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Parent, Family, and Treatment Process Predictors of Child Outcome Among Alcoholic Families in an Early Intervention Program

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PARENT, FAMILY, AND TREATMENT PROCESS PREDICTORS OF CHILD OUTCOME AMONG ALCOHOLIC FAMILIES IN AN EARLY INTERVENTION PROGRAM

By

Cynthia L. Nye

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ABSTRACT

PARENT, FAMILY, AND TREATMENT PROCESS PREDICTORS
OF CHILD OUTCOME AMONG ALCOHOLIC FAMILIES
IN AN EARLY INTERVENTION PROGRAM

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Research on parent training programs has highlighted the disruptive impact that high levels of marital conflict, parent psychopathology, and socioeconomic disadvantage can have on treatment effectiveness. Less is known about the role of parent investment in such interventions, as it relates either to child outcome or to the effects of the more distal parent, marital, and family characteristics on child behavior change. The present study examined the influence of maternal treatment investment on changes in child behavior among alcoholic families participating in a community-based parent-training program designed to reduce the development of antisocial behavior problems in preschool-aged sons of alcoholic fathers. Results suggest that treatment investment, as measured by maternal within-session cohesion and involvement, and between session homework cooperation, is a crucial factor in explaining the extent to which treatment gains are effected and maintained. Further, investment was found to moderate the negative impact of family economic deprivation on the reduction of child antisocial behavior, and to mediate the relationship between mother psychopathology and changes in child prosocial behavior.

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At a larger level, this study would not have been possible without the work of Zucker, Robert Noll, and Hiram Fitzgerald in creating the MSU Family Project; the exceptional work of Susan Refior in coordinating the many components of the project; and the many graduate and undergraduate students who have been instrumental in collecting the wealth of information contained in our data base. I am especially grateful to the families on the project who have allowed us to share so many aspects of their lives with them.

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CHAPTER I

INTRODUCTION AND REVIEW OF THE LITERATURE

Overview

Approximately 10.5 million adults in the United States suffer from alcoholism or alcohol dependence (U.S. Dept. of Health & Human Services, 1990). An estimated 7 million to more than 28 million children are believed to be suffering along with them (West & Prinz, 1987), through the experience of growing up in an alcoholic home. Both the alcoholic parent and his/her spouse typically have significant problems not only with substance abuse, but with depression, antisocial behavior, and other psychological disturbances. Given the well-documented effects that alcoholism can have on individuals and families, the above statistics suggest that a large segment of the child population is at risk for psychological impairment. In addition to being susceptible to developing alcoholism in later life, the offspring of alcoholics frequently exhibit symptoms of hyperactivity, conduct disorder, oppositional behavior, and delinquency during childhood and adolescence (e.g. West & Prinz, 1987; Zucker & Noll, 1987). In fact, these childhood problems are often precursors to alcoholism and antisocial behavior in adulthood.

Sons of alcoholic fathers are at particular risk for the

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development of early conduct problems and later antisocial behavior and alcoholism. For example, an estimated 25 to forty percent of these sons are expected to become alcohol abusers in adult life (Zucker & Noll, 1987). Both the magnitude of this estimate and the prevalence of precursive behavioral problems among male children of alcoholic fathers suggest that early intervention efforts targeted at this group of children -- before problems with alcohol are even evident -- may be a viable preventative approach. It is anticipated that such efforts, aimed at preventing or reducing the early behavioral correlates of later problem drinking, help to break the intergenerational transmission of alcoholism that frequently occurs in alcoholic families.

The present research focuses on one such program, the Michigan State University Multiple Risk Outreach Program (Zucker & Noll, 1987), which utilized an outreach protocol to contact and treat a group of families with preschool age sons, all of whom come from families with an alcoholic father. Early analyses (Zucker, et. al., 1990) indicated that the program was successful in decreasing antisocial behaviors among these children of alcoholic fathers, although little was known about the parent and family characteristics that may have impeded or facilitated child outcome. The specific focus of the present study is the examination of the connection between parent, marital, and family characteristics, as these affected family investment in the treatment process, and its

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impact upon subsequent child outcome. Thus, the focus of this work is to better understand the processes involved in leading to better or worse child outcomes; the M.S.U. Multiple Risk Outreach Program provided the data base utilized for the study.

Parent Alcoholism And Child Antisocial Behavior

The impact of alcoholic parents on the functioning of children has been well documented in the psychological literature (e.g. Adler & Raphael, 1983; Black, 1979; Lord, 1983; Rydelius, 1981; Seixas, 1977; West & Prinz, 1987). Whether this research has been retrospective, linking adult disorders to an alcoholic family background, or prospective, following the development of children of alcoholics and studying their later functioning, many studies have found a relationship between child antisocial behavior and parental alcoholism. For example, retrospective research by Linnoila and her colleagues (Linnoila, DeJong, & Virkkunen, 1989) found a high incidence of alcoholism among the fathers of violent offenders and impulsive fire setters. In Rydelius' (1981) longitudinal study, children of alcoholics exhibited more aggressiveness and emotional lability when young, had more obvious behavioral difficulties at school, and were more likely to have a criminal record in adulthood than the offspring of nonalcoholic parents. Throughout the literature on children of alcoholics, male offspring in particular have been found to be at risk for conduct disorder and antisocial

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behavior in childhood, substance use and delinquency in adolescence, and alcoholism and antisocial personality as adults (e.g. Zucker & Noll, 1987).

Not only do sons of alcoholics tend to exhibit a wide range of these antisocial behaviors, but there seems to be a developmental progression to such problems. Aggressive conduct problems displayed in childhood are often early signs of more severe antisocial behavior later on, and many researchers have pointed out the continuity of antisocial behaviors from childhood into adolescence and adulthood (Eron, Huesmann, Dubow, Romanoff & Yarmel, 1987; Gersten, Langer, Eisenberg, Simcha-Fagan & McCarthy, 1976; Loeber & Dishion, 1983; Windle, 1989). Furthermore, the earlier and more extreme the problems are, the more severe and chronic tends to be the behavior pattern in adolescence and adulthood (Loeber, 1986). From this perspective, an early onset of antisocial behavior is particularly predictive of continuity, and is also indicative of the severity of later antisocial acts.

Loeber (1986) proposes that the developmental progression and outcome of antisocial behavior is largely determined by when and to what degree early conduct problems appear. According to this formulation, aggressive behaviors in childhood are likely to progress to violent offenses later in adolescence. In such a process, antisocial behavior progresses from acts of minor severity to ones that are increasingly serious, and "behaviors characteristic of earlier

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stages of development are retained while new antisocial behaviors are adopted" (p. 2). Substance use seems to follow, rather than precede, conduct problems and delinquency, but subsequent use of hard drugs often increases the violence of the antisocial acts. Further, children whose conduct problems begin at an early age "tend to display high rates of problem behavior and progress through a variety of antisocial stages at a higher rate than those youngsters with a later onset" (p. 43). As corroborated by other research (e.g. Bohman, et.al., 1982; Collins, 1981; Halikas & Rimmer, 1974; Harwood & Leonard, 1989; Heather, 1982; Hesselbrock, et. al., 1985; Kandel, 1982; Lewis, et.al., 1985; Loeber, 1982; Mills & Noyes, 1984; Robins, 1966), early onset of child antisocial behavior is highly predictive of later delinquency, sociopathy, and substance abuse.

The literature indicates, then, that children who develop problems with antisocial behavior at a young age are at risk for more severe difficulties later on. Because of this developmental continuity, efforts to prevent or curtail the development of severe and chronic antisocial conduct problems are likely to be most effective during early childhood. In addition, treatment approaches that are successful with antisocial children should ultimately have a preventative effect on later displays of both antisocial behavior and substance abuse. Further, since sons of alcoholics are particularly at-risk for conduct disorder and its sequelae in

childhood, and for alcoholism and sociopathy later on, this is an appropriate group for such an early intervention.

The remainder of this chapter briefly discusses intervention approaches for reducing child antisocial behavior, moving thereafter to a more detailed description of the strategies and theoretical rationale upon which the Michigan State University Multiple Outreach Program is based. The final segment of the literature review examines factors that have been found to influence child antisocial behavior overall, and treatment success more specifically, and relates these factors to characteristics of alcoholic families. The study itself explores how these characteristics relate (a) to parent treatment investment, and (b) to subsequent child outcome among the alcoholic families in our early intervention program.

The Treatment Of Child Antisocial Behavior

Several types of treatment approaches for antisocial children have emerged. Child-focused approaches, such as early education, social skills training, and cognitive training, assume that antisocial children lack essential skills which the intervention then tries to instill or develop (Dumas, 1989). On the other hand, family-focused approaches -- including family therapy and parent training -- target family interactional styles and patterns which serve to foster and maintain aversive and antisocial child behavior. Among these various treatment methods, parent training has

consistently been found to be an effective means of intervening in families with an antisocial child (e.g. Dumas, 1989; Gard & Berry, 1986; Kazdin, 1985, 1987).

The effectiveness of parent training approaches is not surprising, as the most consistent and strong predictors of future antisocial behavior have been parenting variables related to harsh, inconsistent discipline and poor supervision (Loeber & Dishion, 1983; Loeber & Stouthamer-Loeber, 1986). Common among the various forms of parent training is the focus on parent-child interactions in the home. Of particular concern are the coercive exchanges that Patterson (e.g. 1986) and others (Dadds, 1987; Wahler & Dumas, 1987) have identified as playing a central role in promoting aggressive child behavior. Parents are first taught to identify, define, and observe problem behaviors in a new way, and then learn procedures to implement at home. Thus, parents are educated about social learning principles, with an emphasis on the use and effectiveness of positive reinforcement, mild punishment, negotiation, and contingency contracting techniques. The sessions enable the parents to learn and practice these new techniques and to discuss their implementation in the home. The goal, then, is to develop specific child-rearing skills in the parents that will enable them to effectively monitor and manage their children and to break out of the hostile exchanges, coercive cycles, and inconsistent patterns that characterize parent interactions with their antisocial

children (Jaffe, et. al., 1986; Jouriles, Barling, and O'Leary, 1987; Horne, 1981; Kratcoski, 1982; Olweus, 1980; Richman, et. al., 1982; Singer, 1974; Stewart & Leone, 1978; Walker, Downey, & Bergman, 1989).

One such parent training program, Social Learning Therapy, provided the framework for the current intervention and is based on Gerald Patterson's social interactional model for the development of antisocial behavior. This model proposes a coercive process whereby parents respond irritably and/or ineffectively to their young child's coercive and aggressive behavior. Because of their ineffective discipline and monitoring of their child's behavior, the parents are not able to maintain an appropriate level of compliance (Patterson & Bank, 1987). Over time, both the aggressiveness of the child and the ineffectiveness of the parents increase and serve to maintain one another. In the process, the child learns and develops that particular pattern of coercive behavior as a way of dealing with others, and later generalizes his antisocial interactional style to the classroom and playground settings. In each new setting, the child's noncompliance and aggressiveness are in turn met with aggression and rejection, which creates coercive cycles similar to those developed in the home. As these cycles continue, the child's failure to acquire positive social skills, coupled with his "familiarity with coercive behavior, creates high risk for affiliation with delinquent peers, further enhancing the development of chronic

antisocial behavior" (Reid & Patterson, 1988).

Other researchers (e.g. Dadds, 1987; Wahler & Dumas, 1987) also highlight the role that coercive parent-child interactions play in the development of antisocial behavior problems in children. According to Dadds (1987), for example:

> Although a diversity of factors may be associated with the development and maintenance of conduct/oppositional disorders in children, of primary importance are the moment-to-moment interactions that the child has with his/her primary caregivers. These are often marked by coercive, aggressive behaviors that may be functional for parents and children within the family system (p. 341).

Mediating Factors In Development And Treatment Of Child ASB

Despite the apparent primacy of parenting factors to both the development and the treatment of child antisocial behavior, factors such as parent psychopathology (e.g. alcoholism, depression, and antisocial behavior) and marital conflict and discord have also been seen as playing a role in these processes. As proposed by the Oregon Social Learning Center group (e.g. Reid & Patterson, 1988), such parental characteristics contribute to antisocial behavior in children to the extent that they disrupt day-to-day parenting practices and contribute to ineffective discipline and poor supervision. Reid and Patterson suggest that any such condition that disrupts or impedes the daily socialization of the child indirectly contributes to the subsequent development of child antisocial behavior. From this perspective:

> ...although many factors such as parent criminality, social and economic disadvantage,

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> child temperament, and marital discord systematically affect the development of antisocial behavior, their influence is mediated by the extent to which they disrupt day-to-day parenting practices. Particularly, it is argued that irritable, ineffective discipline and poor parental monitoring are the most proximal determinants of the early development and maintenance of antisocial behavior (Reid & Patterson, 1988).

Similarly, Dadds (1987) states that the likelihood that parents will engage in coercive interactions with their children is related to the personal adjustment of the children, "which, in turn, is often dependent upon the parents' perceptions of the quality of marital and social support available to them" (p. 341). Thus, factors such as parent psychopathology, marital conflict, and economic deprivation may affect parents' child-rearing abilities, which in turn, influence antisocial behavior in the child. Others (e.g. Belsky, 1984a, 1984b) have also proposed that parental functioning is multiply determined, with individual, interpersonal, and contextual factors all playing an important role.

If these parent and family characteristics do, in fact, have an impact on daily child-rearing and child behavior patterns, it is reasonable to expect that they also influence the success of treatment programs which attempt to decrease child behavior problems by changing parents' disciplinary strategies. That is, the same parent and family variables that bear upon parent-child interactions in the home should exert a similar influence upon families in treatment. The

remainder of this review describes the literature on what parent and marital characteristics affect parenting practices and child behavior, both a) within alcoholic and nonalcoholic families, and b) within families in treatment programs designed to change these parent and child behaviors.

Marital Quality, Parenting Practices, and Child Outcome.

Belsky (1981) has proposed that the marital relationship is the principal support system for parents (especially mothers), and a few longitudinal studies have linked marital conflict to the development of child behavior problems. Richman and his colleagues (1982) found a strong relationship between marital difficulty and later child antisocial behavior. Similarly, McCord (1979) found parent conflict and aggression to be predictive of crimes against persons committed by the adolescent sons of these parents. Other research confirms this relationship, as child behavior problems have been linked to physical marital violence (Jouriles, Murphy, & O'Leary, 1989; Wolfe, et. al., 1985; Jaffe, Wolfe, Wilson, & Zak, 1986) and to interspousal hostility (Emery & O'Leary, 1982; Johnson & O'Leary, 1976; McCord, 1979; Porter & O'Leary, 1980; Richman, Stevenson, & Graham, 1982).

Several studies have also linked marital discord to particular disciplinary strategies. Among alcoholic families, a high incidence of both interspousal aggression and parent-to-child aggression has been found (e.g. Byles, 1978; Ellwood,

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1980; Famularo, et. al., 1986; Leonard, et. al., 1985; Reider, et. al., 1988, 1989). For example, in research on alcoholic families from the Michigan State University Longitudinal Study, (Reider, et. al., 1988, 1989) extensive antisocial behavior and lifetime problems with alcohol were related to both marital conflict and child-directed parent aggression. Similarly, among families characterized by high interspousal hostility, Dielman, Barton, and Cattell (1977) found a high use of punishment and a low use of reasoning methods by both parents. In the same vein, less belief in rational guidance has been found among fathers (of boys) in maritally distressed families and in mothers (of girls) who reported high family conflict and depression (Stoneman, et. al., 1989).

Kemper and Reichler (1976) found that parents who were more satisfied with their marital relationship gave more intense and frequent rewards and less intense and less frequent punishments to their children, as compared to parents who were not as maritally satisfied. In their study of boys who had been referred for behavioral counseling, Johnson and Lobitz (1974) found consistent negative relationships between marital satisfaction and the observed level of negativeness that was exhibited toward the children by their parents. This is consistent with Olweus' (1980) finding that "the quality of the emotional relationship between spouses influence [sic] mothers' negativism toward their adolescent sons, which itself leads to aggressive, antisocial behavior" (Belsky, 1984a, p.

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88). Similarly, in Gottman and Katz' (1989) investigation of the parents of 4- and 5-year-old children, maritally distressed couples were found to have a cold, unresponsive, and angry parenting style that was low in limit setting and structuring. Further, this interaction style seemed to be related to anger and noncompliance in the young children.

Other research (e.g. Brody, Pillegrini, & Sigel, 1986; Frank, Hole, Jacobson, Justkowski, & Huyck, 1986) has also found a relationship between marital quality and parenting behavior. Emery (Emery, Hetherington, & Dilalla, 1984) has suggested that parenting is often compromised when marital dissatisfaction and interspousal conflict are high. From this perspective, marital conflict promotes inconsistencies in parenting, such that mothers and fathers may employ different practices with the same child, and each parent may him/herself respond in inconsistent ways from one time to the next. Such inconsistency between two parents and within individual parents has been found to be related to negative child outcomes in a number of studies (Block, et. al., 1986; Block, et. al., 1981; Emery, et. al., 1984; Gottman & Katz, 1989; Hetherington, Cox, & Cox, 1981; Patterson, 1980), as parents who do not agree on parenting issues tend to be less effective than parents who do (Deal, Halverson, & Wampler, 1989).

As indicated by the above literature, marital conflict has an influence on child-rearing practices and on child behavior. Less is known about the extent to which this factor

also disrupts the treatment of child antisocial behavior. Research in this area is neither extensive nor unequivocal. For example, Oltmanns and his colleagues (Oltmanns, Broderick, & O'Leary, 1977) found a negative correlation between marital adjustment and the initial severity of children's behavior problems among a clinic sample, but the pre-treatment level of marital discord was not related to the degree of positive child behavior change observed either at termination or at a 5-month follow-up. In contrast, Dadds and his colleagues (Dadds, et. al., 1987; Dadds, Schwartz, & Sanders, 1987) found that, while the extent of marital discord reported by parents of conduct-disordered children was not related to post-treatment measures of parenting behavior, it was related to parent-to-child behavior at the six-month follow-up. Thus, marital discord impeded the later maintenance of treatment effects, even though it did not affect initial progress or gains. It is possible that a similar trend would have been found among the families in the Oltmanns, et. al., study (1977), had a longer post-treatment follow-up been conducted.

In a comparison of parent training programs with and without concomitant partner enhancement therapy, Griest and his associates (Griest, Forehand, Rogers, Breiner, Furey, & Williams, 1982) found that the intervention incorporating partner enhancement strategies was more effective in changing deviant child behavior and maintaining those effects than was parent training alone. Similarly, distressed couples in the

Dadds et. al. (1987) studies who received partner support training in addition to the child management component were as able to maintain treatment gains and positive parenting behaviors as were couples in nondiscordant marriages. In explaining these findings, Dadds (Dadds, et. al., 1987a) suggests that:

> Therapist-controlled contingencies that are applied to parents' behaviors (i.e. parenting behavior) during treatment may be powerful enough to overcome coercive sequences between parents and their children, affecting discipline behaviors. However, the coercive sequences of behavior between parents might remain, predisposing parents to revert back to pretreatment levels of aversive parent-child interaction once the therapist-controlled contingencies are removed (p. 202).

Parent Pathology, Parenting Practices, and Child Outcome.

Although alcoholism, sociopathy, and depression have all been strongly related to child antisocial behavior (e.g. Farrington & West, 1975; Hutchings & Mednick, 1975; Jacob & Leonard, 1986; Lahey, Piacentini, McBurnett, Stone, Hartdagen, & Hynd, 1988; McCord, 1979; Merikangas, et. al., 1985; Offord, Allen, & Abrams, 1978; Richman, et. al., 1982; Robins, 1966; Robins, West, & Herjanic, 1975; Stewart, DeBlois, & Cummings, 1980; Stewart & Leone, 1978), few studies have directly examined the influence of parental disorders on child rearing practices, either among treatment or nontreatment families. Stoneman and her colleagues (1989) found both marital and individual distress in men to be predictive of inconsistent fathering and lack of parental agreement about discipline, yet no such effects were found for women. In the alcoholic

families in the Michigan State University Longitudinal Study, mothers' depression and self-esteem and fathers' lifetime problem drinking were related to the parents' perceptions of immaturity (Schneider, et. al., 1989) and aggression (Reider, et. al., 1989) in their preschool sons. Merikangas (et. al., 1985) found a greater incidence of antisocial personality and conduct disorder among offspring of parents with major depression, with a marked increase in risk for children of parents with a secondary diagnosis of alcoholism.

Kuczynski (1984) has suggested that parents who are experiencing distress or depression choose more automatic and less cognitively taxing discipline strategies, rather than more purposive and effortful techniques, like rational guidance. This already has been supported, at least in terms of marital distress, by research described above (Dielman, et. al., 1977; Stoneman, et. al., 1989). Others (e.g. Brody & Forehand, 1986) propose that parental depression and other dysfunctions in parental adjustment can decrease the parent's tolerance for noncompliance, thereby making even innocuous behaviors seem bothersome. This, in turn, may lead to a greater use of punishment and authoritarian control at a time when the parent is trying to limit his/her interactions with the child. The result is the development of coercive interactions, as described by Patterson (1982). In support of this, observational research (Hops, Biglan, Sherman, Arthur, Friedman, & Osteen, 1987) on depressed women in their homes

suggests that these women and their families are locked into "an interactive style that promotes high rates of aversive interchanges" (p.345).

Davies and his colleagues (Davies, Zucker, Noll, & Fitzgerald, 1989) examined the relationship between parental psychopathology and child-rearing practices among the young alcoholic families in the Michigan State University Longitudinal Study. More specifically, the researchers studied the association between parental symptomatology for alcoholism, depression, and antisocial behavior, and self-reported parenting practices. For the alcoholic fathers, problems in the reported affective relationship with the child were strongly associated with father's self-reported depression, as well as with his current level of alcohol consumption and his lifetime alcohol problems. Further, the antisocial behavior of the fathers was related to inconsistent discipline and an increased demand for the child to be independent. Other studies with the same group of alcoholic families (Fitzgerald, et. al., 1989; Reider, et. al., 1989; Zucker, Weil, Baxter, & Noll, 1984) confirm the influence of paternal antisocial behavior on parent-child interactions and on child behavior problems.

Among the mothers in the Davies (et. al., 1989) study, both antisocial behavior and depression were associated with a disrupted parent-child affective relationship. In addition, paternal depression was related to maternal child rearing.

This corroborates other research with this group of alcoholic families (Schneider, et. al., 1989) suggesting that paternal depression may have an indirect effect on child outcome, via maternal depression and child-rearing. It also underscores the influence that parental psychopathology can have on specific child rearing behaviors.

Although there is a paucity of research in this area, the literature indicates that pretreatment levels of parent psychopathology are also predictive of treatment outcome in parent training programs. Maternal depression, for example, has been associated with both treatment attrition rates (McMahon, Forehand, Griest, & Wells, 1981), and parents' failure to participate in treatment follow-up assessments (Griest, Forehand, & Wells, 1981). Similarly, Furey and Basili (1988) found higher levels of depression among mothers who dropped out of the treatment program than those who continued in the intervention.

In research by Dumas and Wahler (1983), treatment outcome was related to maternal psychopathology, marital violence, and family socioeconomic status. A later study by Dumas (1986), however, suggests that the primary influence of parent psychopathology on treatment outcome may be through its association with low socioeconomic status. Similarly, Webster-Stratton (1985) found socioeconomic disadvantage to be highly predictive of treatment outcome in parent training for conduct-disordered children. Pretreatment depression among

the mothers was a much weaker predictor, although it was strongly related to socioeconomic status. However, maternal depression decreased throughout the intervention, such that the pretreatment measure was not an accurate indicator of maternal distress at the time that child outcome was determined. Thus, the role that parent difficulty plays in the effectiveness of parent training programs in reducing child antisocial behavior remains unclear.

Other researchers (e.g. Gard & Berry, 1986) propose that a stable family structure (Lovaas, Koegel, Simons, & Long, 1973; Reisinger, Frangia, & Hoffman, 1976), the frequency of interpersonal conflicts between parents and extrafamilial individuals (Wahler & Dumas, 1983), the level of maternal distress (Forehand, et. al., 1984), and the extent of paternal involvement with the children (Patterson, 1976) are all predictors of success in a parent training program for conduct-disordered children. In addition, the literature suggests that families characterized by many of these disturbances show fewer treatment gains than do families that are not so impaired (e.g. Brody & Forehand, 1985; Strain, Young, & Horowitz, 1981).

Treatment Implications, And A Treatment Process Model

The above literature indicates that both child-rearing practices and child antisocial behavior can be affected by such parent characteristics as depression, antisocial behavior, and alcoholism, and by family factors related to

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marital conflict and socioeconomic status. Further, these factors have also been found to have an impact on the effectiveness of parent training programs aimed at changing child-rearing strategies, although research in this area is less extensive and the processes operating are less well understood.

Because of the potential impact of individual, marital, and family difficulties on the effectiveness of parent training programs, several authors have advocated for addressing these issues within the intervention. Griest and Forehand (1982), for example, review the influence of parental maladjustment, marital difficulties, and extrafamilial interactions on child behavior and treatment, and argue that these family variables must be dealt with in conjunction with parent training efforts. Similarly, Griest and Wells (1983) propose that child conduct disorders will be more effectively treated if strict parent training regimens are expanded into "behavioral family therapy", in which family difficulties not directly related to specific child-rearing practices might also be addressed and alleviated. The effectiveness of interventions that have incorporated strategies to deal with individual, marital, and/or family difficulties (e.g. Dadds, et. al., 1987; Griest, et. al., 1982) suggest that this is a viable approach.

Although the manner in which these various parent and family factors bear on treatment outcome is not completely

understood, Patterson and Chamberlain (1988) suggest that factors such as parent psychopathology, marital conflict, and economic disadvantage influence the extent to which parents commit to and cooperate in the training program. From this perspective, it is this variable of parent cooperation that is most directly related to treatment outcome. Thus, Patterson and his colleagues (Patterson, Chamberlain, & Reid, 1982) propose that marital conflict, parent psychopathology, and lack of family resources interfere with parent training by increasing client resistance to the intervention and disrupting the acquisition and application of appropriate child rearing practices.

In their work, Patterson and Chamberlain (1988) have used measures of both within-session resistance (struggle) to the therapist's instructions, and between-session noncompliance with homework assignments to determine parents' treatment cooperation. Preliminary findings suggest that family stressors such as marital conflict and parent psychopathology increase within-session conflict and thereby indirectly impede positive child outcome. Lower socioeconomic status was also related to a greater degree of non-cooperation with treatment. It is expected that further analyses will discover a similar relationship between these parent and family variables, and between-session noncompliance.

Treatment compliance has long been considered requisite for positive change in behavioral (and cognitive-behavioral)

interventions (Shelton & Levy, 1981), although it has rarely been included as a variable in treatment outcome research (Primakoff, Epstein, & Covi, 1986). As Primakoff and her colleagues (1986) point out, research on treatment outcome is likely to be influenced by "compliance bias" (Feinstein, 1979), whereby purported differences in outcome among various treatment groups may be more related to the extent of patient compliance with the regimen than to the impact of the program itself. A few studies on parent training programs (e.g. Dumas, 1986; Furey & Basili, 1988; Griest, et. al., 1981; Johnson & Christensen, 1975) have examined parent cooperation, either in terms of what factors are predictive of it (Furey & Basili, 1988; Griest, et. al., 1981), or how treatment cooperation relates to changes in child behavior at the end of the intervention (Johnson & Christensen, 1975).

In their examination of pretreatment variables predictive of participation in follow-up assessment of a parent training program for mothers of noncompliant children, Griest et. al. (1981) found that maternal depression, but not marital satisfaction, was negatively related to this measure of cooperation. Similarly, Furey and Basili (1988) found that both depression and socioeconomic disadvantage were predictive of mothers who dropped out of a parent training program. In addition, mothers who remained in the program but reported being dissatisfied with its outcome had significantly higher levels of depression than mothers who were satisfied with the

treatment.

Using a more sophisticated measure of cooperation, Dumas (1986) examined parent and family characteristics related to combined measures of treatment involvement and treatment outcome. Treatment outcome, as determined by positive change in parenting skills, and treatment involvement, as measured by attendance at scheduled meetings and compliance with program instructions, were most directly influenced by family socioeconomic factors. Maternal psychopathology and marital violence were more indirectly related to treatment involvement and outcome, through their association with characteristics of the socioeconomic setting.

It appears, then, that the effectiveness of interventions may be related to (1) proximal factors of parent cooperation and engagement in the treatment process, and (2) more distal characteristics of the parents and family, such as parent psychopathology, marital conflict, and family socioeconomic status. However, the relationship among these factors remains unclear, particularly in regard to their influence on the parent and child behavior change that is presumed to arise from the treatment process. So far, the Patterson and Chamberlain (1988) research represents the pioneer effort to examine what individual and family characteristics are predictive of both treatment cooperation and subsequent treatment outcome. The current project took a similar approach with a group of alcoholic families engaged in a

program to prevent the development of conduct disorders in their male children.

The Alcoholic Family: General Issues

The literature indicates that child antisocial behavior develops directly from child-rearing practices, and more indirectly from parent psychopathology, marital conflict, and the influence network identified by way of socioeconomic status. It has also been shown that such parent and family variables can influence child outcome by interfering with parents' willingness to engage in and cooperate with an intervention program designed to decrease child antisocial behavior. Such resistance on the part of the parents presumably impairs their ability to learn and employ the more effective child-rearing practices taught in the intervention, thereby minimizing the parents' ability to adequately address their child's coercive and noncompliant behavior.

Given the prevalence of antisocial behavior problems in sons of alcoholics, it is necessary to consider how these parent and family characteristics influence interactions in the alcoholic home. Although research has typically examined either the alcoholic family environment or the functioning and adjustment of children of alcoholics, without also examining the mechanisms through which the former affects the latter, the literature already reviewed suggests that antisocial behavior problems among children of alcoholics arise through the disruptive influence of parent psychopathology and marital

conflict on child-rearing practices. The present study examined the extent to which these same processes operate to disrupt both parent investment and positive child outcome in the Michigan State University Multiple Outreach Program, as well as the extent to which treatment investment was a direct predictor of child outcome beyond the influence of parent and family characteristics. However, certain issues regarding the alcoholic family must first be clarified.

The Question of Multiple Risk.

Zucker (1976) has suggested that, as the primary socialization factors in a young child's life, "the parent reward structure and modeling alternatives available within the family for imitation" (p. 226) may foster a deviant pattern of antisocial behavior in the child. This, in turn, disrupts the family's affectional relationships and contributes to tension and conflict in the home. The literature reviewed above points to parental alcoholism, antisocial behavior, and depression, and to marital conflict as correlates of child-rearing practices and child antisocial behavior, and as predictors of treatment cooperation and outcome, yet fails to consider these as mutual contributors to family functioning. Other studies (e.g. Richman, Stevenson, & Graham, 1982; McCord, 1979) indicate that these characteristics may operate as multiple risk factors for the development of child antisocial behavior. For example, Richman (et. al., 1982) found that parent psychological

distress, marital conflict, and child-directed parent hostility were all related to child behavior. Such multiple indicators of disharmonious relationships in the family were also associated with the later development of antisocial behavior problems among children who had not exhibited these difficulties earlier. Similarly, McCord's (1979) study of boys in a program designed to prevent delinquency reveals the impact of multiple family risk factors both on the development of antisocial behavior and on the effectiveness of a treatment program intended to prevent such an outcome. Several factors relating to the boys' home environment were associated with their criminal behavior as adults. Parental conflict and aggression were both related to crimes against persons, while mother's affection and father's deviance (alcoholism and/or criminality) were related to property crimes. Supervision and mother's self-confidence were related to both types of antisocial activity. Thus, antisocial behavior can be multiply influenced by various parent and marital factors which may, in turn, impede preventative efforts.

It was anticipated that such multiple risk factors among alcoholic families participating in the Michigan State University Multiple Outreach Program would not only contribute to the antisocial behavior problems of their children, but also interfere with the success of the intervention via the mechanisms described earlier (i.e. limited cooperation with the treatment regimen, leading to diminished acquisition of

the new child-rearing skills). As already suggested above, families with more extensive parent and marital disturbance show fewer treatment gains than will those that are not so impaired (Brody & Forehand, 1985; Strain, Young, & Horowitz, 1981). The remainder of this review examines what has already been discovered in regard to the interrelationships among these factors in alcoholic families. The primary focus is upon research conducted with families in the Michigan State University Longitudinal Study, of which the families in the current study represent a subset.

Drinking-Specific Factors.

Within the alcoholic family, both drinking-specific variables (such as history, frequency, amount, consequences, and current consumption) and factors that are not specific to drinking (e.g. depression and anxiety) can have an impact on family relationships. For example, an individual's history of lifetime alcohol problems is related to several aspects of functioning in alcoholic families. Reider and her colleagues (Reider, et. al., 1988) examined interspousal aggression among 75 working-class couples from the Michigan State University Longitudinal Study. Husbands reporting higher levels of violence towards their wives in the past year were younger, had a more extensive history of drinking problems, and engaged in more antisocial activity. In those families, wives also were younger in age and were currently drinking less alcohol than were the wives of husbands reporting lower levels of

violence. Greater lifetime alcohol problems and higher levels of prior antisocial activity in both men and women were also found to be associated with the number of marital separations.

In terms of the spouses' perceptions of their family environment (as measured by the FES (Moos & Moos, 1981)) greater conflict was experienced by husbands who had a more extensive history of alcohol-related problems, and both greater conflict and less family cohesion were experienced by husbands and wives who reported higher levels of violence towards their spouses. In accounting for the alcoholic husband's violence towards his wife, the husband's age and his long-term drinking problems were the best predictors of the overall level (both severity and cumulative intensity) of violence, and the prior antisocial behavior of the husband was predictive of the more severe forms of violence reported. No relationship was found between spousal violence and <u>current</u> alcohol consumption.

In another study, Reider and her colleagues (1989) found that child-directed parental aggression was positively related to the extent of antisocial behavior, depression, and long term alcohol involvement in the male alcoholics and their partners. Further, parental aggressiveness and lifetime alcohol problems were found to be the most predictive of aggression directed against the young male children targeted in the study.

These studies suggest, then, that an extensive history of

alcohol-related difficulties is associated with physical marital conflict, marital separation, and reciprocal aggression between parents and children. Similarly, Leonard and his colleagues (1985) found a relationship between reported history of alcohol-related problems and physical marital conflict. Davies and his associates (1989) discovered that child aggression against the parents, and disengaged and inconsistent fathering were also related to the lifetime alcohol problems for both the alcoholic fathers and their partners. Further, reported problems in the fathers' affective relationship with the child were related to self-reported depression, and to both lifetime alcohol problems and current alcohol consumption.

Several other studies also suggest that the alcoholic's current level of consumption is intimately tied to other aspects of ongoing family relationships. The series of Moos studies (Moos, Finney, & Chan, 1981; Moos, Finney, & Gamble, 1982; Moos & Moos, 1984), conducted with a somewhat older sample than the Michigan State project, compared the functioning of relapsed, recovered, and nonalcoholic individuals and their families. Children of recovered alcoholics (no longer drinking at the 18 month post-treatment follow-up) were reported by the parents to be functioning as well as the children in the community control group (Moos & Billings, 1982). In contrast, children of relapsed alcoholics had more emotional and physical problems than the children in

the other two groups. Further, children in the relapsed group were living in an environment that was described (on the FES) as being lower on family cohesion, expressiveness, parental congruence, and family activities. This suggests, then, that child functioning is impaired by family difficulties related to the alcoholic's consumption of alcohol.

In other of the Moos studies (Moos, Finney, & Chan, 1981; Moos, Finney, & Gamble, 1982; Moos & Moos, 1984) relapsed alcoholics and their families also appeared to be functioning more poorly than both the recovered alcoholic and the nonalcoholic families on a variety of dimensions. For example, relapsed alcoholics reported more depression, anxiety, and physical symptoms than did the others. Consistent with other research (Filstead, et. al., 1981), these individuals described their family environment (on the FES) as being less cohesive, expressive, and organized, and more conflictual than did members of the recovered and nonalcoholic groups (Moos, et. al., 1981).

The spouses of these relapsed individuals (Moos, et. al., 1982) provided similar reports of distress. They reported more negative life events and perceived less cohesion in their families than did spouses of the recovered and nonalcoholic individuals. Further, spouses of heavily drinking relapsed alcoholics were more depressed, more anxious, engaged in fewer informal social activities, and reported more negative life events than the spouses of relapsed alcoholics who were trying

to control or reduce their consumption. Spouses of heavy drinkers also perceived their family as being more conflictual, less cohesive and organized, and with less of a recreational orientation.

These findings indicate that both the drinking status and the consumption pattern of the alcoholic partners interconnect with the functioning of the marital partner and with the nature of the home environment perceived by the parents. It is not unreasonable, therefore, to conclude that such differences at the parental level are likely to influence these parents' interactions with their children. A later study by Moos and Moos (1984), using different groups of alcoholics and matched community controls, provides further confirmation of this. Not only were families of relapsed alcoholics described as less cohesive and expressive than were the other families, but families of heavily-drinking relapsed alcoholics again seemed to be the most disrupted, with more family arguments, lower cohesion, more conflict, and less organization. Regression analyses determined that:

> the families of the [recovered and relapsed] alcoholics were strongly affected by the level of adaptation of the alcoholic partners. Families in which the alcoholic members reported more alcohol consumption and drinking problems and complained of more anxiety, depression, and physical symptoms had more family arguments, less cohesion and expressiveness, and showed less agreement about their family environment and about joint task performance...Cohesion was [also] lower in families in which the spouses complained of more anxiety, and expressiveness was lower in families in which they complained of more depression...(p. 115).

Other research (e.g. Dunn, et. al., 1987; Jacob, 1987; Jacob, et. al., 1981; Steinglass, 1980a, 1980b, 1981, 1987; Steinglass, et. al., 1985) has also found a relationship between current alcohol consumption patterns and disrupted family interactions and relationships. With regard to parent-child interactions, Seilhamer and Jacob (1990) generate an important causal hypothesis that attempts to link these findings. It is as follows, that:

> (a) there is an ongoing association between parental drinking and the parent-child relationship, (b) this association involves a causal relationship, in that drinking/intoxication effects disturbances in the parent-child relationship, and (c) while parental alcoholism is assumed to cause negative outcomes for children in the long run, the quality of the parent-child relationship during day-to-day cycles of sobriety and intoxication may vary with drinking pattern and consumption level (p. 30).

Nondrinking-Specific Factors.

As already shown, parent characteristics not specifically related to alcohol consumption can also have an impact on family interactions. The frequent co-occurrence of depression with alcoholism and sociopathy suggests that parental affective disorder may contribute to the patterns seen in the alcoholic home environment. The Moos studies (Moos, Finney, & Chan, 1981; Moos, Finney, & Gamble, 1982; Moos & Moos, 1984) revealed a high incidence of depression among relapsed alcoholics and their spouses, particularly when the alcoholics were drinking heavily, and these latter families were the most disrupted. Similar to alcoholic families, families with a

depressed parent have been found to be high in conflict, low in cohesion, expressiveness, and organization (Billings & Moos, 1983). Among his alcoholic families, Steinglass (1980b) found low interactional behavior and low verbal decision-making and affect variability in families of alcoholics who scored high on depression and anxiety. Reider, and her colleagues (1989, 1988) found an association between parent antisocial behavior and depression and child-directed aggression, and between the prior antisocial behavior of the parents and physical marital conflict, among the young alcoholic families of the Michigan State University Longitudinal Study.

Other research (e.g. Merikangas, et. al., 1985; Reider, et. al., 1989; Schneider, et. al., 1989) has also found a relationship between depression in alcoholic parents and/or their spouses and antisocial behavior in the children. For example, Reider, et. al. (1989) found that young male children's aggression towards their parents was related to depression in mothers and fathers, as well as to the lifetime alcohol problems of the parents. In a study focusing on secondary alcoholism in parents with major depression (Merikangas, Weissman, Prusoff, Pauls & Leckman, 1985) adult offspring of depressed parents had a much higher rate of antisocial personality than did the adult controls. Similarly, younger children of the probands had a greater incidence of conduct disorder than did the controls. When

parental alcoholism as a secondary diagnosis was considered, the risk of antisocial behavior and of conduct disorder was markedly increased. Additionally, offspring of two alcoholic parents had a greater rate of antisocial personality or conduct disorder than did offspring with only one alcoholic parent.

The Issue of Colinearity.

As suggested by much of the research already described, individual psychopathology is often an aggregate of several disorders, with alcohol dependence, depression, and antisocial personality tending to co-occur. While both drinking-specific and nondrinking specific factors have been associated with family interactions and child functioning in alcoholic homes, many of these individual factors are in fact linked together. If, as shown by the Oregon Social Learning Center group (e.g. Reid & Patterson, in press) such parent disturbances are related to child antisocial behavior primarily through the disruption of effective parenting, then the specific form of psychopathology may be less important than the overall extent of psychopathology present in the home. Thus, a general measure of overall parent psychopathology may be more strongly predictive of child-rearing practices and child antisocial behavior than is any one particular form of parent disturbance. Similarly, the extent of psychopathology present may be a better predictor of treatment cooperation and involvement than will be measures of specific parent

disturbance.

Other analyses from the parent project (e.g. Cruise, 1991; Reider, 1991) indicate that this is in fact the case. For these reasons, the proposed measures were scrutinized by way of the cluster analytic routine of PACKAGE (Hunter & Gerbing, 1982; Hunter, et. al., 1980). Where measures were significantly interrelated, composite cluster scores -- rather than the individual variables -- were used.

Summary

The literature reviewed points to several domains of parent and family disturbance, most particularly of individual psychopathology, marital conflict, and socioeconomic disadvantage, that play a part in the development and maintenance of antisocial behavior problems in children. Heretofore, their path of effect has been considered to be primarily via the disruption of parents' disciplinary strategies, which are thought to foster particular patterns of child behavior. Although parent training programs aimed at repairing or replacing ineffective child-rearing practices have been a successful intervention for antisocial children, treatment outcome may also be hindered by such family characteristics as parent psychopathology, marital conflict, and economic disadvantage. In this regard, family distress in these areas would be anticipated to limit the extent to which parents are able to engage in and cooperate with the intervention program, thereby impeding the acquisition of the

appropriate parenting skills necessary for preventing or decreasing child behavior problems.

Among the alcoholic families in the current study, similar processes were expected to hold true. However, the research also indicates that the disruptive impact of alcoholism can influence the nature of both the marital relationship and parent-child interactions. The extent to which parent dysfunction impairs these relational and interactional variables in the alcoholic home is likely, in turn, to influence the degree to which parents are able to engage in and benefit from treatment regimens designed to improve their child-rearing practices and, thereby, diminish antisocial behavior problems in their children. Given the anticipation that there will be multiple pathways of influence affecting ultimate child change, a multiple influence model was proposed in the present study. In this conceptual model, treatment investment among families in the intervention is expected to be predicted by both lifetime and current levels of parent psychopathology, recent marital conflict, and family resources related to socioeconomic deprivation. In turn, child behavior outcome is predicted to be most strongly tied to parental treatment investment, with less direct influence by these parent and family characteristics.

Statement of the Problem

The above literature clearly indicates that male children of alcoholics are at-risk for the development of antisocial

behavior problems in early childhood, which are likely to progress to more severe and chronic problems in later life if left untreated. Such factors as marital conflict, parent psychopathology, and socioeconomic disadvantage appear to maintain problem child behaviors, as these disruptor variables impair parents' ability to effectively and consistently discipline their children. Yet it is also evident that there is a great deal of variability among alcoholic families, such that family characteristics and child outcome cannot be accurately predicted from mere knowledge of whether a family has an alcoholic parent. Individual characteristics of each parent, such as antisocial behavior, alcoholism, and depression, are related to parents' interactions with one another, and to child rearing practices and child behavior.

Little research has directly examined the role that individual and family factors play in interventions designed to prevent and/or curtail the development of child antisocial behavior, and virtually none has examined these processes among young alcoholic families. The present study examined the impact of these characteristics on parent treatment investment and on subsequent child outcome in our program for the prevention of conduct disorders. Further, treatment investment was examined for its role in explaining variation in child behavior change among treatment families. This study is one of the few in the parent training literature to examine parent, marital, and family factors, as well as treatment

process characteristics, as they relate to one another and to child outcome. Further, this research is unique in that it focuses on a population of children who have not yet been formally identified as having problems but are at-risk for the development of conduct disorder.

Hypotheses

There is good reason to believe that higher levels of personal, interpersonal (marital), and family (socioeconomic) disruption will be associated with an impaired ability to engage in and cooperate with an intervention designed to decrease child antisocial behavior by teaching more effective child-rearing strategies. This disruption in treatment cooperation was, in turn, expected to reduce the acquisition and application of these parenting strategies, as reflected in more antisocial behavior problems and less positive behavioral change among the children in these families (Figure 1).

1a) Greater lifetime trouble (e.g. lifetime alcohol problems, antisocial behavior, and worst-ever depression) will be predictive of marital conflict in the year prior to the pretest time period.

b) Greater lifetime trouble will also be predictive of current parent difficulty (i.e. depression, alcohol consumption) at pretest.

c) At pretest, current parent trouble will be positively related to the level of reported marital conflict over the previous year.

2) Higher levels of both a)current and b)lifetime trouble will be associated with more child behavior problems at pretest and at follow-up (post-tests).

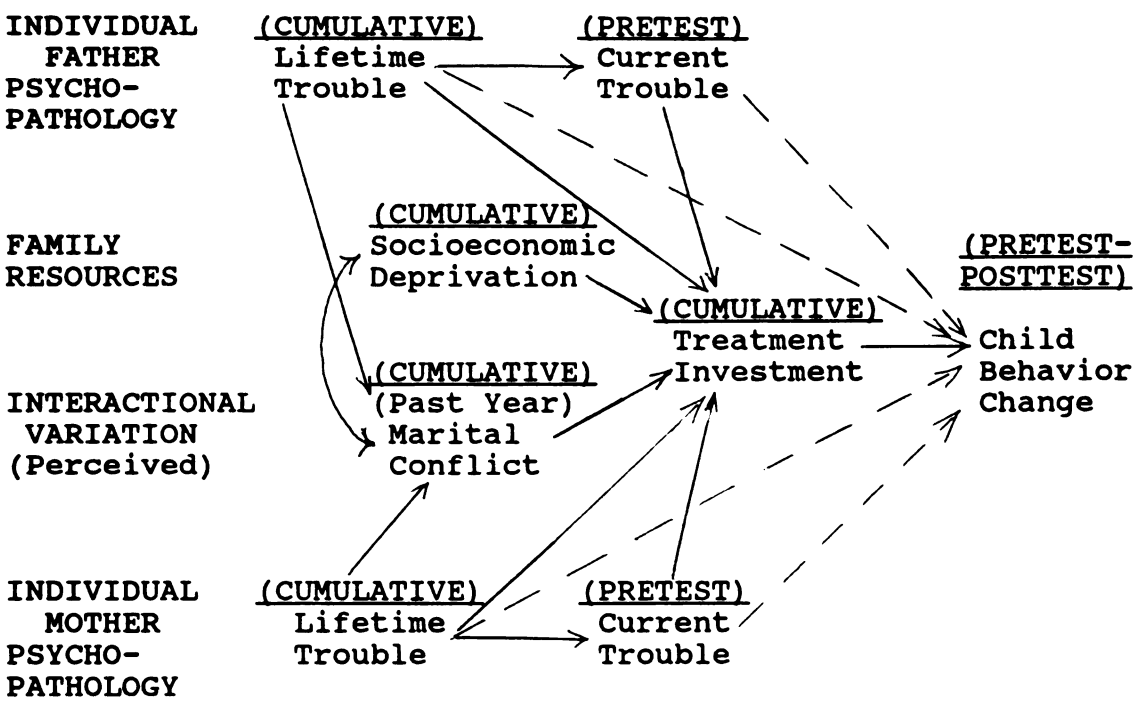
3) Child behavior change at follow-up will be predicted directly by treatment investment, and beyond the more distal influence of pretest levels of parent pathology, marital conflict, and family socioeconomic characteristics.

4a) Among the intervention families, higher pretest levels of lifetime and current parent pathology will be predictive of lower cumulative levels of treatment investment, as reflected in: lower between-session compliance and higher within-session resistance.

b) Higher marital conflict and fewer family resources will also be predictive of less overall treatment investment, as measured by within-session resistance and between-session noncompliance.

Figure 1

Conceptual Model Of The Interrelationships Among Parent, Marital, and Treatment Process Characteristics in Predicting Child Behavior Change



CHAPTER II

METHODS

Subjects

Subjects were 65 intact families participating in the Michigan State University Multiple Outreach Program (Zucker & Noll, 1987, Zucker, et. al, 1985), a program designed to increase parents' ability to resolve and/or terminate disciplinary conflicts with their children without resorting to physical aggression or verbal abuse. The more long-term goal was to reduce the rate of conduct disorder and aggression among the children, with the hope of also reducing later delinquency, antisocial behavior, and substance abuse. The target group was comprised of young male children (3-0 to 6-0) who were considered to be at risk for the development of conduct disorder because of their membership in families with an alcoholic father. These families are part of the Michigan State University Longitudinal Study, and were recruited from local district court records of drunk driving arrests. The fathers were been apprehended for DWI with a blood alcohol level (BAL) of at least .15%. Families who gave permission to have their names released to our project personnel were visited for an initial screening for suitability. A BAL of .15% in itself indicates that these men had developed a strong tolerance for alcohol, but further questionnaires and interviews were administered to ensure that the father met the

Feighner (Feighner, et.al, 1972) diagnostic criteria for probable or definite alcoholism.

All families in the study have received monetary compensation for their participation.

Intervention Procedures

The intervention program was a modification of the Social Learning Therapy protocol developed at the Oregon Social Learning Center to modify antisocial behavior in socially aggressive children. The present version was an outreach program identified as education, rather than therapy, and it focused on children who had not yet been identified as conduct-disordered. Further, the target children in the present program were younger than those typically seen by the Oregon group, and the protocol was more explicitly marriage- and family-focused during the problem-solving sequence than is true of the original OSLC version.

Among the recruited families used in the current study, two-thirds participated in the intervention component (N = 42), while the remaining third were used as a control group (N = 23). Initial group assignment was random. Among the families receiving the intervention, two further groups were distinguished: in Group 1 only the mother (the primary caretaker) was involved in the training program, whereas Group 2 families had both parents working with the consultant. The program proceeded in two phases, and was a ten-month-long interaction of approximately 28 sessions with each family.

The first (intervention) phase, four months in duration, consisted of weekly sessions during which families completed all aspects of the regimen with enough practice of the new skills that they had been incorporated into the families' daily routine. It was after this phase that the first post-test data were collected. During the second phase, the family switched to bi-weekly meetings with the consultant. Although the intricate details of this program are best described elsewhere (Zucker, Noll, Cruise, Kriegler, Wehner & Mitchell, 1985) a brief overview of the procedures will be provided here (Figure 2).

Baseline Data Collection and Initial Interview.

The program was initiated with the collection of baseline data on the target child's behavior. The initial intervention interview was then conducted with the parent(s) and the target child, and was designed to 1) establish a relationship between the consultant and the family, 2) to engage the parent(s) in observations of the child's behavior (tracking and pinpointing), and 3) to set up times for the consultant to contact the parent(s) during subsequent weeks. The parent(s) was/were given the assignment of observing the target child's behavior for one hour per day. This tracking was done by each parent involved in the intervention program, and "minding" and "not minding" behaviors were pinpointed as the focus of these observations. These behaviors were tracked, labeled for the child, and recorded by the parent(s). During the subsequent

week, the consultant contacted the parent(s) by phone to discuss the incidence of "minds/not minds" and to address whatever issues needed to be addressed.

Tracking and Initial Point Contract Sessions.

In the next session(s), the consultant further taught the parent(s) how to attend to/observe the child's behaviors. For each tracking segment, a particular problem behavior and its prosocial opposite were observed and counted. Phone contacts were maintained between the consultant and the parent(s). In subsequent sessions, the consultant introduced and described point contracts to the parent(s). The contract is central to social learning treatment, and was used to teach family members to negotiate agreements among themselves. The first contract was the point contract or star chart, and focused on the positive aspects of the target child's behavior. This contract included one or two chores for the child to do and one or two child behaviors that the parent(s) would like to see increased. Once prosocial behaviors and chores were selected and identified, point values were assigned to each and a menu of potential rewards was generated, with a criterion set for obtaining each reward. At the end of each day, the parent(s) reviewed with the child the points that he earned and/or forfeited . Daily and weekly rewards were delivered, with appropriate social reinforcement. With the star chart, the focus was on "catching the child being good", and stars were administered as token reinforcement for

positive behaviors. Rewards were given after a specified number of stars had been earned by the child. Again, the consultant called the families between sessions to determine progress and identify and deal with problems.

Time Out Sessions and The Familiarization Home Visit.

Once the star chart or point contract had been successfully implemented in the home, the consultant discussed discipline practices and philosophies with the parent(s), including what forms of discipline the families had been most comfortable and satisfied with. Then the "Time Out" procedure was introduced, and the parent(s) viewed the "Time Out!" film (Northwest Family and School Consultants, 1981) before continuing with this topic in the next session. In the second Time Out session, the consultant reviewed and ran through the Time Out procedures, discussing definition, implementation, and the specific steps necessary to carry the procedure out. After thorough discussion and explanation, the consultant typically asked the parent(s) to practice Time Out with the child and to clearly explain the process to him before the procedure was actually put to use. The consultant then set up a time to visit the entire family at home, in order to examine the designated Time Out space, to get a sense of the physical environment in which the family operates, and to provide the family with the opportunity to welcome the consultant into the home. Phone contacts between the consultant and parent(s) were also maintained.

Problem Solving.

The next stage involved the introduction and practice of communication skills involved in effective problem solving. The three basic components -- active listening, generating new alternatives, and evaluating techniques -- were taught over the course of several sessions. As with the other aspects of the program, presentation of material was accompanied by practice within the session and by homework assignments to be carried out between sessions. Although the specific procedures during the problem solving session varied somewhat depending upon whether both parents were present or only the mother was involved, the basic components and strategies were the same in both conditions. The goal was to introduce problem solving skills that would assist the family in maintaining the skills that had already been taught in earlier intervention sessions, by improving the communication and conflict-resolution abilities of the family members. Given the young age of the children, the problems most commonly dealt with in this segment of the program were marital rather than being more broadly family-focused. During sessions in this phase, mothers in the single-parent condition learned and practiced these skills with the consultant, rather than with their spouse, but all parents were assigned problem-solving homework for practice with their partner at home. As always, between-session phone calls were made so that the consultant could discuss progress and problems with the parent(s).

Other Help Needs and End Phase (Termination) Work.

Because families with an alcoholic parent tend to have multiple problems and difficulties, the parent(s) often brought up family problems that did not directly involve the target child. The consultant was prepared to attend to and acknowledge these difficulties, and to attempt to be helpful to the family. At the same time, the consultant worked to keep the desired continuity of the intervention program's regimen. However, the pace at which a family progressed through the program may have been slowed because of other family difficulties. Further, not all family problems were expected to be solved at the end of the planned 28 week intervention. Therefore, additional referrals for further assistance may have been necessary at the end of the intervention, in order to help these families deal with life issues other than those involving the child(ren).

Data Collection Procedures

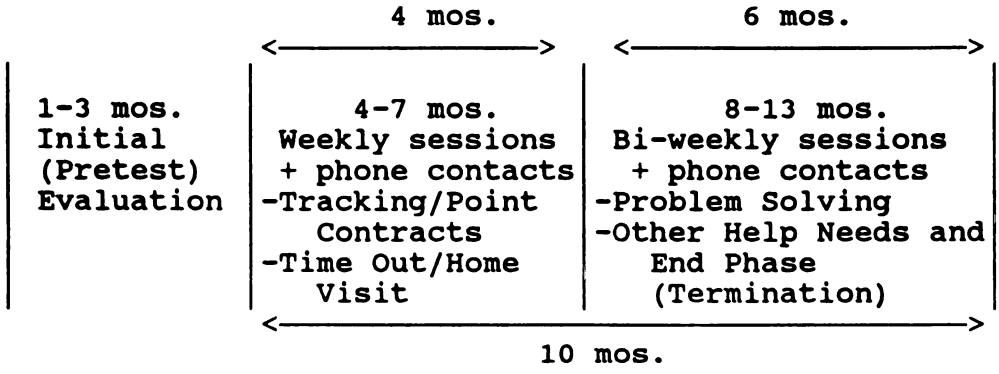
Each family involved in the study completed many questionnaires and participated in a variety of interviews and direct observation sessions (Zucker, Noll, & Fitzgerald, 1986; Zucker, et. al., 1985). Pretest data were collected during the course of an eight session contact schedule, and treatment process measures were completed during the course of the intervention program. The data used in the present study were collected as close to the onset of the intervention phase as possible. However, due to various circumstances within some

Figure 2

Schedule of Initial Assessment, Intervention Program, and Post-test Assessments for Intervention and Control Families

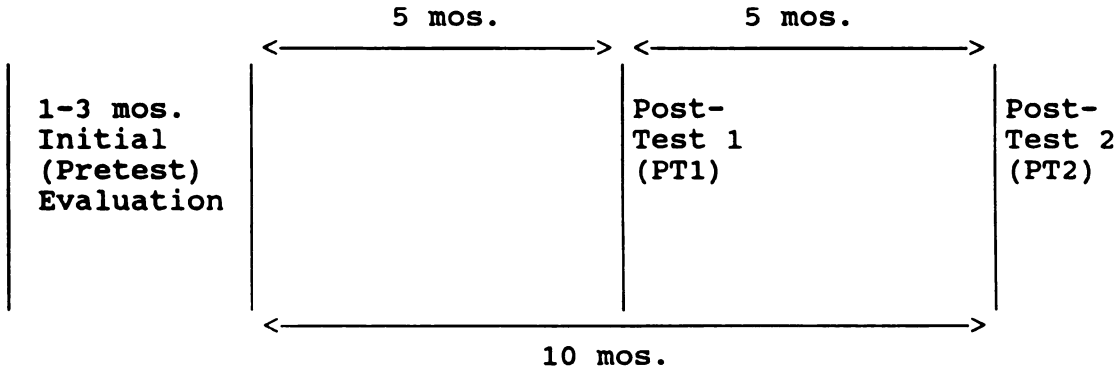
INTERVENTION DESIGN:

MOTHER-ONLY AND BOTH PARENTS TREATMENT GROUPS



EVALUATION DESIGN:

TREATMENT AND CONTROL GROUPS



families, it was not uncommon for the pretest phase to take several months and/or for there to be a delay of some weeks between the end of pretest and the beginning of the actual sessions. The first set of post-test instruments were collected in the fifth month of the program, after the families had begun meeting with the consultant on a bi-weekly basis. These data were collected in the family's home, by a trained team comprised primarily of graduate students. Measures related to the actual intervention work were completed by the consultant assigned to each family. These consultant ratings were completed immediately after each intervention session or other family contact.

Measures

The measures that are of relevance for this research assessed parents' perceptions of their child's behavior problems, as well as levels of drinking, antisocial behavior, and depression in the parents. Measures of marital conflict and family sociodemographic characteristics were also included, as were the therapists' ratings of treatment cooperation/involvement throughout the intervention.

Although it is recognized that child-rearing practices, as the dimension targeted for change in the intervention, may be a crucial link between treatment cooperation and child outcome, child behavior change was used as the treatment outcome measure to be analyzed.

Child Behavior Problems.

The Child Behavior Rating Scale -- Preschool Version (CBRS) (Noll & Zucker, 1985; adapted from Hopps, 1985) is designed to measure both prosocial (49 items) and undesirable, coercive (35 items) behaviors typical of preschool children. Items are rated on a 7-point Likert-type scale, ranging from "Never" to "Always" (Appendix A). The breadth of this scale enables an examination of the extent of behavioral change over time. This scale has been found to successfully identify child behavior change in the present intervention program (Maguin, 1991; Zucker, et. al., 1990). For the purpose of this study, child outcome was assessed primarily via the ratio measure produced by this instrument, which is calculated as the proportion of positive to negative behaviors shown by the child. In addition, since mothers are typically the primary caregivers of young children in intact families, the study focuses on maternal reports of prosocial and undesirable child behaviors before the intervention, and at the end of the initial intervention phase. This decision is supported by research (Reider, 1991) on a larger sample of families in this project, which found mothers' ratings to be more strongly associated with those of independent observers than are fathers'.

Drinking Measures.

Several instruments assessing alcohol and drug involvement were administered individually to the parents in

the project. These measures provide information about current alcohol use, alcohol-related problems, and drinking history. Parents completed a detailed Drinking and Drug History (Zucker & Noll, 1985), the Short Form of the Michigan Alcoholism Screening Test ([SMAST]; Selzer, 1975), and were interviewed about their drinking practices as part of the Diagnostic Interview Schedule ([DIS]; Robins, Helzer, Croughan, & Ratcliff, 1980). From these data may be derived a status level index of current alcohol consumption, namely Cahalan, Cisin, & Crossley's (1969) quantity-frequency-variability index of consumption. A revision of this variable, called the QFV-R (Zucker & Davies, 1989), multiplies the Quantity-Variability class by the approximate number of drinking episodes per year. The resulting score, subjected to a logarithmic transformation in order to normalize the frequency distribution, is a more sensitive index of current drinking level than has been obtained with the original scoring system. The QFV-R was selected as a pretest index of current alcohol consumption in the present study.

The Drinking and Drug History also yields information on the variety and duration of reported drinking problems, and the age at which the respondent reports having gotten drunk for the first time. These data are used to compute the Lifetime Alcohol Problems Score ([LAPS]; Zucker, in press), an index of the extent of alcoholic involvement and problems over the individual's life course. The component subscores have

been standardized within our project sample, and validity studies have shown LAPS to be an adequate index of the extent of alcohol-related impairment (Zucker, in press). In the present study, this score was chosen as an indicator of parents' lifetime trouble at pretest.

Depression.

Current parental depression was measured with the Short Form of the Beck Depression Inventory ([BDI]; Beck & Beck, 1972), which contains 13 groups of statements addressing various areas of functioning that are often affected by depression. Scores on this short form correlate between .89 and .97 with the long form, and the psychometric durability of this measure is well-documented (Beck, Steer, & Garbin, 1988). Level of worst-ever depression was reported in the Diagnostic Interview Schedule, via the Hamilton Rating Scale for Depression. The interviewer uses this scale to generate an index of the time in the individual's life when s/he was most depressed. This score was used as another measure of lifetime trouble among the parents in our sample.

Antisocial Behavior.

Parental antisocial behavior was measured with the Antisocial Behavior Checklist (Zucker & Noll, 1980b). This instrument explores the occurrence of antisocial behaviors in the respondent's childhood, adolescence, and adulthood, in relation to nine different content areas (e.g. trouble with the law, job-related antisocial behavior). Parents were asked

to indicate the frequency of their participation in various antisocial behaviors. Psychometric properties of the instrument have been found to be sufficient, as test-retest reliability is strong (.91 over four weeks) and internal reliability is high (coefficient a= .93) (Zucker & Noll, 1980c).

Marital Conflict.

Marital conflict was measured with the Conflict Tactics Scale (CTS) (Straus, Gelles, & Steinmetz, 1980). This instrument has been used in national surveys to assess the incidence of spousal violence, as well as parent-to-child and child-to-parent violence. Further, the Conflict Tactics Scale has been identified in other research with families in the parent project (e.g. Cruise, 1991; Reider, 1991) as the best single measure of marital conflict. The instrument was administered as part of the Diagnostic Interview Schedule to encourage accuracy of reporting. Analyses in this paper focus on interspousal violence in the year leading up to the start of the intervention. Both husband violence to the wife and wife violence to the husband were considered, and scores relating to the cumulative intensity of violence were used. A participant's Cumulative Intensity score is a combined score of aggressive "volume", derived from the intensity and frequency of all acts of violence combined. This index has been found to be relevant to an understanding of family factors among the alcoholic families in the Michigan State

University Longitudinal Study (Reider, et. al., 1988; Reider, 1991).

The final values used to estimate marital conflict in the present group of families were based on the higher of each parent's reports. For example, if the mother reported more aggression from the father than the father reported committing, the mother's report was used. Similarly, if the father reported more maternal aggression against him than the mother's report of her own aggression, the father's estimate was used. This method yielded two marital conflict variables, one of mother's aggression against the father, and one of the father's aggression against the mother.

Treatment Investment.

Treatment investment was measured by the cumulative amount of parent cooperation with and receptiveness to the treatment regimen exhibited throughout the intervention process, as reflected in both within-session resistance and between-session noncompliance with homework assignments. In session-by-session analyses, Patterson and Chamberlain (1988) have found that these two indices of treatment cooperation or investment are positively related to the extent to which change in child-rearing practices and child behavior takes place. They also suggest that these factors are crucial to the understanding of individual differences among families in their responsiveness to treatment. Further, these dimensions are thought to covary with family disruptors such as marital

conflict and parent psychopathology, although this has yet to be adequately tested.

For the purposes of the present study, parent investment was measured by three instruments developed by the Oregon Social Learning Center group: the Therapist-Client Cohesion Scale, the Client Involvement Rating, and Weekly Homework Ratings (Appendices B - D). The Therapist-Client Cohesion Scale is an index of the consultant's personal reactions to the parent(s) during each session. The consultant indicated how s/he felt about the parent, based on a 5-point range from "felt very positively toward" to "was very irritated with". The consultant further indicated his/her sense of how well s/he worked with each parent, ranging from "very well" to "poorly". The Client Involvement Rating is also a series of 5-point scales on which the consultant rated each parent on the amount of verbal involvement, interpersonal withdrawal, openness to new ideas, hostility or friendliness, and overall resistance or helpfulness exhibited during the sessions. The Weekly Homework Ratings were designed to indicate the extent to which the parent(s) attempted to carry out the homework assignments, and ratings are based on a 5-point scale ranging from "tried very hard" to "didn't try at all". All three instruments were filled out by the consultant after each session with the family. Reliability was found to be adequate for these measures in the present study.

A composite measure of treatment investment was derived

using the cluster analytic procedures of PACKAGE (Hunter & Gerbing, 1982; Hunter, et.al., 1980), and factor (Pearson) correlations for investment measures through the end of treatment are found in Table 1. Thereafter, cluster scores based upon a cumulation of data from Pretest through Post-test 1, and another cumulating treatment investment from Session 1 through to the end of treatment, were used in analyses. Further, because fathers were not always included in the intervention program, analyses were based only on mothers' treatment investment scores.

Sociodemographic Variables.

Parent and family sociodemographic variables were also included in analyses. PACKAGE identified two clusters: one comprised of mother and father age, the other of parent education, income, and family socioeconomic status as measured by the Duncan TSEI2 index (Stevens & Featherman, 1980). Intercorrelations among these variables and clusters are listed in Table 2.

Table 1

Correlations (Pearson) of Mother Cumulative Investment Variables and Cumulative Investment Cluster

	Investment Variables			Cluster
	Session Cohesion	Session Involvement	Homework Cooperation	Cumulative Investment
Session Cohesion	--	62**	47**	73**
Session Involvement		--	46**	67**
Homework Cooperation			--	83**

**$p \leq .01$

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Table 2

Family Demographic Variable and Cluster Correlations

	Demographic Variables						Clusters	
	MOMAGE	DADAGE	MOMED	DADED	INCOME	SES	DEM1	DEM2
MOMAGE	--	74**	26*	14*	37**	31*	93**	--
DADAGE		--	10	12	32**	28*	93**	--
MOMED			--	46**	39**	60**	--	78**
DADED				--	38**	59**	--	77**
INCOME					--	51**	--	73**
SES						--	--	86**

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

Note. Correlations are Pearson's r.

MOMAGE=Mothers' Age; DADAGE=Fathers' Age;

MOMED=Mothers' Education; DADED=Fathers' Education;

DEM1=Parent Age Cluster; DEM2=Family Resource Cluster

(Income, SES, Education).

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Sample characteristics

The families described in this study are a subset of the 104 families originally assigned to one of the three treatment conditions. Other research on this sample (Maguin, 1991; Zucker, et. al., 1989) has already found the random assignment of these families to be successful, in that no initial differences in levels of parent psychopathology, family socioeconomic status, or child behavior problems were found among the families in the Mother Only, Both Parents, and Control conditions.

Of the initial group of families, 99 (95.2%) completed the initial assessment. However, by the conclusion of the intervention program, 21 more families had become ineligible to receive or to continue with the program, as indicated in Table 3. In order to be eligible for sustained intervention work, parents needed to be living together from the outset, as well as for the duration of the program. Twelve of these families not continuing with the program separated before the intervention was offered, 4 separated during the intervention, and 5 became ineligible because they moved from the area.

Of the 78 families that stayed eligible for continued intervention, 7 families refused to participate in the program and 3 control families did not complete post-tests. In addition, 3 families that began treatment but dropped out after one or two sessions were also eliminated from the analyses because the parents separated later on or, in one

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Table 3

Outcome Status of Families Completing Initial Assessment

(N=99)

Outcome Status	Treatment Group: Mother Only % (n)	Both Parents % (n)	Control % (n)	Total % (n)
Families losing eligibility for program:				
Separated prior to treatment offer	12% (4)	14% (5)	10% (3)	12%(12)
Separated during treatment	9% (3)	3% (1)	--	4% (4)
Moved from area	9% (3)	3% (1)	3% (1)	5% (5)
Total Not Eligible	30%(10)	20% (7)	13% (4)	21%(21)
Families maintaining eligibility for program:				
Refused to participate	6% (2)	14% (5)	10% (3)	10%(10)
Partially involved	12% (4)	31%(11)	--	15%(15)
Completely involved	51%(17)	34%(12)	77%(23)	52%(52)
Total Eligible	70%(23)	80%(28)	87%(26)	77%(77)
TOTALS	100%(33)	100%(35)	100%(30)	100%(98)

Note. Partially involved group is comprised of families who terminated before the end of treatment, including 2 cases that separated after dropping out. One partial treatment family is omitted, as treatment was started with the father rather than the mother. Completely involved group is made up of treatment families completing the program, and of control families participating in post-tests through PT 2.

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case, because initial sessions were conducted with the father rather than with the mother. Thus, 42 of the families on which this study is based are treatment families who remained intact during the time the treatment was being offered (i.e. for about one year), who also agreed to participate in the intervention program when offered. In addition, 23 intact control families who remained committed to the study through their involvement in post-test data collection were included as the no-treatment comparison group in the following analyses.

Families followed through Post-test 2 (N=65) and those not followed (N=34) are comparable on the majority of parent psychopathology, marital conflict, and family demographic variables (Tables 4-6). That is, no differences were found in levels of lifetime alcohol problems, current depression, antisocial behavior, or worst-ever depression between the two groups. Nor do these two subsets of families appear to differ regarding socioeconomic status, parent age, or family income and parent education. In addition, families that continued their involvement with the study through Post-test 2 and those that discontinued participating in the assessments reported comparable occurrences of marital aggression on most of the items. However, some differences did emerge. Specifically, mothers in families that disengaged from the larger research project reported more extreme rates of certain types of

Table 4

Characteristics of Entire Sample of Families Completing the Initial Recruitment (N=99) and of Subsets of Families Continuing (N=65) vs Not Continuing (N=34) with Assessments Through Post-test 2

	Family Sample		
Characteristic	Initial Mean (SD)	Continuing Mean (SD)	Not Continuing Mean (SD)
Parent Psychopathology			
Lifetime Alcohol Problems			
Mother	10.0 (2.0)	9.9 (1.9)	10.1 (2.1)
Father	10.5 (2.0)	10.6 (1.9)	10.3 (2.0)
Antisocial Behavior			
Mother Total	14.1 (8.6)	14.2 (9.5)	13.9 (6.0)
Father Total	23.7(16.0)	23.5(15.2)	23.8(16.3)
Current Depression (Beck)			
Mother Total	4.3 (3.9)	4.0 (3.6)	4.1 (4.4)
Father Total	3.2 (3.4)	2.6 (2.6)	3.8 (4.4)
Worst Depression (Hamilton)			
Mother	17.6(10.8)	16.5(10.1)	19.8(12.0)
Father	15.8(10.6)	14.9(10.0)	17.7(11.5)

Table 4 (cont.)

Characteristic	Family Sample		
	Initial Mean (SD)	Continuing Mean (SD)	Not Continuing Mean (SD)
Family Demographics			
Income (median)	$25,000.00	$25,000.00	$25,000.00
Socioeconomic Status	298(140.7)	294(143.6)	300(126.4)
Parent Age (yrs)			
Mother	29.2 (4.6)	29.9 (4.5)	28.3 (4.5)
Father	31.2 (4.8)	31.9 (4.9)	30.3 (4.1)
Parent Education (yrs)			
Mother	12.8 (1.9)	12.9 (2.0)	12.3 (1.7)
Father	12.3 (1.9)	12.4 (1.7)	12.5 (2.1)

Note. No significant differences at $p \leq .05$.

Socio-economic status measured by the Duncan TSEI2 index (Stevens & Featherman, 1980).

Table 5

Marital Aggression Reported By Fathers in Initial Recruitment Sample (N=99), and in Subsets of Families Continuing (N=65) vs Not Continuing (N=34) With Assessments Through Post-test 2

	Family Sample		
	Initial	Continuing	Not Continuing
Aggression against wife	Mean (SD)	Mean (SD)	Mean (SD)
Indirect Physical Aggression			
Times threw, smashed, hit, or kicked something, but not at wife	1.9 (5.3)	1.7 (5.1)	2.4 (5.9)
Times threatened to hit or throw something at wife	2.6(11.5)	1.4 (3.8)	6.0(21.2)
Physical Aggression			
Times hit or actually threw something at wife	.2 (.7)	.2 (.7)	.2 (.7)
Times pushed, grabbed, shoved, slapped, spanked wife	.9 (2.7)	.7 (2.1)	1.3 (4.1)
Severe Physical Aggression			
Times kicked, bit, hit, or beat wife up	.02(.2)	.03(.2)	0
Times threatened to or used a knife or gun	.01(.1)	0	.04(.2)

Table 5 (cont.)

	Family Sample		
	Initial	Continuing	Not Continuing
Aggression by wife	Mean (SD)	Mean (SD)	Mean (SD)
Indirect Physical Aggression			
Times wife threw, smashed, hit or kicked something, but not at him	1.8(11.2)	2.2(13.1)	.7 (2.1)
Times wife threatened to hit or throw something at him	1.7 (6.7)	.9 (3.3)	3.8(11.6)
Physical Aggression			
Times wife hit or actually threw something at him	.9 (3.6)	1.1 (4.2)	.4 (1.3)
Times wife pushed, grabbed, shoved, slapped, or spanked him	.7 (2.1)	.8 (2.3)	.5 (1.3)
Severe Physical Aggression			
Times wife kicked, bit, hit, or beat him	.4 (3.2)	.5 (3.8)	.1 (.3)
Times wife threatened to or used a knife or gun	.15(1.3)	.2 (1.5)	.04(.2)

Note. Table entries are occurrences of acts of aggression over a one year period.

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Table 6

Marital Aggression Reported By Mothers in Initial Recruitment Samples (N=99), and in Subsets of Families Continuing (N=65) vs Not Continuing (N=34) With Assessments Through Post-test 2

	Family Sample		
	Initial	Continuing	Not Continuing
Aggression against mate	Mean (SD)	Mean (SD)	Mean (SD)
Indirect Physical Aggression			
Times threw, smashed, hit, or kicked something, but not at husband	.5 (1.2)	.4 (.9)	.6 (1.7)
Times threatened to hit or throw something at mate	2.6 (6.1)	1.3 (2.2)	4.0(10.6)
Physical Aggression			
Times hit or actually threw something at husband	1.0 (3.5)	.6 (2.6)	1.7 (5.1)
Times pushed, grabbed, shoved, slapped, spanked husband	.8 (1.6)	.6 (2.6)	1.5 (2.4)
Severe Physical Aggression			
Times kicked, bit, hit, or beat husband up	.1 (.6)	.1 (.4)	.3 (1.0)
Times threatened to or used a knife or gun	0	0	0

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	Family Sample		
	Initial	Continuing	Not Continuing
Aggression by husband	Mean (SD)	Mean (SD)	Mean (SD)
Indirect Physical Aggression			
Times mate threw, smashed, hit or kicked something, but not at her	10.2(46.1)	1.8 (7.0)	30.5(82.0)
Times husband threatened to hit or throw something at her	4.3(14.6)	2.7(10.7)	8.3(21.8)
Physical Aggression			
Times mate hit or actually threw something at her	2.9(12.1)	.8 (2.7)	8.1(21.4)
Times husband pushed, grabbed, shoved, slapped, or spanked her	3.4(12.2)	.9 (2.4)	9.2(21.4)
Severe Physical Aggression			
Times husband kicked, bit, hit, or beat her	.4 (1.7)	.1 (.7)	1.15 (2.9)
Times mate threatened to or used a knife or gun	.15(1.3)	0	.5 (2.3)

Note. Table entries are occurrences of acts of aggression over a one year period.

marital violence, as well as higher levels of current drinking (Table 7). In some ways, then, the more dysfunctional families may have "weeded" themselves out of the present study, primarily via their marital separation or their refusal to participate in post-tests.

Table 7

Differences in Individual Parent and Marital Variables Between Families Continuing (N=65) Vs. Not Continuing (N=34) With Assessments Through Post-test 2

Variable		Family Group: Continuing	Family Group: Not Continuing	F
Parent Psychopathology:				
Mothers' Current Drinking (QFV-R)	M	1.5991	2.0519	4.62*
	SD	1.0219	.9399	
	n	65	34	
Marital Aggression (Based on Maternal Reports):				
Fathers: Times threw, smashed, hit, kicked something but not at wife	M	1.8154	30.5185	7.95**
	SD	6.9908	61.7745	
	n	65	34	
Times actually hit or threw something at wife	M	.7846	8.0741	7.36**
	SD	2.7012	21.417	
	n	65	34	
Times pushed, grabbed, shoved, slapped wife	M	.9538	9.2222	9.55**
	SD	2.4137	21.4051	
	n	65	34	
Times kicked, bit, hit, or beat wife up	M	.1385	1.1481	6.97**
	SD	.6818	2.9182	
	n	65	34	
Mothers: Times pushed, grabbed, shoved, slapped husband	M	.5385	1.5185	7.20**
	SD	1.1191	2.3918	
	n	65	34	

*p<.05 **p<.01

CHAPTER III

RESULTS

Prior to analysis, data were cleaned as follows: missing data among the parent, marital, and child variables were estimated by regression analyses using other pretest variables identified as being significantly related. Missing session data were assigned scores based on the average of scores for sessions immediately prior to and immediately following the missing session. Overall, these techniques were used for less than 6% of the data set. Outliers were defined as extreme values falling outside of a normal curve within a given variable's frequency distribution histogram. These were then corrected by assigning a value adjacent to the closest non-outlying variable, thus preserving the rank ordering of the variables.

Measurement Issues:

Parent Psychopathology: Lifetime and Current Trouble. The lifetime parent psychopathology factor was initially designed to be a composite of lifetime alcohol problems (LAPS), antisocial behavior (ASB), and worst-ever depression (HAMW), while the current parent pathology variable was to consist of a measure of current drinking (QFV-R) and depression (BECK). However, consistent with other research with this data set (e.g. Reider, 1991; Reider, et. al., 1989),

the current alcohol consumption measure was determined to be of limited validity in the current analyses, primarily because of a different pattern of relationships with LAPS and ASB for fathers than for mothers (r= -.27 and r= -.03 respectively for fathers, and r= .41 and r=.40 for mothers). The most likely explanation for this discrepancy is that all of the men in the study were arrested for DUI prior to initial data collection. Thereafter, many of them quit drinking, so their reported current alcohol consumption is not likely to be positively related to lifetime levels.

Also hindering the formation of lifetime and current psychopathology clusters were the high intercorrelations among the lifetime measures and the BECK index of current depression. Using the cluster analytic technique of PACKAGE (Hunter, et. al., 1980; Hunter & Gerging, 1982), the present study found evidence for a single parent psychopathology cluster, made up of LAPS, ASB, HAMW, and BECK (Table 8). On these grounds, subsequent analyses used an overall index of parent psychopathology, based on the cumulation of these four measures, for each parent. This is consistent with other research from the parent project (Cruise, 1991; Reider, 1991) which identified a composite measure of parent psychopathology to be a better summary index of parent functioning than were each of the individual measures.

Table 8

Correlations (Pearson) of Parent Psychopathology Variables and Psychopathology Clusters

Parent	Psychopathology Variables				Cluster
Father	LAPS	ASB	BECK	HAMW	FPROBS
LAPS	--	.54**	.35**	.39**	.80**
ASB		--	.25*	.22*	.71**
BECK			--	.31**	.68**
HAMW				--	.67**
Mother					
	LAPS	ASB	BECK	HAMW	MPROBS
LAPS	--	.55**	.30**	.29**	.75**
ASB		--	.37**	.29**	.78**
BECK			--	.24*	.68**
HAMW				--	.64**

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

Note. LAPS=Lifetime Alcohol Problems

ASB=Antisocial Behavior

BECK=Beck Current Depression

HAMW=Hamilton Worst-Ever Depression

FPROBS=Father Psychopathology cluster

MPROBS=Mother Psychopathology cluster

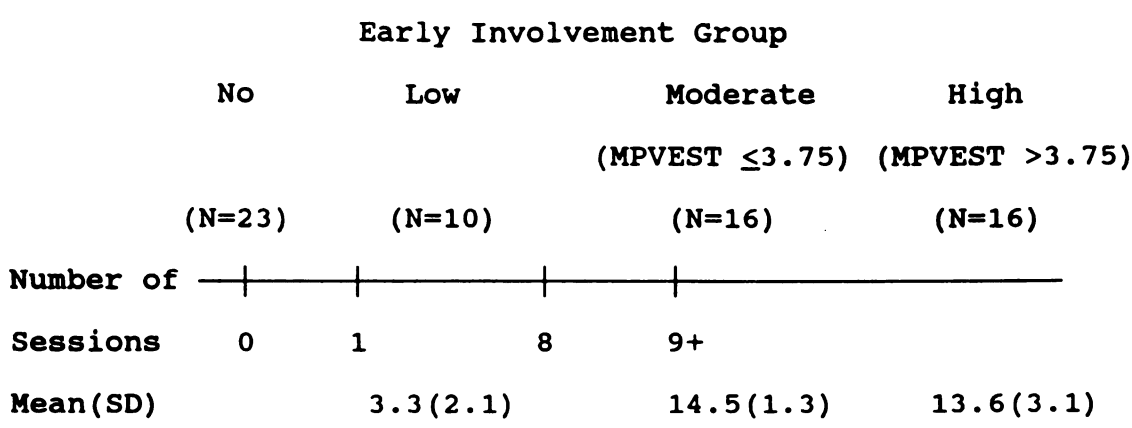
Categorizing Families by Level of Involvement

For analyses conducted on the entire sample, families were assigned to one of four categories based on the extent of their early involvement in the treatment program, during the weekly sessions conducted in Phase 1 (that is, involvement during the interval from the start of treatment through approximately the first 16 weeks of weekly therapeutic work). Control families were identified as the "No Involvement" group, while families who attended at least one session but dropped out before nine sessions were grouped in the "Early Low Involvement" category. The nine session cut-off point in this case represents the minimum number of sessions completed during Phase 1 by any family who thereafter continued in the intervention program. Families who participated in at least nine sessions were thus classified as "Completers", in that they had completed the regimen through Phase 1. As such, families that dropped out later in the course of treatment were nonetheless regarded as completers for this earlier phase of treatment. Completers were then further divided into "Early Moderate Involvement" and "Early High Involvement" groups, based on a median split of mothers' mean Treatment Investment score during Phase 1 (Figure 3). The decision to classify completers according to mothers' treatment investment scores, rather than number of sessions, was based on the observation of an inverse relationship between number of sessions and parents' progress among families completing the

Figure 3

Early Treatment Involvement Groups

Based on Phase 1 Participation



Note. MPVEST=Mother's Early Investment score

treatment regimen. This is, families with more investment in the program often needed fewer sessions to complete this earlier work than did less-invested families, by virtue of their greater success in learning and following the regimen.

Families were also categorized according to their Overall Treatment Involvement over the entire course of the intervention, that is, from Session 1 through to the last bi-weekly session in Phase 2 (an interval of approximately 48 weeks). Again, controls were identified as the No Involvement group. The Overall Low Involvement group for this part was comprised of families who disengaged from the program before 18 sessions, which was the minimum total number of sessions completed by any family that continued to the end of treatment. The remaining families -- the "Completers" -- were grouped into Overall Moderate Involvement and Overall High Involvement categories, based on a median split of mothers' mean Overall Treatment Investment score across all sessions, which again proved to be a better index of involvement than number of sessions. Treatment scores for completers in this case were based on mothers' treatment investment from the first to the last session (Figure 4).

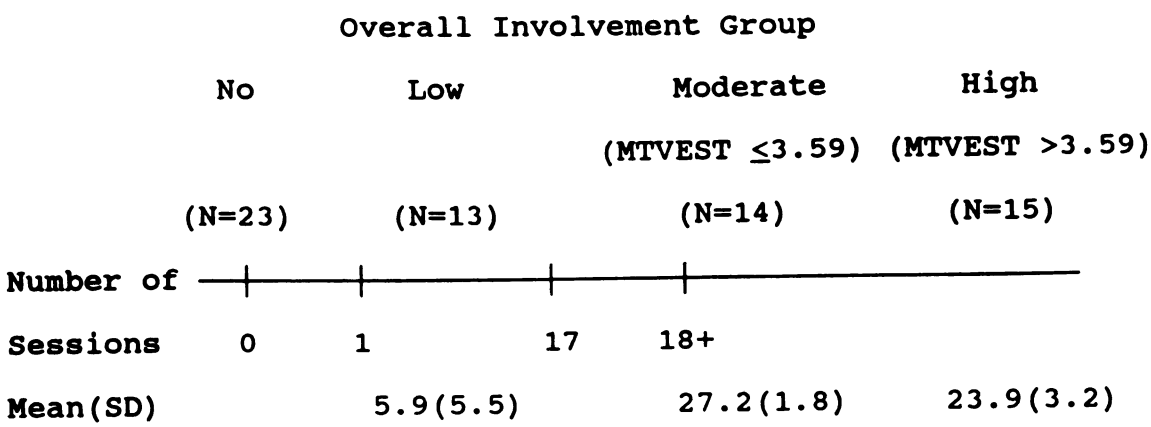
Comparability of Treatment Groups

Although previous research on the larger sample of treatment families found no significant differences between treatment and control groups on a variety of parent and

Figure 4

Overall Treatment Involvement Groups

Based on Participation Through Phase 2



Note. MTVEST=Mother's Cumulative Investment score.

family measures, further analyses were conducted to ensure that this was true of the subset of families used herein. These analyses tested for interactions between the treatment groups -- Treatment Status (i.e. treatment vs. control), and Early and Overall Treatment Involvement -- and the family measures, to verify the comparability of levels of parent trouble, marital conflict, and family sociodemographic characteristics between treatment and control groups, and among the four Treatment Involvement categories. In all of these analyses, measures of parent and marital functioning were comparable across Treatment Status and Treatment Involvement groups (Tables 9-11).

Although families in the Treatment Involvement groups reported comparable levels of parent and marital disruption and demographic characteristics, there was a significant difference in participation between the Mother-Only and Both-Parents conditions. Only 12 of the 22 families (55%) in which both parents were involved completed treatment, compared to an 85% completion rate when only the mothers were involved. Eight of the ten families (80%) who dropped-out before the minimum of nine sessions were families in which both parents were asked to participate. In addition, 2 of the 3 families who terminated after Phase 1 were also in the Both-Parents group (Table 12). Such disengagement by families in the Both-Parents condition is significantly different than that shown by the Mother-Only families (Chi-square (df=1)= 5.00, $p \leq .05$).

Table 9

Comparability of Treatment Groups on Pretest Parent, Child, and Family Factors (N=65)

Variable		Treatment Group: Mother Only (n=20)	Both Parents (n=22)	Control (n=23)	F
Psychopathology Cluster					
Mother	M	- .5335	.606	- .1158	.864
	SD	2.3923	3.1714	2.9038	
Father	M	.2102	- .0766	- .1095	.079
	SD	2.6472	3.0233	2.8822	
Marital Aggression (Intensity)					
Mother	M	3.1229	2.7677	2.0918	.265
	SD	6.119	5.1962	2.3332	
Father	M	2.346	2.4549	2.8465	.152
	SD	2.9088	2.9448	3.5491	
Child Behavior					
Positive	M	4.4010	4.4258	4.5696	.617
	SD	.4739	.5485	.5959	
Negative	M	2.8244	2.9905	2.8623	.614
	SD	.4598	.5240	.5489	
Ratio	M	1.6099	1.5352	1.6478	.519
	SD	.3886	.3544	.3730	
Family Demographics					
Parent Age	M	- .1700	.3293	- .1672	.510
	SD	1.6859	2.2679	1.6151	
Parent Resources	M	- .0637	- .0870	.1386	.034
	SD	1.7986	3.6759	3.6077	

Note. No F's significant at $p<.05$. Table entries for parent and family factors are cluster means. A negative sign indicates that a score is below the mean on that factor.

Table 10

Comparability of Early Treatment Investment Groups on Pretest Parent, Child, and Family Factors (N=65)

Variable		Early Involvement Group				F
		No (n=23)	Low (n=10)	Moderate (n=16)	High (n=16)	
Psychopathology Cluster						
Mother	M	- .1158	.9963	- .4353	- .0209	.533
	SD	2.9038	3.7077	2.3525	2.7571	
Father	M	- .1095	.3232	.2765	- .3212	.169
	SD	2.8822	3.1770	2.6237	2.9222	
Marital Aggression (Intensity)						
Mother	M	2.0918	3.6817	2.4167	2.9914	.301
	SD	2.3332	6.8924	3.8610	6.4222	
Father	M	2.8465	1.9479	2.7927	2.2979	.251
	SD	3.5491	3.0080	2.9065	2.9458	
Child Behavior						
Positive	M	4.57	4.49	4.34	4.44	.580
	SD	.59	.55	.62	.36	
Negative	M	2.86	2.71	2.92	3.01	.820
	SD	.55	.52	.51	.46	
Ratio	M	1.65	1.71	1.56	1.50	.920
	SD	.35	.42	.46	.26	
Family Demographics						
Parent Age	M	- .1672	.2702	.1456	- .0741	.166
	SD	1.6151	2.0374	2.1694	1.9298	
Parent Resources	M	.1386	- .6972	.1137	.1228	.187
	SD	3.6077	3.0296	2.6760	3.1430	

Note. No F's significant at $p<.05$. Table entries for parent and family factors are cluster means. A negative sign indicates that a score is below the mean on that factor.

Table 11

Comparability of Overall Treatment Investment Groups on Pretest Parent, Child, and Family Factors (N=65)

Variable		Overall Involvement Group				F
		No (n=23)	Low (n=13)	Moderate (n=14)	High (n=15)	
Psychopathology Cluster						
Mother	M	- .1158	.2272	.5584	- .5404	.388
	SD	2.9038	3.5413	2.5237	2.5499	
Father	M	- .1095	- .2455	1.0199	- .5713	.470
	SD	2.8822	3.0473	1.8350	3.2805	
Marital Aggression (Intensity)						
Mother	M	2.0918	3.0077	2.8139	2.9901	.159
	SD	2.3332	6.1126	3.9904	6.6765	
Father	M	2.8465	2.0616	3.7285	1.4619	1.482
	SD	3.5491	2.8162	2.9397	2.6197	
Child Behavior						
Positive	M	4.57	4.55	4.38	4.33	.799
	SD	.50	.60	.30	.58	
Negative	M	2.86	2.66	3.11	2.94	1.836
	SD	.55	.55	.36	.50	
Ratio	M	1.65	1.79	1.43	1.51	2.652
	SD	.35	.50	.22	.32	
Family Demographics						
Parent Age	M	- .1671	.5824	.6653	- .8694	2.292
	SD	1.6151	1.9985	1.9958	1.7590	
Parent Resources	M	.1386	- .0029	- .0089	- .2018	.034
	SD	3.6077	3.5739	2.5528	2.7628	

Note. No F's significant at $p<.05$. Table entries for parent and family factors are cluster means. A negative sign indicates a score is below the mean on that factor.

Table 12

Treatment Investment Group Assignment by Treatment Condition

Treatment Condition	Treatment Investment Group					
	Early			Overall		
	Low	Moderate	High	Low	Moderate	High
Mother-Only (N=20)	2	10	8	3	8	9
Both Parents (N=22)	8	6	8	10	6	6
TOTAL	10	16	16	13	14	15

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Intervention and Involvement Effects

To test for differential effects of levels of both Early and Overall Treatment Involvement on child behavior, repeated measures MANOVAs were run, using Mean Positive Behaviors, Mean Negative Behaviors, and Ratio of Mean Positive to Mean Negative Behaviors from mothers' reports on the Child Behavior Rating Scale as the child outcome measures. These child behavior constructs were run across three levels of Time (Pretest, Post-test 1 after approximately 16 weeks of weekly treatment, and Post-test 2 at the end of treatment) as the within subjects factor, and the Treatment Involvement categories (No Involvement, Low Involvement, Moderate Involvement, and High Involvement) as the between subjects factor. These MANOVAs revealed a strong interaction between Time and Early Treatment Involvement for Positive Behavior ($F(6,120)=2.27, p=.04$), Negative Behavior ($F(6,120)=4.15$, $p=.001$), and Ratio of Positive to Negative Behavior ($F(6,120)=3.67$, $p=.002$), based on multivariate (Wilk's Lambda) tests of significance. One-way analyses within each Early Involvement Group revealed significant differences between pretest child behavior and behavior at both post-tests for the High Involvement Group only (Tables 13-15).

As shown in Figures 5-7, the High Involvement group during Phase 1 of the program was the only group reporting a marked increase in positive behavior, decrease in negative behaviors, and positive change in the ratio of positive to

Table 13

Within Group Comparisons of Change in Ratio of Positive to Negative Child Behavior for Early Treatment Involvement Groups

Group		Assessment Phase: Pretest	PT 1	PT 2	F
No Involvement	M	1.65	1.66	1.76	.42
	SD	.35	.46	.49	
	n	23	23	23	
Low Involvement	M	1.71	1.85	1.81	.15
	SD	.42	.56	.72	
	n	10	10	10	
Moderate Involvement	M	1.56	1.86	1.80	1.26
	SD	.46	.70	.54	
	n	16	16	16	
High Involvement	M	$1.49^{a,b}$	2.04^{a}	2.15^{b}	7.15*
	SD	.26	.48	.72	
	n	16	16	16	

* $p<.01$

^{a,b} Row means with the same superscript are significantly different at $p<.05$ (Duncan comparisons).

Table 14

Within Group Comparisons of Change in Positive Child Behavior for Early Treatment Involvement Groups

Group		Assessment Phase: Pretest	PT 1	PT 2	F
No Involvement	M	4.57	4.55	4.55	.004
	SD	.60	.65	.68	
	n	23	23	23	
Low Involvement	M	4.49	4.60	4.60	.098
	SD	.55	.71	.56	
	n	10	10	10	
Moderate Involvement	M	4.34	4.59	4.76	1.790
	SD	.62	.68	.59	
	n	16	16	16	
High Involvement	M	$4.44^{a,b}$	4.92^{a}	4.88^{b}	6.864*
	SD	.36	.34	.51	
	n	16	16	16	

* $p<.01$

^{a,b} Row means with the same superscript are significantly different at $p<.05$ (Duncan comparisons).

Table 15

Within Group Comparisons of Change in Negative Child Behavior for Early Treatment Involvement Groups

Group		Assessment Phase: Pretest	PT 1	PT 2	F
No Involvement	M	2.86	2.86	2.70	.701
	SD	.55	.52	.47	
	n	23	23	23	
Low Involvement	M	2.71	2.63	2.80	.176
	SD	.52	.60	.81	
	n	10	10	10	
Moderate Involvement	M	2.92	2.64	2.77	1.016
	SD	.51	.55	.58	
	n	16	16	16	
High Involvement	M	$3.03^{a,b}$	2.51^{a}	2.43^{b}	6.680*
	SD	.46	.47	.57	
	n	16	16	16	

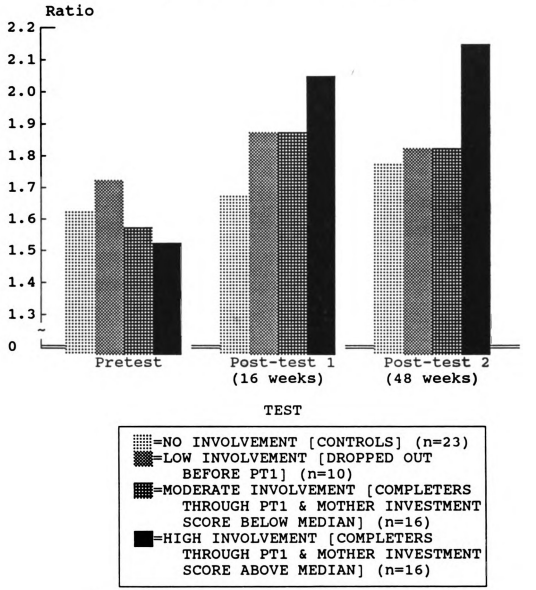
* $p<.01$

^{a,b} Row means with the same superscript are significantly different at $p<.05$ (Duncan comparisons).

negative behaviors from the beginning to the end of the intervention period. This treatment effect for the High Involvement Group appears to be most pronounced at Post-test 1, as Duncan comparisons on the child behavior means at the three time points indicated that the post-test levels of child behavior do not differ significantly from one another. This is consistent with previous research on these families (Zucker, et.al., 1990), in which treatment-related behavior change was found to have taken place primarily in the early, more intensive phase of treatment (Pre to PT1). However, repeated measures MANOVAS for change from Post-test 1 to Post-test 2 suggested a further interaction between Time and Treatment Involvement for Negative Behavior ($F(3,62)=3.72$, $p=.016$) from Phase 1 (Post-test 1) to the end of treatment (PT2). Because no simple effects were found for T1 to T2 change in any of the individual groups, further MANOVAS were conducted on combinations of the Involvement groups. These combinations were determined by examining the plot of these group changes from Post-test 1 to Post-test 2 (Figure 8). MANOVAS on these combined groups revealed an overall difference in the change in Negative Behavior reported by No Involvement (control) and High Involvement mothers compared to mothers in the Low and Moderate Early Involvement groups ($F(1,63)=10.71$, $p=.002$), and a marginal effect for High Involvement versus Moderate and Low ($F(1,40)=3.95$, $p=.054$). The plot of Negative Child Behavior by Early Involvement Group

Figure 5

Variations In Ratio Of Positive To Negative Child Behavior from Pretest Through Post-test 2, As a Function Of Degree Of Early Treatment Involvement

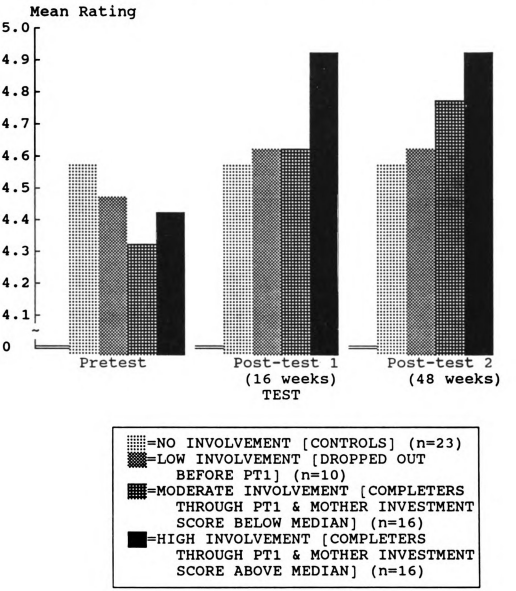


Behavior Change (Pretest to PT1 & PT2):
$F(6,120)=3.67$, $p<.01$

NOTE. Statistics are based on multivariate (Wilk's lambda) test of significance.

Figure 6

Variations In Positive Child Behavior From Pretest Through Post-test 2, As a Function Of Degree Of Early Treatment Involvement

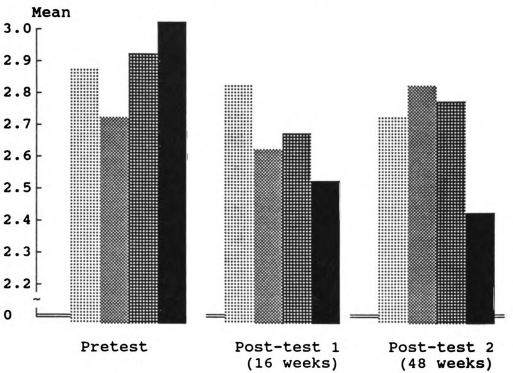


Behavior Change (Pretest to PT1 & PT2):
$F(6,120)=2.27$, $p<.05$

NOTE. Statistics are based on multivariate (Wilk's lambda) test of significance.

Figure 7

Variation In Negative Child Behavior From Pretest Through Post-test 2, As A Function Of Degree Of Early Treatment Involvement



Behavior Change (Pretest to PT1 & PT2):
$F(6,120)=4.15$, $p<.01$

NOTE. Statistics are based on multivariate (Wilk's lambda) test of significance.

demonstrates the nature of this effect (Figure 8). Whereas mothers in the control and Early High Involvement categories reported continuity in Negative Behavior to Post-test 2, the Low and Moderate Involvement Groups reported an increase in Negative Behavior after Post-test 1. Thus, the High Involvement group was able to maintain changes in Negative Behavior to the end of treatment (and the control group remained at pretest levels), while there appears to have been an erosion of treatment effects after Post-test 1 for the Low and Moderate Involvement groups.

MANOVAs based on child behavior change from pretest to Post-test 2 levels among the Overall Treatment Involvement groups revealed similar trends as those found for groups based on Early Treatment Involvement. Again, an interaction between Time and Treatment Involvement was found for the Positive ($F(3,62)=3.47$, $p=.02$), Negative ($F(3,62)=3.37$, $p=.03$), and Positive:Negative ($F(3,62)=5.63$, $p=.002$) Behavior ratings from Pretest to Post-test 2 (Figures 9 - 11). As with families assigned to the High Involvement group on the basis of mothers' early treatment investment score through Phase 1, mothers whose overall investment score was higher through the course of the intervention reported significant increase in positive behaviors, decrease in negative behaviors, and positive change in the ratio of positive to negative child behavior by the end of the intervention.

Figure 8

Variation In Negative Child Behavior From Post-test 1 To Post-test 2, As A Function Of Degree Of Early Treatment Involvement

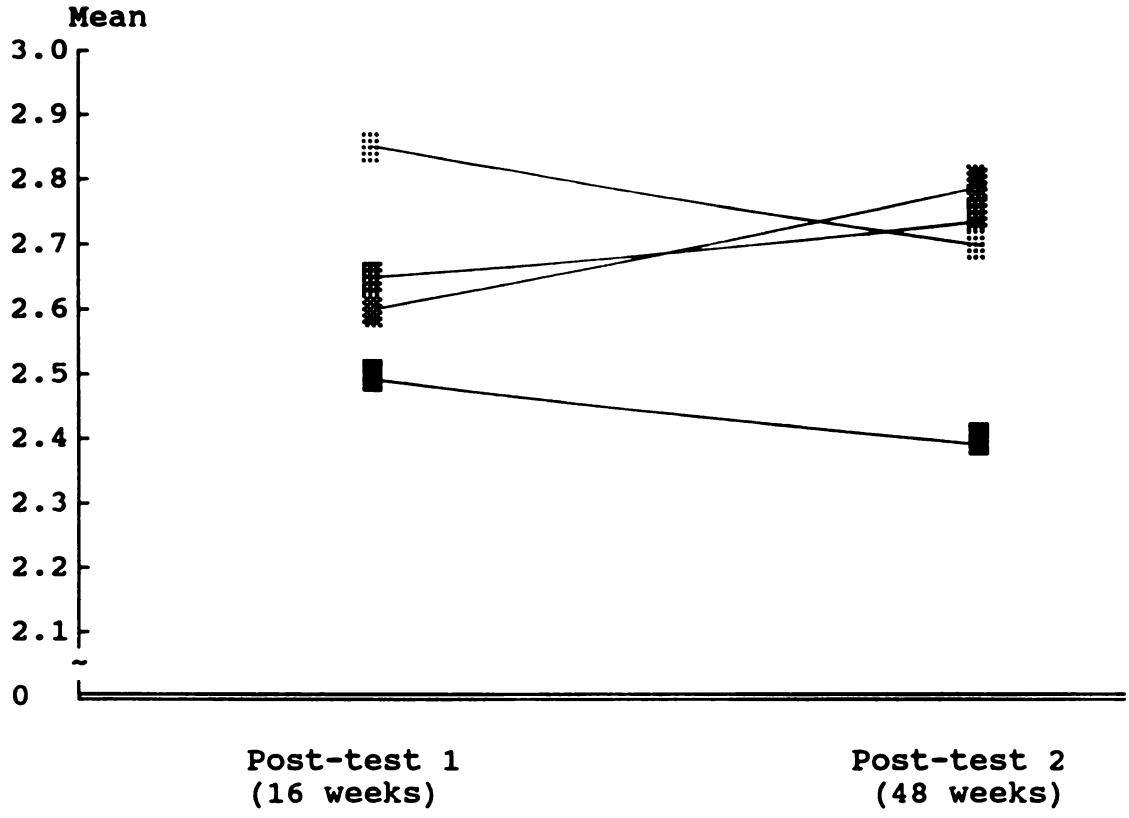
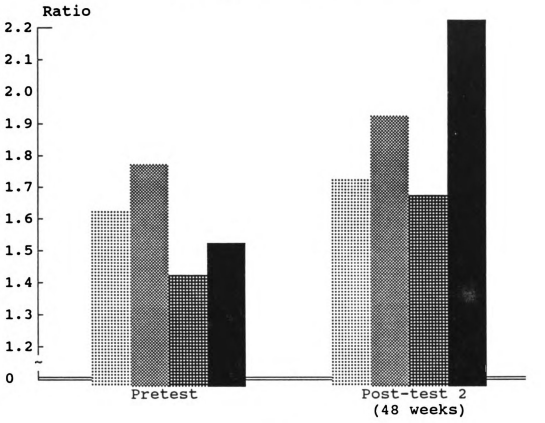


Figure 9

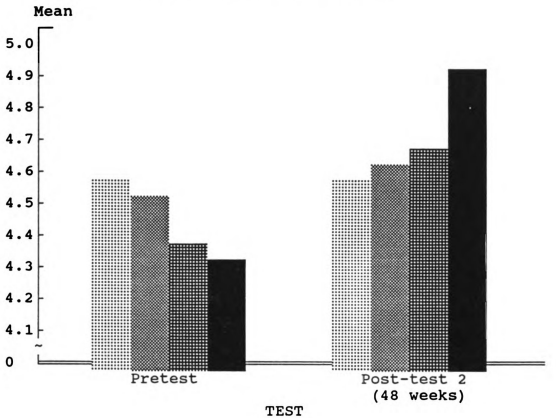
Variations In Ratio Of Positive To Negative Child Behavior From Pretest To Post-test 2, As A Function Of Degree Of Overall Treatment Involvement



Behavior Change (Pretest to PT2):
$F(3,62)=5.63$, $p<.01$

Figure 10

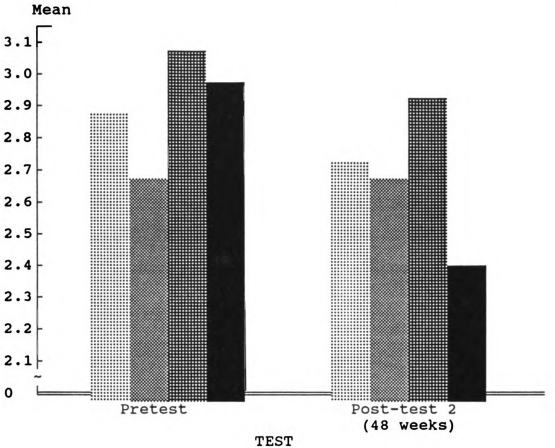
Variations In Positive Behavior From Pretest To Post-test 2, As A Function Of Degree Of Overall Treatment Involvement



Behavior Change (Pretest to PT2):
$F(3,62)=3.47$, $p \leq .05$

Figure 11

Variations In Negative Child Behavior From Pretest To Post-test 2, As A Function Of Degree Of Overall Treatment Involvement



Behavior Change (Pretest to PT2):
$F(3,62)=3.37$, $p<.05$

However, inclusion of the Post-test 1 behavior measures revealed that this simple treatment effect for the High Overall Involvement Group again seems to have been strongest during the initial phase of treatment, as Duncan tests identified the post-test child behavior measures as being significantly different from pre-test levels, but not from one another. Comparisons of the means at all three time points within the other groups (No, Low, or Moderate Involvement) again revealed no significant changes (Tables 16-18).

As with the Early Involvement groups, MANOVAS on changes from Post-test 1 to Post-test 2 reported a further Time by Group interaction ($F(3,62)= 3.93$, $p=.012$) for Negative Behavior. Further MANOVAS on combinations of the Overall Treatment Groups, again determined by examining the plot of T1 to T2 change, found a strong effect for the High Involvement Group versus the Low Involvement Group ($F(1,26)=4.35$, $p=.05$). Reference to the plots of Negative Behavior (Figure 12) based on Overall Treatment Involvement Group demonstrates that the High Involvement Group maintained treatment effects at Post-test 2, while the Low Involvement group reverted back to Pretest levels by the end of treatment.

These analyses indicate a substantial relationship between change in child behavior at the end of treatment and the extent to which families were involved in the intervention program. Mothers classified as the High Involvement group by virtue of their higher investment during the early, weekly

Table 16

Within Group Comparisons of Change in Ratio of Positive to Negative Child Behavior for Overall Treatment Involvement Groups

Group		Assessment Phase: Pretest	PT 1	PT 2	F
No Involvement	M	1.65	1.66	1.76	.42
	SD	.35	.46	.49	
	n	23	23	23	
Low Involvement	M	1.79	2.08	1.92	.59
	SD	.50	.76	.74	
	n	13	13	13	
Moderate Involvement	M	1.43	1.63	1.66	2.47
	SD	.22	.26	.37	
	n	14	14	14	
High Involvement	M	$1.51^{a,b}$	2.08^{a}	2.21^{b}	6.53*
	SD	.32	.55	.74	
	n	15	15	15	

* $p<.01$

^{a,b} Row means with the same superscript are significantly different at $p<.05$ (Duncan comparisons)

Table 17

Within Group Comparisons of Change in Positive Child Behavior for Overall Treatment Involvement Groups

Group		Assessment Phase: Pretest	PT 1	PT 2	F
No Involvement	M	4.57	4.55	4.55	.00
	SD	.60	.65	.68	
	n	23	23	23	
Low Involvement	M	4.55	4.72	4.72	.28
	SD	.60	.75	.67	
	n	13	13	13	
Moderate Involvement	M	4.38	4.55	4.67	2.16
	SD	.30	.39	.43	
	n	14	14	14	
High Involvement	M	4.33[a,b]	4.87[a]	4.90[b]	4.65*
	SD	.58	.59	.54	
	n	15	15	15	

*$p \leq .01$.

[a,b] Row means with the same superscript are significantly different at $p < .05$ (Duncan comparisons)

Table 18

Within Group Comparisons of Change in Negative Child Behavior for Overall Treatment Involvement Groups

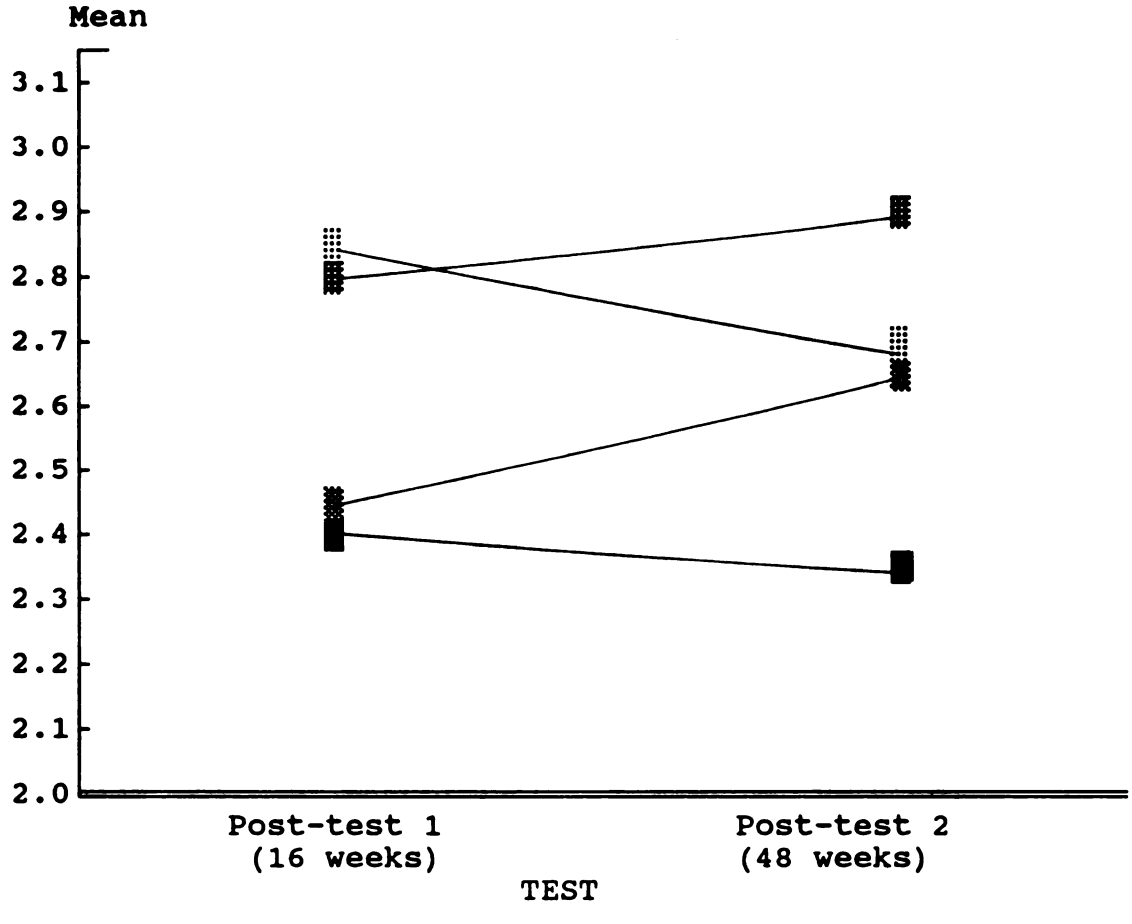
Group		Assessment Phase: Pretest	PT 1	PT 2	F
No Involvement	M	2.86	2.86	2.70	.70
	SD	.55	.52	.47	
	n	23	23	23	
Low Involvement	M	2.66	2.47	2.67	.42
	SD	.55	.63	.75	
	n	13	13	13	
Moderate Involvement	M	3.11	2.85	2.92	1.29
	SD	.36	.39	.54	
	n	14	14	14	
High Involvement	M	2.94[a,b]	2.45[a]	2.38[b]	5.68*
	SD	.50	.46	.55	
	n	15	15	15	

* $p<.01$

[a,b] Row means with the same superscript are significantly different at $p<.05$ (Duncan comparisons)

Figure 12

Variations In Negative Child Behaviors From Post-Test 1 To Post-Test 2, As A Function Of Degree Of Overall Treatment Involvement



sessions and/or across all of the sessions reported significant improvement in their children's behavior. In contrast, no significant change on any of the child behavior constructs was apparent for the groups whose involvement was lower. Further, there is some suggestion that the High Involvement group was able to maintain treatment effects over time, whereas what minimal changes were reported by the Early Moderate and Low Involvement groups, and by the Overall Low Involvement group, appear to have eroded by the end of treatment.

Family Influences on Child Behavior

The next set of analyses was again based on both treatment and control families (N = 65) and examined the extent to which other family factors, namely parent psychopathology, marital conflict, and sociodemographic variables, are related to child behavior. These analyses initially were to be guided by a regression model in which lifetime and current parent psychopathology were considered as separate constructs. As already noted, because of the unsuitability of the QFV-R as an index of current drinking for this set of families, as well as the observation that the other psychopathology variables are highly related, the model was changed to one using a single overall index of psychopathology for each parent, rather than measures of lifetime and current psychopathology. Further, the small sample size prevented a full analysis of the revised model.

As such, the primary goal was to identify those parent, family, and treatment factors most predictive of child behavior change, with the interrelationships among these being of secondary concern.

The first regression tested the hypothesis that the parent psychopathology clusters would be predictive of marital conflict over the previous year. This was found to be partially true, as level of fathers' but not mothers' pathology was positively related to both fathers' aggression against the mothers (RSqChng=.09, p=.016) and mothers' aggression against the fathers (RSqChng=.09, p=.014).

The next regression analyses examined the relationship of mother and father pathology, marital aggression, and family sociodemographic variables to pretest and post-test levels of child behavior (see Table 19). These preliminary regressions were run in a stepwise fashion and were designed to identify, for use in subsequent analyses, those variables most strongly related to child behavior. Regarding the primary child outcome measure of Ratio of Positive to Negative Behavior, higher mother pathology was significantly associated with lower pretest Ratio, as well as with level at T1 when the pretest Ratio was controlled. Only the parent age factor was significantly related to Ratio change from pretest to Post-test 2 with the pretest level entered first in the equation. This relationship was a negative one, in which younger parents reported a greater positive change in the T2 Ratio.

Table 19

Parent, Marital, and Family Predictors of Child Behavior: Stepwise Multiple Regression Analyses on Full Sample (N=65)

Child Behavior Measure	R^2	RSqChng	F	FChng
Ratio Positive to Negative Behavior				
Pretest				
1. Mother Psychopathology	.28	.28	24.02	24.02***
Post-test 1				
1. Pretest Ratio	.39	.39	41.08	41.08***
2. Mother Psychopathology	.44	.04	24.28	4.92*
Post-test 2				
1. Pretest Ratio	.30	.30	27.11	27.11***
2. Parent Age	.37	.07	17.92	6.40**
Positive Mean				
Pretest				
1. Mother Psychopathology	.06	.06	4.04	4.04*
Post-test 1				
1. Pretest Positive Mean	.37	.37	37.31	37.31***
2. Parent Ed., Income, SES	.46	.09	26.32	10.00**
Post-test 2				
1. Pretest Positive Mean	.23	.23	19.06	19.06***
2. Mother Psychopathology	.32	.09	14.57	7.98**
Negative Mean				
Pretest				
1. Mother Psychopathology	.35	.35	33.82	33.82***
Post-test 1				
1. Pretest Negative Mean	.34	.34	31.92	31.92***
2. Mother Psychopathology	.40	.07	20.93	6.93**
3. Father Psychopathology	.44	.04	16.20	4.42*
Post-test 2				
1. Pretest Negative Mean	.28	.28	24.55	24.55***
2. Mother Psychopathology	.33	.05	15.04	4.25*

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

Results were similar for Positive child behavior at pretest, with Mother Psychopathology negatively related to early levels of Positive Behavior. The Family Resources cluster of parent income, education, and socioeconomic status was most positively associated with the T1 Positive mean and - Mother Pathology was strongly (negatively) associated with the T2 measure when pretest levels of child behavior were controlled.

For the Negative Behavior variable, the mother psychopathology cluster was positively associated at pretest and from pretest to Post-test 1 and Post-test 2. Father psychopathology was also predictive of T1 Negative Behavior, with greater distress in the fathers associated with more antisocial child behavior.

Overall, then, mother psychopathology was the parent variable most consistently associated with the child behavior constructs, as it was related to all three measures at pretest and was predictive of Positive Behavior from pretest to Post-test 1, of Negative Behavior at both PT1 and PT2, and of change in the Ratio of Positive to Negative Behavior at Post-test 1. These relationships were in the predicted directions, with higher levels of maternal distress associated with less positive and more negative behavior in the target child. Father psychopathology was related only to level of T1 Negative Behavior, as greater personal trouble for the fathers predicted more antisocial child behavior at Post-test 1.

Contrary to earlier hypotheses, marital aggression was not related to maternal reports of child behavior at any of the three time points. Of the two sociodemographic clusters, the Family Resources one comprised of parent education, income, and family SES showed a strong positive relationship to Positive Child Behavior from pretest to Post-test 1, and the parent age factor was negatively associated with the Post-test 2 Ratio of Positive to Negative Behavior.

Family Variables, Treatment Involvement Group, and Child Behavior Change

Main Effects. The last analyses run on the entire sample of families was a set of hierarchical regressions, designed to examine the extent to which the Treatment Involvement groups continued to be significantly associated with child behavior change in the presence of the parent and family predictors identified through the stepwise analyses. Thus, pretest child behavior, the appropriate parent or family variable(s), and Early or Overall Treatment Involvement group (No Involvement, Low Involvement, Moderate Involvement, and High Involvement) entered as predictors of T1 and T2 child behavior. In all cases, pretest levels of child behavior were entered first into the regression formula as control for individual differences in initial level of child adaptation. At the next step were entered the specific parent and/or family variable(s) that had been found to be the strongest predictors of each child behavior measure through the earlier stepwise

regressions (see Table 19). Finally, Treatment Involvement group was entered at the last step.

Regarding overall change in the Ratio of Positive to Negative child behavior, Treatment Involvement groups based on both early and cumulative levels of mothers' treatment investment scores accounted for a significant amount of the variance. The Early Treatment Involvement categories were positively related to the Ratio of Positive to Negative behavior at Post-test 1 after the entry of the pretest ratio and mother psychopathology (RSqChng=.12, p=.0001). For T2 predictions of the Child Behavior Ratio, Early Treatment Involvement again was positively associated with the T2 Ratio (RSqChng= .11, p=.001), as was Overall Treatment Involvement (RSqChng=.10, p=.001) after the entry of pretest levels and the parent age variable.

Results were similar when the individual components of the Behavior Ratio (i.e. the Positive and Negative Behavior means) were examined. Increase in Positive Behavior at Post-test 1 was related to greater Early Treatment Involvement (RSqChng=.08, p=.002) after pretest levels and the Family Resources cluster of education, income, and SES were entered into the equation. At Post-test 2, Positive Behavior was negatively related to mother pathology (RSqChng=.09, p=.006) and positively associated with Early and Overall Treatment Involvement classifications (RSqChng=.07, p=.01 and RSqChng=.07, p=.008, respectively).

Similarly, reductions in Post-test 1 Negative Behavior was significantly related to greater Early Treatment Involvement (RSqChng=.09, p=.0013) after pretest negative child behavior and the mother and father psychopathology variables were entered into the equation. However, neither the Early nor the Overall Treatment Involvement categories were significantly associated with Negative Behavior at Time 2 (RSqChng=.04, p=.058 and RSqChng=.03, p=.08), after mother psychopathology was included in the equation.

Interactions. Interactions between the appropriate parent and family variables and Treatment Involvement Group were also tested for each equation, with the interaction terms entered in after the main predictors. No interactions between Early or Overall Treatment Involvement and any of the relevant parent and family variables were found to be significant predictors of child behavior change beyond the main effects of the independent variables.

These findings indicate that, in general, both the Early and Overall Treatment Involvement groups were predictive of changes in child behavior from pretest to Post-tests 1 and 2 (with the exception of T2 Negative Behavior), above and beyond the contributions of mother psychopathology and family sociodemographic characteristics. More specifically, this relationship appears to be one in which higher treatment involvement is related to more positive child outcome, in terms of a reduction in negative behavior, an increase in

positive behavior, and more positive behavior relative to negative behavior.

However, there was some discontinuity in the Early versus Overall Involvement classification of families in the Moderate and High Involvement Groups, such that it is difficult to get a clear understanding of the nature of child behavior changes reported by mothers in the Early Involvement Groups as compared to Overall Involvement Groups. As depicted in Table 20, approximately one-third of the families in the Early High Involvement category "dropped down" to the Moderate Involvement group based on the mother's cumulative treatment investment score. Similarly, one-third of the Early Moderate group "moved up" to the Overall High Involvement group when classified according to the mother's treatment investment across all sessions. Such changes in status from Early to Overall Involvement do not necessarily reflect an absolute decrease or increase in investment among individual mothers who changed categories from Post-test 1 to Post-test 2. For example, a mother whose level of investment score was consistent throughout the program may nonetheless have been classified in different Early and Overall Involvement Groups, depending on her level of investment relative to other mothers completing treatment.

It should also be noted that two families in the Early Moderate Group and one in the Early High group dropped out of the program completely after Post-test 1. Thus, the Low

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Involvement or "drop-out" group at Post-test 2 is likely to be somewhat heterogeneous in nature. As other researchers (e.g. Baekland and Lundwall, 1975; Forehand, et. al., 1983) have pointed out, characteristics of families who drop out early in the treatment process may differ significantly from those of families who terminate at a later stage. In fact, as reported by Maguin (1991), a portion of the families who terminated their therapeutic involvement in the present program did so because behavior problems in their children were so minimal that the parents did not consider such intensive work to be necessary. Other families were quite involved in the initial phase of treatment, but were not interested in continuing with the program once the focus changed from parenting practices to marital problem-solving. Clearly, child outcome in these types of families may be markedly different than in families where the parents were unwilling to learn new child-rearing practices. The present study attempted to address these concerns by classifying families both in terms of their treatment involvement at mid-treatment and by the end of the intervention, such that families who dropped out later in the course of treatment were differentiated from earlier dropouts within the Early Involvement categories. However, it is apparent that the categorical nature of the involvement variable permits only a preliminary and somewhat limited understanding about the extent to which mothers were invested in and cooperative with

Table 20

Changes in Treatment Involvement Group: Phase 1 to Phase 2

	Treatment Condition		
Early Involvement Group	Mother-Only	Both Parents	Total
Early Low:			
to Overall Low (no change)	10% (2)	36% (8)	24%(10)
to Overall Moderate (+ change)	--	--	--
to Overall High (++ change)	--	--	--
(Subtotal)	10% (2)	36% (8)	24%(10)
Early Moderate:			
to Overall Moderate (no change)	30% (6)	14% (3)	21% (9)
to Overall Low (- change)	5% (1)	4% (1)	5% (2)
to Overall High (+ change)	15% (3)	9% 2	12% (5)
(Subtotal)	50%(10)	27% (6)	38%(16)
Early High:			
to Overall High (no change)	30% (6)	18% (4)	24%(10)
to Overall Moderate (- change)	10% (2)	14% (3)	12% (5)
to Overall Low (-- change)	0	5% (1)	2% (1)
(Subtotal)	40% (8)	37% (8)	38%(16)
TOTAL	100%(20)	100%(22)	100%(42)

the intervention program, and about the degree to which this treatment process construct relates to changes in child behavior. With this in mind, it was anticipated that an examination of actual treatment investment scores might provide further information about the contribution of parent, family, and treatment process factors in influencing child behavior change.

Family Variables, Treatment Investment, and Child Behavior Change

In order to better examine the role of treatment process measures in the prediction of changes in child behavior, the next sequence of analyses focused only on those families that were at least minimally involved in the treatment program (that is, families who either completed the regimen or who dropped out after participating in at least one session (N=42)). Preliminary stepwise regression analyses were again conducted in order to identify those family variables most strongly associated with child behavior changes (beyond the influence of pretest child behavior) within this subset of the larger sample. In these analyses, Treatment Group (Mother-Only versus Both Parents) was included as a possible predictor of child behavior change, to test for differential effects of the two treatment conditions. As shown in Table 21, Mother Psychopathology was negatively predictive and the Family Resources cluster was positively predictive of Post-test 1 Positive Behavior. Higher levels of Father Psychopathology

Table 21

Parent, Marital, and Family Predictors of Child Behavior: Stepwise Multiple Regression Analyses on Treatment Sample (N=42)

Child Behavior Measure	R^2	RSqChng	F	FChng
Ratio Positive to Negative Behavior				
Post-test 1				
1. Pretest Ratio	.45	.45	33.09	33.09***
2. Father Psychopathology	.53	.08	22.27	6.69**
Post-test 2				
1. Pretest Ratio	.30	.30	17.31	17.31***
2. Parent Age	.37	.07	11.50	4.27*
3. Parent Ed.,Income,& SES	.43	.07	9.75	4.30*
Positive Mean				
Post-test 1				
1. Pretest Positive Mean	.37	.37	23.28	23.28***
2. Mother Psychopathology	.47	.10	16.98	7.12*
3. Parent Ed.,Income, & SES	.53	.07	14.43	5.45*
Post-test 2				
1. Pretest Positive Mean	.25	.25	13.32	13.32***
2. Mother Psychopathology	.40	.15	12.86	9.56**
Negative Mean				
Post-test 1				
1. Pretest Negative Mean	.39	.39	24.35	24.35***
2. Father Psychopathology	.48	.09	17.38	6.55**
Post-test 2				
1. Pretest Negative Mean	.28	.28	15.99	15.99***
2. Parent Ed.,Income, & SES	.36	.08	10.97	4.54*
3. Parent Age	.46	.10	10.69	6.84**

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

were predictive of more Negative Behavior and fewer Positive relative to Negative Behaviors (in the Behavior Ratio) at T1. At Post-test 2, Mother Psychopathology was a strong, negative predictor of Positive Behavior. The two sociodemographic clusters were predictive of Negative Behavior and the T2 Ratio, as more Family Resources and younger parents were associated with less Negative Behavior and a higher Positive to Negative Behavior Ratio. Neither Marital Conflict nor Treatment Condition entered in as significant predictors of any of the child outcome measures.

The next analyses again were designed to test the extent to which treatment-related variables are predictive of child behavior at Post-tests 1 and 2 beyond the contribution made by the particular parent and family variables that were identified through the stepwise analyses as being significantly associated with child outcome. For these analyses, however, the treatment variable was based on mothers' Treatment Investment score, comprised of the mean of their combined scores on the treatment process and homework cooperation measures across sessions. Analyses included mothers' mean Treatment Investment both during Phase 1 (e.g. up to Post-test 1) and from the first session to the end of the intervention. Again, these were hierarchical regression analyses, controlling for pretest levels of child behavior at Step 1, then entering the appropriate parent and/or family variable(s) determined via the stepwise analyses (Table 21).

Treatment investment scores were entered next as predictor variables, after the pretest child, parent, and family measures.

Early Treatment Investment.

Main Effects. Similar to what was found regarding the Treatment Involvement categories, mothers' Early Treatment Investment was positively related to the Ratio of Positive to Negative Behavior at both Post-test 1 and Post-test 2 (RSqChng=.09, p=.004 and RSqChng=.11, p=.006). Thus, at PT1, Early Treatment Investment accounted for a significant proportion of the variance beyond that already accounted for by the pretest ratio and by father psychopathology. At PT2, Early Treatment Investment again was a significant predictor of the Ratio after the entry of the pretest child behavior ratio and the two sociodemographic variables.

In terms of Positive Behavior, Early Treatment Investment was a significant, positive predictor at both time points (RSqChng=.09, p=.006 at PT1 and RSqChng=.07, p=.033 at PT2) after the entry of pretest behavior, Family Resources (at T1), and Mother Psychopathology (T1 and T2). Thus, greater treatment investment in the first half of treatment was associated with an increase in prosocial behavior in the target child at mid-treatment and at the end of treatment.

Regarding Negative Behavior, Father Psychopathology and mothers' early treatment investment scores were both predictive of T1 levels (RSqChng=.09, p=.01 for father

pathology, RSqChng=.07, p=.02 for treatment investment), with greater distress in the fathers and less investment by the mothers associated with greater antisocial behavior in the target child. At Post-test 2, Early Treatment Investment was again negatively predictive of Negative Behavior (RSqChng=.17, p=.0003) after pretest Negative Behavior and the family sociodemographic variables were entered into the equation.

Interactions. The final step in these hierarchical regressions entered terms for interactions between parent and/or family characteristics and the treatment investment scores. None contributed significantly to the prediction of T1 and T2 child behavior beyond the effects of the individual variables.

Cumulative Treatment Investment

Main Effects. Results regarding the cumulation of mothers' mean treatment investment from Session 1 to the end of treatment are comparable to those found for Phase 1 (i.e. "early") levels of treatment investment. In this regard, Post-test 2 ratio of Positive to Negative child behavior was positively related to mothers' Cumulative Treatment Investment (RSqChng=.10, p=.01), after the entry of pretest Ratio and the demographic variables. Mean Positive behavior was also (positively) predicted by the mother treatment investment score (RSqChng=.06, p=.05), after pretest Positive Behavior and mother psychopathology. Finally, mean Negative child behavior was predicted by the family sociodemographic

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variables (negatively by Family Resources and positively by Parent Age) and Cumulative Treatment Investment (RSqChng=.17, p=.0002). Again, higher levels of treatment investment were associated with child behavior change in the desired direction, with a decrease in antisocial behaviors, an increase in prosocial behaviors, and more positive behavior relative to negative behavior.

Interactions. Only one interaction between family variables and investment scores made a significant contribution to the prediction of the child behavior constructs in the presence of the individual family and Cumulative Investment measures (i.e. when entered after the other predictors). This was an interaction between the Family Resources cluster (income, education, and socioeconomic status) and mothers' Cumulative Treatment Investment in the prediction of T2 Negative Behavior (RSqChng=.04, p=.05). To explore the nature of this interaction, families were divided into two groups based on a median split on the investment score. For families in which mothers' Cumulative Treatment Investment was lower, family income, SES, and education exerted a significant effect on Negative Child Behavior at Post-test 2 (RSqChng=.14, p=.05), with fewer family resources predicting greater negative behavior at the end of treatment. In contrast, this family variable was not predictive of the Negative Behavior mean for families in which mothers' Cumulative Treatment Investment was higher (RSqChng=.007,

p=n.s.). That is, a lack of family resources did not impair the reduction of negative child behavior at the end of treatment among families where the mothers were more invested in the program. Cumulative Treatment Investment thus appears to have acted as a moderator of family income, education, and socioeconomic status, with higher investment suppressing the negative influence of lower family resources on negative child behavior at the end of treatment.

Behavior Change Between Post-tests

Thus far, these analyses have focused exclusively on changes in child behavior from pretest to Post-tests 1 and 2, as earlier work (Zucker, et. al., 1990) with these families indicated that treatment-related behavior change took place primarily in the early, weekly phase of treatment. However, as described above, there is some evidence for differential change in Negative Behavior from Post-test 1 to Post-test 2, based on maternal treatment investment. In this regard, the reduction in negative child behavior reported by the High Involvement groups at Post-test 1 was maintained to Post-test 2. In contrast, the Moderate and Low Involvement groups showed a marked increase in negative behavior from Post-test 1 to Post-test 2.

Regression analyses were conducted to examine the extent to which early and cumulative levels of mother treatment investment are, in fact, predictive of T2 Negative Behavior with T1 Negative Behavior controlled. First, stepwise

regressions with the parent and family variables were conducted. None were predictive of Negative Behavior at Post-test 2 beyond the contribution made by Post-test 1 Negative Behavior (RSqChng=.69, p=.0000). The next step was to include treatment investment scores in the equation, to examine the extent to which treatment investment was significantly associated with such child behavior change. With Post-test 1 Negative Behavior entered first, both Early and Cumulative Treatment Investment were negatively related to Negative Child Behavior at Post-test 2 (RSqChng=.06, p=.003 for Early Investment, and RSqChng=.06, p=.006 for Cumulative Investment). Thus, maternal treatment investment appears to be crucial in accounting for changes in negative behavior from mid-treatment to the end, with higher levels of investment predictive of the maintenance of reduction in antisocial behavior across time.

Predicting Treatment Investment

The final analyses run on the subset of treatment families were stepwise regressions designed to identify those parent, marital, and family factors most strongly associated with mothers' capacity to invest in the intervention program. For both Early and Overall Treatment Investment, the Mother Psychopathology factor was the only significant predictor (RSqChng=.21, p=.0023 for Early Investment, and RSqChng=.21, p= .0024 for Overall Investment). These analyses indicated a substantial negative relationship between mother

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psychopathology and treatment investment, such that mothers who experienced more personal distress were less willing and/or able to be invested in the parent training program.

Correlations of the parent and family variables with the treatment investment measures are depicted in Table 22.

Treatment Investment as a Mediator

Given the strong relationship between Mother Psychopathology and Treatment Investment, further analyses were run to test the extent to which Treatment Investment serves as a mediator of the contribution of Mother Psychopathology to changes in child behavior. As described by Baron and Kenny (1986), in order to demonstrate that a variable acts as a mediator between an independent variable and a dependent variable, the independent variable must predict both the dependent variable and the presumed mediator, and the presumed mediator must be significantly predictive of the dependent variable. In earlier analyses, Mother Psychopathology did significantly predict the dependent measures of Positive Child Behavior at Post-test 1 and Post-test 2 (RSqChng=.10, p=.011 and RSqChng=.15, p=.004, respectively). And, as shown above, this psychopathology factor was predictive of the presumed mediator, treatment investment. Finally, as already described, both Early and Cumulative Treatment Investment also predicted Positive Behavior at both time points (RSqChng=.09, p=.006 at PT1 and RSqChng=.07, p=.03 at PT2, for Early Investment, and

Table 22

Correlations of Pretest Parent, Child, and Family Factors With Maternal Treatment Investment

	Treatment Investment Type	
Factor	Early	Cumulative
Mother Psychopathology	-.46**	-.46**
Father Psychopathology	-.24	-.26
Mother Marital Aggression	-.21	-.12
Father Marital Aggression	-.25	-.29
Parent Age	-.08	-.26
Family Resources	.20	.11
Positive Child Behavior	.06	.11
Negative Child Behavior	-.11	-.24
Ratio Pos:Neg Behavior	.12	.24

**$p \leq .01$

Note. All correlations are Pearson r.

RSqChng=.06, p=.05 at PT2 for Cumulative Investment). Thus, the initial requirements for demonstrating mediation have been met.

Mediation was tested in two ways. The first method was to examine the significance of the betas of Mother Psychopathology and Treatment Investment clusters as an index of the overall contribution of these two measures to the prediction of Positive Child Behavior in the presence of all relevant variables in the equation (Rogosch, Chassin, & Sher, 1990). At Post-test 1, the negative relationship between Mother Psychopathology and the Positive Behavior measure decreased with the inclusion of both Early and Cumulative Treatment Investment. The effect of Mother Psychopathology on T1 Positive Behavior was reduced from -.27 to -.12, and was no longer significant, with Early Treatment Investment included in the equation.

For Positive Behavior at Post-test 2, the effect of Mother Psychopathology was reduced from -.39 to -.25 by Early Treatment Investment, and to -.26 by Cumulative Treatment Investment. Neither of these betas was significant with the treatment investment variables present (Table 23).

The second test for mediation was conducted by a series of stepwise regressions to examine the relative predictive power of mother psychopathology and treatment investment. If treatment investment is truly a mediator of the direct effects of mother psychopathology on positive child behavior, one

Table 23

Regressions of Mother Psychopathology on Positive Child Behavior Without and With Treatment Investment

	Without Mother Investment		With Mother Investment	
Post-test	Beta	T	Beta	T
Post-test 1				
			Early Investment	
T0 Pos. Behav.	.54	4.82****	.55	5.35****
Mother Psych.	-.27	-2.39*	-.12	-1.07
Family Resources	.26	2.34*	.22	2.13*
Early Invest.	--	--	.34	2.93**
Post-test 2				
			Early Investment	
T0 Pos. Behavior	.44	3.45***	.44	3.66***
Mother Psych.	-.39	-3.09**	-.25	-1.88
Early Invest.	--	--	.29	2.21*
			Cumulative Investment	
T0 Pos. Behavior	.44	3.45***	.43	3.51***
Mother Psych.	-.39	-3.09**	-.27	-1.96
Cumulative Invest.	--	--	.28	2.04*

*p≤.05. **p≤.01. ***p≤.001.

would expect the treatment investment scores to be entered into the equation at the exclusion of Mother Psychopathology variable. This, in fact, was the case. For Post-test 1 Positive Behavior, the order of entry was: 1) Pretest Positive Behavior, 2) Early Treatment Investment, and 3) Family Resources. The Mother Psychopathology factor did not enter in as a significant predictor. At Post-test 2, only the Pretest Positive Mean and Early Treatment Investment entered the equation, with Mother Psychopathology again omitted.

Results were comparable for stepwise analyses conducted with the cumulative measure of treatment investment. Positive Behavior at Post-test 2 was predicted only by Cumulative Treatment Investment after the pretest behavior mean (Table 24).

Both sets of analyses confirm the role of Early and Cumulative Treatment Investment as a mediator of mother psychopathology. Mothers' treatment investment appears to be crucial in accounting for the relationship between mother psychopathology and changes in positive child behavior over time. That is, the negative effect of mother psychopathology on the child's development of prosocial skills at the end of treatment appears to be indirect, via the disruptive influence that greater maternal distress has on mothers' ability to invest in and cooperate with a program designed, in part, to increase positive child behavior.

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Table 24

Stepwise Predictions of Post-test Positive Behavior With Early and Cumulative Treatment Investment

Treatment Investment Measure	R^2	RSqChng	F	FChng
Post-test 1				
Early Investment				
1. Pretest Positive Behavior	.37	.37	23.28	23.28***
2. Early Treatment Investment	.59	.19	24.61	16.77***
3. Family Resources	.61	.05	19.72	4.95*
Post-test 2				
Early Investment				
1. Pretest Positive Behavior	.25	.25	13.32	13.32***
2. Early Treatment Investment	.42	.17	13.92	11.14**
Cumulative Investment				
1. Pretest Positive Behav.	.25	.25	13.32	13.32***
2. Cumulative Investment	.40	.15	13.09	9.90**

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

CHAPTER IV

DISCUSSION

Research on the effectiveness of parent-training programs and interventions has focused largely on parent and family factors at pretest that facilitate or interfere with positive child behavior change at the end of treatment. Factors related to the actual treatment process, such as parent involvement within sessions and cooperation in carrying out homework assignments between sessions, have typically been overlooked. When treatment process variables have been included, the research has usually explored either how treatment compliance is predicted by client characteristics (Furey & Basili, 1988; Griest, et. al., 1981), or how it influences outcome (Johnson & Christensen, 1975). Seldom have these studies been designed to examine the interrelationships among parent and family characteristics, treatment process variables, and treatment outcome. The present study represents an early attempt to bridge this gap in the treatment literature.

Treatment Investment and Child Behavior Change

What has been suggested thus far in the research is that greater psychopathology and/or socioeconomic disadvantage predict mothers who drop out of a parent training program (Furey & Basili, 1988) and mothers who do not participate in post-treatment follow-up procedures (Griest, et. al., 1981).

A recent study by Holden, et. al. (1990) found that completion of a parent training program and speed of mothers' progress in the program were both related to such factors as family social status, initial level of child compliance, and overall number of presenting problems, with higher family social status and less problem child behavior related to treatment completion and more rapid progress.

In a series of studies, Dumas found that parents experiencing multiple material and social stressors are less able to benefit from parent training interventions (Dumas, 1984). Further, both treatment involvement and treatment outcome were strongly influenced by family socioeconomic factors, with maternal psychopathology and marital violence less directly related to these two treatment variables (Dumas, 1986). When families were classified according to treatment outcome status (success vs. no success), parent involvement measures failed to differentiate between families who were successful and those who were not. The researchers concluded that families experiencing severely impoverished conditions may not benefit from parent training regimens regardless of their treatment participation (Dumas & Albin, 1986).

In their pioneer attempts to understand how parent and family variables and treatment cooperation factors are related both to one another and to positive child behavior change, Patterson and Chamberlain (1988) found evidence that such family characteristics as parent psychopathology, marital

conflict, and lower socioeconomic status hinder positive child outcome via their disruption of the therapeutic process. More specifically, high levels of family stressors seemed to increase parents' resistance to the therapist's instructions within the sessions, thereby decreasing the acquisition of the appropriate child-rearing practices thought to facilitate positive child behavior change.

The present study incorporated pretest measures of mother and father psychopathology, marital aggression, and family socioeconomic and demographic factors (parent age, SES, family income and parent education) in order to examine which are most strongly related both to child behavior change and to mothers' treatment investment within and between sessions. In addition, it has sought to determine the extent to which treatment investment serves as an important predictor of changes in child behavior, not only beyond the effects produced by family characteristics, but also potentially as a crucial link in explaining the relationship between parent and family factors and child outcome in our parent training program.

Earlier research with this group of families (Maguin, 1991; Zucker, et. al., 1990; Zucker, et. al., 1989) found evidence for treatment effects when comparing child behavior change in the no-treatment control group versus the group of families completing treatment. The current study included a group of treatment drop-outs (the Low Involvement groups) in

the analyses and categorized the pure treatment group further, splitting the "completers" into Moderate and High Involvement groups based on maternal treatment investment scores. Comparisons among these groups revealed that significant child behavior change occurred only within the group of completers who were highly invested in the treatment program. Further, there is some evidence that this High Involvement group was able to maintain changes in child behavior at post-treatment follow-up. In contrast, whatever minimal changes were reported by the drop-outs and, to a lesser extent, by the less-invested completers at mid-treatment appear to have eroded by the end. Thus, neither the drop-outs nor the less-invested mothers who completed the program reported significant child behavior change in the desired direction from pretest levels. These findings suggest, then, that mere participation in and completion of a parent-training program is a necessary but not a sufficient condition for effecting positive changes in child behavior.

An examination of mothers' actual investment scores revealed even more about the importance of this treatment process construct in accounting for child outcome. High maternal within- and between-session investment in the treatment regimen during the initial, weekly phase of the program was strongly predictive of changes from pretest levels in the ratio of positive to negative child behavior, and in mean positive and negative behavior, at the end of both the

initial treatment phase and the entire treatment program. Similarly, measures of maternal treatment investment across the entire span of the program were also predictive of child behavior change, with higher investment associated with more positive child outcome. In addition, early and cumulative measures of treatment investment were both associated with additional changes in negative behavior from the mid-treatment assessment to Post-test 2, with less involved mothers reporting more child behavior problems at the end of the intervention. This latter finding suggests that treatment investment may be necessary not only for reducing negative child behaviors, but also for maintaining this treatment effect across time. This is particularly important in light of the lack of change found for positive behavior and for the positive to negative behavior ratio from Post-test 1 to the end of the intervention. The consistency of the positive child behavior measures suggests that these treatment effects may be more easy to maintain than is the reduction of negative child behavior, and that continued investment on the part of the parent may be particularly necessary for the maintenance of changes in negative child behavior over the course of the program.

Both the early and cumulative treatment investment scores contributed significantly to the prediction of the child behavior constructs from pretest levels, <u>beyond</u> the contributions made by mother and father psychopathology,

parent age, and/or family income, socioeconomic status, and parent education. In addition, there is evidence that treatment investment also has an influence on the relationship between child outcome and certain parent and family factors. At the Time 2, post-treatment follow-up, the family income, education, and socioeconomic cluster had a significant negative relationship with negative child behavior only in those families in which maternal treatment investment across the span of the intervention was lower. Thus, contrary to other research (Dumas & Albin, 1986), greater cumulative treatment investment appeared to curtail the inverse impact of lower family resources on negative child behavior at the end of treatment.

This finding may be explained in the context of research done on a larger sample of families from the parent project (Davies, Zucker, Noll, & Fitzgerald, 1989a), which examined the relationship between parent child-rearing practices and family demographic characteristics. Of particular relevance to the present study is the association noted there between maternal authoritarianism and such maternal resources as education, income, and SES. Given that the intervention program, particularly during the initial weekly segment of sessions, focused on changing the child-rearing practices and disciplinary style of the parent(s), one hypothesis is that mothers who were more invested in the regimen were more open to the experience and more amenable to change. As such, one

might expect that, by the end of the program, the parenting practices of these mothers and the subsequent change in negative child behavior had become more directly influenced by the intervention and relatively independent of the more distal influence of education, SES, and income. Obviously, further research is necessary to examine, for example, whether highly invested mothers actually showed a decrease in authoritarianism and an overall change in child-rearing practices by the end of the intervention.

Also of note is the strong negative relationship between mother psychopathology and maternal treatment investment, as well as the role of treatment investment in mediating the effects of mothers' psychopathology on child behavior change. In the present study, mother psychopathology was significantly related to all three pretest measures of child behavior, as well as to positive behavior at both post-tests after pretests levels were controlled. However, the negative relationship between mother psychopathology and changes in positive child behavior appears to be indirect, via treatment investment. Specifically, mothers who are more distressed seem to have difficulty investing in and cooperating with the treatment regimen, and this lack of investment, in turn, reduces the extent to which the target child develops more prosocial skills by the end of the intervention.

The lack of an association between marital conflict and either treatment investment or child outcome is discrepant

from Patterson's work (e.g. Patterson & Chamberlain, 1988), but is consonant with other research in which marital distress was not disruptive of child outcome in parent-training programs that incorporated a marital problem-solving component (Dadd, 1987; Griest, et. al., 1982). Thus, the fact that marital issues were addressed within the intervention may explain the lack of a relationship between marital conflict and child behavior change. However, it must also be noted that the type of marital conflict measured in the present study was of an extreme variety, as it was related to levels of direct and indirect physical interspousal violence, rather than to marital dissatisfaction or more general marital disharmony or distress. Measures of these other forms of marital conflict might have produced different results. In addition, it must again be noted that there was significantly more marital violence reported by mothers in the initial recruitment sample who did not continue their participation in the project, such that the range of marital conflict within the treatment group may have been quite restricted. This also suggests that marital conflict may have played a role in this more global index of investment, with more volatile couples proving unwilling and/or unable to remain involved in the research project. It is also possible that, in the present study, marital conflict impeded particular aspects of maternal treatment investment among mothers involved in the program. For example, maritally distressed mothers may have been less

cooperative or successful with problem-solving homework, even when their overall investment was quite high. These considerations bear further exploration.

Unique Aspects of the Study

The parent training literature has reported primarily on clinical populations, in which the families have actively sought help in addressing problems of antisociality and aggressiveness in their children. The recruitment of such families has typically been based on characteristics of the children rather than of the parents. In contrast, the families involved in the current study were selected because of evidence of alcoholism in the fathers, and were specifically identified and recruited through court records of DUI arrests. As such, these families were reached before existing child behavior problems had escalated to a level where the parents resorted to outside intervention. While this type of selection can facilitate the inclusion of a more representative sample of young children with a broader range of behaviors, it may also serve to hinder parent investment and/or to limit potential treatment gains. In terms of the former, one might argue that parents seeking treatment to counteract aversive child behaviors would be more invested in effecting subsequent behavior change than would parents not reporting significant difficulties with their children. On the other hand, with children exhibiting problems in the clinical range, a stronger and more deeply ingrained pattern

of aversive interactions among family members is likely to exist, and parent treatment cooperation may be undermined by the frustrations inherent in trying to address such chronic needs. In the present study, the extent to which mothers were invested in the intervention program was not found to be related to pretest levels of child behavior. Therefore, at least in this sample, level of pretreatment child behavior cannot be viewed as either facilitative or disruptive of parent treatment investment.

Regarding potential treatment gains, the use of a non-clinical sample of children raises the risk that actual change in child behavior will be underreported or overlooked, or that the range of potential change is restricted by the subclinical distribution of child behavior problems. In terms of the former, for example, significant changes in behavior that is not identified by the parents as problematic at the outset of treatment may not be as immediately noticeable as would a reduction in aversive behavior among clinic-referred children. The present study has attempted to circumvent this concern by examining changes not only in negative behavior, but also in positive behavior and in the ratio between the two.

The intervention program used in the present study also differs from more traditional approaches toward parent training in regard to both its scope and its underlying orientation. As noted above, this program incorporated a marital problem-solving component in the treatment regimen,

rather than adhering to a strict child-focused paradigm. Further, in contrast to parent training paradigms with clinical populations, the focus of the present work has purposely been on ways to enhance parenting techniques and child-rearing practices in order to prevent later child behavior problems, rather than to reduce problems already in existence. Thus, although some treatment sessions were focused on addressing parents' concerns about specific child behaviors, the underlying philosophy was not geared toward "fixing the child" but toward assisting the parent(s) in reducing the risk that severe behavior problems would arise in the future. As such, it must again be recognized that a more appropriate outcome measure for treatment effectiveness with this group of families might be changes in parenting practices, rather than change in child behavior per se.

Methodological Limitations

The present study presents strong evidence that maternal treatment investment is a significant and positive predictor of child behavior change, both at mid-treatment and at the end of the intervention. However, it has yet to be shown that high investment is conducive to the maintenance of such treatment effects over time. Other researchers (e.g. Dumas, 1986) have highlighted the importance of evaluating treatment outcomes at longer intervals than immediately post-treatment, as effectiveness of treatment programs must be measured in terms of both short-term and long-term treatment gains. Other

research on the families participating in the current study reported that treatment effects for the entire group of families who completed the intervention were maintained for positive behavior but not for negative behavior at a 6-month post-treatment follow-up (Maguin, 1991). Because the present study has demonstrated considerable variation in treatment outcome among these families, related to maternal treatment investment, it will be important to examine the extent to which this variation is consistent beyond the immediate post-treatment assessment phase. Thus, future research needs to explore whether the differential pattern of child behavior change reported by mothers who were highly invested in the intervention program is maintained at later time points.

Also of concern is a potential criterion contamination bias, whereby the consultant ratings of maternal investment may have been related to his/her observations of change in child behavior. That is, the consultant may have assigned higher investment scores to mothers whose children appeared to show improvement than to mothers whose children did not. One way to address this was to examine the extent to which early reports of maternal investment were related to reports of child behavior at the end of treatment. Presumably, these earlier ratings would be more independent of perceived changes in child behavior at the later time point. That both early and cumulative maternal treatment investment scores were significant predictors of Post-test 2 changes suggests that

this potential confound may not be a problem.

Of greater concern in the present study is the reliance on maternal reports of child behavior. The parent training literature emphasizes the use of home or clinic observations of child behavior as the preferred outcome measure of change. Although other research (Reider, 1991) on families in the parent project has suggested that mothers may be more accurate observers of their child's behavior than are fathers, there exist several potential confounds when mothers' reports are used. Patterson and his colleagues (e.g. Patterson, Cobb, & Ray, 1973; Patterson & Chamberlain, 1988) have argued that parent reports of child behavior are not reliable indices of actual change for a few reasons. For example, parents participating in a parent training program may tend to report improvement in child behavior in the absence of actual treatment effects. Thus, one possible confound in the present study is a treatment bias effect, whereby mothers who are involved in the intervention may have reported changes in child behavior as an artifact of their participation in such a child-focused treatment program. In order to examine this potential bias, comparisons were made among the fathers' reports of post-test child behavior, to assess whether fathers in the Both Parents treatment condition reported more child behavior change than fathers in the Mother Only condition, by virtue of their involvement in the program. These comparisons revealed no significant differences in father-reported child

behavior change among treatment groups for either of the post-tests. In addition, it should be noted that differential treatment effects were reported among mothers participating in the program, relative to levels of maternal treatment investment. Thus, mere participation in the regimen was not a sufficient condition for changes in child behavior to be reported. Together, these findings suggest that reported child behavior change is not merely an artifact of treatment participation in the current study.

Patterson also argues that parent reports are biased by parent psychopathology, with more distressed mothers reporting more deviant child behavior. However, although mother psychopathology was significantly predictive of pretest and post-test levels of negative behavior within the full sample of families in the present study, within the treatment sample other factors, such as father psychopathology and family resources, were more predictive of changes in negative child behavior over time than was maternal distress. In fact, mother psychopathology in this intervention group was strongly, negatively predictive only of child positive behavior at post-test, once pretest child behavior was controlled. Further, the effect of mother pathology on such behavior change seems to be indirect, via the impact that maternal distress has on mothers' ability to invest in and cooperate with the treatment regimen. Thus, while mother psychopathology did appear to play a significant role in some maternal reports of child

behavior for the treatment sample, this relationship does not appear to have been a direct function of maternal distress, as mothers with higher levels of pathology did not tend to report more child behavior problems.

Another potential confound related to maternal treatment investment is also of concern. Mothers who are more invested in the treatment program and, therefore, presumably more committed to its success, might be more likely to report positive changes in child behavior, regardless of whether or not actual treatment gains were made. This is a confound not easily addressed by the current study, and it again points to the utility of using reports of child behavior from multiple and/or objective sources. However, it should be noted that maternal investment scores were made by the consultants and, as noted above, appear to have been made relatively independently of maternal reports of child behavior change.

Although both early and cumulative levels of treatment investment were positively related to improvement in child behavior, it would be faulty to conclude that early investment is sufficient for change to occur, independent of treatment investment and cooperation at later time points. In the present study, the extent to which mothers were invested in the initial phase of the intervention was strongly related to their overall investment across the entire program. Thus, no inferences can be made about child outcome among mothers, for example, whose investment waned after the weekly sessions

ended. Further, the interaction between treatment investment and family resources was found only for the cumulative investment factor, indicating that higher investment throughout the intervention was a necessary mechanism for the disruption of the relationship between lack of family resources and negative child behavior. In addition, there is evidence that continued investment is necessary in order to maintain early treatment effects on antisocial behavior in the target child.

Finally, although typical of treatment-based studies, the small sample size in the present study dictates that the findings be interpreted with caution. This is particularly true regarding the treatment involvement categories, where there were relatively few families in each group (ranging from ten to 23). However, the parallelism of the findings regarding involvement categories and investment scores is a positive sign that the observed differences among the no, low, moderate, and high involvement groups were not merely artifacts of the grouping process.

Summary and Future Directions

The present study provides evidence that treatment investment is a significant predictor of changes in child behavior arising from parent-training interventions, and that continued investment throughout such programs may be necessary for the maintenance of effects on negative behavior to the end of treatment. Further, this research suggests that the

effects of treatment investment are not merely additive to the observed impact of parent and family variables. Rather, high maternal investment over the course of the treatment regimen may reduce the negative impact that deficits in such factors as parent education, income, and family socioeconomic status have on positive changes in child antisocial behavior. Further, there is evidence that, in the current sample of families, maternal treatment investment is instrumental in accounting for the influence of mother psychopathology on changes in prosocial or positive child behavior.

Further research is necessary to examine the role that the fathers played in facilitating or hindering child behavior change in these families. For example, although father psychopathology was a significant predictor of negative behavior at Post-test 1, the nature of this effect is unclear. In general, little is known about the extent to which the father plays an important role in parent-training interventions. A review by Horton (1984) presents inconsistent evidence that fathers may be influential in the success of such behavioral programs. In the current study, only maternal treatment investment scores were used, as fathers were not included in the intervention in every family. Yet, earlier research with these families (Maguin, 1991) found a slight advantage for the Both Parents treatment condition regarding change in prosocial behavior. However, in the present study, treatment condition did not have a significant

influence on changes in positive or negative behavior, or in the ratio of positive to negative behavior, in the presence of maternal treatment investment and other parent and family characteristics.

Although treatment condition was not a significant predictor, this does not preclude a potential effect for father treatment investment on mother investment or on child outcome. For example, the level of investment of fathers participating in the intervention may have influenced, and/or been influenced by, the extent to which the mothers were invested. Another possibility is that paternal investment exerts an influence on the treatment process via refusal and/or attrition rates. In this regard, a significant number of families in the Both Parents treatment condition either refused or prematurely withdrew from the intervention. Other research with these families (Zucker, et. al., 1989) noted that it was the fathers' disinterest in or disapproval of the program that led to this pattern of disengagement, and the staff consensus was that the wives in these families would have participated had the decision been up to them. There is also some evidence that fathers not directly participating in parent-training may nevertheless acquire new skills via the mothers (Horton, 1989). If such indirect skill acquisition does indeed take place, then father investment must be measured more globally in order that the influence of paternal investment may be examined not only among fathers actively

involved in the treatment sessions, but also among those who are not.

Given the importance of investment as a predictor of treatment outcome, additional research is necessary to further examine what factors hinder or facilitate treatment investment, and what the specific effects of investment are on outcome. In terms of the latter, the present study used a composite treatment investment score, in which measures of therapist-mother cohesion, parent within-session involvement, and maternal cooperation with the child-focused and problem-solving homework assignments were combined to yield an overall index of investment. However, it is possible that certain components of this investment measure were more instrumental in effecting specific types of child behavior change than were others. For example, one might hypothesize that consistent application of time-out procedures would have different implications for changes in child compliance than might the use of marital problem-solving skills. Although these various measures of treatment investment were found to be highly intercorrelated in the present study, there nonetheless exists the potential for the separate components to have different effects on outcome.

Also of importance in guiding future research is the recognition that treatment investment as defined in the current study is not an exhaustive category. Other potential indices of parent treatment investment, such as missed or

canceled sessions, were not included in the present study and may be important variables to include as a measure of investment.

In addition to examining the differential influence of various treatment investment components on treatment outcome, future research should examine other factors that contribute to investment. In the present study, only mother psychopathology was found to be a significant predictor of maternal treatment investment. However, other potential predictors were not considered. These may include other characteristics of the parents and family, characteristics of the therapist, and/or factors relating to the actual treatment context. One such parent variable related to treatment investment might be initial expectations of the parent(s) regarding the potential for the program to actually effect change. It is likely, as well, that the therapist has expectations about the parent(s), the program, and/or his/her ability to be a link between the two. Further, the therapist's reactions to the parent(s), and parent reactions to and experiences of the therapist, are likely to be crucial to parent treatment investment and to treatment outcome. For example, Patterson and Chamberlain (1988) have noted that greater resistance by parents can have adverse effects on the therapist's feelings towards the parents, thereby increasing the risk that the therapist will engage in behaviors that alienate the parent(s) and sabotage the treatment. The

researchers also observed that inexperienced therapists tended to be met with more resistance, and to have greater difficulty in trying to address it therapeutically. Thus, a therapist's skill and training are also likely to affect investment and cooperation, and other researchers (e.g. Lambert, 1989) have described both clinical and empirical support for the effect of the individual therapist on treatment process and outcome.

The present study relied solely on consultants' ratings to describe the treatment process. Elliott and James (1989) have highlighted the importance of measuring the clients' experience of the intervention, as well. These may be experiences related to the parents personally, such as their intentions and goals, their feelings, and/or their alliance with the therapist. These experiences may also include parent perceptions of the intentions, actions, and characteristics of the therapist. Finally, parents' perceptions of the treatment process itself, such as their satisfaction with the program and what they perceived to be helpful, may be important factors related to treatment investment and outcome.

Elliott and James (1989) have also noted that treatment process factors may be measured in different units. One such unit, used in the present study, is the overall treatment experience. With this approach, parent experiences and treatment investment are reported as a global measure spanning the entire treatment program. Alternatively, within-session events may be used as the units by which to measure client

investment and experiences. This latter, more in-depth look at the treatment process might facilitate further understanding of the interplay between treatment investment and parent, family, therapist, and session characteristics. With the current group of families, for example, additional research is necessary to examine the extent to which treatment investment in each session is both predicted by antecedent events (e.g. previous sessions and between-session phone contacts), and predictive of future interactions (e.g. subsequent sessions and phone contacts). In addition, each session may be examined as a distinct unit, with a focus on the ways in which such factors as session content and context influence treatment investment.

Psychotherapy process research has been instrumental in identifying and exploring a broad range of variables that may influence treatment outcome. Orlinsky (1989) describes a generic model of therapy, in which the "functional environment" of psychotherapy is defined by characteristics "describing the psychological, social and cultural factors that may influence what happens in therapy (input), and may be influenced by what happens in therapy (output)" (p. 428). These characteristics include aspects of the actual therapeutic process (e.g. the therapeutic "contract" and the therapeutic bond) and more external, contextual features relating to the therapeutic environment, such as the personalities of the participants, the physical milieu and

setting of the sessions, and factors affecting participants' lives outside of the therapy. These conditions are all thought to influence and be influenced by one another. Clearly, research on parent training must begin to align itself more closely with the psychotherapy process paradigm, and progress beyond simplistic treatment outcome designs, if the mechanisms by which these interventions prevent or decrease child behavior problems are ever to be understood.

APPENDIX A

CHILD BEHAVIOR RATING SCALE --

PRESCHOOL VERSION

Child Behavior Rating Scale T1.0
MSU FAMILY STUDY (3/92)

Respondent's Number: _ _ _ _ _ _
Target: _ _ _ _ _ _
Given By: _____
Date: _____
T1.0 T1.1 T1.2 T1.3

Instructions:

TARGET CHILD'S FIRST NAME: [_____]

We are interested in finding out more about children's behavior at home and how parents feel about these behaviors. For this questionnaire please answer for your child [_____].

Please read each item (each one describes a single behavior) and then determine how often [_____] does this behavior. If [_____] never does it, then circle 1. If [_____] does it always, then circle 7. If your answer is in between these scores, circle the number that fits best. If there are any items that do not apply (such as questions about brothers or sisters and your child does not have siblings) then circle "NA" for "not applicable".

NEVER		SOMETIMES		OFTEN		ALWAYS			
1	2	3	4	5	6	7	NA	1.	Looks at you when you are talking
1	2	3	4	5	6	7	NA	2.	Listens to you (minding)
1	2	3	4	5	6	7	NA	3.	Answers in a positive tone of voice
1	2	3	4	5	6	7	NA	4.	Asks in nice, polite tone of voice
1	2	3	4	5	6	7	NA	5.	Takes turns talking
1	2	3	4	5	6	7	NA	6.	Holds hands
1	2	3	4	5	6	7	NA	7.	Hugs and kisses
1	2	3	4	5	6	7	NA	8.	Sits on lap
1	2	3	4	5	6	7	NA	9.	Says "I love (like) you" to you (parent) with sincerity
1	2	3	4	5	6	7	NA	10.	Shows affection spontaneously, without being forced and not for a reward
1	2	3	4	5	6	7	NA	11.	Makes and gives pictures, things for you
1	2	3	4	5	6	7	NA	12.	Says please and thank you

NEVER		SOMETIMES		OFTEN		ALWAYS			
1	2	3	4	5	6	7	NA	13.	Waits to talk to you when you're on the phone
1	2	3	4	5	6	7	NA	14.	Comforts (sympathizes with) brothers or sisters if they're upset
1	2	3	4	5	6	7	NA	15.	Shares toys with brothers or sisters or friends
1	2	3	4	5	6	7	NA	16.	Leaves brother's/sister's toys and room alone unless *[_____]* has permission
1	2	3	4	5	6	7	NA	17.	*[_____]* Plays alone when you are busy
1	2	3	4	5	6	7	NA	18.	Plays and interacts well with friends/brothers/sisters
								19.	When playing:
1	2	3	4	5	6	7	NA		a. plays by self
1	2	3	4	5	6	7	NA		b. plays with others
1	2	3	4	5	6	7	NA		c. plays outside more
1	2	3	4	5	6	7	NA		d. plays active games
1	2	3	4	5	6	7	NA		e. plays quiet/creative games
1	2	3	4	5	6	7	NA		f. plays realistic games/role playing
1	2	3	4	5	6	7	NA		g. plays fantasy games/role playing
								20.	When angry, mad, frustrated:
1	2	3	4	5	6	7	NA		a. says why mad without hurting something/someone (uses words)
1	2	3	4	5	6	7	NA		b. goes to room and lets emotions out
1	2	3	4	5	6	7	NA		c. releases emotions without hurting anyone/anything (hits pillow, kicks ball, etc.)
1	2	3	4	5	6	7	NA		d. talks out feelings, concerns, worries (after calming down)

NEVER		SOMETIMES		OFTEN		ALWAYS			
1	2	3	4	5	6	7	NA	21.	Sits and watches T.V. without chattering, getting up
1	2	3	4	5	6	7	NA	22.	Sits and watches T.V. and interacts with others in the room
1	2	3	4	5	6	7	NA	23.	Is content to play/spend time entertaining self (half hour of more)
								24.	When being bothered by friends or brothers or sisters (teased, hit, pushed) does *[_____]*:
1	2	3	4	5	6	7	NA		a. look away, doesn't answer (ignores them)
1	2	3	4	5	6	7	NA		b. ask an adult for help
1	2	3	4	5	6	7	NA		c. leave and go somewhere else
1	2	3	4	5	6	7	NA		d. use words to work things out
1	2	3	4	5	6	7	NA	25.	Takes time, thinks about it before acting/reacting
1	2	3	4	5	6	7	NA	26.	Tells problem/concern to the person involved in conflict (you, brother, friend...)
1	2	3	4	5	6	7	NA	27.	Feeds self
1	2	3	4	5	6	7	NA	28.	Brushes teeth without help
1	2	3	4	5	6	7	NA	29.	Is ready to go on time
1	2	3	4	5	6	7	NA	30.	Picks up clothes and puts away
1	2	3	4	5	6	7	NA	31.	Cleans up own messes
1	2	3	4	5	6	7	NA	32.	Washes hands and face

NEVER		SOMETIMES		OFTEN		ALWAYS			
1	2	3	4	5	6	7	NA	33.	Does chores (assigned tasks)
1	2	3	4	5	6	7	NA	34.	Turns out lights
1	2	3	4	5	6	7	NA	35.	Flushes toilet
1	2	3	4	5	6	7	NA	36.	Is in bed on time and stays in bed
1	2	3	4	5	6	7	NA	37.	Cleans up just for the sake of keeping order, not for money or other reward

Now look over the items you just completed and list the 6 behaviors you would most like increased. Please rank them in order, with 1 being the most important, 2 being the next most important, and so on down to #6. You can list by behavior number if you want.

1.

2.

3.

4.

5.

6.

Undesirable Behavior Checklist

For this next list of behaviors, again decide how often your child does each behavior and circle the appropriate number.

NEVER		SOMETIMES		OFTEN		ALWAYS			
1	2	3	4	5	6	7	NA	38.	Ignores you when asked questions or given a direction
1	2	3	4	5	6	7	NA	39.	Talks back, sasses when asked question or given a direction
1	2	3	4	5	6	7	NA	40.	Talks in a loud voice
1	2	3	4	5	6	7	NA	41.	Talks about irrelevant, unrealistic topics
1	2	3	4	5	6	7	NA	42.	Interrupts
1	2	3	4	5	6	7	NA	43.	Asks friends/sisters/brothers questions, not you
1	2	3	4	5	6	7	NA	44.	Only gives physical affection when required to or rewarded
1	2	3	4	5	6	7	NA	45.	Pushes away or complains when you initiate touch
1	2	3	4	5	6	7	NA	46.	Is embarrassed to touch/hug in front of others.
1	2	3	4	5	6	7	NA	47.	Bugs parent when talking on phone or to company
1	2	3	4	5	6	7	NA	48.	Ignores request for help from you or brothers/sisters
1	2	3	4	5	6	7	NA	49.	Only gives presents or makes things for you when told or rewarded
1	2	3	4	5	6	7	NA	50.	Takes things for granted (just expects you to go out of your way for him/her)

NEVER		SOMETIMES		OFTEN		ALWAYS			
1	2	3	4	5	6	7	NA	51.	/_____/ Nags you to play
1	2	3	4	5	6	7	NA	52.	Plays with things not supposed to play with (lamp cords, water)
1	2	3	4	5	6	7	NA	53.	Gets into things of parents to play with (lamp cords, water)
1	2	3	4	5	6	7	NA	54.	Gets into things of parents or sisters or brothers that don't belong to /_____/
1	2	3	4	5	6	7	NA	55.	Argues or fights with brothers, sisters, friends
1	2	3	4	5	6	7	NA	56.	Pushes, hits if doesn't get way
1	2	3	4	5	6	7	NA	57.	Is loner, isolates self, plays by self
1	2	3	4	5	6	7	NA	58.	Is restless, can't sit still (in car, watching T.V.)
1	2	3	4	5	6	7	NA	59.	Acts, reacts without thinking
1	2	3	4	5	6	7	NA	60.	Constantly bugging you to solve every little problem
1	2	3	4	5	6	7	NA	61.	Whines, cries
								62.	When angry, mad, frustrated:
1	2	3	4	5	6	7	NA		a. has temper tantrums, yells, cries, screams, jumps up and down
1	2	3	4	5	6	7	NA		b. destroys property (tears books, breaks toys, throws things)
1	2	3	4	5	6	7	NA		c. hurts others (pushes, kicks, hits)
1	2	3	4	5	6	7	NA		d. stays mad for a long time
1	2	3	4	5	6	7	NA	63.	Keeps problems to self

NEVER		SOMETIMES		OFTEN		ALWAYS			
1	2	3	4	5	6	7	NA	64.	Takes too much time getting ready (for school, bed, going out)
1	2	3	4	5	6	7	NA	65.	Leaves toys, clothes out
1	2	3	4	5	6	7	NA	66.	Complains that 'is bored' and doesn't find something to do
1	2	3	4	5	6	7	NA	67.	Gets up or asks to get up once in bed
1	2	3	4	5	6	7	NA	68.	Night wetting or soiling
1	2	3	4	5	6	7	NA	69.	Day wetting or soiling

Again, please list 6 behaviors from the above (negative) list of items 38-69 that <u>you would most want decreased or gotten rid of.</u> Please rank in order with 1 being the most important, 2 being the next most important, and so on down to #6. You can list by behavior number if you want.

1.

2.

3.

4.

5.

6.

* Adopted from Aubuschon, A., Hops, H., & Lewin, L. (1984). <u>Child Behavior Rating Scale.</u> Unpublished manuscript, Oregon Research Institute, Eugene, OR.

APPENDIX B

THERAPIST-CLIENT COHESION SCALE

Rx THERAPIST: THERAPIST-CLIENT COHESION SCALE*

Family P#: _ _ MSU 3/87 (111)
Date: _ _/_ _/_ _
Therapist #: _ _
Session #: _ _

Using the scales below, rate each family member present.

1. Circle how you felt about the mother this session.

1	2	3	4	5	6
felt very positively toward	felt positively toward	felt neutral toward	was irritated with	was very irritated with	NA

2. Circle how you felt about the father this session.

1	2	3	4	5	6
felt very positively toward	felt positively toward	felt neutral toward	was irritated with	was very irritated with	NA

3. Circle how you felt about the child this session.

1	2	3	4	5	6
felt very positively toward	felt positively toward	felt neutral toward	was irritated with	was very irritated with	NA

4. Circle how you felt you worked with this mother this session.

1	2	3	4	5	6
very well	well	OK	not so well	poorly	NA

5. Circle how you felt you worked with this father this session.

1	2	3	4	5	6
very well	well	OK	not so well	poorly	NA

6. Circle how you felt you worked with this child this session.

1	2	3	4	5	6
very well	well	OK	not so well	poorly	NA

*MSU Revision of OSLC

APPENDIX C

CLIENT INVOLVEMENT RATING

Rx THERAPIST: CLIENT INVOLVEMENT RATING*

Family P#: _ _ MSU 2/87 (112)
Date: _ _/_ _/_ _
Therapist #: _ _
Session #: _ _

Assess the client behavior on each of the following dimensions.

1. How much does the mother talk during the treatment session?

1	2	3	4	5	6
verbally very reticent	somewhat verbally reticent	appropriately verbally involved	somewhat verbally overactive	almost constantly verbal	NA

2. How much does the father talk during the treatment session?

1	2	3	4	5	6
verbally very reticent	somewhat verbally reticent	appropriately verbally involved	somewhat verbally overactive	almost constantly verbal	NA

3. How withdrawn is the mother during the session?

1	2	3	4	5	6
very withdrawn	somewhat withdrawn	neither w/drawn nor outgoing	somewhat outgoing	very outgoing	NA

4. How withdrawn is the father during the session?

1	2	3	4	5	6
very withdrawn	somewhat withdrawn	neither w/drawn nor outgoing	somewhat outgoing	very outgoing	NA

*MSU Revision of OSLC

Rx THERAPIST: CLIENT INVOLVEMENT RATING*

5. How open to new ideas is the mother ?

1	2	3	4	5	6
not at all	slightly	somewhat	open	extremely open	NA

6. How open to new ideas is the father ?

1	2	3	4	5	6
not at all	slightly	somewhat	open	extremely open	NA

7. Is the mother hostile or friendly toward the therapist ?

1	2	3	4	5	6
overtly hostile	somewhat hostile	neutral/neither hostile nor	somewhat friendly	very friendly	NA

8. Is the father hostile or friendly toward the therapist ?

1	2	3	4	5	6
overtly hostile	somewhat hostile	neutral/neither hostile nor	somewhat friendly	very friendly	NA

9. Overall how resistant or facilitative has the mother been during the treatment session ?

1	2	3	4	5	6
very resistant (covertly or overtly)	somewhat resistant	neither resistant nor facilitative	somewhat facilitative	very facilitative	NA

10. Overall how resistant or facilitative has the father been during the treatment session ?

1	2	3	4	5	6
very resistant (covertly or overtly)	somewhat resistant	neither resistant nor facilitative	somewhat facilitative	very facilitative	NA

*MSU Revision of OSLC

APPENDIX D

WEEKLY HOMEWORK RATINGS

Rx Therapist: Weekly Homework Ratings*
(MSU 9/87)

Assignment Codes
[please circle appropriate number(s)]

01 tracking behavior
02 monitor activities, whereabouts
03 point chart, star chart
04 other reinforcers
05 time out
06 communication skills
07 problem solving
08 other

Family P#: __ __
Date: __/__/__
Therapist#: _____
Session #: _____

Rate clients' attempted cooperation to the assignments (if any) given during the previous session. If multiple homework assignments are sufficiently disparate, please rate each assignment separately.

1. Rate attempted cooperation with last week's homework assignment(s). Would you say mom:

1	2	3	4	5	6
tried very hard	tried hard	tried somewhat	didn't try very hard	didn't try at all	NA

2. Rate attempted cooperation with last week's homework assignment(s). Would you say dad:

1	2	3	4	5	6
tried very hard	tried hard	tried somewhat	didn't try very hard	didn't try at all	NA

3. Rate success in carrying out last week's homework assignment. Would you say mom:

1	2	3	4	5	6
was extremely successful	was successful	had some success, not a lot	had almost no success	had no success	NA

Rx Therapist: Weekly Homework Ratings*
(MSU 2/87--109)

4. Rate success in carrying out last week's homework assignment. Would you say dad:

1	2	3	4	5	6
was extremely successful	was successful	had some success, not a lot	had almost no success	had no success	NA

5. Rate difficulty of homework assignment. Would you say mom's assignment was:

1	2	3	4	5	6
very difficult	difficult	neutral, not esp. hard or easy	somewhat easy	easy	NA

6. Rate difficulty of homework assignment. Would you say dad's assignment was:

1	2	3	4	5	6
very difficult	difficult	neutral, not esp. hard or easy	somewhat easy	easy	NA

7. How would you characterize the target child's affective response to the program? (Use NA if not enough information to rate).

1	2	3	4	5	6
very positive	somewhat positive	neutral	somewhat negative	very negative	NA

8a. Where Relevant: Circle if N/A

Week 1	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Possible Points Earned	_____	_____	_____	_____	_____	_____	_____
Actual Points Earned	_____	_____	_____	_____	_____	_____	_____
Criterion for Reward	_____	_____	_____	_____	_____	_____	_____

Comments re: Item 8: _____

_____

Rx Therapist: Weekly Homework Ratings*
(MSU 2/87--109)

8b. Where Relevant: Circle if N/A

Week 2	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Possible Points Earned	_____	_____	_____	_____	_____	_____	_____
Actual Points Earned	_____	_____	_____	_____	_____	_____	_____
Criterion for Reward	_____	_____	_____	_____	_____	_____	_____

Comments re: item 8: _____

_____

_____

9. Where relevant: How would you characterize the mother's consistency of use of time out?

1	2	3	4	5	6
always consistent & systematic	pretty often uses time out	sometimes uses time out	very rarely uses time out	never uses time out-- even when appropriate	NA

10. Where relevant: How would you characterize the father's consistency of use of time out?

1	2	3	4	5	6
always consistent & systematic	pretty often uses time out	sometimes uses time out	very rarely uses time out	never uses time out-- even when appropriate	NA

* OSCL-Modified (2/87)

LIST OF REFERENCES

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