# THE EFFECTS OF PARENT PARTICIPATION ON CHILD PSYCHOTHERAPY OUTCOME: A META-ANALYTIC REVIEW

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This study evaluated the effects of parent participation on child psychotherapy outcomes through meta-analytic review. A total of 42 studies (and two follow up studies) were included that offered a direct comparison of an individual child treatment group to either a combined parent-child/family therapy treatment, or a parent-only treatment groups. Results indicate that combined treatments were more effective than individual child treatments, with an average weighted effect size within the moderate range (d = .25). No differences were found between individual child and parent-only interventions. Moderator analysis for the comparison of child-only to combined treatments identified child treatment orientation as a marginally significant unique predictor. However, when all other potential moderators (presenting problem, treatment orientation, methodological quality, difference in number of therapy sessions, outcome measure, and child age) were entered into the regression analysis, methodological quality was identified as marginally significant. Results suggest that including parents in the psychotherapeutic treatment of children is beneficial. More research is needed that offers these specific treatment comparisons to offer more specific treatment recommendations.

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# The Effects of Parent Participation on Child Psychotherapy Outcome: A Meta-Analytic Review

The study of psychological disorders among children represents a prolific area of scientific research and clinical investigation. A review of epidemiological studies on children's mental disorders within the past 50 years conducted by Roberts, Attkisson, and Rosenblatt (1998) estimates that approximately 8-12% of young children and 15% of adolescents within the general population experience clinically severe emotional and behavioral difficulties. In addition, approximately 50% of children with one clinical diagnosis will also have a second comorbid diagnosis (Tyrer, Gunderson, Lyons, & Tohen, 1997).

Such psychological disturbance likely leads to some degree of functional impairment for the child, such as academic, interpersonal and developmental difficulties compounding the original primary emotional and behavioral dysfunctions that require some form of psychological, psychiatric, and/or educational intervention. In fact, throughout the course of childhood and adolescence, approximately 10% of youths (ages 3-17) will have received some form of psychological intervention for behavioral or emotional problems (U.S. Congress, 1991). Parents seeking psychological services for their child have a daunting task of choosing the most appropriate and effective type of intervention, as one estimate suggests that there are more than 500 different psychotherapy techniques in use for children and adolescents (e.g. At Ease Therapy, Exaggeration Therapy, Holistic Counseling, Person-Centered Family Therapy, Pet Therapy, and Video Therapy to name a few). In fact, this is most likely an underestimate

of the actual number of different therapies in clinical use, as the criteria for inclusion in this count required documentation in a publicly available source (Kazdin, 2000).

In order to bring some organizational structure to the numerous child therapies, several classification systems have been devised, such as classification according to theoretical orientation (e.g. behavioral versus psychodynamic), length of therapy (brief versus unlimited), structure of therapy (manualized versus unstructured), and target of treatment (individual versus family unit). Meta-analytic reviews of child psychotherapy have evaluated treatment outcomes along several of these classifications (see Kazdin, Bass, Ayers, & Rodgers, 1990; Weisz, Weiss, Alicke, & Klotz, 1987; Weisz, Weiss, Han, Granger, & Morton, 1995). However, there remains a lack of attention among researchers to the *comparative* effects of individual child treatments, parent-only interventions, and combined treatment, as well as a lack of clinical guidelines to assist practitioners in choosing what type of treatment is most appropriate for which client. For the purposes of this review, "parent-only treatments" will refer to those treatments whose primary participants include the parents, with no concurrent independent individual child treatment intervention. "Combined treatments" will refer to treatment approaches that combine independent "parent-only" with individual child interventions as well as family therapies.

Despite the limited empirical evidence supporting one method over the other, research findings indicate increased utilization of parent participation in children's treatment by practitioners. Results from a survey conducted by Kazdin, Siegel, and Bass (1990) suggest almost 80% of respondents indicated that they routinely include children

as well as parents as treatment participants. Evidence-based support (demonstrated effects through controlled clinical trials) is needed to provide clinical guidance to child clinicians regarding when parent-only treatment, individual treatment, or combined treatment is most appropriate. In addition, more research is needed that directly compares these treatment modalities to further explore potential moderating variables that influence treatment efficacy.

In order to contribute toward a framework upon which the comparison between individual and combined or parent-only interventions will be drawn, this review will begin by discussing the historical context from which these treatment modalities evolved. An overview of the theory and techniques of several prominent individual child treatments will be reviewed. In addition, the theory and techniques of various combined or parent-only interventions will be presented. Previous meta-analytic reviews of child and family therapy research will be evaluated regarding their contribution to this comparison, in addition to a brief discussion of several common critiques of the meta-analytic method including how they will be addressed in this study. Several examples of comparative clinical studies (including parent-only, individual, and combined treatment groups) will be reviewed for both internalizing and externalizing disorders to provide illustrations of the types of studies to be included in this review.

This proposal intends to evaluate the relative efficacy of parent-only, individual, and combined treatments through the meta-analytic statistical analysis of all primary child psychotherapy outcome studies that include a direct comparison of such treatments. Several moderator variables will be included in this analysis in an attempt to identify the

specific child or family situations for which family-based or individual treatments are most effective. For the purposes of this review, the term "children" will refer to both adolescents and children unless otherwise specified.

*Historical Context*

The treatment of childhood psychological disorders has an extensive history that spans more than 100 years. During the early twentieth century, the writings of child psychoanalysts such as Anna Freud and Melanie Klein established the standard model of individual psychotherapy for children. This typically included intensive individual psychoanalytic therapy centered primarily on attachment difficulties, individuation, ego development, and psychosexual developmental issues (Blanck, 2000; Mahon, 2001). Despite the concurrent development of early family therapy approaches in the social work, marriage and family life education, and marriage counseling movements of the late 1800's and early 1900's, family interventions did not immediately represent a viable treatment alternative within the child psychotherapy domain (Kaslow & Celano, 1995). Rather, the prototype of individual therapy for children, fashioned from the adult analytic psychotherapy movement, remained unchallenged for the first half of the 20th century (Fauber & Long, 1991).

The sudden and intense need for "assessment and brief but effective clinical approaches" brought about by WWII initiated the expansion of psychotherapy to other professional fields. According to Gale and Long (1996), family therapy as a treatment approach emerged in several independent locations during the 1950's. Professionals within a wide variety of human development disciplines, such as social work, child

guidance, social psychiatry, family life education, sociology, and marriage counseling "began writing about a paradigmatic shift of understanding human interaction" that emphasized the incorporation of family members as participants in psychological treatments (Gale & Long, 1996, p. 1).

It was not until the period of deinstitutionalization (1960's to 1980's), however, when the previously institutionalized psychiatric patients were released often to the care of family members, that contact suddenly increased between mental health professionals and family members of the patients (Marsh, 1998). Initially the emphasis of such interactions unfairly targeted the family as the primary cause of the child's problems, wherein practitioners functioned as family adversaries as well as patient advocates (Marsh, 1998). It was from this trend of increasing incorporation of family members into treatment that family therapy eventually emerged as a practical alternative to individual child therapy (Fauber & Long, 1991).

Since then, hundreds of treatments have been developed with widely varying emphases on treating children individually, treating the parents independently, or both. Given the immense number of interventions currently in clinical use, recent child psychotherapy research has sought to identify those "evidence-based" treatments that have consistent, demonstrable effects across rigorously controlled randomized clinical trials. Within the construct of evidence-based treatments, distinctions have been drawn between treatment efficacy and effectiveness. Efficacy typically refers to studies in which tight internal methodological controls have been maintained, at the expense of external generalizability of findings. Chambless and Hollon (1998) specifically define "probably

efficacious" treatments as those that have shown to be more effective than other treatments, placebos, and no treatment controls across several clinical trials conducted by independent research teams. Additional criteria in which efficacious treatments may be identified include between group designs with random assignment, manualized or clearly defined treatment procedures for ease in replication, consistency in therapist training and adherence measures to ensure treatment fidelity, clinically impaired samples with minimal comorbidity, multiple outcome assessments, results expressed in both clinical and statistical significance, and assessment of long-term treatment outcomes (Chambless & Hollon, 1998).

In response to the limits of generalizability of such tightly controlled efficacy studies in clinical settings (that often clients seen in clinics have multiple comorbid problems, therapists are not provided training on manualized treatments, and treatment adherence is not monitored), studies on the effectiveness of interventions have emphasized the external validity of the treatment outcomes in more common, real-world treatment settings (Chambless & Ollendick, 2000). Increasingly, researchers are examining how treatment protocols used in efficacy studies may be implemented in clinical and community settings with more ethnically diverse and multi-problem samples.

Kazdin (2003) outlines the most current list of approximately 11 evidence-based child treatments. Notably, individual, parent-only, and combined treatments have demonstrated such robust effects (see Table 1). The list was developed based on several reviews of problem domains, (see Kazdin & Weisz, 1998; Lonigan & Elbert, 1998; Nathan & Gorman, 1998; TFPP, 1995 as cited by Kazdin, 2003). Table 1 indicates that

parent-only and combined treatments, such as parent management training or multisystemic therapy, have achieved equal status (i.e. evidence-based) with individual-based treatments such as cognitive-behavioral therapy, in several problem areas. It is important to note, however, that this identification of evidence-based treatments does not address whether the efficaciousness of these treatments may change as it is applied to different developmental stages (i.e. preschool-age versus adolescence).

Table 1

Evidence-Based Treatments for Children and Adolescents

| Problem Area | Evidence-Based Treatments |
|---|---|
| Depression | Cognitive-behavior therapy |
| | Coping with depression course |
| | Interpersonal psychotherapy |
| Anxiety | Systematic desensitization |
| | Modeling |
| | Reinforced practice |
| | Cognitive behavior therapy |
| Oppositional Defiant/Conduct Disorder | Parent management training |
| | Problem-solving skills training |
| | Multisystemic Therapy |
| Attention-Deficit/Hyperactivity Disorder | Stimulant medication |
| | Parent management training |
| | Classroom contingency management |

Note: This table was modified from Kazdin (2003).

As is frequently pointed out by researchers, clinicians do not often adhere to using empirically supported treatments as first line interventions (recall the previously mentioned 500+ clinical interventions currently in use for children and adolescents). It appears that there is a widening gap between treatments that have achieved acclaimed research status as "empirically supported", yet have limited utilization in clinical practice, and those that are used widely in clinical practice with little to no empirical support. This study intends to narrow this gap by presenting clinically relevant research findings regarding for whom and under what circumstances is the inclusion of parent participation in treatment of childhood disorders beneficial.

In order to provide contextual background from which child, parent, and combined interventions will be compared, a brief overview of the theoretical and conceptual basis for both individual child therapy and combined or parenting interventions will be presented. Included will be a review of relevant etiological factors, followed by a brief summary of current empirical support for several intervention techniques (several of which were included in Table 1).

*Individual Psychotherapy for Children: Theory, Techniques, and Empirical Support*

Individual psychotherapy for children has evolved and expanded from its original roots in traditional psychodynamic and play therapy to include a wider variety of clinical orientations, such as cognitively-based treatments of problem-solving skills training, social skills training, and anger management therapy; behavioral techniques such as self-monitoring, self-evaluating, self-consequating (see Kazdin, Bass, Siegel, & Thomas,

1989; Lewinsohn, Clarke, Hops, & Andrews, 1990; Lewinsohn, 1974); and interpersonal therapy for depression (see Mufson, Weissman, Moreau, & Garfinkel, 1999). A review of etiological factors that are frequently targets of treatment will be presented followed by a brief summary of individual treatments for children, including theoretical frameworks and corresponding empirical support for several selected individual interventions.

*Etiological research: Internal risk factor.* Research has identified several intrinsic characteristics that are commonly found among children with mood as well as behavioral disorders that are frequently identified as targets for a variety of individual-based interventions. These include deficits in problem-solving skills, self esteem, self control, limited understanding of and/or control over emotional expression, and poor executive functioning (Barkely, 1997; Sequin, Pihl, Harden, Tremblay, & Boulerice, 1995) among children with externalizing disorders. Other individual characteristics found among children with disruptive behavior problems include difficult temperament, low levels of harm avoidance, callousness or unemotional behavior, sensation seeking, and lower verbal intelligence (Lahey, Waldman, & McBurnett, 1999). Researchers have also determined several individual etiological factors that are associated with internalizing disorders such as depression. These include temperamental features such as behavioral inhibition to the unfamiliar (Kagen, Reznick, & Snidman, 1988), social skills impairments (Altmann & Gotlib, 1988; Fauber, Forehand, Long, Burke, & Faust, 1987), and negative attribution styles (Garber & Hillsman, 1992). By working with the child directly, individual therapy emphasizes strengthening or improving the above mentioned

internal deficits/characteristics. The following is a review of several modes of individual child psychotherapy which have approached the treatment of these etiological factors in a variety of ways.

*Individual psychodynamic therapy.*Psychodynamic therapies for children consider the primary origin of psychopathology as the inability to get one's needs met. The experience of transference, or the unconscious attribution of attitudes, behaviors, and thoughts by the patient onto the therapist based on the patient's significant past events, is considered essential for the process of psychodynamic therapy (Brems, 1993), and has been conceptualized in a variety of ways. Wachtel (1994) outlines a bidirectional model of transference wherein a child's internal temperament, combined with their unconscious wishes and fears, shape their external interactions with others. Similarly, these interactions then shape the child's unconscious wishes and fears. The goal is for the child to recognize anxiety-induced defense mechanisms in order to resolve intrapsychic conflicts (Panichelli and Kendall, 1995). Brems (1993) suggests that transference originates from the interaction between the child and the therapist in addition to the child's past experiences: "both the child and the therapist contribute to the transference… [the therapist] contributes through overt and intentional behaviors…designed to facilitate and stimulate certain affects and needs states in the child….The child responds to his or her therapy environment from that unique historical perspective" (p. 234). The transference is then used to determine deficits in coping or adjustment on which treatment emphasis is placed (Brems, 1993).

Psychodynamic/client-centered techniques vary dramatically depending on the age of the child. Play therapy, developed and brought into popular use by Melanie Klein and Anna Freud, is analogous to free association in adult psychoanalytic therapy, whereby the child's unconscious material is uncovered through interpretations of play behaviors. It is perhaps the most common and well-known method for psychodynamic therapy with young children. Etiological factors typically addressed by play therapy include deficits in problem-solving skills, self-control, and limited understanding and/or control over emotional expression. These treatment goals are targeted via the elicitation of representations within play, wherein traumatic or difficult feelings/memories may be enacted by the child and skills such as problem-solving and self-control may be practiced in the security of the therapeutic setting. Through projective play, the therapist accepts and transforms the difficult emotional content into a more acceptable format so that the child may reintegrate what was previously overwhelming or painful, thereby learning to manage and control uncomfortable emotions (Brems, 1993).

Other models of play therapy have expanded beyond the traditional format of psychoanalytic play therapy. Ecosystemic play therapy, developed by Kevin O'Connor (2000) incorporates a variety of theoretical frameworks, including developmental, humanistic, and behavioral that provides increased treatment structure and incorporates the participation of parents to shape the child's environment in order to change behavior. O'Connor identifies "corrective experiences" as critical therapeutic elements in play therapy with children, whereby the therapist behaves in a way to disconfirm the child's dysfunctional beliefs. Also, the therapist provides the child with alternative explanations

or understanding of previous events. Both interventions emphasize the building of retrospective and prospective problem-solving skills (O'Connor, 2000).

The clinical case study is the most common source of empirical support for play therapy. Although there have been few controlled clinical trials for psychodynamic treatment techniques, play therapy continues to be widely used in clinical practice (Kazdin, Siegel, & Bass, 1990). This may be due to the difficult task of standardizing or making uniform the implementation of play therapy for the purposes of a controlled trial, given its less structured format.

A brief summary of several play therapy outcome studies will be presented as an indication of the current status of play therapy research. Hansen, Meissler, & Ovens (2000) conducted a repeated-measures design study examining the effects of group play therapy on children and adolescents with ADHD ages 5-16. The Child Behavior Checklist was administered at pre and post treatment as a measure of treatment effects. No control group was included. Treatment consisted of 15 sessions. A "topic-focused curriculum designed within a process oriented framework utilizing play therapy and expressive arts" was conducted (p. 199). Results indicate that treatment produced significant decreases in internalizing and total behavior problems from pre to posttest. However, externalizing behaviors did not significantly change as a result of treatment.

A controlled study conducted by Kot, Landreth, and Giordano (1998) examined the effectiveness of individual play therapy for children ages 4-10 who had witnessed domestic violence. Results suggest that participation in the play therapy treatment led to significant increases in self-concept as well as significant decreases in external and total

behavior problems compared to a no-treatment control group as measured by the Achenbach Child Behavior Checklist. Finally, in a study conducted by Jones and Landreth (2002), play therapy demonstrated significant decreases in anxiety symptoms as well as disruptive behaviors for children recently diagnosed with insulin-dependent diabetes. More controlled and randomized research is needed to determine the efficacy of play therapy across a wider range of childhood disorders as well as compared to other child treatment modalities, such as cognitive-behavioral interventions.

Psychodynamic/client-centered therapy has also been implemented in the treatment of adolescent psychopathology. Bemporad (1988) describes the use of psychodynamic therapy for adolescent depression, which is conceptualized as the result of the loss of meaning or satisfaction leading to diminished self-view. According to Bemporad (1988), adolescence is a time of particular vulnerability to depression given the transition from the familiarity and security of childhood to the new independence of adolescence. Individual psychotherapy is used as a "secure holding environment" that serves to support adolescents' self-esteem as they develop a new self-image of independence and satisfaction.

A repeated measures design study of psychodynamic group therapy with 102 14-18 year-old juvenile delinquents placed in juvenile justice centers was conducted (Viney, Henry, & Campbell, 2001). The psychodynamic group intervention consisted of an unstructured discussion/activity group that emphasized establishing working collaboration between group members and leaders, focused work on an identified problem area, "careful interpretive attention to group process about the problem theme

and to processes in the self," and productive and manageable termination. Outcomes were assessed via content analysis scales, based on thematic analysis, using the following open ended question: "I'd like you to talk for a few minutes about your life at the moment, the good things and the bad, what it's like for you." Measures of maturational processes were computed based on the Content Analysis Scales of Psychosocial Maturity (CASPM; see Viney & Tyche, 1985 as cited by Viney et al., 2001). Psychological states of uncertainty, anxiety, depression, anger, and positive affect were also determined from the content analysis scales. Both outcome measures have demonstrated adequate interrater and test-retest reliability. No outcome measures of overt delinquent behavior were included. Post-treatment results suggest significant improvements in maturational processes and moderate improvements at reducing less helpful psychological states. Treatment gains, however, were not maintained at the 9-month followup.

*Individual cognitive-behavioral therapy.* While cognitive and behavioral therapies each represent a unique and completely independent approach to individual child psychotherapy, they are often used together as they share considerable overlap in theoretical conceptualization and methodology for treatment approach (Kazdin, 1994). Therefore, for the sake of brevity, cognitive-behavioral therapy will be presented together as part of this review.

As reviewed previously, several well supported etiological factors in child psychopathology, such as deficits in self-control and executive functioning (Barkely, 1997; Seguin et al., 1995), as well as social skills impairments (Altmann & Gotlib, 1988; Fauber et al., 1987) are frequent targets of individual cognitive-behavioral interventions.

According to cognitive theory, cognitive structures refer to memory and the manner in which information is stored in memory, which is constantly changing based on new experiences. As individuals perceive and process information from their surrounding environment, the information is shaped and influenced by a person's cognitive schema, or his/her previously developed cognitive structures. Among people with psychological disorders, these schemas can become distorted or biased, leading to inaccurate perception and storage of information. In general, cognitive-behavioral therapy for children emphasizes the identification and subsequent challenge of dysfunctional cognitions, schemas, beliefs, and expectations. These underlying faulty beliefs have led to subsequent disruptions in behavior and/or moods. As with psychodynamic therapy, cognitive-behavioral therapy seeks to create new experiences from which children may build new and more adaptive cognitive structures. Unlike psychodynamic therapy, "efforts to change behavior directly are seen as a means of modifying cognitions" (Kazdin, 1994, p. 554).

One example of a specific cognitive-behavioral intervention is problem-solving skills training (PSST), which is frequently used in the treatment of conduct disordered or delinquent youths. In PSST, cognitive distortions, most frequently regarding the intentions of others, are challenged. In addition, the child's ability to control initial emotional reactions while generating, evaluating, and implementing alternative solutions for conflict-laden situations are also targeted.

Similar to the discussion above on psychodynamic therapy, a brief summary of several cognitive-behavioral outcome studies will be presented as an indication of the

current status of CBT research. In general, empirical support for PSST and other cognitive-behavioral interventions is mixed. In a study conducted by Kazdin, Esveldt-Dawson, French, and Unis (1987), PSST significantly reduced antisocial behaviors of children ages 7-13, as measured by parent and teacher reports. Meta-analytic findings of 21 studies of "social problem solving" interventions, which integrated measures of social cognitive skills, social interaction skills, social adjustment, and self-related cognitions/affects, suggest a moderate weighted mean effect size (d = 0.5), (Beelmann, Pfingsten, & Lösel, 1994). However, in studies of cognitive-behavioral therapies for children with ADHD aimed at improving verbally mediated self-control, problem-solving skills, and self-reinforcement for on-task behavior, treatments have demonstrated little to no effects (see Hinshaw, Klein, & Abikoff; Pelham & Hinshaw, 1992 both cited by Hinshaw, 2000).

Conversely, cognitive-behavioral approaches that challenge depressive or anxious cognitive distortions and their subsequent behavioral responses have demonstrated efficacy at decreasing symptoms of depression (Brent et al., 1997) and anxiety (Barrett, Dadds, & Rapee, 1996; Kendall, 1994) among children and adolescents. In treating internalizing disorders, such as anxiety or phobias, independent behavioral treatments have developed considerable empirical support over time. Mentioned in Table 1 as an evidence-based treatment, Joseph Wolpe's systematic desensitization is based on the premise that an anxiety or fear response can be diminished by substituting an antagonistic activity, such as relaxation. Interventions are designed to gradually expose the child to increasingly anxiety-provoking stimuli while the child engages in relaxing or calming

exercises, thereby weakening the association between the feared object or situation and the fear response (Morris & Kratochwill, 1998). Ollendick and King (1998) outline several classic studies that demonstrated the effectiveness of systematic desensitization for the treatment of childhood anxiety disorders. Kondas (1967, as cited by Ollendick and King, 1998) found systematic desensitization to be superior to both relaxation training and presentation of anxiety hierarchy items without relaxation training for children ages 11-15 diagnosed with "stage fright." Similarly, Mann and Rosenthal (1969, as cited by Ollendick and King, 1998) found systematic desensitization in various forms (individual and group, direct and vicarious) was more effective than no-treatment control groups at improving test anxiety among 12 and 13 year-old subjects.

In a study conducted by Brent and colleagues (1997), individual cognitive-behavioral therapy was compared to both systemic behavior family therapy, and individual nondirective supportive therapy for 78 adolescents (ages 13 to 18) diagnosed with Major Depressive Disorder. Cognitive-behavioral therapy followed Beck's CBT model and emphasized monitoring automatic thoughts as well as instructed the youths in "collaborative empiricism." Study results demonstrated significant improvements in depressive symptoms for the individual CBT group compared to the other treatment groups. These results were consistent across self-report depression measures as well as interview-rated depressive symptoms. There were no differences between groups, however, on measures of suicidality or functional impairment (as measured by the Children's Global Assessment Scale).

Bennett and Gibbons (2000) conducted a meta-analytic review of 30 child cognitive-behavioral therapy outcome studies for antisocial behavior. The authors considered treatments to be cognitive-behavioral if they primarily used CBT modalities (e.g. behavioral rehearsal, coaching, modeling) and utilized anger management, assertiveness training, cognitive restructuring, relaxation, social problem-solving or social skills training as interventions for target problems. CBT was found to have a small to moderate effect size in decreasing antisocial behavior, with greater treatment effects among adolescents and older elementary school-aged children than younger children.

Researchers have pointed out that empirical support for cognitive-behavioral therapies in producing improvements in social skills and peer interactions is typically limited to older children and mostly for in-school behaviors (e.g. Kazdin et al., 1987). After conducting a randomized clinical trial on social skills training among younger children, Webster-Stratton and Hammond (1997) concluded that "younger or less mature children, as well as more aggressive children, have been relatively unaffected by social skills and problem-solving training" (p. 94). They propose three possible reasons for this. First, that current individual child treatments may be "inappropriate in content or mode of presentation," citing that programs developed for adolescents are frequently applied to younger pre-operational populations for which they are developmentally inappropriate. Second, individual interventions may be too narrowly focused for treatment effects to generalize outside of the environment in which they were administered. Finally, Webster-Stratton and Hammond (1997) suggest that flawed research designs, such as

heterogeneous, sub-clinical participants, small sample sizes, and lack of long term follow up, may have contributed to the lack of significant results.

*Individual interpersonal therapy.*Interpersonal therapy (IPT), identified by Kazdin (2003) as an evidence-based treatment (see Table 1) was originally designed by Klerman, Weissman, and Rounsaville (1984) for the treatment of depression among adults. It has recently been adapted for use with depressed adolescents. IPT emphasizes the role of relationship conflicts and subsequent stress in the development of depression and considers resolution of these interpersonal problems as the primary intervention. Four primary interpersonal issues are targeted in treatment (Mufson et al. 1993 as cited by Kaslow, Morris, & Rehm, 1998). First, interpersonal role dispute is particularly salient for adolescents as they enter a transitional time of life from childhood to adulthood. Relationship loss and development of new relationships are also targeted as potential stressors to be addressed in therapy. Finally, identifying and improving social skills deficits are a critical part of therapy as a way of building intimate and supportive relationships.

Several clinical outcome studies have demonstrated the efficacy of IPT in the treatment of depression among adolescents. In a study comparing IPT and clinical monitoring for 12-18 year olds diagnosed with Major Depressive Disorder, IPT produced significant improvements in depressive symptoms, social functioning, and problem-solving skills compared to controls (Mufson et al., 1999). At post-treatment, 74% of subjects in the IPT group no longer met diagnostic criteria for depression compared to 46% of the control group. Similarly, in a study conducted by Rosello & Bernal (1999), 71

Puerto Rican adolescents diagnosed with either major depression, dysthymia, or double depression were randomly assigned to either cognitive-behavioral therapy, interpersonal therapy or a wait-list control group. Post-treatment results indicated significant improvements in depression symptoms. IPT was more effective than CBT in improving social functioning and self-esteem.

Individual psychodynamic, cognitive-behavioral, and interpersonal therapies have offered unique contributions to the advancement of child psychotherapy research through their varied theoretical and conceptual approaches to treating child psychopathology. Next, in order to continue building upon the framework from which individual, parent-only, and combined treatments will be compared, a brief overview of family-based treatments will be presented, including a brief review of external etiological factors, theoretical bases, treatment techniques, and empirical support.

*Family-based Treatments for Children: Theory, Techniques, and Empirical Support*

Since the inception of family-based treatments as alternatives to individual child psychotherapy, numerous theoretical approaches have evolved claiming independent success as efficacious treatment strategies for children and their families. Since a comprehensive review of all the various family-based treatments is not possible within the scope of this paper, several of the more predominant modalities of family-based interventions were selected for a brief summary of their theories, targeted etiological factors, primary techniques, as well as empirical support. The review of family-based interventions will be organized along three basic traditions: systemic, cognitive/behavioral and psychoeducational (Diamond & Siqueland, 2001). For a more

comprehensive review of a wider range of family-based interventions, please refer to Brown and Christensen (1999).

*Etiological research: External risk factors.*As internal etiological factors were outlined above as frequent treatment targets in individual child treatments, alternatively several external or environmental factors have been identified as affecting children's mental health including social forces, parental and peer relations, school, neighborhood, and home life (Kazdin, 1995). The associations between the presence of child emotional and behavioral disturbance and numerous negative contextual variables related to the parents (e.g. psychopathology), family (e.g. conflict, lack of supervision), and environment (e.g. dangerous neighborhood) have been consistently demonstrated through research (Kazdin, 1996). As these factors are not as easily amenable through traditional psychological intervention (i.e. poverty), they are more often considered moderators of treatment effects rather than treatment targets.

Sociological researchers have contributed a considerable amount of evidence that suggests a family's socioeconomic status, in particular poverty, plays an important role in the potential for mental health problems among children. Census data indicate that in the year 2001, 32.9 million people lived below the poverty level in the United States, more than one million greater than in the year 2000 (Proctor & Dalaker: U.S. Census Bureau, 2002). Of those, 16.3% are children, higher than any other age group (Proctor & Dalaker: U.S. Census Bureau, 2002).

Among earlier studies, modest associations were typically found between parents' social classification and emotional or behavioral disturbances in children (see Langner,

McCarthy, Gersten, Simcha-Fagen, & Eisenberg, 1979 as cited by Gotlib & Avison, 1993). However, more recent studies have identified a more specific link between family poverty and the development of externalizing behavior problems among children (Velez, Johnson, & Cohen, 1989). For example, some researchers have focused on the increased likelihood of physical environmental stressors, that are more appropriate targets of intervention, for children living in poverty. In a study of poor rural children, Evans and English (2002) found that exposure to multiple and cumulative stressors in the immediate home environment may act as mediators within the relationship between poverty and increased risk for psychological and behavioral problems among children. Stressors identified as significantly more likely to be found in the homes of poor families include more noise, more crowded living conditions, lower quality housing, higher frequency of family conflict, greater parent-child separation, and greater levels of family violence (Evans & English, 2002). Although parental income level and socioeconomic status seem to exert only modest effects as risk factors for children's mental health, the accumulation of difficulties associated with poverty may have a stronger bearing on children's behavioral and emotional functioning. These factors are more commonly identified as treatment targets for family-based psychological interventions.

Another significant risk factor that has received considerable attention with regard to its role in the development of psychological stress among children is parents' marital status, or divorce. In 1996, approximately 27% of families were headed by a single parent, a 23% increase from 1986 (Kids Count, 1999). Of that 27%, only 34% of single mother families received child or spousal support in 1996 (Kids Count, 1999). Several

confounding factors associated with divorce/single parent families, including higher rates of poverty, more frequent exposure to parental conflict prior to the separation or divorce, as well as the relative loss of a parent, have contributed to its consideration as a risk factor for children's mental health (Gotlib & Avison, 1993). In their meta-analytic review on the effects of parental divorce and child's psychological adjustment, Amato and Keith (1991) found a modest relationship suggesting children of divorced families were moderately elevated on measures of behavioral disruption when compared to children of two parent families. However, there were no significant differences on measures of overall psychological and social adjustment, or self-concept (Amato & Keith, 1991).

More recent research suggests that it is the quantity of parental conflict, not actual divorce, which leads to psychological distress among children (Derdeyn, 1994). In a study conducted by Brook, Zheng, Whiteman and Brook (2001), marital conflict was found to be a significant predictor of aggressive behavior among toddlers. Studies suggest that marital conflict leads to increased behavior problems (aggression) in children through disruptions in parenting (Mann & MacKenzie, 1996; Onyskiw & Hayduk, 2001). Specific age effects of marital conflict have also been examined. For example, marital conflict remained as an independent predictor of children's maladjustment after ineffective parenting was controlled for among pre-adolescent children, but not for adolescents (Buehler & Gerard, 2002). These effects have been confirmed among ethnically diverse families as well (Buehler & Gerard, 2002; Lindahl & Malik, 1999).

The presence of parent psychopathology has been repeatedly identified as a significant risk factor for the development of psychological problems among children (see Gotlib & Avison, 1993 for a review) as well as an important factor to be considered regarding treatment adherence (Kazdin, Mazurick, & Bass, 1993). A discussion of biological and heritability studies and psychopathology will be presented first, followed by other hypothesized interactions between parent and child psychopathology.

Information gained from genetic and pedigree studies has come to play a pivotal role in clinical settings, where family variables such as psychological impairment among parents must be considered when determining the etiology and treatment of children's psychological disorders. Schizophrenia research has produced what is often considered the most conclusive evidence for the role of genetics in the development of the disorder, with heritability coefficients estimated at approximately .5 (Carpenter & Buchanan, 1994; Gottesman, 1991). Genetic links to other childhood disorders have also been identified, including bipolar disorder (Birmaher, 1996), ADHD (Cantwell, 1996), learning disorders (Beitchman & Brownlie, 1996) and depression (McGue & Christensen, 1997). Such heritability rates are critically important when considering parental or sibling psychopathology as possible contributors to the child's presenting problem. The presence of parental psychopathology may be used in several other clinically meaningful ways, such as an additional treatment goal or perhaps as evidence against appropriateness of parenting interventions.

In light of the considerable amount of empirical evidence suggesting a genetic link for several psychological disorders, researchers have also suggested that other family

or home environment variables may also contribute to the increased risk among family members of those who have a psychological disorder. For example, family interaction patterns, namely dysfunctional communication patterns, have been implicated in the development of several psychological disorders among children such as schizophrenia (Bebbington & Kuipers, 1994), anxiety disorders (Chambless & Steketee, 1999), and eating disorders (Fairburn, Welch, Doll, Davies, & O'Conner, 1997). Parental anger has also been identified as moderating the relationship between parental depressive symptomatology and adolescent's behavioral and emotional problems (Renk, Phares, & Epps, 1999). In addition, disturbances in family functioning can occur not only prior to but also as a result of child pathology, such as extreme parental stress, abusive discipline techniques, marital conflict and divorce, social isolation, and parental depression (Onstad, Skre, Torgersen, & Kringlen, 1994).

As several family-based etiological variables and their consideration in psychotherapy outcome studies were review above, a summary of theoretical foundations, interventions, and empirical support for several types of family-based treatments will be provided next.

*Systemic family therapy.*Systemic family therapy, considered the most traditional model of family therapy, maintains that psychological problems are the result of dysfunctions within the family system and the symptoms serve some purpose or function for the family. Research has suggested that family or home environment variables such as family interaction patterns, namely dysfunctional communication patterns, may contribute to the increased risk among family members of developing several

psychological disorders such as schizophrenia (Bebbington & Kuipers, 1994), anxiety disorders (Chambless & Steketee, 1999), and eating disorders (Fairburn et al., 1997). Following this link between family interaction patterns and child psychopathology, systemic theory maintains that a change in one member cannot occur without a change in the overall family system. A main strategy for systemic therapists is to "restructure maladaptive patterns of family interaction, such as reestablishing parental hierarchy, detriangulating a child from parental conflicts, and adjusting weak or rigid boundaries" (Diamond & Siqueland, 2001, p. 642).

One example of systemic family therapy is Structural Family Therapy, which emphasizes "the active and organized wholeness of the family" as a basic human system, including "the interactions and activities of family members to determine the *organization* or *structure* of the family" (Brown & Christensen, 1999, p. 49). Structural family therapists focus on the dyads, most often between parents and children, which may become enmeshed or disengaged, and establish clear boundaries between the family members.

There is limited empirical support in the form of randomized clinical trials for the effectiveness of Structural Family Therapy. Most evidence is presented in case study format or empirical studies in which treatment subjects serve as their own controls. Brief Structural Family Therapy has demonstrated effectiveness at improving treatment engagement compared to common community engagement and treatment techniques for emotionally disturbed adolescents and their families (Coatsworth, Santisteban, McBride, & Szapocznik, 2001). In another study, brief Strategic/Structural Family Therapy reduced

problem-behaviors, risk factors, and improved family functioning compared to pre-treatment levels of functioning for African American and Hispanic adolescents (Santisteban, et al., 1997).

Perhaps one of the most well-known and empirically supported systemic family interventions is Multisystemic Family Therapy (MST) (see Henggeler & Borduin, 1990 as cited by Kazdin, 1998). An innovative home-based intervention, MST emphasizes the importance of addressing multiple determinants of adolescent conduct problems, including individual, family, peer, school, and community factors (Henggeler, Melton, Brondino, Scherer, & Hanley, 1997). In order to overcome barriers to treatment access and improve treatment generalization, interventions are conducted within the "natural ecology of the youth and his or her family" (Henggeler et al. 1997, p. 822). In addition, clinical training requirements are similar to those used in efficacy studies conducted in university laboratory settings. MST has demonstrated significant decreases in the frequency and severity of juvenile criminal activity at post-treatment and 1 and 2 year follow up, as well as improved family functioning across randomized clinical trials (Henggeler, Melton, & Smith, 1992; Henggeler, Melton, Smith, Schoenwald, & Hanley, 1993). In a more recent community-based effectiveness study, MST consistently demonstrated significant decreases in recidivism and improvement in symptomatology, particularly for those cases where treatment adherence was rated as high, compared to juvenile justice services (Henggeler et al. 1997). In 1999, Henggeler and colleagues expanded the use of MST to evaluate its effectiveness as an alternative home-based treatment strategy to inpatient hospitalization for adolescents in psychiatric crises. In a

randomized trial, MST was found to be more effective than emergency hospitalization at decreasing externalizing symptoms and improving family functioning and school attendance (Henggeler et al. 1999).

*Family-based cognitive-behavioral therapy.*Family-based interventions that have developed from cognitive/behavioral perspectives are based on distorted schemas, operant conditioning, and general learning principles and focus on teaching parents improved parenting skills such as reinforcement and behavioral contingencies (Diamond & Siqueland, 2001). One example, Parent Management Training (PMT), attempts to change interaction patterns between parents and children by teaching parents to reinforce prosocial behavior while providing negative consequences for inappropriate behavior. Among the primary treatment strategies of PMT, therapists instruct parents to conduct treatment by implementing the therapeutic strategies directly in the home. Parents learn to identify already-present or developing problem behaviors, and implement a variety of treatment strategies based on social learning principles (e.g. contingency management). Treatment strategies are introduced to the parents through a variety of therapeutic activities led by a therapist (e.g. discussion, modeling, role-playing, at-home practice and directive feedback) (Kazdin, 1993).

Typically used for disruptive behavior disorders, PMT has demonstrated consistent treatment effects for improving the behaviors of target children. In a study conducted by Webster-Stratton and Hammond (1997), PMT was compared to an individual child therapy group (video-tape modeling), a combined treatment group, and a no treatment control group among preschool age children with early-onset conduct

problems. Results indicate that the PMT and combined treatment groups produced significant symptom improvement on several parent-report measures compared to child only therapy and control groups. Similarly, in a study conducted by Cunningham, Bemner, and Boyle (1995), group PMT produced greater treatment gains compared to individual PMT on parent-report measures of disruptive behaviors for preschool children. In addition, research has indicated that PMT improves parent-rated behaviors for children with ADHD as well as improves parent-child interactions (Anastopoulos, Shelton, DuPaul, & Guevremont, 1993).

Serketich and Dumas (1996) conducted a meta-analytic review of 26 controlled outcome studies of behavioral parent training. Post treatment effect size estimates indicated that on overall child outcome measures, "the average child with one or more parents in [behavioral parent training] was better adjusted after training than 81% of children who received another form of treatment or no treatment at all" (p. 178). Large positive effect sizes were found across parent, observer and teacher outcome reports as well (Serketich & Dumas, 1996). Other researchers have extended the effectiveness of PMT by demonstrating its success at decreasing parental stress, improving siblings behaviors, and improving school performance for target children (Kazdin, 1995).

Functional Family Therapy (FFT), developed by Alexander and Parsons (see 1982 treatment manual as cited in Kazdin, 1998), combines systemic and cognitive-behavioral approaches by conceptualizing clinical symptoms (most often child/adolescent disruptive behaviors) via the functions they serve within the family system as well as for the individual family member. Treatment emphasizes altering interaction and

communication styles to allow interpersonal needs, such as intimacy, distancing, and support, to be met through more adaptive strategies (Kazdin, 1998). Social learning (e.g. contingency management) and cognitive restructuring interventions are commonly used to achieve these goals. Few empirical studies have been conducted on FFT. Home-based FFT demonstrated significant improvements in juvenile delinquency as measured by recidivism rates at post-treatment and at 2.5 year follow up compared to a lower risk comparison group (Gordon, Arbuthnot, Gustafson, & McGreen, 1988).

*Family-based psychoeducational interventions.*Finally, psychoeducational family-based interventions target misconceptions about a child's psychological disturbance or medical illness by providing information about the etiology, course, and treatment of the disorder/condition. In addition, therapists teach coping skills to assist the family in adapting to the child's illness, as well as provide psychological support to family members. Psychoeducational family-based interventions have demonstrated effectiveness at improving relapse rates or rehospitalization rates for children with schizophrenia (Huxley, Rendall, & Sederer, 2000). Reductions in parent-reported stress levels and child distress were found in a study that provided information to mothers regarding hospital routines, medical procedures their children were undergoing, as well as their role in caring for their children (Skipper & Leonard, 1968 as cited by Siegel, 1998).

Despite the wide variety in theoretical orientation and treatment strategies, findings from a previous meta-analytic review of marital and family therapy suggest that all family therapy treatment modalities, except humanistic, are of equal effectiveness (Shadish et al., 1993). However, further analyses suggest that covariates such as "high

levels of treatment standardization," "experimenter allegiance," "focus on present matters rather than both present and historical matters," "high levels of communication training," and "lower attrition" may account for such outcomes (Shadish et al. p. 998). This review will attempt to contribute to this empirical question, regarding the efficacy of specific types of family-based interventions as well as their relative efficacy compared to individual treatments for children.

*Combined Treatments*

More often than not combined individual and parenting or family-based interventions are used simultaneously, or rather on a continuum, by child clinicians. Kazdin (1996) notes that combined treatments are often initiated due to the "limited effectiveness of individual treatment modalities" (p. 71). He continues, "any treatment that may have impact in the short term may not be sufficient to achieve the long-term changes that are needed. Broad-based (combined) treatments may be more potent and enduring in the effects they produce" (Kazdin, 1996; p. 71).

Children who present for clinical intervention due to either emotional or behavioral dysfunction, also likely experience numerous other problems in various areas of functioning, such as peer rejection, academic difficulties, or family dysfunction, which are best addressed through combined treatments, such as individual and family-based interventions (Kazdin, 1996). Racusin and Kaslow (1994) identify several specific situations when primary individual therapy would benefit from supplemental family-based interventions. For example, in treating children with internalizing problems whose family is unable to meet their needs due to other stressors (e.g. divorce), combined

interventions "support each family member, permitting the reinstitution of the parent as the child's primary psychosocial provider" (p. 240). Racusin and Kaslow add that in "child reactive families" (when family interaction focuses on the child's emotional or behavioral problems), primary individual therapy may be used to address the child's individual difficulties while supplemental family therapy assists the family in coping more effectively with the child. However, it is important to note that these recommendations are based on indirect research and lack sufficient empirical support.

Following this emphasis on combined treatments, researchers have noted that in clinical practice parents and teachers have been increasingly brought in to participate in either a minor or a major role in the treatment of children (Kazdin, Siegel, & Bass, 1990), yet "research infrequently explores the possible contributions of parents, teachers, peers, and siblings as therapeutic adjuncts and the optimal ways of engaging these agents" (Kazdin, 1996, p. 93). If and how to include parents in a child's treatment remains an empirical question to be addressed by this analysis.

*Review of Child and Family Therapy Meta-Analyses*

Building on the previous summaries of individual and family-based interventions for children, a review of recent child psychotherapy meta-analyses will be presented as a general synopsis of the current status of child psychotherapy research. Frequently demonstrated findings will be presented as well as areas in need of further research, including the comparative analysis of individual, parent-only, and combined interventions for children.

As the number of quality psychotherapy studies has increased significantly within the past two decades, recent child psychotherapy meta-analyses have obtained more conclusive findings (Carlston & Ogles, 2002). In general, results from such reviews have consistently determined psychosocial treatments for children to be effective, with effect sizes averaging around .7 and above, indicating medium to large overall effect size (Casey & Berman, 1985; Kazdin, Bass, Ayers, & Rodgers, 1990; Weisz, Weiss, Alicke, & Klotz, 1987; Weisz, Weiss, Han, Granger, & Morton, 1995). However, the clinical implications of such findings are not directly clear. Although the results indicate that, in general, children who received psychological treatments improve more than those children who did not receive treatment, the findings do not provide more specific and clinically relevant information. It is likely, for example, that trends suggesting some particular treatments are more effective for a particular type of child, disorder, or treatment setting, are smoothed over by virtue of including such a wide variety of treatments and subjects in the meta-analysis. Detailed information is therefore sacrificed in order to gain evidence for the overall effectiveness of psychotherapy for children (Kovacs & Lohr, 1995).

Among the most common issues examined include the relative efficacy of behavioral versus non-behavioral interventions, treatment for particular types of disorders (e.g. internalizing versus externalizing), the age of the child, and the reporter of outcome (independent observer versus parent, teacher or child report) (Casey & Berman, 1985; Kazdin, Bass, Ayers, & Rodgers, 1990; Weisz, Weiss, Alicke, & Klotz, 1987). What has not been examined thoroughly within recent meta-analytic child psychotherapy research

is the direct comparison of individual versus family-based interventions. Typically, treatments are grouped according to their orientation (e.g. behavioral, dynamic) rather than who is targeted as treatment participants (child vs. family or parents). Consequently, interventions which incorporate parents into treatment are included with individually oriented interventions if both are considered behavioral or dynamic, etc. As noted by Fauber and Long (1991), "the relative efficacy of child treatment approaches as a function of the extent to which they involve family participation, regardless of theoretical orientation, has not been examined" (p. 814).

There are a considerable number of previous literature reviews conducted prior to the advent of current meta-analytic methods for research synthesis that have attempted to examine the comparative efficacy of individual and family-based treatments for children (see Table 2). However the most frequently mentioned limitation of such reviews is that the quality of family therapy outcome studies was so poor such that there were not enough controlled family therapy studies to be included in such a comparison (DeWitt, 1978; Masten, 1979; Hazelrigg et al. 1987). The results of several classic family therapy reviews will be presented in order to provide historical context for the comparison of individual child and family-based interventions.

DeWitt (1978) conducted a quantitative and qualitative review of "conjoint" (involving two generations) family therapy outcome studies published between 1961 and 1974. A total of eight studies were chosen for review in which the most common identified patients were children or adolescents, and which included alternative or no treatment comparison groups. Although the small number of studies as well as the small

sample size per study (median $N = 40$) limits generalizability, DeWitt (1978) concludes that "of the three studies that compare conjoint family treatment with nonconjoint (individual therapy) methods, only one study (see Hendricks, 1971 as cited by DeWitt, 1978) provides solid evidence of the superiority of conjoint family therapy…[although] a single study is very difficult to use as a basis for generalization" (pp. 556-557). Among the methodological limitations described by DeWitt that prevented more definitive conclusions from being drawn were 1) the lack of detailed information regarding family characteristics and how these affected attrition rates or treatment outcomes, 2) limited information on the level of therapist training, and 3) inadequate methods for measuring family functioning or systemic level change (DeWitt, 1978).

In a review conducted by Masten (1979), 14 family therapy studies published between 1963 and 1977 were examined in an attempt to determine their relative efficacy in treating childhood psychopathology. Three selection criteria were used: the child or adolescent as the "identified patient," at least one parent and one child seen conjointly in therapy, and the evaluation of the child's behavior post-treatment. Results indicated one out of the 14 studies reviewed included a direct comparison of family therapy to individual treatment (see Wellisch, Vincent, & Ro-Trock, 1976 as cited by Masten, 1979), which was commended for its impressive methodology (e.g. randomized group assignment, multiple outcome measures, adequate follow up data including behavioral measures on siblings of treated and untreated youths). Results suggest that family therapy significantly reduced rehospitalization rates, as well as length of time to return to work or school.

One other methodologically sound study compared several different types of family therapy to no treatment controls, while the remaining 12 studies were considered unfit for analysis due to serious methodological problems such as lack of control or alternative treatment groups and "no formal statistical analysis." Consequently no serious conclusions could be drawn. In light of the relatively poor quality of studies included in this review, the author called for additional higher quality factorial research designs in the area of family therapy research that compare "differential values of different treatments for different problems at different ages" (Masten, 1979, p. 331). Masten (1979) adds that there is "insufficient evidence to evaluate family therapy as a treatment of choice for any childhood problems, and little empirical basis for comparing family and individual child therapies" (p. 332).

In Borduin, Henggeler, Hanson and Harbin's (1982) review of the efficacy of family therapy for treating adolescents, a total of 14 studies published between 1968 and 1980 were selected. Of those, three studies offered a direct comparison between individual and family-based treatments (see Bernal, Klinnert, & Schultz, 1980; Ro-Trock, Wellisch, & Schoolar, 1977; and Langsley, Flomenhaft, & Machotka, 1969 as cited by Borduin et al. 1982). Results suggested that compared to individual therapy, family therapy produced lower rehospitalization rates, a more rapid return to work or school, improved family communication, and improved behavior problems (Borduin et al.). Sample size, random assignment, and method of statistical analysis were frequently excluded in the descriptions of studies. Therefore it is difficult to determine the strength of the authors' conclusions.

In her review of previous research on behavioral treatments for juvenile delinquency, Ulrici (1983) suggested that the discrepancy between positive post-treatment effects and poor follow-up recidivism data indicated that behavioral interventions underestimated "the importance of environmental factors that elect, prompt, and/or reinforce problem behaviors," adding that "it appears that aspects of family, school, and community relationships may need to be addressed in the treatment of juvenile delinquency" (p. 26). In an attempt to shed light on the state of family-based interventions for juvenile delinquents, Ulrici (1983) presented a descriptive overview of the comparative effectiveness of behavioral and family interventions on measures of delinquency and recidivism.

A total of ten studies published between 1971 and 1979 were reviewed, including two studies that directly compared individual treatment to family-based interventions. It should be noted that one of these two studies compared "family counseling treatment to that of a control group which was involved in a variety of other treatment modalities. Specific types of…other treatment approaches were not specified" (Ulrici, 1983, p. 30). Results concluded that family-based interventions were more successful at maintaining home placement, reducing the number of court referrals, and lowering recidivism rates for delinquent adolescents one year after treatment (Ulrici, 1983). Methodological limitations cited that weakened conclusions included small sample sizes, lack of alternative treatment groups, and poor descriptions of treatments and control groups (Ulrici, 1983).

Finally, a review conducted by Wells and Denzen (1978) consisted of six studies published between 1971 and 1977 that directly compared non-behavioral family-based interventions with individual therapy for children. Results from two studies indicated that family therapy led to significant reductions in rehospitalization rates, stabilized academic achievement, and behavioral evaluations in school compared to individual therapy. The results of the remaining four studies suggested that alternative individual treatments produced equivocal outcomes on dependent measures such as improving communication patterns, overall family functioning, and quality of interaction (Wells & Denzen, 1978).

As these reviews have attempted to evaluate the efficacy of family-based treatments for children, their findings were severely limited given the poor quality of psychotherapy research in general. Although the quality of child psychotherapy research has since improved dramatically through the increased use of randomized design, control groups, as well as improved methods of data collection, more recent comparative analyses of family-based and individual treatments continue to struggle with gathering adequate numbers of child psychotherapy studies (see Table 3).

Hazelrigg, Cooper, and Borduin (1987) conducted a review of the effectiveness of family therapies using stricter methodological standards, such as control groups, a sample size of at least five families in each group, and a "thorough" report of statistical analyses and results, citing the lack of quality and conclusive findings in previous reviews. Random assignment was not required. A total of 20 studies published between 1966 and 1984 were included, seven of which specified adolescents or children as the patient

population and included a comparison of family therapy with individual therapy. Family therapy was found to be more effective than alternative treatments (including individual therapy) on measures of family interaction, and behavior ratings (Hazelrigg et al. 1987).

There are several limitations, however, which call into question the validity of this study's findings. First, the variances of the studies were not homogeneous, which is most likely due to the variety of alternative treatments (i.e. individual therapy, group therapy, and medication). The authors suggest that the "variability in the effectiveness of the alternative treatments would cause differences in the estimate of their relative effectiveness when compared with family therapy" (Hazelrigg, Cooper, & Borduin, 1987, p. 438). In addition, given the small number of studies included in the analysis, the authors estimated that only ten unpublished studies with null findings would be needed to make the overall findings nonsignificant according to Rosenthal's (1979) "fail-safe N" estimate. Given that a majority of the patient populations were referred for behavior problems, Hazelrigg and colleagues caution "within a given population, family therapies may have differential effects depending on the type of disorder being treated (e.g. acting out vs. anxious and withdrawn children)" (1987, p. 439). Lastly, the authors also cite limited descriptive information regarding the specific intervention strategies (e.g. strategic family therapy, behavioral parent management training) of the family therapy treatment groups as reasoning for which "no conclusions can be drawn about differential effects for different types of family therapies" (Hazelrigg et al., 1987, p. 439).

In light of the sampling and statistical limitations, the results of this review must be considered with caution.

Markus, Lange, & Pettigrew (1990) sought to replicate the meta-analytic review by Hazelrigg and colleagues. A total of 19 studies were included for analysis, of which ten studies contributed to the overall posttreatment effect size of d = .70 (note this is combined adult and child psychotherapy studies). Overall follow-up effects (mean follow-up period was 1.5 years) were calculated from 13 studies, producing an effect size of d = .55. Contrasted to the lack of robust findings by Hazelrigg et al. (1987), Markus, et al. (1990) estimated a "fail safe N" value of 82, indicating the number of unpublished studies with null results required to make the posttreatment effect nonsignificant.

A more recent review of 163 randomized controlled trials of family therapy conducted by Shadish and colleagues (1993) concluded subjects (adults and children combined) receiving family therapy reported more improvement than 70% of no-treatment control participants. Of these, only 23 studies offered a direct comparison between marital/family and individual treatments. Results indicated that there were no significant differences between family therapy and individual treatments; effect sizes ranged from -.09 to .05. Of particular interest is that within the child psychotherapy studies (N = 9), family therapies produced reliably worse effects than individual child-adolescent treatments (d = -.28).

Given the poor quality of previous psychotherapy research, and consequently the lack of consistent findings from subsequent meta-analytic reviews, very few conclusions may be drawn regarding the comparative efficacy of family-based and individual

treatments for children. In light of the increase in quality of more recent child psychotherapy and family therapy research, an updated review is needed to evaluate for whom and under what clinical circumstances should individual or family-based therapeutic approaches be used when treating children.

*Critiques of Meta-Analytic Reviews*

Although the meta-analytic method has been used by a dramatically increasing number of researchers, several criticisms have arisen cautioning that conclusions drawn from the results of family therapy and child psychotherapy meta-analytic reviews must be considered judiciously. The most commonly raised criticisms will be addressed with regard to this study.

The critique which suggests that meta-analyses compare "apples and oranges" (see Sharpe, 1997) points to difficulties in interpretation of findings when results from widely varying methodologies, including different independent and dependent variables as well as different populations, are combined statistically. One method recommended for addressing this concern is to limit the scope of the meta-analytic review to studies that have a common focus or construct. Sharpe (1997) suggests selecting balanced research domain that is narrow enough such that meaningful and robust conclusions may be drawn, and broad enough to avoid misleading conclusions on a larger research area. As part of this review, studies will be included if they directly compare family-based to individual treatments. In this way conclusions previously reached by individual studies will simply be extended by pooling results in order to evaluate the relative relationship

between treatment type and several commonly identified sample characteristics (e.g. age, presenting problem, etc.).

Another criticism that questions the validity of meta-analytic techniques refers to the likely "failure to obtain all or a representative sample of the population of studies on some topic," otherwise known as the "file drawer problem" (Sharpe, 1997, p. 882). Critics point out that including only published studies would likely bias the meta-analytic conclusions in favor of significant findings, given that published studies are more likely to include significant results compared to unpublished studies, dissertations, and conference presentations. This review proposes to minimize this "file drawer" concern by including unpublished manuscripts, conference presentations, and dissertations when they meet the inclusion criteria.

A third criticism, known as "garbage in garbage out," refers to the concern that by including all available studies, those of questionable quality may lead to distorted findings (Sharpe, 1997). The inclusion criteria of this meta-analytic review require either random assignment or matching to ensure group equivalency, both of which have demonstrated equivocal effects on treatment outcome (Hazelrigg, Cooper, & Borduin, 1987). In addition, variables such as attrition rates, type of outcome measure (e.g. standardized with normative data), informant of outcome, selection description, and manualization of treatment interventions, which have been identified by Wortman (1994) as possible measures of methodological quality, were coded and analyzed as possible moderators to treatment outcomes.

*Sample empirical studies*

Two sample empirical studies were selected in order to provide an example of the types of comparisons that will be made as part of this review. The first study compares parent training and individual treatment to children with behavior disorders. The second study compares a family-based treatment to an individual treatment for affective disorders.

*Sample empirical study: Behavior disorder.*A sample study that compares individual therapy to a family-based intervention was conducted by Webster-Stratton and Hammond (1997). Families of 97 children (ages 4-8) were randomly assigned to one of four conditions: a parent training treatment group (PT), a child training treatment group (CT), a combined child and parent training treatment group (CT + PT), or a waitlist control group. At posttreatment, all three treatment groups were superior to the waitlist condition on measures of the child's behavior, as well as conflict management skills. PT produced significantly greater treatment effects compared to CT on measures of child behaviors, parent behaviors, and consumer satisfaction. CT treatment group was superior to PT on measures of child social problem solving skills and conflict management skills. When compared to CT alone, CT + PT produced greater improvements in parenting behaviors and child behavior problems. All findings were maintained at 1-year follow up. Given the limited age range, no analysis by age was conducted.

*Sample empirical study: Affective disorder.*A sample study that compares individual therapy to a family-based intervention was conducted by Barrett, Rapee, and Dadds (1996). A total of 79 children ages 7-14 with diagnosed separation anxiety,

overanxious disorder, or social phobia were randomly assigned to one of three treatment groups: cognitive-behavioral therapy (CBT), CBT plus family anxiety management (FAM), or a wait-list control. For the combined CBT and FAM treatment, FAM was offered parallel to the individual CBT treatments. At post-treatment, approximately 69.8% of the children who were in either treatment group no longer met the clinical criteria for an anxiety disorder, compared to only 26% of the wait-list control children. At the 12-month follow up, results indicate that approximately 70% of the children who had received only CBT and 95.6% of the children who received CBT combined with FAM no longer met clinical criteria for an anxiety disorder across self-report as well as clinician ratings.

Analysis by sex revealed a significant interaction for female participants but not for male participants. Female participants that received CBT plus FAM improved significantly compared to those who received only CBT at posttreatment $\chi^2$ $(1, N = 20) = 4.43$, $p < .05$, and 12-month follow-up $\chi^2$ $(1, N = 17) = 5.20$, $p < .05$. Treatment by age analysis indicated that younger children (ages 7-10) achieved significantly greater treatment effects in the CBT plus FAM condition compared to CBT alone at posttreatment $\chi^2$ $(1, N = 33) = 8.8$, $p < .003$, and at 12- follow-up $\chi^2$ $(1, N = 31) = 4.3$, $p < .05$. Older children (ages 11-14) did not show treatment effects at either posttreatment or follow-up.

*Conclusion*

Psychological treatment of children began more than 100 years ago with the application of psychoanalytic constructs and the development of psychodynamic talk

therapies and play therapies by Anna Freud and Melanie Klein. Although the precursors to family-based treatments had begun in other human service fields, family-based psychological treatments only emerged as possible alternative treatments in the 1960's and 70's as emphasis swung to family and contextual factors contributing to psychological problems in children. Since that time, individual and family-based approaches to child psychotherapy have developed as parallel treatment strategies, each with considerable empirical support for both disruptive behavior and affective disorders. In addition, clinicians have increasingly begun incorporating parents in the treatment of children, without clear empirical guidance for when it is most appropriate to do so.

However, despite the movement to evaluate treatment effectiveness through controlled clinical trials or effectiveness studies, meta-analytic reviews of both child and family therapy research have not yet comprehensively addressed this issue. Critical questions such as "for whom and under what circumstances are individual, parent-only, or combined treatments most appropriate?" remain unanswered. This review intends to address this question, by statistically pooling results from studies that have directly compared individual, family-based or combined treatments for children and adolescents.

Several hypotheses are presented as part of this review. First, it is predicted that treatments combining a family-based or parent-only intervention with an individual intervention will produce better treatment outcomes than individual child interventions alone (Hazelrigg, Cooper, & Borduin, 1987). Similarly, parent-only interventions are also predicted to produce significant improvements in treatment outcomes compared to child-only treatments.

In addition, several hypotheses are proposed as part of this study, which predict significant interactions between treatment type (individual, parent-only, and combined) and other independent variables. For example, it is predicted that there will be a significant interaction between treatment type and mean age of sample (as a continuous variable) on treatment outcome, where treatments that include parent participation (i.e. parent-only or combined) will improve treatment outcomes for younger children compared to older children (see Webster-Stratton & Hammond, 1997). It is also predicted that there will be a significant interaction between treatment type and presenting problem, where parent-only and combined treatments will improve treatment outcomes more for externalizing problems compared to internalizing problems. A fourth hypothesis predicts that there will be a significant interaction between treatment type and treatment orientation, where parent-only and combined interventions will improve treatment outcomes when they consist of behavioral or cognitive-behavioral interventions compared to client-centered/psychodynamic interventions (see Shadish et al., 1993). A fifth hypothesis predicts that there will be a significant interaction between treatment type and type of outcome measure, such that parent-only and combined interventions will show greater outcome improvements when assessed by symptom or behavior specific outcome measures compared to global outcome measures that assess a broader range of emotional and behavioral problems (see Shadish et al., 1993) The sixth and final hypothesis predicts that studies of methodological quality will produce more significant treatment effects (see Shadish et al., 1993).

# Method

## *Defining Psychotherapy*

In order to remain consistent with previous child psychotherapy meta-analyses, *psychotherapy* was determined according to the definition provided by Weisz, Weiss, Han, Granger, and Morton (1995) as "any intervention intended to alleviate psychological distress, reduce maladaptive behavior, or enhance adaptive behavior through counseling, structured or unstructured interaction, a training program, or a predetermined treatment plan" (p. 452). Studies in which the interventions were administered by either mental health professionals, therapists in training (i.e. graduate students, interns, or psychiatric residents), or specially trained lay professionals such as parents or teachers, assuming that the training was conducted by one of the above-mentioned professional groups, were included. Likewise, following the protocol of Weisz et al. (1995), studies of drug therapy, bibliotherapy, instruction to increase knowledge of a particular topic, relocation of children (e.g. foster home placement), and preventive interventions, both primary and secondary, were excluded from this review. In addition, studies on mental retardation, underdeveloped reading, writing, or knowledge of academic subjects, seizures, or physical disabilities were excluded. Finally, studies that only report follow-up data, without reporting previous posttreatment data, were also excluded from this review.

## *Selection Criteria*

To be included in this review, studies must have offered a direct comparison of an individual child treatment group to one of the following two treatment groups: 1)

treatments whose focus is with the parents or the family as a whole (with no independent individual child treatment intervention) described as either a parenting intervention or family therapy, or 2) treatments combining an individual child intervention with either a parent-only intervention or family therapy.

Following the selection criteria used by Weisz, Weiss, Han, Granger, and Morton (1995), studies were included if they demonstrated either random assignment to treatment or control groups or matching to ensure group equivalency, both of which have demonstrated equivocal effects on treatment outcome (Hazelrigg, Cooper, & Borduin 1987). Control groups were not required for inclusion in this review. Single subject or within subject designs (subjects as own controls) were excluded based on their atypical effect size due to intrasubject variability, which is not comparable to conventional independent samples statistical variance (Weisz, Weiss, Alicke, & Klotz, 1987). A minimum sample size of five subjects per treatment group was required for inclusion in this review.

Sample criteria included clinically severe pre-treatment levels of psychological distress. In addition, children under the age of 18 must have been considered the targeted treatment participants for whom treatment outcome measures were recorded. Studies for which the target problems consisted of primarily academic and learning difficulties were not included in this review. However, studies that describe academic/learning difficulties as secondary to disruptive behavior problems were included if the primary treatment goal was behavioral improvement, not academic performance. Finally, outcome or assessment

measures administered minimally at pre and post treatment were needed for inclusion in this review.

*Literature Search*

Several methods were used to collect the studies that were included in this review. Computer searches of the databases PsychInfo, Medline, and ERIC were conducted using a combination of search terms from several previous meta-analyses. The keyword search terms "parent training" and "family therapy" were crossed with the eight evaluation-oriented topic constraints[1] used by Weisz, Weiss, Alicke, and Klotz (1987), and Weisz, Weiss, Han, Granger, and Morton (1995) and limited by two age constraints ("child" and "adolescent") as well as English language. "Results" was added as an additional evaluation-oriented topic constraint following the search methods implemented by Hazelrigg, Cooper, and Borduin (1987). Publication dates of studies gathered through the computer search were restricted to studies published after 1984, which was the last year of studies included in the review by Hazelrigg et al. (1987), through March 2003. Only studies published in English language journals were included. The abstract of each entry was then reviewed to determine whether it met inclusion criteria. The method sections of those studies whose abstracts did not contain enough information to determine whether inclusion criteria were met were then reviewed individually. The single most common journal cited in the Weisz et al. (1995) meta-analysis, the Journal of Consulting and Clinical Psychology, was also reviewed by hand for years 1994 to the most recent issue as of March 2003. In addition, references cited by Weisz et al. (1995) were reviewed and

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[1] assess-, comparison, effect-, efficacy-, evaluat-, influence, impact, outcome-

included if they met the selection criteria. No studies came from this method. Finally, a message was posted on the research list-serves hosted by the Society for Psychotherapy Research as well as Division 53, the Association of Clinical Child Psychology of the American Psychological Association, requesting unpublished studies, including dissertations, to be included if they met the selection criteria.

*Dependent Variable*

The use of multiple outcome measures within a study presents a unique challenge to meta-analytic reviews. If all measures are included and averaged within a study, the effect size would be correlated within studies, as various outcome measures used for the same subjects would be correlated, leading to increased likelihood for Type II error. In light of the numerous methods used to measure child psychotherapy outcomes, a systematic method for prioritizing various outcome measures was needed a priori for consistency in the collection and coding of outcome data, as recommended by Hedges and Olkin (1985). For this review, the preferred outcome measures, which were coded first and above all other outcome measures, were standardized parent-report measures of global functioning such as the Achenbach Child Behavior Checklist. This measure was chosen particularly for its prolific use in child treatment outcome studies. Parent-report global measures were selected as the primary outcome measure as parents are likely the most accurate reporters of the child's pre-treatment level of symptoms, which is used to measure treatment outcome. Next, independent observer, clinician, or teacher reports using global standardized measures, including normative data, were considered as secondary treatment outcome measures. Next, specific measures of symptom severity

(e.g. anxiety, depression) as rated by parents were coded as a tertiary level of dependent measure, followed by specific symptom measures rated by independent observers, clinicians, or teachers. Finally, child-self report data using standardized measures symptoms or behaviors were coded when available as this was used to answer the empirical question proposed by this study that predicts a significant interaction between treatment type (individual, parent-only, and combined treatment) and informant of outcome assessment, such that parent-only and combined interventions show greater outcome improvements when assessed by parent-report outcome measures compared to child-report. Using this a priori determined hierarchy of outcome measures, an effect size estimate was calculated on the primary measure if possible. When a parent report global symptom measure was not available, then the next outcome measure, independent observers/clinicians/teachers ratings using a global symptom measure was used, and so on. All outcome measures were required to have standardized normative data in order to be included in this review.

A critical issue raised by Kazdin (1996) points to the likelihood that, compared to individual treatments, the effects of combined treatments may be easily attributed to several confounding variables such as amount of treatment sessions (greater for combined treatments) as well as the duration of treatment (greater for combined treatments). However, results from the frequently cited Fort Bragg study on treatment dose-effect indicate that more treatment does not lead to improved outcomes (Bickman, 1996; Salzer, Bickman, and Lambert, 1999). In an attempt to address this issue, the length and duration of treatment types were coded to test the empirical question of

whether differences in treatment outcome are due to treatment type or quantity of treatment.

*Coding of Independent Variables*

*Individual, parent-only, and combined treatments.* Treatment type was coded according to three types: parent-only, individual treatment only, and combined parent-only and individual treatment or family therapy. Among parent-only and combined treatments, parent participation was be coded as mostly mother participation, father participation, or both when this information was available.

*Treatment variables.* Interventions were coded according to treatment orientation: cognitive-behavioral, client-centered/dynamic, systemic, eclectic, or psychoeducational (where outcome measures are psychological distress, not information gained). The length of treatment, in weeks, and the amount of treatment, in sessions, were also coded. In addition, attrition rates were coded for each study, per treatment group when available.

*Quality of studies.* The methodological quality of included studies was assessed using several relevant variables identified by Chalmers' approach to assessing the quality of randomized clinical trials (see Chalmers, Smith, Blackburn, Silverman, Schroeder, Reitman, & Ambroz, 1981 as cited by Wortman, 1994). Several design features identified by Chalmers were determined to be inappropriate for this analysis, given the nature of psychotherapeutic interventions and inconsistent use of control groups, including blinding subjects, description of placebo, and blinding of physicians. Among the design features identified as potential threats to validity, the following were coded and summed

to equal a total methodological quality score: inclusion of at least one manualized treatment group (reported = 1, not reported = 0), retrospective (0) versus prospective (1) study, selection description (reported =1, not reported = 0), pretreatment group differences (present = 0, not present = 1), and an evaluation of treatment adherence or integrity (present = 1, not present = 0), with the highest quality score equaling five and the lowest quality score equaling zero.

*Child variables.* The mean age of the samples, as well as the range in age (e.g. elementary school age, adolescent) were included as independent variables. Other sample variables coded included percentage of male participants, and race of subjects (e.g. Caucasian, African American, Other).

In addition, the primary psychological disturbance of each study was coded according to the two-tiered target problem classification used by Weisz, Weiss, Han, Granger, and Morton (1995): "undercontrolled" (e.g. delinquency, noncompliance, aggression, self-control, substance abuse) and "overcontrolled" (e.g. anxiety, social withdrawal, depression, somatic, eating disorders). Abuse was added as an additional category. Sample target problems that did not easily qualify as either under or overcontrolled were classified as "other" (e.g. autism, adjustment disorders, medical problems).

*Parent variables.* Parent or caregiver variables such as socioeconomic status (as high, average, or poor), marital status (coded as percentage of divorced or single parents), education level, and presence of parent psychopathology (coded as a dichotomous

variable: present/not present) were coded when reported. See Table 7 for a summary of descriptive variables across studies.

## Analyses

### *Calculation of effect size*

Cohen's d (Cohen, 1977) was calculated for each study as an index of the size and direction of the treatment effect. Meta-analytic convention has differed among authors on whether to divide the difference between the treatment and control group posttreatment means by either the pooled standard deviation (see Casey and Berman, 1985) or the standard deviation of the control group (see Weisz, Weiss, Han, Granger, & Morton, 1995). Given that control groups were not necessary for inclusion in this review, and that there were no clear assumptions that would determine whether the variance of one treatment group would be more appropriate as the denominator for calculating an estimate of effect size, the pooled variance of all treatment groups was used in the calculation of Cohen's d.

It should also be noted that modifications were necessary to the conventional method for calculating effect sizes (see formula below).

$$d = \frac{\bar{x}_c - \bar{x}_t}{sd_{pooled}}.$$

Due to the lack of consistent control group, for each comparison one treatment group was identified as the "treatment group" and the other was designated as the "control group" for the purposes of calculating an effect size. In order to standardize this designation within this review, individual treatment groups were always considered the identified "control group," from which either the posttreatment means of the parent-only or combined treatment groups were subtracted. For example, given the proposed hypothesis that combined treatments will produce greater treatment effects (indicated as lower scores on such standardized measures as the Child Behavior Checklist) compared to individual treatments, by subtracting the "treatment" group (lower standard score) from the "control" group (higher standard score) the effect size would be positive (i.e. in the predicted direction). Pooled standard deviation was calculated using the following formula:

$$sd = \sqrt{\frac{(n_t - 1)(sd_t)^2 + (n_c - 1)(sd_c)^2}{(n_t + n_c) - 2}}$$

When reported, effect sizes for follow-up treatment outcomes were also calculated.

For studies that did not include means or standard deviations for the treatment groups, effect size values were derived from inferential statistics such as t values using Rosenthal's (1994) strategy:

$$d = \frac{t\,(n_c + n_t)}{\sqrt{df}\,\sqrt{n_c\,n_t}}.$$

For studies that only reported p-values, the corresponding t-statistic was obtained through the use of a t-table. All non-significant findings that did not report statistics were included using a conservative estimated effect size of 0.00, following the procedures of previous meta-analyses (see Weisz, Weiss, Han, Granger, & Morton, 1995).

*Combining effect sizes*

Effect sizes were combined across studies using weights calculated in part by the sample size of each study (Shadish & Haddock, 1994; Hedges & Olkin, 1985). By using this method, studies with larger sample sizes, which are considered a closer approximation of the true population effect size compared to studies with smaller sample sizes, were weighted more heavily. The weighted average effect size was calculated using the following formula:

$$\overline{T_\bullet} = \frac{\sum_{i=1}^{k} w_i T_i}{\sum_{i=1}^{k} w_i}.$$

Where $T_i$ is the effect size estimates for each study, and $w_i$ is the weight, equal to the inverse of the estimated variance of d:

$$w_i = \frac{1}{v_i}.$$

The estimated variance $v_i$ was calculated from the following formula (Rosenthal, 1994, p. 238):

$$v_i = \left( \frac{n_c + n_t}{n_c n_t} + \frac{d^2}{2(n_c + n_t - 2)} \right) \left( \frac{n_c + n_t}{n_c + n_t - 2} \right).$$

Following Cohen's (1977) standards, an effect size of 0.20 or less was interpreted as a "small" effect, $0.20 < d < 0.80$ as a "medium" effect, and $d > 0.80$ as a "large" effect.

*Homogeneity of variances*

In order to address the previously mentioned concern that meta-analyses compare "apples to oranges," a test of homogeneity of variance of effect sizes was conducted, which determined whether the variability of a group of effects was consistent with or greater than what would be expected based on the sampling variation, or "whether the studies can reasonably be described as sharing a common effect size" (Hedges & Olkin, 1994, p. 122). A significant test indicates that more variability is present than expected

that cannot be explained by sampling error alone, but rather by one or several moderator variables. A non-significant finding suggests that the mean effect size represents an accurate estimation of a common population effect size (Hall et al., 1994). The following equation was used to calculate the homogeneity test statistic (Q):

$$Q = \sum_{i=1}^{k} \left[ \frac{(T_i - \overline{T_\bullet})^2}{v_i} \right].$$

Where $T_i$ is the observed effect size of each study, $T$ (bar) is the weighted average of the effect size, and $v_i$ is the estimated variance of d (Shadish & Haddock, 1994). The Q-statistic has a chi-square distribution with k-1 degrees of freedom (where k represents the total number of effect sizes included in the analysis). As the primary hypotheses compared treatment effects of the three main treatment groups: child-only, combined, and parent-only, two Q-statistics were calculated separately for the effect sizes comparing child-only to combined treatments and child-only to parent-only treatments, assuming they are conceptually different treatment strategies.

*Analysis of moderator variables*

Six moderator variables were selected a priori based on previous research (Weisz, Weiss, Han, Granger, & Morton, 1995) to be evaluated for their effects on effect size estimates. The six variables selected were: (a) difference in the number of therapy sessions between child and combined treatments, (b) therapy orientation, (c) presenting

problem, (d) mean age of sample, (e) methodological quality, and (f) type of outcome measure (specific versus global). Analysis of the relationship between each of these variables and the effect size estimate d was conducted by the use of regressions. Multi-level categorical variables were expressed as dichotomous variables for each level of the original multi-level variable (was the child treatment orientation cognitive-behaviorally oriented or not) before they were entered into the regression analysis. Each moderator variable was initially entered individually as a predictor of d. All six variables were then entered into a stepwise regression analysis to determine the best predictor of effect size estimates when all variance due to all variables was considered. Correlations between each moderator variable were also examined to determine whether multicollinearity affected Beta coefficients. Once significant predictors of d were identified, the difference in the mean effect sizes among the subsets of the moderator variables were examined to determine their impact on d.

*Interrater reliability*

The interrater reliabilities of several independent variables previously identified as potential moderator variables and those included in the study's hypotheses were also evaluated. Approximately one-fourth of the studies included in this review were randomly selected to determine the agreement rates on the following coded variables: treatment type, treatment orientation, presenting problem, age of sample, methodological quality, therapist level of training, treatment duration, and number of treatment sessions. The rater was the faculty advisor for this project.

# Results

## *Search results*

From the computer database search method, a total of 4,565 journal articles, book chapters, conference presentations, and dissertations were initially identified (3,426 entries from PsychInfo, 185 from Medline, and 954 from ERIC). The abstract of each entry was then reviewed to determine whether it met inclusion criteria, which resulted in the exclusion of 4,179 entries. Three hundred and eighty-six entries remained whose abstracts did not provide enough information to determine inclusion eligibility. The method sections of these studies were then reviewed individually to determine if they met inclusion criteria, which resulted in a total of 35 studies, including 26 published journal articles, eight unpublished dissertations, and one conference presentation. See Table 4 for the bibliography and source of each included study. See also Table 5 for the author name, publication year, source, and reason for exclusion of the remaining studies (by method review). The issue by issue search of the Journal of Consulting and Clinical Psychology resulted in a total of nine additional studies (see Table 4). No studies came from either the references cited by Weisz et al. (1995) or postings on the listserves of the Society for Psychotherapy Research and Division 53: the Association of Clinical Child Psychology of the American Psychological Association. The seven studies included as part of the Hazelrigg, Cooper, and Borduin (1987) meta-analysis were reviewed. However after examining their method sections, none of these studies were determined to meet the inclusion criteria (see Table 4). From the multiple search strategies, a total of 44 studies were located and determined to meet inclusion criteria, including 42 original

psychotherapy outcome studies and two reports of follow up outcome data. These studies were comprised of a total of 4,189 subjects.

*Reliability Analysis*

Eight independent variables were selected for reliability analysis: 1) treatment type, 2) treatment orientation, 3) presenting problem, 4) mean sample age, 5) methodological quality, 6) therapist level of training, 7) treatment duration, and 8) total number of therapy sessions. Interrater reliability statistics were calculated using Cohen's Kappa for categorical variables and correlations as a measure for continuous variables. Agreement ranged between .74 and 1.00, indicating a high degree of consistency in coding between the two raters. Therefore the coding values used by the experimenter were used in all analyses. See Table 6 for a summary of all kappa statistics and correlations between recoded independent variables.

*Sample characteristics*

The following data are based on the sample characteristics of 42 out of the total 44 studies, as two of the studies report follow up data only and are based on the same sample as their original treatment outcome studies. The mean age of the 4,189 subjects was 11.66 (sd = 3.35). Ten percent of studies included subjects within the preschool range, 26% were within the elementary school range, 38% were adolescents, and 26% were combined ranges (elementary to adolescent). Thirty-nine studies reported the gender of subjects. The average percentage of male participants across studies was 64 (sd = 21.3). Of the studies that reported race, an average of 65% of subjects were Caucasian (sd = 30.1), 21% were African American (24.1), and 26% were "other" (including Hispanic

and Asian subjects) (sd = 32.1). Notably, two studies were completely comprised of Hispanic subjects (see Santisteban et al., 2003 and Szapocznik et al., 1989).

The majority of studies included samples whose primary presenting problem was externalizing behavior disturbance (57%). Diagnoses included conduct disorder, substance abuse, attention-deficit/hyperactivity disorder, and oppositional defiant disorder. Twenty-four percent of studies targeted internalizing disorders with such diagnoses as overanxious disorder, separation anxiety, social phobia, simple phobia, and major depressive disorder. "Other" (e.g. adjustment disorders, runaway behaviors) and combined internalizing and externalizing disorders were the third most common targets of treatment at seven percent each of the total number of studies, while "Abuse" made up five percent. See Table 7 for a summary of all independent coded variables. Eight of the total 42 studies specifically reported whether children were able to be prescribed medication during the treatment phase. Of these eight, seven of them specifically excluded subjects if they were treated with medication at the time of the study, while one study (Pfiffner & McBurnett, 1997) reported that 44% of subjects were prescribed stimulant medication for Attention-Deficit/Hyperactivity Disorder.

*Treatment groups*

Of the 42 original psychotherapy outcome studies, one study was based on a comparison of an individual child therapy group to a parent-only treatment group. Thirty-four studies compared an individual child therapy group to a combined child and parent treatment group (this could be either family therapy or a treatment group that included simultaneous participation in individual child treatment and parent-only intervention),

while seven studies compared all three types of treatment groups (child-only, parent-only, and combined parent-child interventions). Among family-based treatments, parent participation was be coded as mostly mother participation, father participation, or both when this information was available. Of the 27 studies that included this information, 24 reported both mother and father participation in the child's treatment. Degree of participation by parents was not reported.

Among child-only treatment groups, 69% were considered cognitive-behavioral, 17% were eclectic 12% were client-centered or dynamic, and two percent were systemic. Cognitive-behavioral child-only interventions were comprised of problem-solving skills training, relaxation training, social skills training, cognitive therapy, and desensitization. Eclectic individual treatments included unspecified individual therapy, combination of probation and community drug treatment services, and combinations of play therapy, modeling, and use of storytelling. Client-centered/dynamic child-only interventions were comprised of such treatments as play therapies and individual psychodynamic child therapy, while the one study of systemic individual treatment described one-person family therapy.

Among combined treatments, 62% were identified as cognitive-behavioral, 29% were systemic, five percent were eclectic, and two percent were client-centered/dynamic. Cognitive-behavioral combined treatments were often made up of independent interventions that were conducted separately with children and with parents, such as behavior management training (parents) and social skills training (child). Systemic combined treatments included Multisystemic Therapy and systemic behavior family

therapy. Eclectic combined treatments included combinations of unspecified individual therapy or play therapy with a behavioral parenting intervention, while client-centered/dynamic combined interventions were comprised of insight oriented group therapy for parents and children. All parent-only treatment groups were considered cognitive-behavioral and included such interventions as behavior management training and cognitive therapy.

Attrition rates were reported in 40 studies. The average drop out rate across studies and treatment groups was 17.8% (sd = 13.8). Not all studies reported attrition rates across treatment groups, and some rates were calculated based on reported pre and post-treatment sample sizes. Of the 32 studies that reported rates for child-only treatment groups, the average drop out rate was 19.9% (sd = 15.7). A total of 31 studies reported attrition rates for the combined treatment group, which produced a mean of 16.6% (sd = 12.8). Of the eight studies that reported rates for the parent-only treatment groups, the average drop out rate was 21% (sd = 15.5).

*Outcome measures*

Out of the total 42 original treatment outcome studies, 12 used a parent-report global outcome measure, such as the Child Behavior Checklist, which was considered the primary measure when calculating effect size. Eight studies used a global outcome measure rated by an independent observer or clinician. Twenty-one studies used a specific symptom measure rated by the parents, such as the Internalizing scale on the CBCL or the Family Adaptability and Cohesion Evaluation Scale (FACES-III; Olsen et al. 1985 as cited by Henggeler, Rowland, Randall, et al., 1999), while eight studies used a

specific symptom measure rated by either an independent observer, clinician, or teacher such as the SNAP-R (Swanson, 1992 as cited by Pfiffner & McBurnett, 1997), a disruptive behavior rating scale based on diagnostic criteria of the DSM-III-R. Finally, 26 studies included a child self-report outcome measure such as the Children's Depression Inventory, while six included a standardized behavioral observation outcome measure. The totals sum to more than 42 as most studies included more than one outcome measure. Following the a priori determined prioritization method for outcome measures, parent report global measures were used to calculate effect sizes in 12 studies, independent observer report global measures were used for two studies, teacher report global measures were not used for any studies, parent report specific outcome measures were used for 19 studies, independent observer specific measures were not used for any study, teacher report specific symptom measures were used in two studies, and child self report measures (global or specific) were used for four studies.

*Treatment setting, duration, and number of therapy sessions*

Three main treatment settings were identified: outpatient mental health clinics, inpatient psychiatric units, and schools. The majority of outcome studies were conducted in an outpatient setting (86%), while 12% were conducted in schools and 2.4% were conducted in inpatient units. Of the studies that reported total number of therapy sessions for each treatment group, the average numbers of sessions were 17 (sd = 19.2), 22 (sd = 19.4), and 12 (sd = 3.8) for child-only, combined parent and child, and parent-only respectively. Similarly, the average treatment durations in weeks were 15 (sd = 9.0), 14

(sd = 7.5), and 15 (12.8) for child only, combined, and parent-only interventions respectively.

*Level of therapist training and methodological quality*

Child-only treatment therapists were comprised mostly of psychology graduate students and licensed clinical psychologists (33 and 23% respectively), while master's level mental health professionals comprised 20% of therapists. Similarly, within the combined treatment group, most therapists were psychology graduate students and licensed clinical psychologists (32% each) while master's level therapists comprised 16% of therapists. Among parent-only treatment groups, psychology graduate students were most common at 42%, while licensed psychologists and master's level clinicians each made up 29% of therapists. The mean methodological rating for all studies was 3.53 (out of a total five point rating) with a standard deviation of 0.93.

*Homogeneity of variances*

As mentioned above, two Q-statistics were calculated, one for the comparison between child-only and combined treatment groups and one for the comparison between child-only and parent-only treatment groups. The test of homogeneity conducted on the comparison between child-only and parent-only treatment group comparisons produced a Q-statistic of 15.175 with 7 degrees of freedom, which is considered significant ($p < .05$). Therefore, there is more variability among the average weighted effect size estimates than would be expected from sampling error alone and is likely due to one or several significant moderator variables. Similarly, the Q-statistic from the much larger collection

of studies that offered a comparison of a child-only intervention with a combined intervention was also significant ($Q(40) = 138.75$, $p < .05$).

*Fixed versus random effects models*

Since the Q statistics of homogeneity of variance was found to be significant for the both comparisons of child to parent-only and child to combined treatment groups, this assumes that there is greater variability in the weighted average effect sizes than would be expected from sampling error alone. According to Shadish and Haddock (1994), the rejection of the Q statistic is one method used by researchers to select a fixed versus a random effects model for calculating the average effect size estimate and variance across studies. The fixed effects model assumes that the average effect size estimate from the sample of studies is based on a true population parameter $\theta$ that is fixed at a particular value. In other words, it assumes that the population of effect sizes, on which the sample of studies is based, is homogeneous (e.g. that there is one true effect size) and that all variability is due to sampling error. Conversely, the random effects model assumes that the population effect size is itself random and has its own distribution. Therefore, the total variability ($v_i^*$) of any single effect size estimate is broken down into two components: $\delta_\theta^2$ which represents the between studies variance (or random effects variance) and $v_i$ which represents the within studies, or sampling error variance of each effect size estimate. Under the random effects model they are represented as:

$$v_i^* = \delta_\theta^2 + v_i.$$

Given the significant Q-statistics for the comparison of the child to parent-only and child to combined treatment effect sizes, the random effects model was selected as the most appropriate method for computing the average weighted effect size among the studies. Therefore the value of $v_i^*$ was substituted for $v_i$ in the equations used to calculate the weighted average effect size, where $\delta_\theta^2$ was computed using the formula provided by Shadish and Haddock (1994, p. 275):

$$\delta_\theta^2 = [Q - (k - 1)] / c.$$

and c was calculated as:

$$c = \Sigma w_i - [\Sigma w_i^2 / \Sigma w_i].$$

*Overall weighted mean effect size*

Using the random effects model, the average weighted mean effect size for the 41 studies comparing a child only to combined child-parent intervention was .2503 (sd =

.042), which is considered within the medium range of effect size. Results suggest that adding parent participation to a child-only treatment improves treatment outcome. Effect size estimates ranged from 1.86 to -.77, with four studies reporting null findings which were estimated as effect sizes of zero. See Table 8 for a list of effect size estimates per study. The weighted mean effect size for the eight studies that compared child-only to parent-only interventions was .1277 (sd = .18), which is considered a small effect size. Effect size estimates ranged from -.76 to .78. See Table 9 for a list of effect size estimates per study. Results suggest that parent-only interventions did not produce significantly improved treatment outcomes compared to child-only interventions. [2]

*Moderator analyses for child only to combined treatments*

In light of the significant Q-statistics, an analysis of moderator variables was conducted. Six variables were identified a priori, based in part on previous meta-analysis findings (see Weisz, Weiss, Han, Granger, & Morton, 1995): (a) the difference in the number of therapy sessions between child and combined treatments, (b) child and combined treatment orientation (recoded as "cognitive-behavioral" or "other" as the cell size of other orientations were too small and had to be collapsed), (c) presenting problem (recoded as "internalizing", "externalizing", and "other"), (d) mean sample age, (e) methodological quality, and (f) type of outcome measure (global versus specific

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[2] A total of 19 studies included control group outcome data that was used to calculate the unweighted average effect size versus child and combined treatment groups. The average effect size for child treatment to controls was .44 (range 3.34 to -.45 whereas combined treatment to controls was 1.03 (range 4.6 to -.76).

collapsed across raters due to small cell size). First, correlations were examined between moderator variables to assess for multicollinearity.

As methodological quality increased, both mean sample age decreased, $\underline{r}$ (35) = -.341, $p < .05$, and difference in therapy sessions between child and combined treatments increased, $\underline{r}$ (35) = .366, $p < .05$. As mean sample age increased, combined treatment was less likely to be cognitive-behavioral, $\underline{r}$ (37) = -.475, $p < .05$, and the difference in number of therapy sessions between child and combined therapy decreased, $\underline{r}$ (32) = -.68, $p < .01$. Child therapy orientation was significantly more likely to be cognitive-behavioral when combined treatment was also cognitive-behavioral, r (41) = .624, $p < .01$. Cognitive-behavioral child treatment was also more likely to be used with internalizing presenting problems, $\underline{r}$ (41) = .365, $p < .05$, and was also associated with a larger difference in number of therapy sessions between child and combined treatment, $\underline{r}$ (36) = .391, $p < .05$. Combined treatment orientation was also significantly more likely to be cognitive-behavioral when presenting problems were internalizing, $\underline{r}$ (41) = .313, $p < .05$, when the mean sample age was younger, $\underline{r}$ (37) = -.475, $p < .05$, and when the difference in the number of therapy sessions between child and combined treatments was high, $\underline{r}$ (36) = .493, $p < .05$.

As presenting problem was coded as a three separate dummy variables (internalizing "yes" or "no"; externalizing "yes" or "no"; and other "yes" or "no"), two of the levels were forced into the regression together to account for all variance due to the original three level variable. Entered initially as individual predictors of d, only child treatment orientation was identified as marginally significant $R = .286$, $F$ (1,39) = 3.49, $p$

= .069. All other moderator variables were found to be nonsignificant predictors of d, with *R* values ranging from .226 to .102. When mean effect sizes of cognitive-behavioral and non-cognitive-behavioral child-only treatments were examined, cognitive-behavioral treatments had a lower average effect size ($d$ = .186) compared to non-cognitive-behavioral treatments ($d$ = .522). This suggests that cognitive-behavioral child-only treatments are closer to the effectiveness of combined treatments (which are overall more effective) than non-cognitive-behavioral child-only treatments.

All six moderator variables were then entered into a stepwise regression analysis. This time, none of the moderator variables were identified as significant predictors of *d*. Significance criteria was then expanded (in 0.1 and out 0.5) to examine the Beta coefficients of all entered variables. Methodological quality was the variable with the highest Beta coefficient of .370 $t$ (1, 25) = 1.99, $p$ = .058. All other Beta coefficients ranged from -.175 to .250. See Table 10 for the Beta weights, t-values and p-values of all six moderator variables. As there were several significant correlations between moderator variables identified prior to the regression analysis, the variance inflation factor of each moderator was examined to determine the strength of the linear relationship between each moderator (Stevens, 1996). None of the variance inflation factors for the moderator variables exceeded 2.6, therefore the degree of multicollinearity was minimal and did not appear to have affected the results of the regression analysis.

*Moderator analysis for child to parent-only treatments*

The same moderator analysis used above was again conducted to determine whether any of the a priori identified variables significantly predicted effect size

estimates for the comparison of child to parent-only treatments. As there was no variability among parent-treatment orientation (all were considered cognitive-behavioral), this variable was excluded from the moderator analysis. Correlations among variables were first examined to assess for multicollinearity. Only one significant correlation was identified: as mean age of the sample increased, the likelihood of an externalizing disorder as a presenting problem decreased $r$ (8) = -.715, $p < .05$.

Next, each of the five variables were entered individually into a regression analysis with each study's effect size estimate. Only one variable, child treatment orientation, was again identified as a significant predictor of $d$, $F$ (1,6) = 6.49, $p < .05$. All remaining nonsignificant predictors' $R$ values ranged from .129 to .635. When all moderator variables were entered into a stepwise regression analysis, two moderators were identified as significant predictors of d: child treatment orientation and presenting problem. As child orientation was the first variable to be entered into the model, it accounts for the greatest amount of unique variance among effect size estimates (approximately 52%) with an $R$ value of .721, $F$ (1,6) = 6.49, $p < .05$. Type of presenting problem was also identified as an additional predictor of $d$, $F$ (2,5) = 22.16, $p < .05$, and the amount of variance accounted for by these two variables together increased to 90%. See Table 11 for the Beta coefficients of all excluded variables. The variance inflation factor of each moderator was again examined to determine the strength of the linear relationship between each moderator. None of the variance inflation factors for the moderator variables exceeded 3.2, therefore the degree of multicollinearity is minimal and does not appear to have affected the results of the regression analysis.

Weighted mean effect size estimates were then compared across levels of child treatment orientation and types of presenting problems to determine the direction of the relationship between these moderators and d. The weighted average effect size of the six studies that were comprised of cognitive-behavioral child treatments (D = .0696) was lower than that of other types of child treatment orientation (D = .7016). In addition, the weighted average effect size of the five studies that included externalizing presenting problems (D = .0246) was lower than that of internalizing presenting problems (.2107) and other types of presenting problems (D = .2578).

*Follow up effect sizes*

Two additional studies contained follow up data that corresponded to two original psychotherapy outcome studies already included in the above analysis. One follow up study was based on a comparison of child only to combined treatment, whereas the other follow up study offered a comparison of all three treatment groups. These effect sizes will be reported individually, as it is meaningless to combine them. One study reported twelve-month and six-year follow up data while the other study reported several follow up time points: three, six, twelve months and two years. For consistency, the twelve month follow up data were selected for both studies. The first follow up study compared cognitive behavioral treatments for children with anxiety. The effect size estimate fell within the small range, $d$ = .0100. Conversely, the second follow up study, which compared cognitive-behavioral treatments for children who had been sexually abused, fell within the medium range of effect sizes when comparing child to combined

treatments, $d$ = .3092, and close to the large range when comparing child to parent only, $d$ = .763.

*Publication bias*

Publication bias was evaluated to determine the effect of publication status on effect size estimates. The unpublished studies included in this meta-analysis only offered a comparison of child only to combined treatment, therefore only those effect size estimates were included in the analysis. Two methods were used. First, average effect sizes were compared between published studies and unpublished dissertations and conference presentations to determine if the difference was significant. The average effect size estimate of published studies (N = 32, $d$ = .311) was not significantly different from that of unpublished studies (N = 9, $d$ = .129), $t$ (39) = .886, $p$ > .05. Second, a file drawer analysis was conducted. Each study's effect size estimate was divided by its standard error to compute a z score for each study using the formulas from Begg (1994):

$$Z = \frac{\sum_{i=1}^{k} Z_i}{\sqrt{k}}$$

and

$$k_o > -k + (\sum_{i=1}^{k} Z_i)^2 / (Z_{1-\alpha/2})^2$$

where $Z_{1-\alpha/2}$ is 1.96, k is the number of studies included in the analysis, and $k_o$ is the number of additional studies with nonsignificant findings required to render the average effect size estimate nonsignificant. In this set of 41 studies, $k_o$ was equal to 50. Therefore at least fifty unpublished studies with null findings would be required to lower the average weighted effect size to be nonsignificant.

## Discussion

Several meta-analytic studies of child psychotherapy outcomes have been conducted in recent years, with findings consistently supporting the effectiveness of treatment for children with behavioral and emotional problems (see Kazdin, Bass, Ayers, & Rodger, 1990; Weisz, Weiss, Alicke, & Klotz, 1987; Weisz, Weiss, Han, Granger, & Morton, 1995). These studies have examined the effectiveness of treatment along several potential moderating factors, including treatment orientation (e.g. behavioral, psychodynamic), length of treatment, and level of therapist training. However, there remained a lack of attention among researchers to the comparative efficacy of treatments that target children to treatments that target either the entire family unit including parents and children or parents only. This paucity of research is particularly startling given the results of survey data that suggest most practioners routinely incorporate parent participation in their treatment of children (Kazdin, Siegel, & Bass, 1990). The intent of this study was to examine the comparative efficacy of child-only interventions to those that either added a significant parent-participation component or targeted parents alone as the unit of treatment.

*Study findings*

Results from the meta-analysis of 41 studies that compared child only to combined child-parent interventions revealed a medium effect (d = .2503) for the addition of parent or family-based treatment to the treatment outcomes of child-only treatments. In other words, the average family receiving a psychotherapy intervention that include participation from both the child and the parents was better off than 57% of children receiving individual interventions. This "probability of superior outcome" is calculated using the formula provided by Grissom (1996):

$$z_{ps} = .707ES$$

and is consistent with the median probability calculated by Grissom's 1996 meta-meta-analysis when comparing two active treatment groups. Conversely, of the eight studies that offered a comparison of child-only to parent-only interventions, no significant effect was identified (d = .1277), indicating that targeting either children or parents individually produce similar treatment outcomes. Generalizability of results, however, is tempered by the lack of homogeneity among effect sizes for both comparisons as well as the limited number of studies comparing parent to child only interventions.

In a review of meta-analytic studies, Lipsey and Wilson (1993) offered a comparison of frequent psychological, educational, and behavioral meta-analytic findings to selected meta-analyses of medical treatments. The effect sizes calculated as part of this study comparing child, combined, and parent treatments fall well within the mean effect

size range from .11 to .96 of typical medical interventions such as chemotherapy for breast cancer and hypertensive drug therapy.

These findings seem to support in part the treatment strategies and advocates of family systems theorists, that treatment involving participation of multiple members of a family system (i.e. identified child and parents) are more effective than treatments that target either unit (children or parents) individually. The results suggest that parent participation in child psychotherapy treatments is most effective when children are also active in treatment, regardless of age or type of presenting problem. In addition, results also seem to lend support to treatment strategies and supporters of cognitive-behavioral therapy, that changing the structure of the environment including reinforcers and consequences for behavior for children also are effective at improving child psychotherapy outcomes. However, there remain unknown moderator variables adding unexplained variance that would also contribute to these findings once identified.

*Comparison to other meta-analyses*

The methodology and results of this meta-analysis were compared to other similar meta-analyses within the child psychotherapy and family therapy literature to determine whether improvements as well as advances in information and understanding were made within this research domain. Hazelrigg, Cooper, and Borduin (1987) conducted a meta-analysis of family therapy studies compared to either control or alternative treatments for children and families. As mentioned above, none of the studies included in Hazelrigg's (1987) review were determined to meet inclusion criteria for this study for a variety of reasons (e.g. family participated in alternative treatments as well, lack of standardized

outcome measures, sample included adult subjects). Several methodological improvements were made to Hazelrigg et al.'s study. Search terms were expanded significantly, which resulted in a considerably larger number of studies identified and included. Numerous unpublished studies were also included (Hazelrigg et al. did not include unpublished studies), which allowed for the evaluation of publication bias. Hazelrigg et al. did not require random assignment of subjects, although group matching was required. Although random assignment was required in this review, it was never the unique reason for exclusion of a study. Hazelrigg et al. offered only limited descriptions of study characteristics and failed to report such data as mean age of participants, treatment orientation, length of treatment, or ratings of methodological quality. Given the relatively low number of studies included in Hazelrigg et al.'s review (N = 15), several analyses were limited by a fail safe N that was fairly close to the total number of studies included. As many more studies were included in this review the findings were determined to be relatively stable and robust in light of a high fail safe N.

There is one notable similarity in the findings of this study with Hazelrigg, Cooper, and Borduin's review. When comparing family therapy to alternative treatments using behavior ratings as outcome measures, the average effect size ($d$= .23) was consistent with this study's comparison of combined treatment to individual child treatment. In Hazelrigg et al.'s (1987) review, this comparison was also subject to significant heterogeneity; however no moderator analysis was included to explore the source of this variance. One strength of Hazelrigg et al.'s study was the greater number of

studies ($N = 9$) that contained follow up data, as this study only included two follow up studies.

A more recent meta-analysis of family and marital therapy was conducted by Shadish and colleagues (1993) that included child and adult psychotherapy studies. Similarities were present regarding primary inclusion criteria, such as random assignment and clinical samples. However, standardized outcome measures were not required and studies were not limited to child samples. Again, as in the Hazelrigg, Cooper, and Borduin (1987) study, study characteristics were not described in detail, such as mean age, presenting problem, or methodological quality. Similar to the findings of this study, results from Shadish et al. (1993) indicated that therapies that were considered behavioral produced greater treatment effects when family or marital therapies were compared to alternative therapies. Shadish et al. identified several significant treatment moderators, including high levels of treatment standardization, experimenter allegiance, focus on present matters, high levels of communication training, and lower attrition rates. As part of a block regression analysis, behavioral orientation was initially identified as a significant predictor, and in the second block treatment standardization was later identified as significant while orientation was removed from the model. These findings are similar to those of this study. When child only and combined treatments were compared, cognitive-behavioral orientation of child only treatments was identified as a marginally significant predictor in individual regression. When all variables were entered together, methodological quality was then identified as a marginally significant predictor.

However, unlike the results of this study, Shadish et al. did not find significant effects for the comparison of marital and family therapies to individual therapies (d = -.05).

Several similarities were also identified between this study and the method and findings of the meta-analysis conducted by Weisz, Weiss, Han, and Granger in 1995. The weighted average effect size computed by Weisz et al. (1995) was significantly higher (d = .54), which would be expected given it was based on a comparison of treatment to no treatment control groups. However, the average effect size from the comparison of child-only and combined interventions to control groups (.44 and 1.03 respectively) are more consistent with the Weisz et al. findings. As with the results of this study's comparison of child only to combined treatments, interventions that were considered behavioral were found to be significantly more effective than nonbehavioral interventions. In addition, type of presenting problem was not a significant predictor of treatment outcomes. Unlike this study, Weisz et al. identified a significant interaction between type of outcome measure and treatment activities. In addition, several significant predictors of effect size were identified that were either not significant in the present analysis or not considered as potential moderators, including age and gender of sample, level of therapist training, type of sample (analog versus clinical), and type of treatment administration (group versus individual).

*Literature search*

The literature search conducted for this meta-analytic review combined the search strategies from several previous meta-analyses. Several attempts were made to collect as many qualified studies as possible, including searches on several research data-bases

(PsychInfo, ERIC, and Medline) using consistent keywords from previous meta-analyses. Studies included in several previous meta-analyses were also reviewed to determine their eligibility. In addition, each issue of the last ten years of the Journal of Consulting and Clinical Psychology, the most often cited journal in the Weisz, Weiss, Han, Granger, and Morton 1995 meta-analysis, was searched by hand. Additional efforts were made to include as many unpublished studies as possible, to minimize the publication bias, including searching for unpublished dissertations and conference presentations on the research data-bases as well as requests posted on several child and family therapy professional listserves. The thoroughness of the search effort resulted in a much greater number of studies than were actually included. Of the 4,565 articles, book chapters, dissertations, and presentations initially identified, less than .8% were actually determined to have met inclusion criteria. Of all the studies determined not to have met inclusion criteria, no studies were excluded solely on the basis of non-random assignment. Studies that were excluded for methodological reasons most often lacked standardized outcome measures.

Regrettably, no unpublished studies were found via posts made on professional listserves. However, of the total 44 studies included in this review approximately one quarter were unpublished dissertations with one conference presentation. It is unclear to what degree the lack of unpublished studies that were not dissertations (which may be more methodologically sound) may have affected the analysis of publication bias. Nonetheless, the chances of finding 50 unpublished studies with null findings when the total number of studies was only 44 is very unlikely.

Also very few studies were identified that were conducted in settings other than outpatient or inpatient mental health settings. Specifically, the proportion of studies conducted in schools was considerably low. This may have been the result of the inappropriate use of the same psychological search terms when conducting a literature search in ERIC. However, the desire for consistency in research method was greater. In addition, no studies were found that offered a precedent of more educationally-appropriate search terms for use in ERIC. In addition, until recently only specialized educational programs such as early childhood education (e.g. Head Start) and special education programs had documented practice standards for incorporating family-centered services (Allen & Petr, 1998). Regular education programs have begun to develop mental health programs such as divorce groups or behavior management programs that have included parents as participants, however the number of methodologically rigorous outcome studies is still fairly limited. Barriers such as stigma and concerns of confidentiality may also prevent some parents from seeking such services in the school setting.

*Study characteristics*

A total of 4,189 child subjects participated in the 42 primary outcome studies compared in this meta-analytic review. To determine the relative similarity of this sample to other samples of previous child psychotherapy meta-analytic reviews, the primary characteristics were compared to the sample descriptions from Weisz, Weiss, Alick, and Klotz (1987), Kazdin, Bass, Ayers, and Rodgers (1990), and Weisz, Weiss, Han, Granger, and Morton (1995). The mean age of the 4,189 subjects was 11.66, which falls

within one standard deviation of the mean ages of the previous three meta-analyses (ranging from 10.2 to 10.5 with standard deviations ranging from three to four). The percentage of male subjects (64) was also consistent with previous reviews, which were typically around 65%. This study was comprised of relatively more studies with the primary externalizing-type of presenting problem (57%) compared to the other meta-analytic reviews (ranging from 47 to 38%). Therapy orientation was slightly less likely to be cognitive-behavioral (69 and 62% respectively for child-only and combined treatments) compared to other meta-analytic reviews (percentage of cognitive-behavioral orientation ranged from 73 to 81%). Although, when the percentage of parent-only therapy that is considered cognitive behavioral is added (100%), the percentage increases to be more consistent with previous studies.

One particular strength of this review was the number of studies that included significant minority subject participation. The average percentage of African American subjects was over 20%, while the average percentage of "Other" race subjects (i.e. Hispanic, Asian, Native American) was over 25%. Nine studies contained subject samples that were comprised of at least 20% African American subjects, three of which were over 50%. Similarly, eight studies contained subject samples that were comprised of at least 20% "Other" race subjects, three of which were over 50%. All three studies that were comprised of over 50% “Other” race subjects had effect size estimates that were either consistent with or greater than the weighted average effect size for all child to combined comparisons.

Several limitations of study characteristics may have restricted the generalizability of results or moderator analysis, namely the uneven distribution of treatment orientation. That so many studies were considered cognitive-behavioral may limit generalizability of results. Crits-Christoph (1997) highlighted that often psychotherapy meta-analytic results are limited by the lack of rigorous clinical trials of otherwise commonly used interventions, such as psychodynamic therapy or humanistic therapy compared to the overwhelming number of clinical trials conducted on cognitive-behavioral therapy. Another limitation of this study was the predominance of studies whose presenting problem was externalizing behavior. Treatments targeting externalizing disorders may be more likely to add parent component to treatment (and therefore be included in this review) due to a common theoretical conception that behavior problems are best managed, particularly with young children, by changing the structure of environment.

*Limits to generalizability of findings*

A number of factors related to study characteristics limited the generalizability of these findings to clinical settings. The selectivity used in determining inclusion criteria for many of the studies included in this meta-analysis suggests that the participating subjects were likely not characteristic of typical referrals to community based mental health agencies that are not affiliated with universities or research programs. Specifically, many studies excluded children who were prescribed medication during the treatment phase so that the researchers could more accurately attribute treatment effects to the actual interventions rather than medication effects. In addition, the level of therapist

training (predominately graduate students and clinical psychologists) is uncharacteristic of typical mental health agencies. Many studies reported that the participating therapists had received extensive training in the treatment interventions (often manualized). That more than half of the studies reported both significant mother and father participation is also noteworthy, and unlikely in a typical treatment setting. In conclusion, more effectiveness studies are needed that maintain methodological rigor while evaluating the implementation of treatment with more typical client samples.

*Moderator analysis for child to combined treatment comparison*

Several moderators were selected a priori based on previous meta-analytic findings to be potential predictors of effect size estimates: treatment orientation, mean age of subjects, type of outcome measure, methodological quality, difference in the number of treatment sessions between groups, and presenting problem. For the comparison of individual child treatments to combined parent-child treatments, only child orientation was identified as a marginally significant predictor of *d* when moderators were entered individually into a regression analysis. Therefore, of all moderator variables, child treatment orientation accounted for the most unique variance when no other variables were considered. This suggests that as an individual predictor, when compared to combined treatments, which were demonstrated to be most effective, cognitive-behavioral child treatments were closer in effectiveness to combined treatments, hence the smaller effect size, than non-cognitive behavioral treatments. However, once shared variance from the remaining moderators was considered as part of a stepwise regression, only methodological quality was identified as a marginally

significant predictor. This suggests that the unique variance once accounted for by child orientation was likely comprised of mostly shared variance with the remaining moderators.

When correlations between moderator variables were considered, child orientation was significantly associated with several other moderators, including combined treatment orientation, type of presenting problem, and mean difference in number of therapy sessions between child and combined treatments. Specifically, child orientation was significantly more likely to be cognitive-behavioral when combined treatment was also cognitive-behavioral, when presenting problems were internalizing, and the mean difference in number of treatment sessions was greater between child and combined treatments. That child orientation was significantly associated with internalizing disorders was an interesting finding of this study. This may have been in due in part to the prevalence of studies on Multisystemic Therapy (MST) for older subjects with externalizing disorders. MST includes a variety of treatment approaches, some that are considered cognitive-behavioral and others that are eclectic or interpersonal (Henggeler, Brondino, Melton, Scherer, & Hanley, 1997). However, the principal component of MST is based on systemic theories that were considered conceptually different than, and extend beyond other cognitive-behavioral treatments such as contingency management or social skills training, and were considered therefore more similar to eclectic therapies. Therefore, the five MST studies for youths with externalizing disorders were coded as an alternative orientation to cognitive-behavioral

treatments. Despite this, these results suggest that there is a growing trend of using cognitive-behavioral treatments for internalizing disorders.

The associations between child treatment orientation and combined orientation as well as the difference in the number of therapy sessions and treatment orientation are likely due to the format of the cognitive-behavioral child and combined treatments. Cognitive-behavioral treatments were significantly more likely to add a parenting component to an already independent individual child intervention in order to form a combined treatment. For example, often studies added a cognitive parenting intervention to the intervention that was already considered the individual child treatment group (e.g. social skills) to form the combined parent and child treatment group. Conversely, non-cognitive-behavioral treatments that targeted both children and parents were likely to have a different intervention for the combined treatment group (e.g. family therapy), with no overlap in interventions between the child only group to the combined group. Therefore, the combined cognitive-behavioral treatments were more likely to have up to twice the number of therapy sessions (e.g. those for the individual child treatment added to those for the parenting intervention) as child-only treatments.

The variables that were significantly associated with child therapy orientation in turn were significantly correlated with all other moderator variables. Most correlations were typically between .3 and .5. However two were above .6, indicating a rather strong relationship. First, when child treatment orientation was cognitive-behavioral, combined treatment orientation was significantly more likely to also be cognitive behavioral, as previously described above. Second, as mean age of the sample increased the average

difference in the number of treatment sessions between child and combined treatments decreased. As mentioned above, as the difference in the number of sessions between child and combined treatments decreases, treatments are more likely to be non-cognitive-behavioral. Non-cognitive-behavioral combined treatments are more likely to be unique treatments, such as MST, rather than a parenting component added to an already existing child intervention, which are also more likely to include adolescent samples. Conversely, results suggest that for younger children, combined treatments were more likely to be comprised of two separate interventions, a child and a parent component that resulted in a greater difference in the number of sessions between individual and combined treatment. This may be due to developmental factors: that younger children are less able to engage in more typical family therapy discussions and systems-oriented interventions. Although the variance inflation factor for the stepwise regression indicated limited multicollinearity, it is likely that the collective low to moderate correlations among the moderator variables were sufficient to lessen each variable's association to the effect size estimates.

*Moderator analysis for child to parent only treatment comparison*

When entered individually into a regression analysis, child orientation was again identified as the only predictor of d between parent only and child only treatments. When all moderator variables were entered into a stepwise regression, child orientation was identified as a primary predictor followed by type of presenting problem as an additional significant predictor. The weighted average effect size of studies that have child cognitive-behavioral treatments were lower than non-cognitive-behavioral child

treatments. The effect size estimates are measuring the added effects of a parent treatment above the effects of a child only treatment. Therefore the larger the effect size, the greater the effect of the parent only treatment and the lower the effect of child-only treatments. These results must be considered with great caution, however, given the small number of studies included in this analysis and nonsignificant overall treatment findings.

*Limitations to moderator analysis*

Several limitations to the moderator analyses were examined. Despite significant heterogeneity within the comparison of child to combined treatments, very few moderators were identified as significant predictors through regression analysis. It is possible there may be other potential moderator variables that were not considered a priori, such as level of therapist training, level of initial severity of presenting problem, culture/race, or outcome informant (although in this analysis there was not enough variability in outcome informants to conduct the analysis). More studies are needed that include culturally diverse samples so that culture may be examined as a potential treatment outcome moderator. In addition, the combination of a variety of treatments as non-cognitive-behavioral may have contributed to additional unknown variance. For example, as discussed above, MST was characterized as an eclectic combined treatment, but is characteristically different from treatments that included a more traditional type of individual therapy combined with parenting interventions. This comparison may have also contributed to the significant heterogeneity.

In addition, several moderator variables may have been limited by either unequal cell distribution or missing data. Mean age, for example, may have been limited by the

number of studies that contained both elementary and adolescent subjects. Results were also significantly limited by the small number of child only to parent only treatment comparisons and by the lack of variability in treatment orientation among parent-only interventions. Finally, contrary to hypothesized predictions, methodological quality was not significantly related to effect size. This may be due in part to the limited variance within the methodological variable.

*Limitations of study*

Several more generalized limitations must be considered when reviewing this study's findings. For example, missing data (particularly with unpublished studies) for such variables as mean age, number of treatment sessions, or information used to calculate methodological quality may have affected the moderator analysis. Thorough efforts (e.g. repeated email requests) were made to contact authors to obtain missing data, with a moderate amount of success. However, studies still missing data despite these efforts were more likely to be unpublished studies as the authors were difficult to locate, and were ultimately excluded from moderator analyses for the particular variable that was missing. Another limitation was the failure to identify significant predictors in stepwise regression despite heterogeneity. As mentioned above, variables that were not considered may have accounted for the variance. The limited number of studies that offered a comparison of child-only to parent only treatments and presence of heterogeneity also significantly restricted the conclusions that may have been drawn. In every meta-analysis, it is important to be aware that effect size estimates are subject to limitations in the sensitivities (e.g. measures of reliability and validity) of the outcome measures used,

which may differ significantly from study to study. Also, another significant limitation was the collapsing of outcome measures based on type of measure (specific vs. global). Treatment outcomes may also have differed by rater. However, cell sizes were too variable and many were too small to compare effect size by raters.

## Conclusion

The origins of psychological treatment of children began more than a century ago when psychoanalytic approaches and their supporting theories typically used for adults were adapted for use with children in the form of play therapy. Later, family-based interventions emerged as alternative therapeutic modalities when families were seen as both possible causes of behavioral and emotional problems among children and targets of treatment. Most recently, individual and family-based approaches to child psychotherapy have demonstrated empirical support as efficacious treatment strategies. However, clinicians are left without clear empirical evidence to guide decisions on how and to what extent to incorporate parents in the treatment of children.

By statistically pooling results of psychotherapy outcome studies through the meta-analytic methodology, this study intended to provide data that would help determine for what child and under what circumstances is including parent participation beneficial for child psychotherapy outcomes. Based on findings from 42 studies, results suggest that combining child and parent treatment interventions produces moderately better treatment outcomes. This finding was not a function of increased frequency or duration of treatment. Although there was a significant amount of variability that was not accounted for by sampling error alone, none of the hypothesized moderator variables were identified

as significant predictors of effect size. Conversely, there were no differences between individual child and parent-only treatments. The generalizability of these findings are limited by the lack of effectiveness studies and sample and therapist characteristics that are different from typical community mental health clinic referrals. It is intended that these results will represent an initial step in the direction of providing empirical support to assist clinicians in making decisions when incorporating parents in the treatment of children.

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Table 2

Summary of previous family therapy reviews

| Authors publication | Patient characteristics | Number of studies comparing family to individual therapy | N | Main findings | Main limitations |
|---|---|---|---|---|---|
| DeWitt (1978) | Mixed | 3 | 485 families | One of three studies comparing conjoint to nonconjoint therapy favors conjoint therapy | Small number of studies, small sample size, lack of information on family characteristics |
| Wells & Denzen (1978) | Mixed | 6 | N/A | Two out of six studies favor family therapy, remaining four studies suggest equivocal outcomes for family and individual treatments | Small sample size, single outcomes informant, single subject designs |

Table 2: continued.

| Authors publication year | Patient characteristics | Number of studies comparing family to individual therapy | N | Main findings | Main limitations |
|---|---|---|---|---|---|
| Masten (1979) | Mixed | 2 | 114 “cases” | No conclusions drawn | No control groups, objective outcome measure, statistics |
| Borduin, Henggeler, Hansen, & Harbin (1982) | Mixed | 3 | N/A | Nonbehavioral Family therapy was more effective than individual treatment | Poor descriptions of treatments/problems, overreliance on group |
| Ulrici (1983) | Juvenile delinquents | 2 | 293 “cases” | Family interventions reduced recidivism rates, court referrals, and successful home placements | Small sample sizes, lack of alternative treatment groups, poor descriptions of treatments and control groups |

Table 3

Summary of recent family therapy meta-analyses

| Authors and publication year | Characteristics of identified patient | Number of studies that compare family to individual therapy | Total number of study participants | Main findings | Main limitations |
|---|---|---|---|---|---|
| Hazelrigg et al. (1987) | Mixed | 7 | 240 | Family therapy improves family interaction and behavior ratings | Small sample sizes, heterogeneous variance, small number of studies |
| Markus et al. (1990) | Mixed | 15 | 1235 | Family therapy produces greater effects than alternative, minimal or no treatment controls | Heterogeneous variance for follow-up effect size, combines adult and child studies |

Table 3: continued.

| Authors and publication year | Characteristics of identified patient | Number of studies that compare family to individual therapy | Total number of study participants | Main findings | Main limitations |
|---|---|---|---|---|---|
| Shadish et al. (1993) | Mixed | 9 | N/A | Individual therapy produces greater effects than family therapy | Small number of studies |

Table 4

Studies included in meta-analytic review

| Study | Bibliography information | Source of study |
|---|---|---|
| 1 | Santisteban, D. A., Coatsworth, J. D., Perez-Vidal, A., Kurtines, W. M., Schwartz, S. J., LaPerriere, A., & Szapocznik, J. (2003). Efficacy of Brief Strategic Family Therapy in modifying Hispanic adolescent behavior problems and substance use. *Journal of Family Psychology, 17,* 121-133. | PsychInfo |
| 5 | Heyne, D., King, N. J., Tonge, B. J., Rollings, S., Young, D., Pritchard, M., & Ollendick, T. H. (2002). Evaluation of child therapy and caregiver training in the treatment of school refusal. *Journal of the American Academy of Child and Adolescent Psychiatry, 41¸687-695.* | PsychInfo |
| 15 | Barrett, P. M., Duffy, A. L., Dadds, M. R., & Rapee, R. M. (2001). Cognitive-behavioral treatment of anxiety disorders in children: Long-term (6-year) follow-up. *Journal of Consulting and Clinical Psychology, 69,* 135-141. | PsychInfo |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 18 | Azrin, N. H., Donohue, B., Teichner, G. A., Crum, T., Howell, J., & DeCato, L. A. (2001). A controlled evaluation and description of individual-cognitive problem solving and family-behavior therapies in dually-diagnosed conduct-disordered and substance-dependent youth. Journal of Child and Adolescent Substance Abuse, 11, 1-43. | PsychInfo |
| 21 | 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, 651-688. | PsychInfo |
| 37 | Barkley, R. A., Shelton, T. L., Crosswait, C., Moorehouse, M., Fletcher, K., Barrett, S., Jenkins, L., & Metevia, L. (2000). Multimethod psycho-educational intervention for preschool children with disruptive behavior: Preliminary results at post-treatment. Journal of Child Psychology and Psychiatry, 41, 319-332. | PsychInfo |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 43 | Henggeler, S. W., Rowland, M. D., Randall, J., Ward, D. M., Pickrel, S. G., Cunningham, P. B., Miller, S. L., Edwards, J., Zealberg, J. J., Hand, L. D., & Santos, A. B. (1999). Home-based Multisystemic Therapy as an alternative to the hospitalization of youths in psychiatric crisis: Clinical outcomes. Journal of the American Academy of Child and Adolescent Psychiatry, 38, 1331-1339. | PsychInfo |
| 44 | Barrett, P. M. (1998). Evaluation of cognitive-behavioral group treatments for childhood anxiety disorders. *Journal of Clinical Child Psychology, 27,* 459-468. | PsychInfo |
| 53 | Brent, D. A., Holder, D., Kolko, D., Birmaher, B., Baugher, M., Roth, C., Iyengar, S., & Johnson, B. A. (1997). A clinical psychotherapy trial for adolescent depression comparing cognitive, family, and supportive therapy. *Archives of General Psychiatry, 54,* 877-885. | PsychInfo |
| 54 | Pfiffner, L. J. & McBurnett, K. (1997). Social skills training with parent generalization: Treatment effects for children with Attention Deficit Disorder. *Journal of Consulting and Clinical Psychology, 65,* 749-757. | PsychInfo |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 77 | Borduin, C. M., Henggeler, S. W., Blaske, D. M., & Stein, R. J. (2001). Multisystemic treatment of adolescent sexual offenders. International Journal of Offender Therapy and Comparative Criminology, 105-113. | PsychInfo |
| 133 | Corby, E. A. & Russell, J. C. (1997). Substance abuse risk reduction: Verbal mediation training for children by parental and non-parental models. Substance Abuse, 18, 145-164. | PsychInfo |
| 135 | Schiltz-Day, S. (1997). The impact of enhancing a behavioral program for children with severe behavioral disorders by promoting parents' coherent life story. Dissertation Abstracts International Section A: Humanities and Social Sciences, 57. | PsychInfo |
| 139 | Henggeler, S. W., Melton, G. B., Brondino, M. J., Scherer, D. G., & Hanley, J. H. (1997). Multisystemic Therapy with violent and chronic juvenile offenders and their families: The role of treatment fidelity in successful dissemination. Journal of Consulting and Clinical Psychology, 65, 821-833. | PsychInfo |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 141 | Webster-Stratton, C. & Hammon, M. (1997). Treating children with early-onset conduct problems: A comparison of child and parent training interventions. *Journal of Consulting and Clinical Psychology, 65,* 93-109. | PsychInfo |
| 155 | Barrett, P. M., Dadds, M. R. & Rapee, R. M. (1996). Family treatment of childhood anxiety: A controlled trial. *Journal of Consulting and Clinical Psychology, 64,* 333-342. | PsychInfo |
| 172 | Borduin, C. M., Mann, B. J., Cone, L. T., Henggeler, S. W., Fucci, B. R., Blaske, D. M., & Williams, R. A. (1995). Multisystemic treatment of serious juvenile offenders: Long-term prevention of criminality and violence. *Journal of Consulting and Clinical Psychology, 63,* 569-578. | PsychInfo |
| 173 | Dishion, T. J. & Andrews, D. W. (1995). Preventing Escalation in problem behaviors with high-risk young adolescents: Immediate and 1-year outcomes. *Journal of Consulting and Clinical Psychology, 63,* 538-548. | PsychInfo |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 207 | Stolberg, A. L., & Mahler, J. (1994). Enhancing treatment gains in a school-based intervention for children of divorce through skill training, parental involvement, and transfer procedures. *Journal of Consulting and Clinical Psychology, 62,* 147-156. | PsychInfo |
| 224 | Eisenstadt, T. H., Eyberg, S., McNeil, C. B., Newcomb, K., & Funderbunk, B. (1993). Parent-Child Interaction Therapy with behavior problem children: Relative effectiveness of two stages and overall treatment outcome. *Journal of Clinical Child Psychology, 22,* 42-51. | PsychInfo |
| 246 | Joanning, H., Quinn, W., Thomas, F., & Mullen, R. (1992). Treating adolescent drug abuse: A comparison of family systems therapy, group therapy, and family drug education. *Journal of Marital and Family Therapy, 18,* 345-356. | PsychInfo |
| 263 | Krinsley, K. E. (1991). Behavioral family therapy for adolescent school problems: School performance effects and generalization to substance use. *Dissertation Abstracts International, 52*. | PsychInfo |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 278 | Hess, A. M. (1990). The effects of contingency contracting and parent training on the truant behavior and classroom performance of students with mild handicaps. *Dissertation Abstracts International, 51.* | PsychInfo |
| 282 | Horn, W. F., Ialongo, N., Greenberg, G., Packard, T., & Smith-Winberry, C. (1990). Additive effects of behavioral parent training and self-control therapy with Attention Deficit Hyperactivity Disordered Children. *Journal of Clinical Child Psychology, 19,* 98-110. | PsychInfo |
| 285 | Mann, B. J., Borduin, C. M., Henggeler, S. W., & Blaske, D. M. (1990). An investigation of systemic conceptualizations of parent-child coalitions and symptom change. *Journal of Consulting and Clinical Psychology, 58,* 336-344. | PsychInfo |
| 288 | Martin, J. A. (1989). The comparative effects of three treatment methods on adolescent runaway behavior. *Dissertation Abstracts International, 50.* | PsychInfo |
| 289 | Affrunti, D. J. (1989). Generalization of social skills training in children: Impact of parent education component. *Dissertation Abstracts International, 50.* | PsychInfo |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 296 | Szapocznik, J., Rio, A., Murray, E., Cohen, R. et al. (1989). Structural family versus psychodynamic child therapy for problematic Hispanic boys. *Journal of Consulting and Clinical Psychology, 57,* 571-578. | PsychInfo |
| 298 | Thomas, F. (1989). Therapy with substance abusing adolescents and their families: A comparison of three treatment conditions. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 49.* | PsychInfo |
| 323 | Miller, W. M. (1986). Play therapy and parent training: The effects of the "Systematic Training for Effective Parenting" Program on children in play therapy and their parents. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 47.* | PsychInfo |
| 337 | Horn, W. F., Ialongo, N., Popovich, S., & Peradotto, D. (1987). Behavioral parent training and cognitive-behavioral self-control therapy with ADD-H children: Comparative and combined effects. *Journal of Clinical Child Psychology, 16,* 57-68. | PsychInfo |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 346 | Szapocznik, J., Kurtines, W. M., Foote, F., Perez-Vidal, A., & Hervis, O. (1986). Conjoint versus one-person family therapy: Further evidence for the effectiveness of conducting family therapy through one person with drug-abusing adolescents. *Journal of Consulting and Clinical Psychology, 54,* 395-397. | PsychInfo |
| 350 | Moreno, R. (1985). The effects of strategic-family therapy and client-centered therapy on selected personality variables of juvenile delinquents. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 46.* | PsychInfo |
| 359 | Lewinsohn, P. M., Clarke, G. N., Hops, H., & Andrews, J. (1990). Cognitive-behavioral treatment for depressed adolescents. *Behavior Therapy, 21,* 385-401. | JCCP |
| 360 | Cobham, V. E., Dadds, M. R., & Spence, S. H. (1998). The role of parental anxiety in the treatment of childhood anxiety. *Journal of Consulting and Clinical Psychology, 66,* 893-905. | JCCP |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 362 | Ost, L. G., Svensson, L., Hellström, K., Lindwall, R. (2001). One-session treatment of specific phobias in youths: A randomized clinical trial. Journal of Consulting and Clinical Psychology, 69, 814-824. | JCCP |
| 363 | Metropolitan Area Child Study Research Group. (2002). A cognitive-ecological approach to preventing aggression in urban settings: Initial outcomes for high-risk children. Journal of Consulting and Clinical Psychology, 70, 179-194. | JCCP |
| 364 | Deblinger, E., Lippman, J., & Steer, R. (1996). Sexually abused children suffering posttraumatic stress symptoms: Initial treatment outcome findings. Child Maltreatment, 1, 310-321. | JCCP |
| 365 | Deblinger, E., Steer, R. A., & Lippman, J. (1999). Two-year follow-up study of cognitive behavioral therapy for sexually abused children suffering post-traumatic stress symptoms. *Child Abuse and Neglect, 23,* 1371-1378. | JCCP |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 366 | King, N. J., Tonge, B. J., Mullen, P., Myerson, N. Heyne, D., Rollings, S., Martin, R., & Ollendick, T. H. (2000). Treating sexually abused children with posttraumatic stress symptoms: A randomized clinical trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 39,* 1347-1354. | JCCP |
| 367 | Mendlowitz, S. L., Manassis, K., Bradley, S., Scapillato, D., Miezitis, S., & Shaw, B. F. (1999). Cognitive-behavioral group treatments in childhood anxiety disorders: The role of parental involvement. *Journal of the American Academy of Child and Adolescent Psychiatry, 38,* 1223-1228. | JCCP |
| 368 | Spence, S. H., Donovan, C., & Brechman-Toussaint, M. (2000). The treatment of childhood social phobia: The effectiveness of a social skills training-based, cognitive-behavioural intervention, with and without parental involvement. *Journal of Child Psychology and Psychiatry, 41,* 713-726. | JCCP |

Table 4: continued.

| Study | Bibliography information | Source of study |
|---|---|---|
| 370 | Reddy, L., Braunstein, D., Springer, C., Bartik, C., Hauch, Y., Hall, T., Benisz, B., & Gioia, L. (2002). Randomized trial of three child/parent training groups for ADHD children. *Paper presented at the Annual Conference of the American Psychological Association (110th, Chicago, IL, August 22-25, 2002)* | ERIC |
| 382 | Nauta, M. H., Scholing, A., Emmelkamp, P. M. G., Minderaa, R., B. (2003). Cognitive-behavioral therapy for children with anxiety disorders in a clinical setting: No additional effect of a cognitive parent training. *Journal of the American Academy of Child and Adolescent Psychiatry, 42,* 1270-1278. | Medline |

Table 5

Studies excluded from meta-analysis

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 2 | Nawaz, Griffiths, & Tappin (2002) | PsychInfo | parents participated in all treatment groups |
| 3 | Monastra, Monastra, & George (2002) | PsychInfo | no individual child treatment group |
| 4 | McKay, Harrison, et al. (2002) | PsychInfo | no usable outcome data |
| 6 | Kumpfer, Alvarado, Tait, & Turner (2002) | PsychInfo | not a clinical sample |
| 7 | Grunes, Neziroglu, & McKay (2001) | PsychInfo | sample included adults |
| 8 | Blumberg (2002) | PsychInfo | no usable outcome data |
| 9 | Froehlich, Doepfner, & Lehmkuhl (2002) | PsychInfo | parents participated in all treatments |
| 10 | Wolchick, Sandler, et al. (2002) | PsychInfo | only follow up data |
| 11 | Henggeler, Clingempeel, Brondino, & Pickrel (2002) | PsychInfo | same data as study 109 |
| 12 | Elliot, Prior, Merrigan, & Ballinger (2002) | PsychInfo | not a clinical sample |
| 13 | Waldron, Slesnick et al. (2001) | PsychInfo | no usable outcome data |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 14 | Chadwick, Momcilovic, et al. (2001) | PsychInfo | parents participated in all treatment groups |
| 15 | Barrett, Duffy, Dadds, & Rapee (2001) | PsychInfo | same data as 155 |
| 16 | Wilmshurst (2002) | PsychInfo | parents participated in all treatment groups |
| 17 | Becker, Yehia, Donatelli, & Ewerton (2002) | PsychInfo | not a treatment outcome study |
| 19 | Perkins-Dock (2001) | PsychInfo | no quantitative outcome data |
| 20 | Remschmidt, Mattejat (2001) | PsychInfo | no separate outcome data for trtmnt grps |
| 22 | Lenoir, Dingemans, et al. (2001) | PsychInfo | sample included adults |
| 23 | Luk, Staiger, et al. (2001) | PsychInfo | no usable outcome data |
| 24 | Stein, Brent, et al. (2001) | PsychInfo | same data as 53 |
| 25 | Dembo, Shemwell, et al. (2000) | PsychInfo | both treatments are family based |
| 26 | Schoenwald, Ward, et al. (2000) | PsychInfo | already included as 43 |
| 27 | Dembo, Seeberger, et al. (2000) | PsychInfo | both treatments are family based |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 28 | Dembo, Ramirez-Garnica, et al. (2000) | PsychInfo | both treatments are family based |
| 29 | Dembo, Ramirez-Garnica et al. (2000) | PsychInfo | both treatments are family based |
| 30 | Lee & Gaucher (2000) | PsychInfo | no alternative treatment group |
| 31 | Pepler, Catallo, & Moore (2000) | PsychInfo | mothers treatment was not child focused |
| 32 | Wysocki, Harris, et al. (2000) | PsychInfo | no individual treatment group |
| 33 | Birmaher, Brent, et al. (2000) | PsychInfo | follow up data collapsed across trtmt grps |
| 34 | Smith, Groen, & Wynn (2000) | PsychInfo | parents participated in all treatment groups |
| 35 | Wysocki, Greco, Harris, & White (2000) | PsychInfo | book with no original outcome data |
| 36 | Kolko, Brent, et al. (2000) | PsychInfo | same data as 53 |
| 38 | Shelton, Barkley, et al. (2000) | PsychInfo | outcome data collapsed across groups |
| 39 | Grosz, Kempe, & Kelly (2000) | PsychInfo | no quantitative outcome data |
| 40 | Robin, Siegel et al. (1999) | PsychInfo | parent participation in all treatment groups |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 41 | Painter, Cook, & Silverman (1999) | PsychInfo | no usable outcome data |
| 42 | Brent, Kolko, et al. (1999) | PsychInfo | same data as 53 |
| 45 | Bickman, Heflinger, et al. (1998) | PsychInfo | only follow up data |
| 46 | Renaud, Brent, et al. (1998) | PsychInfo | same data as 53 |
| 47 | Brent, Kolko, et al. (1998) | PsychInfo | same data as 53 |
| 48 | Luk, Staiger, et al. (1998) | PsychInfo | no individual treatment group |
| 49 | Hogue, Liddle, et al. (1998) | PsychInfo | no usable outcome data |
| 50 | Nutger, Dingemans, et al. (1997) | PsychInfo | sample included adults |
| 51 | Eisler, Dare, et al. (1997) | PsychInfo | follow up data only, orig study excluded |
| 52 | Shapiro, Welker, & Jacobson (1997) | PsychInfo | treatment modalities not independent |
| 55 | King, Hovey, Brand, & Wilson (1997) | PsychInfo | treatment modalities not independent |
| 56 | Danforth (2001) | PsychInfo | all subjects received both treatments |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 57 | Tutty, Gephart, & Wurzbacher (2003) | PsychInfo | all subjects received both treatments |
| 58 | Kearney (2001) | PsychInfo | not original outcome study |
| 59 | Lock & Litt (2003) | PsychInfo | no description of types of treatment |
| 60 | Gaynor, Weersing, et al. (2003) | PsychInfo | same data as 53 |
| 61 | Drew, Baird, et al. (2002) | PsychInfo | parents participated in all treatments |
| 62 | Ducharme, Spencer, Davidson, & Rushford (2002) | PsychInfo | no alternative treatment group |
| 63 | Sweeney & Skurja (2001) | PsychInfo | not original outcome study |
| 64 | Riggs & Davies (2002) | PsychInfo | not original outcome study |
| 65 | Bushaw (2002)* | PsychInfo | all participants could receive all treatments |
| 66 | Bowers (2002)* | PsychInfo | less than five subjects |
| 67 | Ondersma, Ondersma, & Walker (2001) | PsychInfo | not original outcome study |
| 68 | Jouriles, McDonald, et al. (2001) | PsychInfo | no description of alternative treatment |

* denotes dissertation

Table 5: continued:

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 69 | Goldbeck & Babka (2001) | PsychInfo | all subjects received both treatments |
| 70 | Spoth, Redmond, & Shin (2001) | PsychInfo | parents participated in all treatments |
| 71 | Evans, Boothroyd, et al. (2001) | PsychInfo | parents participated in all treatments |
| 72 | Adams (2001) | PsychInfo | no description of types of treatment |
| 73 | Bowers (2002) | PsychInfo | no outcome data |
| 74 | Wallin & Kronvall (2002) | PsychInfo | unable to locate study |
| 75 | Behan, Fitzpatrick, Sharry, Carr, & Waldron (2001) | PsychInfo | poor description of alternative treatment |
| 76 | Schrepferman & Snyder (2002) | PsychInfo | parents participated in all treatments |
| 78 | Hsieh, Hoffman, & Hollister (1998) | PsychInfo | outcome measures not standardized |
| 79 | Rapee (2000) | PsychInfo | no alternative treatment group |
| 80 | Bickman, Andrade, & Lambert (2002) | PsychInfo | no specific treatments identified |
| 81 | Hutchings, Appleton, Smith, Lane, & Nash (2002) | PsychInfo | parents participated in all treatments |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 83 | Gowers, Weetman, Shore, Hossain, & Elvins (2000) | PsychInfo | not enough information |
| 84 | Jaffa, Honig, Farmer, & Dilley (2002) | PsychInfo | no outcome data |
| 85 | Tolan, Hanish, McKay, & Dickey (2002) | PsychInfo | parents participated in all treatments |
| 86 | Southam-Gerow, Kendall, & Weersing (2001) | PsychInfo | no usable outcome data |
| 87 | Webster-Stratton, Reid, & Hammond (2001) | PsychInfo | no individual treatment group |
| 88 | Connolly, Sharry, & Fitzpatrick (2001) | PsychInfo | no individual treatment group |
| 89 | Harris, Grecco, Wysocki, & White (2001) | PsychInfo | parents participated in all treatments |
| 90 | Coatsworth, Santisteban, et al. (2001) | PsychInfo | parents participated in all treatments |
| 91 | Spooner, Mattick, & Noffs (2001) | PsychInfo | no description of alternative treatment |
| 92 | Brent, Birmaher, et al. (2001) | PsychInfo | same data as 53 |
| 94 | Stein, Brent, et al. (2001) | PsychInfo | same data as 53 |
| 95 | Stone, Clark, & McKenry (2000) | PsychInfo | no quantitative data |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 96 | Harrington, Peters, et al. (2000) | PsychInfo | parents participated in all treatments |
| 97 | Stone (2000)* | PsychInfo | no random assignment, sig. group diffs. |
| 98 | Murray (2000)* | PsychInfo | only one treatment group: combined |
| 99 | Nazar-Biesman (2000)* | PsychInfo | not original outcome |
| 100 | Driskill (2000) | PsychInfo | parents participate in all treatments |
| 101 | Newman (2000)* | PsychInfo | parents may have participated in all groups |
| 102 | Wells, Pelham, et al. (2000) | PsychInfo | all subjects received all treatments |
| 103 | Huey, Henggeler, Brondino, & Pickrel (2000) | PsychInfo | poor description of alternative treatment |
| 104 | Hulse & Basso (2000) | PsychInfo | all groups had access to individual and family therapy |
| 105 | Stoolmiller, Eddy, & Reid (2000) | PsychInfo | no alternative treatment group |
| 106 | Cohen, Muir, et al. (2000) | PsychInfo | parents participated in all treatment groups |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 107 | Wolchick, West, et al. (2000) | PsychInfo | no individual child therapy group |
| 108 | Fagan & Iglesias | PsychInfo | no individual child therapy group |
| 109 | Cunningham, Henggeler, Brondino, & Pickrel (1999) | PsychInfo | no usable outcome data |
| 110 | Ghosh-Ippen (1999)* | PsychInfo | nonclinical sample, does not meet criteria |
| 111 | Cancio (1999) | PsychInfo | parents participated in all treatment |
| 112 | Ball (1999) | PsychInfo | sample included adults |
| 113 | Silverman, Kurtines, et al. (1999) | PsychInfo | parents participated in all treatment groups |
| 114 | McKay, Gonzales, et al. (1999) | PsychInfo | parents participated in all treatment groups |
| 115 | Lock & Giammona (1999) | PsychInfo | all subjects received both treatments |
| 116 | Stage (1999) | PsychInfo | individual and family-based not separated |
| 117 | Nicolson & Sanders (1999) | PsychInfo | parents participated in all treatment groups |
| 118 | Byrnes, Hansen, et al. (1999) | PsychInfo | treatment modalities not independent |

*denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 119 | Dembo, Shemwell, et al. (1998) | PsychInfo | parents participated in all treatment groups |
| 120 | Finch (1998)* | PsychInfo | no rndm assignment, self-made measure |
| 121 | Aeby (1998)* | PsychInfo | quasi-experimental design |
| 122 | Ward (1998)* | PsychInfo | no alternative treatment group |
| 123 | Webster-Stratton (1998) | PsychInfo | no individual treatment group |
| 124 | Silver, Williams, Worthington, & Phillips (1998) | PsychInfo | parents participated in all treatment groups |
| 125 | Handwerk, Friman, Mott, & Stairs (1998) | PsychInfo | no post-test outcome data |
| 126 | Taylor, Schmidt, Pepler, & Hodgins (1998) | PsychInfo | no description of alternative treatment |
| 127 | Tucker, Gross, et al. (1998) | PsychInfo | no alternative treatment group |
| 128 | Rosen (1998) | PsychInfo | no empirical data |
| 129 | Harrington, Kerfoot, et al. (1998) | PsychInfo | parents participated in all treatment groups |
| 130 | Rey, Denshire, Wever, & Apollonov (1998) | PsychInfo | no description of comparison group |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 131 | Spoth, Redmond, & Shin (1998) | PsychInfo | all treatments were family-based |
| 132 | Snow, Kern, & Penick | PsychInfo | parents participated in all treatment groups |
| 136 | Hoving-Calloway (1997) | PsychInfo | quasi-experimental design, one trtmt grp |
| 137 | Hogarty, Greenwald, et al. (1997) | PsychInfo | sample included adults |
| 138 | Heflinger, Bickman, Northup, & Sonnichsen (1997) | PsychInfo | no description of control group |
| 140 | Frankel, Myatt, Cantwell, & Feinberg (1997) | PsychInfo | all subjects received both treatments |
| 142 | Bolton, Luckie, & Steinberg | PsychInfo | treatment modalities not independent |
| 143 | Cervenka, Dembo, & Brown (1996) | PsychInfo | no description of alternative treatment |
| 145 | Albano & Barlow (1996) | PsychInfo | no significant parent treatment component |
| 146 | Pollock (1996)* | PsychInfo | no individual child therapy group |
| 147 | Anderson (1996)* | PsychInfo | no individual child therapy group |
| 148 | Lehtinen, Aaltonen, et al. (1996) | PsychInfo | no alternative treatment |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 149 | vanFurth, van Strien, et al. (1996) | PsychInfo | no individual child therapy group |
| 150 | Hagan & Cho (1996) | PsychInfo | outcome data combined across groups |
| 151 | Evans, Armstrong, & Kuppinger (1996) | PsychInfo | no individual treatment group |
| 152 | Santisteban, Szapocznik, et al. (1996) | PsychInfo | no usable outcome data |
| 153 | Serketich & Dumas (1996) | PsychInfo | printed to find other original studies |
| 154 | Sheridan, Dee, et al. (1996) | PsychInfo | all groups received all treatments |
| 156 | Henggeler, Pickrel, Brondino, & Crouch (1996) | PsychInfo | same data as 172 |
| 157 | Pommier & Witt (1995) | PsychInfo | no alternative treatment group |
| 158 | Cramer (1995) | PsychInfo | no independent parent intervention |
| 159 | Friedman, Terras, & Kreisher (1995) | PsychInfo | outcome data combined across groups |
| 160 | Hyde, Bentovim, & Monck (1995) | PsychInfo | parents participated in all treatment groups |
| 161 | Fernandez, Turon, et al. (1995) | PsychInfo | age not included in description of subjects |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 163 | Rohrbach, Hodgson, et al. (1995) | PsychInfo | no individual child therapy group |
| 164 | Scharff (1995)* | PsychInfo | not a clinical sample |
| 165 | Roye & Balk (1996) | PsychInfo | no quantitative data |
| 166 | Nelson (1995)* | PsychInfo | meta-analysis to find other studies |
| 167 | Welch (1995)* | PsychInfo | outcome data unusable, not enough info |
| 168 | Palmer (1995)* | PsychInfo | same data as 21 |
| 169 | Pommier (1995)* | PsychInfo | same as 157 |
| 170 | Middleton (1995)* | PsychInfo | parent and child interventions combined |
| 171 | Gillham (1995)* | PsychInfo | no alternative treatment group |
| 174 | Eiserman, Weber, & McCoun (1995)* | PsychInfo | alternate treatment was not psychological |
| 175 | Robin, Siegel, & Moye (1995) | PsychInfo | parents participated in all treatment groups |
| 176 | Clarke, Hawkins, et al. (1995) | PsychInfo | poor description of comparison group |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 177 | Gordon, Graves, & Arbuthnot (1995) | PsychInfo | no individual treatment group |
| 178 | O'Donnell, Hawkins, et al. (1995) | PsychInfo | parent and child treatments combined |
| 179 | Wright (1994)* | PsychInfo | no alternate treatment, nonclinical sample |
| 180 | Arthur-Wong (1994)* | PsychInfo | case study |
| 181 | Kellner (1994)* | PsychInfo | only one treatment group |
| 182 | Bolger (1994)* | PsychInfo | no individual treatment group |
| 183 | Sentell (1994)* | PsychInfo | no individual treatment group |
| 184 | Smith (1994)* | PsychInfo | no individual treatment group |
| 185 | Crawford (1994)* | PsychInfo | no individual treatment group |
| 186 | Grossman (1994)* | PsychInfo | no parenting intervention |
| 187 | Billingham (1994)* | PsychInfo | no individual treatment |
| 188 | Schreiner (1994) | PsychInfo | no experimental design |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 189 | Paulson (1994)* | PsychInfo | no description of alternative treatment |
| 190 | Orem (1994)* | PsychInfo | no parenting intervention |
| 191 | McIntosh (1994)* | PsychInfo | same data as 296 |
| 192 | Dohrn (1994)* | PsychInfo | no individual treatment group |
| 193 | Scherer, Brondino, et al. (1994)* | PsychInfo | no description of alternate treatment group |
| 194 | Evans, Armstrong, et al. (1994) | PsychInfo | parents participated in all treatment groups |
| 195 | Barton, Baglio, & Braverman (1994) | PsychInfo | no description of alternate treatment |
| 196 | Collingwood, Sunderlin, Kohl (1994) | PsychInfo | all groups received all treatments |
| 197 | Miller (1994) | PsychInfo | no outcome data |
| 198 | Henggeler, Schoenwald, et al. (1994) | PsychInfo | no outcome data |
| 199 | Epstein, Valoski, et al. (1994) | PsychInfo | same data as 281 |
| 200 | Rollin, Rubin, et al. (1994) | PsychInfo | no alternative treatment group |

*denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 201 | Carr, McDonnell, & Owen | PsychInfo | no usable outcome data |
| 202 | Minor & Elrod (1994) | PsychInfo | no individual treatment group |
| 203 | Gettinger, Doll, & Salmon (1994) | PsychInfo | no rndm assignment, self-made measures |
| 204 | Kahle & Kelley | PsychInfo | parents participated in all treatment groups |
| 205 | Sanders, Shepherd, et al. (1994) | PsychInfo | no individual treatment group |
| 206 | Gowers, Norton, Halek, & Crisp (1994) | PsychInfo | only one combined treatment group |
| 208 | George (1993)* | PsychInfo | only one treatment group |
| 209 | Rubert (1993)* | PsychInfo | case studies |
| 210 | Powell-Smith (1993)* | PsychInfo | no clinical outcomes, nonclinical sample |
| 211 | Powell-Smith (1993)* | PsychInfo | same as 210 |
| 212 | Doering (1993)* | PsychInfo | nonclinical sample, no alternative trtmt |
| 213 | Doering (1993)* | PsychInfo | same as 212 |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 214 | Glazier-Robinson (1993)* | PsychInfo | only one treatment group |
| 215 | Otten (1993)* | PsychInfo | no individual treatment group |
| 216 | Taverne (1993)* | PsychInfo | no individual treatment group |
| 217 | Feldman (1993)* | PsychInfo | not available for review |
| 218 | Umble (1993)* | PsychInfo | not available for review |
| 219 | Walker (1993)* | PsychInfo | no individual treatment group |
| 220 | Wood & Davidson (1993) | PsychInfo | all subjects received both treatments |
| 221 | Carlo (1993) | PsychInfo | parents participated in all treatment groups |
| 222 | Eisler (1993) | PsychInfo | no direct comparison of family and ind trtmt |
| 223 | Leonard, Swedo, et al. (1993) | PsychInfo | outcome data combined across trtmt groups |
| 225 | Jason, Kurasaki, Neuson, & Garcia (1993) | PsychInfo | nonclinical sample |
| 226 | Tissue & Korz (1993) | PsychInfo | sample included adults |

*denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 227 | Nugent, Carpenter, & Parks (1993) | PsychInfo | treatment modalities not independent |
| 228 | Ialongo, Horn, et al. (1993) | PsychInfo | no direct comparison of ind and family trtmt |
| 229 | Hanson (1993) | PsychInfo | outcome measures not standardized |
| 230 | Russell, Dare, et al. (1993) | PsychInfo | no age of sample, likely included adults |
| 240 | Hazlett (1992)* | PsychInfo | no random assignment, no usable data |
| 241 | Sosna (1992)* | PsychInfo | no individual child treatment group |
| 242 | Maguin (1992)* | PsychInfo | no individual child treatment group |
| 243 | Taylor (1992)* | PsychInfo | no individual child treatment group |
| 244 | Eiserman, Weber, McCoun (1992) | PsychInfo | nonclinical sample |
| 245 | Henggeler, Melton, & Smith (1992) | PsychInfo | no individual treatment group |
| 247 | Elrod & Minor (1992) | PsychInfo | no individual treatment group |
| 248 | Kazdin, Siegel, & Bass (1992) | PsychInfo | parents participated in all treatment groups |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 249 | Zarski & Fluharty (1992) | PsychInfo | all treatments included family participation |
| 250 | Tremblay,Vitaro, et al. (1992) | PsychInfo | same as 144 |
| 251 | Mee (1992)* | PsychInfo | no individual child treatment group |
| 252 | Moore (1992)* | PsychInfo | no individual child treatment group |
| 253 | Silvis (1992)* | PsychInfo | no random assignment, no usable data |
| 254 | Pendergast (1992)* | PsychInfo | no usable outcome data, no sd's |
| 255 | Tonkins (1992)* | PsychInfo | only one treatment group |
| 256 | Beames, Sanders, & Bor (1992) | PsychInfo | only 2 subjects |
| 257 | Snow (1992) | PsychInfo | individual therapy offered to parents |
| 258 | Westover (1991)* | PsychInfo | no individual child treatment group |
| 259 | Eisenhauer (1991)* | PsychInfo | only 3 subjects |
| 260 | Dupper (1991)* | PsychInfo | no parent treatment group |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 261 | Cain (1991)* | PsychInfo | nonclinical sample |
| 262 | Kiesel (1991)* | PsychInfo | no alternative treatment, $N = 4$ |
| 264 | Crisp, Norton, et al. (1991) | PsychInfo | all subjects received all treatments |
| 265 | Manor (1991) | PsychInfo | outcome data combined across groups |
| 266 | Simpson (1991) | PsychInfo | only combined parent and child treatment |
| 267 | Clark (1991)* | PsychInfo | no individual treatment group |
| 268 | Wilbanks (1991)* | PsychInfo | no individual child treatment group |
| 269 | Eisenstadt (1991)* | PsychInfo | same as 224 |
| 270 | Bishop (1991)* | PsychInfo | parents participated in all treatments |
| 271 | Sykes, Kenney, & Kilpatrick (1991) | PsychInfo | no empirical outcome data |
| 272 | Magwaza & Edwards (1991) | PsychInfo | only parent training intervention group |
| 273 | Horn, Ialongo, et al. (1991) | PsychInfo | no comparison of ind and family trtmt |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 274 | Bank, Marlowe, et al. (1991) | PsychInfo | parents participated in all treatment groups |
| 275 | Oliver, Lightfoot, Searight, & Katz (1991) | PsychInfo | no usable outcome data |
| 276 | Krener & Miller (1990) | PsychInfo | only case studies |
| 277 | Forman, Linney, & Brondino (1990) | PsychInfo | no usable outcome data |
| 279 | Presser (1990)* | PsychInfo | author replied: does not meet criteria |
| 280 | Eiserman, McCoun, & Escobar (1990) | PsychInfo | no psychological outcomes |
| 281 | Epstein, McCurley, et al. (1990) | PsychInfo | no psychological outcomes |
| 283 | Yano (1990)* | PsychInfo | no individual child treatment group |
| 284 | Collier (1990)* | PsychInfo | no individual child treatment group |
| 286 | Rosenthal & Glass (1990) | PsychInfo | parents participated in all treatment groups |
| 287 | Simons & Robertson (1989) | PsychInfo | outcome measures not standardized |
| 290 | Fox (189)* | PsychInfo | N = 3, only parenting intervention |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 291 | Virtanen & Keinaenen (1989) | PsychInfo | case study, no quantitative outcome data |
| 292 | Nicholson (1989) | PsychInfo | treatment modalities not independent |
| 293 | Humes & Clark (1989) | PsychInfo | no pretest data available, nonclinical sample |
| 294 | Kelley, Kelley, & Williams (1989) | PsychInfo | no usable outcome data |
| 295 | Carlo & Shennum (1989) | PsychInfo | parents participated in all treatment groups |
| 297 | Timmons (1989)* | PsychInfo | both groups included family therapy |
| 299 | Diekroger (1989)* | PsychInfo | nonclinical sample |
| 300 | Feldman (1989) | PsychInfo | journal not available for review |
| 301 | Jackson & Beers (1988) | PsychInfo | journal not available for review |
| 302 | Yost (1988)* | PsychInfo | all subjects received family therapy |
| 303 | Serna (1988)* | PsychInfo | no usable outcme data, self-made measures |
| 304 | Dishion, Reid, & Patterson (1988) | PsychInfo | no original outcome data |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 305 | Hughes & Wilson (1988) | PsychInfo | no individual child treatment group |
| 306 | Gordon, Arbuthnot, et al. (1988) | PsychInfo | no individual child treatment group |
| 307 | Ney, Adam, Hanton, & Brindad (1988) | PsychInfo | outcome data combined across groups |
| 308 | Tarrier, Barrowclough, et al. (1988) | PsychInfo | adults included in the sample |
| 309 | LeGoff, Leichner, & Spigelman (1988) | PsychInfo | no psychological outcome measures |
| 310 | Nicol, Smith, et al. (1988) | PsychInfo | missing significant demographic data |
| 311 | Oliver, Searight, & Lightfoot (1988) | PsychInfo | no rndm assgnmnt, no usable outcome data |
| 312 | Oliver, Searight, & Lightfoot (1988) | PsychInfo | same as 311 |
| 313 | Wood, Barton, & Schroeder (1988) | PsychInfo | no description of alternative treatment |
| 314 | Graves, Meyers, & Clark (1988) | PsychInfo | parents participated in all treatment groups |
| 315 | Haas, Glick, et al. (1988) | PsychInfo | adults included in sample |
| 316 | Eckert, Halmi, Marchi, & Cohen (1988) | PsychInfo | no description of alternative treatment |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 317 | Lutzker & Rice (1988) | PsychInfo | no individual child treatment group |
| 318 | Hartman (1987) | PsychInfo | no quantitative data |
| 319 | Hall (1987) | PsychInfo | journal not available for review |
| 320 | Saltzer (1987)* | PsychInfo | nonclinical sample |
| 321 | Habrel (1987)* | PsychInfo | no random assignment, self-made measures |
| 322 | Anesko (1987) | PsychInfo | no individual child treatment group |
| 324 | del Valle (1987)* | PsychInfo | no individual child treatment group |
| 325 | Dimitriou & Didangelos (1987) | PsychInfo | no usable outcome data |
| 326 | Hall & Crisp (1987) | PsychInfo | parents participated in all treatment groups |
| 327 | Schamess (1987) | PsychInfo | journal not available for review |
| 328 | Henry (1987) | PsychInfo | within subject design |
| 329 | Weidman (1987) | PsychInfo | parents participated in all treatment groups |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 330 | Omizo & Omizo | PsychInfo | journal not available for review |
| 331 | Kazdin, Esveldt-Dawson, et al. (1987) | PsychInfo | parents participated in all treatment groups |
| 332 | Smets & Cebula (1987) | PsychInfo | not an original outcome study |
| 333 | Szykula, Morris, et al. (1987) | PsychInfo | both treatments included family therapy |
| 334 | Glass (1987)* | PsychInfo | no individual child treatment group |
| 335 | Olson & Roberts (1987) | PsychInfo | all subjects participated in all treatments |
| 336 | Epstein, Nudelman, & Wing (1987) | PsychInfo | results for nonparticipating siblings only |
| 338 | Epstein, Wing, Koeske, & Valoski (1987) | PsychInfo | no psychological outcome measures |
| 339 | Cebollero, Cruise, & Stollak (1986) | PsychInfo | no quantitative outcome data |
| 340 | Menon, Evans, & Madden (1986) | PsychInfo | sample included adults |
| 341 | Serna, Schumaker, et al. (1986) | PsychInfo | unusable outcome data |
| 342 | Henry (1986)* | PsychInfo | within subject design |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 343 | Padovani (1986)* | PsychInfo | no individual child treatment group |
| 344 | Padovani (1986)* | PsychInfo | same as 343 |
| 345 | Hogarty et al. (1986) | PsychInfo | adults included in sample |
| 347 | Henggeler et al. (1986) | PsychInfo | alternative treatment incl family therapy |
| 348 | Nicholson & Vivekananda (1985) | PsychInfo | data included all treatment groups combined |
| 349 | Naifeh (1985) | PsychInfo | not available for review |
| 351 | Alanen et al. (1985) | PsychInfo | journal not available for review |
| 352 | Weingarten et al. (1985) | PsychInfo | no psychological outcome measures |
| 353 | Howard (1985) | PsychInfo | all subjects received all treatments |
| 354 | Barton et al. (1985) | PsychInfo | no individual child treatment group |
| 355 | Glick et al. (1985) | PsychInfo | data included all treatment groups combined |
| 356 | Allen (1985)* | PsychInfo | no individual child treatment group |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 357 | Houts, Berman, & Abramson (1994) | JCCP | no original outcome data |
| 358 | Rohde, Lewinsohn, & Seeley (1994) | JCCP | no n's reported per group, data unusable |
| 361 | Epstein, Paluch, et al. (2000) | JCCP | not a clinical sample |
| 369 | Davidson, Redner, et al. (1987). | Weisz et al. 1995 | treatment groups unclear who participated |
| 371 | Adams (2001) | ERIC | poor description of treatment groups |
| 372 | Smith, Groen, Wynn (2000) | ERIC | only post-treatment data |
| 373 | Handwerk, Friman, Mott, & Stairs (1998) | ERIC | pre-treatment groups not the same |
| 374 | Kolko (1996) | ERIC | no individual child treatment group |
| 375 | Eiserman, et al. (1995) | ERIC | no individual child treatment group |
| 376 | Barton (1994) | ERIC | no description of alternate treatment group |
| 377 | Boyce, et al. (1993) | ERIC | not a clinical sample |
| 378 | Eiserman et al. (1992) | ERIC | same as 375 |

* denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 379 | Mason, Kosterman, et al. (2003) | Medline | no individual child treatment group |
| 380 | Scaramella, Conger, et al. (2002) | Medline | not a clinical psychotherapy trial |
| 381 | Latimer, Winters, et al. (2003) | Medline | only post-treatment data |
| 383 | Myeroff & Mertlich (1999) | Medline | no individual child treatment group |
| 384 | Catalano, Gainey, et al. (1999) | Medline | no individual child treatment group |
| 385 | Fennell & Fishel (1998) | Medline | no individual child treatment group |
| 386 | Capaldi, Chamberlain, et al. (1997) | Medline | no description of treatment groups |
| 387 | Azrin, Acierno, et al. (1996) | Medline | sample included adults |
| 388 | Dishion, Poulin, Burraston (2001) | Medline | no parent participation |
| 389 | Foster, Prinz, & O'Leary (1983) | Hazelrigg (1987) | family participation in all treatment groups |
| 390 | Parsons & Alexander (1973) | Hazelrigg (1987) | no standardized outcome measures |
| 391 | Christensen, Johnson, et al. (1980) | Hazelrigg (1987) | parents participated in all groups |

*denotes dissertation

Table 5: continued.

| Study number | Authors and publication year | Source | Reason for exclusion |
|---|---|---|---|
| 392 | Stuart, Jayaratne, & Tripodi (1976) | Hazelrigg et al. (1987) | alternative therapy group actually no treatment control group (observation only) |
| 393 | Ro-Trock, Wellisch, & Schoolar (1977) | Hazelrigg et al. (1987) | sample included adults |
| 394 | Klein, Alexander, & Parsons (1977) | Hazelrigg et al. (1987) | no standardized post-treatment outcome measures |
| 395 | Johnson & Maloney (1977) | Hazelrigg et al. (1987) | parents participated in individual treatment |
| 396 | Foster, Prinz, & O'Leary (1983) | Hazelrigg et al. (1987) | family participation in all treatment groups |
| 397 | Parsons & Alexander (1973) | Hazelrigg et al. (1987) | no standardized outcome measures |
| 398 | Christensen, Johnson, Phillips, & Glasgow (1980) | Hazelrigg et al. (1987) | parents participated in all groups |

* denotes dissertation

Table 6

Reliability analysis

| Independent Variables | Kappa/Correlation statistics |
|---|---|
| Child therapist training | 1.00 |
| Combined therapist training | 1.00 |
| Parent only therapist training | 1.00 |
| Child treatment orientation | 1.00 |
| Combined treatment orientation | 1.00 |
| Parent treatment orientation | N/A no variability |
| Treatment group comparisons | 1.00 |
| Methodological quality | .74* |
| Presenting problem | 1.00 |
| Mean sample age | .98* |
| Child treatment duration (in weeks) | .96* |
| Child therapy sessions | 1.00 |
| Combined treatment duration (in weeks) | .98* |
| Combined therapy sessions | 1.00 |
| Parent treatment duration (in weeks) | 1.00 |
| Parent therapy sessions | 1.00 |

Table 7

Descriptive variables across studies

| | |
|---|---|
| Subjects | 4,189 |
| Mean age | 11.66 |
| Percentage male subjects | 64.14 |
| Age range (percentage) | |
| Preschool | 9.5 |
| Elementary School | 26.2 |
| Adolescent | 38.1 |
| Combined Elementary School and Adolescent | 26.2 |
| Child only vs. parent-only treatment | 1 |
| Child only vs. combined treatment | 34 |
| Child only vs. parent only vs. combined treatment | 7 |
| Child therapy orientation (percentage) | |
| Cognitive-behavioral | 69.0 |
| Eclectic | 16.7 |
| Client-centered/dynamic | 11.9 |
| Systemic | 2.4 |
| Combined therapy orientation | |
| Cognitive-behavioral | 63.4 |
| Eclectic | 4.9 |

Table 7: continued.

| | |
|---|---|
| Client-centered/dynamic | 2.4 |
| Systemic | 29.3 |
| Parent-only therapy orientation | |
| Cognitive-behavioral | 100 |
| Mean treatment duration (number of sessions/weeks) | |
| Child-only | 17/14.7 |
| Combined | 21.9/13.8 |
| Parent-only | 11.5/14.7 |
| Treatment setting (percentage) | |
| Outpatient mental health clinic | 85.7 |
| Inpatient mental health setting | 2.4 |
| School | 11.9 |
| Mean percentage of Caucasian subjects | 65.3 |
| Mean percentage of African American subjects | 21 |
| Mean percentage of Other subjects | 26 |
| Type of presenting problem (percentage) | |
| Externalizing | 57.1 |
| Internalizing | 23.8 |
| Abuse | 4.8 |
| Other | 7.1 |

Table 7: continued.

| | |
|---|---|
| Both internalizing and externalizing | 7.1 |
| Level of child therapist training (percentage) | |
| Clinical Psychologist | 22.5 |
| Psychology graduate student/psychiatry resident | 35 |
| Master's level mental health professional | 20 |
| Teacher | 7.5 |
| Multiple | 7.5 |
| Level of combined therapist training (percentage) | |
| Clinical Psychologist | 31.6 |
| Psychology graduate student/psychiatry resident | 34.2 |
| Master's level mental health professional | 15.8 |
| Multiple | 10.5 |
| Level of parent therapist training (percentage) | |
| Clinical Psychologist | 28.6 |
| Graduate student | 42.9 |
| Master's level mental health professional | 28.6 |

Table 8

Effect size estimates per study (child only to combined treatments)

| Study number | N | Age range | Presenting problem | Child/combined orientation | Effect size |
|---|---|---|---|---|---|
| 1 | 85 | adolescent | externalizing | cbt/systemic | .25995 |
| 5 | 61 | combined | internalizing | cbt/cbt | .76691 |
| 18 | 56 | adolescent | externalizing | cbt/cbt | .29279 |
| 21 | 61 | adolescent | externalizing | cbt/cbt | -.08848 |
| 37 | 158 | preschool | externalizing | cbt/cbt | -.21817 |
| 43 | 113 | adolescent | both | cbt/systemic | .04504 |
| 44 | 50 | combined | internalizing | cbt/cbt | 1.08947 |
| 53 | 107 | adolescent | internalizing | cbt/systemic | -.36534 |
| 54 | 27 | elementary | externalizing | cbt/cbt | .10798 |
| 77 | 10 | adolescent | externalizing | eclectic/systemic | 1.31 |
| 133 | 50 | elementary | externalizing | cbt/cbt | .94 |

Table 8: continued.

| Study number | N | Age range | Presenting problem | Child/combined orientation | Effect size |
|---|---|---|---|---|---|
| 135 | 19 | combined | externalizing | cbt/client-centered | 0 |
| 139 | 140 | adolescent | externalizing | eclectic/systemic | .13886 |
| 141 | 97 | preschool | externalizing | eclectic/eclectic | .58730 |
| 155 | 76 | combined | internalizing | cbt/cbt | .24371 |
| 172 | 140 | adolescent | externalizing | eclectic/systemic | 1.42476 |
| 173 | 102 | combined | externalizing | cbt/cbt | .08384 |
| 207 | 125 | elementary | other | cbt/cbt | -.59898 |
| 246 | 24 | adolescent | externalizing | cbt/systemic | .33 |
| 263 | 82 | adolescent | externalizing | eclectic/cbt | 0 |
| 278 | 29 | combined | externalizing | cbt/cbt | -.04011 |
| 282 | 42 | elementary | externalizing | cbt/cbt | .35324 |
| 285 | 52 | adolescent | externalizing | eclectic/systemic | 1.85729 |

Table 8: continued.

| Study number | N | Age range | Presenting problem | Child/combined orientation | Effect size |
|---|---|---|---|---|---|
| 288 | 61 | adolescent | other | eclectic/eclectic | 0 |
| 289 | 43 | elementary | both | cbt/cbt | .40490 |
| 296 | 28 | elementary | other | client-centered/systemic | .63822 |
| 298 | 69 | adolescent | externalizing | client-centered/systemic | 0 |
| 323 | 72 | preschool | both | client-centered/cbt | -.11239 |
| 337 | 32 | elementary | externalizing | cbt/cbt | .07216 |
| 346 | 19 | adolescent | externalizing | systemic/systemic | .37 |
| 350 | 30 | adolescent | externalizing | client-centered/systemic | .04969 |
| 359 | 59 | adolescent | internalizing | cbt/cbt | .98253 |
| 360 | 67 | combined | internalizing | cbt/cbt | -.76873 |
| 362 | 60 | combined | internalizing | cbt/cbt | -.25755 |
| 363 | 671 | elementary | externalizing | cbt/cbt | -.13551 |

Table 8: continued.

| Study number | N | Age range | Presenting problem | Child/combined orientation | Effect size |
|---|---|---|---|---|---|
| 364 | 90 | elementary | abuse | cbt/cbt | .20781 |
| 366 | 28 | combined | abuse | cbt/cbt | .62311 |
| 367 | 102 | elementary | internalizing | cbt/cbt | .14875 |
| 368 | 46 | combined | internalizing | cbt/cbt | .35045 |
| 370 | 32 | elementary | externalizing | cbt/cbt | .86 |
| 382 | 76 | combined | internalizing | cbt/cbt | -.30690 |

Table 9

Effect size estimates per study (child only to parent only treatments)

| Study number | N | Age range | Presenting Problem | Child/parent orientation | Effect size |
|---|---|---|---|---|---|
| 5 | 61 | combined | internalizing | cbt/cbt | .44304 |
| 37 | 158 | preschool | externalizing | cbt/cbt | -.41975 |
| 141 | 97 | preschool | externalizing | eclectic/cbt | .66933 |
| 224 | 24 | preschool | externalizing | client-centered/cbt | .77852 |
| 282 | 52 | elementary | externalizing | cbt/cbt | -.31167 |
| 337 | 19 | elementary | externalizing | cbt/cbt | -.75941 |
| 364 | 90 | elementary | abuse | cbt/cbt | .25779 |
| 367 | 102 | elementary | internalizing | cbt/cbt | 0 |

Table 10

Summary of regression analysis for all moderator variables for child to combined treatment comparisons

| Variable | ß | t | sig t |
|---|---|---|---|
| Difference in number of trtmt sessions | -.068 | -.346 | .732 |
| Treatment orientation: | | | |
| Child treatment (CBT) | -.175 | -.938 | .357 |
| Combined treatment (CBT) | -.123 | -.644 | .526 |
| Presenting problem | | | |
| Internalizing | -.131 | -.682 | .502 |
| Externalizing | .250 | 1.340 | .144 |
| Other | -.172 | -.924 | .365 |
| Mean sample age | .122 | .630 | .552 |
| Type of outcome measure | -.151 | -.798 | .432 |
| Methodological quality | .215 | 1.99 | .058 |

Table 11

Summary of regression analysis for all moderator variables for child to parent-only treatment comparisons

| Variable | B | SE B | ß | t | sig t |
|---|---|---|---|---|---|
| Difference in number of trtmt sessions | | | -.220 | -.713 | .508 |
| Treatment orientation: | | | | | |
| Child treatment | .856 | .336 | .721 | 2.548 | .044 |
| Presenting problem | | | | | |
| Internalizing | | | .446 | 1.709 | .148 |
| Externalizing | .731 | .169 | .688 | 4.323 | .008 |
| Other | | | .301 | 1.05 | .344 |
| Mean sample age | | | .489 | 1.34 | .237 |
| Methodological quality | | | .285 | .732 | .497 |
| Type of outcome measure | | | .140 | .461 | .664 |