1	2	3	4
28. In our family, parents check with the children before making important decisions.	1	2	3	4
29. The parents are very stern and strict leaders in our family.	1	2	3	4
30. Parents sometimes order the children around.	1	2	3	4

Appendix F

System for Coding Interactions and Family Functioning (SCIFF)

Negativity and Conflict, Cohesion, and Alliance Formation codes

(Lindahl and Malik, 2000)

Appendix F

System for Coding Interactions and Family Functioning

FAMILY CODE: NEGATIVITY & CONFLICT

This code assesses the overall negative *tone* or level of *tension* in the family. Negativity and conflict includes clear expressions of tension, frustration, anger, irritation, and hostility, as well as more subtle forms of negative affect including tension in voice, face, or body, a slightly raised voice, impatience, annoyance, or abruptness. This code captures the feeling associated with what someone says, not the content of what is said. Critical, cruel, condescending, or insensitive comments that are directed toward the child should not be coded here, but rather should be included in the rating of Parental Rejection and Invalidation. Similarly, code critical comments between spouses under Marital Communication.

Negativity and conflict are assessed by tone of voice, facial expression, and body language. A negative tone of voice can be angry, tense, frustrated, or annoyed. Negative facial expressions include rolling one's eyes, smirking, and frowning. The body position may also reveal tension or anger (e.g., crossed arms, stiffness, fidgetiness).

- 1 – Very Low. The family shows little to no negative affect. If any evidence of anger, tension, and/or irritation is present, it is fleeting, momentary, and quickly resolved. Moments of negativity tend to be of low intensity (e.g., no one in the family appears to feel particularly hostile or angry toward another).
- 2 – Low. The family *generally* does not demonstrate tenseness or conflictual affect. However, there are several clear moments of tension, frustration, and/or anger. These difficulties tend to be resolved fairly readily, though some lingering tension may occur (e.g., it may appear that one of the family members feels somewhat hostile, anxious, annoyed, disgusted, etc., in the interaction).
- 3 – Moderate. The family demonstrates some negativity or tension, but the overall tone of the interaction is very mixed (only about half the time does the family seem to be experiencing negative affect). The level of negativity or tension is variable, at times subtle and at times more obvious. Occurrences of negativity are of at least moderate intensity and may be difficult to resolve. At least one of the family members is observed to be demonstrating moderate levels of feeling hostile, anxious, annoyed, disgusted, etc., in the interaction (e.g., with at least one person, it is obvious when they are experiencing negative affect).
- 4 – Moderately High. Negative affect, although not pervasive, is of a fairly intense nature. There are clear moments where tension is not at all present between any of the family members (e.g., when no one is tense or negative), but when tension is present, it is relatively easy to identify (e.g., even when someone does not look angry, there is hostility present in his/her tone of voice or body posture). In this code, there is not always a clear instance of a person raising a voice or putting another down, but there may be at times an undercurrent of tension in the family.
- 5 – High. Negative affect, such as tension, anger, or irritation, is present throughout much of the discussion (more than half of the time). Negative affect is of a fairly intense nature, such that it is clear, obvious, and easy to identify. Voices may be raised, and feelings of hostility, anger, frustration, annoyance, irritation, anxiety, shame, or hurt are frequently

Appendix F (Continued)

obvious during the course of the interaction. There is a clear undercurrent of tension in the family.

FAMILY CODE: COHESIVENESS

Cohesiveness represents the sense of unity, togetherness, and closeness within a family. The degree of cohesiveness in a family is related to the extent to which family members are affectionate, respectful, and warm with each other. For highly cohesive families, there is a sense mutual appreciation between the family members as they work together toward a common goal. Family members will either appear to be comfortable, unified, and close with one another, or the family interaction will be marked by interpersonal distance, awkwardness, and stiffness. In such families, members will often appear disengaged and disconnected from one another.

1 – Very Low. In this code, all of the family members appear disengaged from one another; interpersonal distance, aloofness, stiffness, or awkwardness characterize the relationships within the family. Little warmth or closeness is seen in most of the interaction, such that rarely do family members demonstrate physical or verbal affection with one another. There is a sense that the individuals in the family are having difficulty working together and functioning together as a unit while discussing a family problem.

2 – Low. For the most part, the family appears fragmented, rather than cohesive. There are moments when the family appears unified, but these moments are infrequent and do not characterize the interaction. This code may also be given if it appears that there is interpersonal distance, aloofness, or awkwardness in at least one or two of the dyads, but not all of three of them (e.g, mother and child appear close, but there is distance in the father/child and/or marital dyad(s)). There may be brief moments when family members clearly “connect” with one another.

3 – Moderate. For this code, in each of the three dyads (i.e., mother/child, father/child, and marital) there must be observable moments of closeness, unity, and cohesion. However, there are times when the family appears fragmented, rather than cohesive. Moments of interpersonal distance, stiffness, and/or awkwardness may be observed. The main difference between a code of 2 and a code of 3 is that for a family to achieve a code of 2, it should appear that the family is basically fragmented but has moments of cohesion, and for a 3, it should appear that the family basically appears to function as a unit, but the depth of the connection among family members is lacking or difficult to ascertain.

4 – Moderately High. Family members generally appear connected and to function well as a unit, though on rare occasions, moments of awkwardness or interpersonal distance may be observed. These difficult moments never reach a level that would be labeled fragmented. The interaction may not always be smooth, but the spirit of unity and togetherness among family members is relatively consistent. The family members appear generally to be comfortable and close with one another, and appear to have an underlying connection, even when discussing difficult topics.

5 – High. Family members are connected and function very well together as a unit. They appear to be comfortable and close with one another and to clearly be working toward a common goal in their discussion. The strength of the connection between them is

Appendix F (Continued)

obvious. Family members remain strongly connected even when discussing difficult topics. The interaction likely runs very smoothly. This rating should be given if the above are true, with the understanding that the interaction may not always be positive given the difficult nature of the task.

FAMILY CODE: ALLIANCE FORMATION

This code assesses the nature of the alliances in a family. An alliance refers to the nature of the different dyadic relationships in the family (mother-child; father-child, marital). A family is either “balanced” (see #1) or it is one of the other four choices (Marital or Detouring-Attacking, Parent-Child (either father/child or mother/child), Disengaged alliance). In other words, either all of the dyads seem to be about equal in terms of closeness, influence, and affection, or there is an imbalance such that either the marital, father-child, or mother-child relationship is significantly more close, influential, or affectionate than any of the others. In some families, the relationships will not appear balanced, but neither will it seem that any one pair is stronger than any other pair. These families are described as disengaged.

1. BALANCED

To rate a family as balanced, there must be no evidence of any dyad as having more influence or power in the interaction than any other dyad. It is expected that the marital dyad may have more influence in the interaction than any parent-child dyad, but the influence of the marital dyad does not lead to exclusion of the child. In this code, it is expected that the family members are equally close or affectionate with one another, and no two people appear closer or more affectionate with each other, to the exclusion of the third person. With single-parent families, when the relationship between parent and child appears to be strong, close, and there is reciprocity and respect in the interaction, the alliance should be coded as balanced.

2. MARITAL (DETOURING-ATTACKING)

In this code, the marital dyad is clearly the most powerful, influential dyad in the interaction. Parents may be seen to band together to control the child, even though there may be some strife and disagreement between the parents as to how to control the child. At times, the parents may seem to start getting into conflict themselves, but they re-route the conflict toward the child. In other words, when the parents start fighting with each other, one or both of them changes the topic to blame the child (i.e., the child is scapegoated). For example, a parent may “detour” the discussion by diverting attention away from him/herself and directing blame at the child, by bringing up an unrelated topic (e.g., when a family is discussing a problem related to the marriage, one parent changes the topic by saying something like, “Well, anyway, that isn’t really the problem, the problem is when (the child) does x, y, or z, etc.” The child’s opinions, thoughts, and feelings are often ignored, not listened to, and/or not respected. This code is not to be given with families where only one parent is in the interaction.

3. PARENT/CHILD

Appendix F (Continued)

In this code, the primary alliance appears to be between one of the parents and the child.

This

alliance is strong and markedly different from other dyadic connections within the family. The parent (mother or father) and child appear notably closer to and/or more affectionate with each other. The other parent appears almost to be a “third wheel,” whose opinions and/or suggestions are sometimes ignored or disregarded by the primary parent-child dyad. At times, this code may be given to families where the child actively sides with one parent (for example, the child says to the mother, “Yeah, Dad is right, that wasn’t my fault,” etc.) or the mother actively sides with the child (e. g., the mother says to the father, “Now, wait, I disagree, it wasn’t so much his fault. In fact, if you had been there to pick him up on time,” etc.). With single-father families, this code should be given if the parent-child relationship appears overly close, dependent, or enmeshed, such that the boundaries between parent and child are unclear, and the roles of parent and child are sometimes reversed. For example, when boundaries are unclear, parent and child may constantly touch one another or seem unable to separate. When roles are reversed, the parent may be seen to ask the child in some way to take over the parenting role, either by taking care of the parent in some way or by structuring the discussion him/herself.

4. DISENGAGED OR WEAK ALLIANCES

In this code, it is difficult to identify any strong alliances. There is little closeness among family

members. Disorganization may characterize the discussion and interpersonal distance (or coldness in extreme cases) may characterize the relationships among the family members. Alliances may be difficult to detect, and seem tenuous at best. Families given this code will most likely be given a 1 or 2 on the Cohesiveness code.