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Maternal and Paternal Attributions and Perceptions Related to Parent-Child Interactions

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MATERNAL AND PATERNAL ATTRIBUTIONS AND PERCEPTIONS 
RELATED TO PARENT-CHILD INTERACTIONS 

by 

Angela L. W. Ehrlick 

A dissertation submitted in partial fulfillment 
of the requirements for the degree 

of 

DOCTOR OF PHILOSOPHY 

in 

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2004
ABSTRACT

Maternal and Paternal Attributions and Perceptions
Related to Parent-Child Interactions

by

Angela L. W. Ehrlick, Doctor of Philosophy
Utah State University, 2004

Parent cognitions, including parent attributions for and perceptions of children’s behaviors, are related to negative parent-child interactions and have been hypothesized to negatively affect treatment outcome in parent training studies. Specifically, parents who attribute children’s disruptive behaviors to internal, stable, uncontrollable, and global causes and believe that they are not personally responsible for their children’s behavior are less likely to engage in positive interactions with their children and successfully manage child behavior. Additionally, parents who expect their children to demonstrate aversive behavior and perceive their children’s neutral behaviors as aversive are less likely to engage in positive interactions with their children and successfully manage child behavior. Parent well-being and child behavior have been examined in relation to parent attributions and perceptions, with previous studies generally indicating that decreased parent well being and increased child behavior
problems are associated with more negative parent attributions and perceptions. Though parent attributions and perceptions have been investigated in previous studies, there are gaps and inconsistencies within the literature. Specifically, previous studies have not consistently considered both maternal and paternal attributions for and perceptions of child and parent behaviors, and the relationship between parent-rated and researcher-rated child behaviors has not consistently been examined.

This study examined parent attributions and parent perceptions related to child and parent behaviors within the parent-child interactions of 25 mothers, 15 fathers, and their children. The results of this study provide support for relationships between parents’ attributions and parent-reported child behavior problems and parent well being. Additionally, significant relationships were found between parent perceptions of parent and child behaviors and parent-reported child behavior problems and parent well being. Furthermore, this study identified differences in parent attributions and parent-child interactions between mothers and fathers, with mothers viewing themselves as more responsible for compliant and noncompliant child behaviors and mothers sharing both more positive and negative interactions with children than fathers. Conclusions and clinical implications of these findings are provided.
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Angela Lynne Wagenaar Ehrlick
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Teaching parents how to positively attend to their children’s behavior and fostering positive parent-child interactions are primary components of behavioral parent-training programs, such as parent-child interaction therapy (PCIT; Foote, Schuhmann, Jones, & Eyberg, 1998; Greco, Sorrell, & McNeil, 2001; Kazdin, 1997). PCIT, as initially conceptualized by Eyberg (1988), focuses on increasing positive parent and child behaviors and decreasing child misbehavior via the integration of operant behavioral and play therapy techniques. In general, outcome studies examining the effectiveness of behavioral parent-training programs have reported positive results for families of children with behavior problems. Specifically, parents participating in parent-training programs have reported statistically and clinically significant improvements in their children’s behavior and their overall family functioning over the course of treatment, and treatment effects have been maintained over 1-year follow-up periods for over half of the families participating in these programs (Eyberg et al., 2001; Long, Forehand, Wierson, & Morgan, 1994; Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998).

Though parent-training programs were developed to meet the needs of families characterized by a wide range of behavioral and emotional difficulties, not all families benefit from participation in these programs. For instance, researchers (e.g., Griest & Forehand, 1982; Kazdin, 1996) have noted that dropout rates during therapy and follow-up are high across many treatment settings, typically ranging between 40-60% of
families across outpatient clinics. Further, treatment effects often do not generalize from home to school settings, and treatment effects are not consistently maintained within even one setting for longer than one year (Serketich & Dumas, 1996; Webster-Stratton, 1991). Ironically, most distressed families (i.e., families characterized by marital discord, spousal and child abuse, and socioeconomic disadvantage) could gain the most from parent-training programs, but these families often benefit the least, primarily due to higher dropout rates (Dumas & Wahler, 1983; Firestone & Witt, 1982; Frankel & Simmons, 1992; Pavuluri, Luk, & McGee, 1996; Webster-Stratton). This body of research suggests the need to identify factors associated with negative parent-child interactions and poor treatment outcome in parent-training programs.

Parent cognitive variables and parent well being have increasingly become important areas of study within the parent training literature. Scheel and Rieckmann (1998) noted that parent-training programs have traditionally focused exclusively on child behavior change, while parents’ well being has rarely been a direct component of such programs. They emphasized, “generalization of child treatment gains seems doubtful” if changes in negative parent cognitions and improvements in overall parent well being are not specifically attended to within parent-training programs (p. 15).

Parent attributions focusing on the child’s role in creating his or her behavior and parent perceptions of child deviance are two cognitive variables that have been hypothesized to affect treatment outcome within parent-training programs. Additionally, these variables have emerged as contributors to dysfunctional interactions between parents and children (Dix & Lochman, 1990; Mash & Johnston, 1983a). More
specifically, studies have found that parents who attribute children’s disruptive behaviors to internal, stable, uncontrollable, and global causes and believe that they are not personally responsible for their children’s behavior are less likely to engage in positive interactions with their children and successfully manage child behavior (Baden & Howe, 1992; Geller & Johnston, 1995b).

While comparatively less research has examined parental perceptions of parent-child interactions, the existing research indicates that parents of children who exhibit problem behaviors have more negative perceptions of their children and are subsequently less likely to engage in positive parent-child interactions than are parents of children without behavior problems (Gretarsson & Gelfand, 1988). Strassberg (1995) suggested that parents of children with behavior problems expect negative behavior from their children, regardless of whether the children are exhibiting prosocial or aversive behaviors. However, studies have suggested that at least some children who are labeled as “deviant” by their parents do not exhibit significantly different behaviors than their nonclinical peers. Rather, parents’ expectations for their children’s behavior influence their perceptions of children’s actual behavior, leading parents to over-report negative behaviors (Rickard, Forehand, Wells, Griest, & McMahon, 1981). Though researchers have examined parent perceptions of children’s behavior, no studies have considered parent perceptions of their own behavior during parent-child interactions. Moreover, studies (e.g., Weis & Lovejoy, 2002) have only recently begun to consider the accuracy of parent perceptions via the comparison of parent-recorded and researcher-recorded child behavior.
Previous research has indicated that both parent well being, including parent stress, parent sense of competence (i.e., parents’ efficacy and sense of satisfaction in the parenting role), and parent depression; and child behavior contribute to parents’ attributions for and perceptions of behavior during parent-child interactions. First, researchers (e.g., Baden & Howe, 1992; Geller & Johnston, 1995a) have proposed a circular relationship between parent cognitions and parent well being, whereby internal, stable, uncontrollable, and global attributions for children’s behavior and negative parental perceptions of children’s behavior contribute to increased stress and depression and reduced expectancies for parental effectiveness. In turn, increased stress and depression levels and reduced parenting efficacy are associated with the maintenance of negative parent attributions and perceptions.

Second, some studies have indicated that children described by their parents as exhibiting significant conduct problems demonstrate significantly higher dominant and critical behavior toward their parents and demonstrate significantly less positive affect during parent-child interactions than children described as not exhibiting significant levels of conduct problem behavior (Forster, Eyberg, & Burns, 1990; Webster-Stratton, 1985a). Furthermore, child behavior is a variable that has been examined in relation to parent cognitions, parent stress, and parent sense of competence. Research has consistently shown that parents of children who exhibit high levels of inattentive, hyperactive, and aggressive behavior have more negative attributions for their children’s behavior and perceive their children’s behavior more negatively (Johnston & Freeman, 1997; Strassberg, 1995). In addition, these parents are likely to feel less
efficacious in the parenting role and less satisfied about being a parent, and they generally report higher levels of stress than parents of children without significant behavior problems (Mash & Johnston, 1983a).

Finally, research on parent-child interactions has focused almost exclusively on interaction patterns between mothers and their children. Childrearing and behavior management have traditionally been considered tasks central to the maternal role, and mothers have often been viewed as the best informants of child behavior (Bronstein, 1988; Strassberg, 1995). However, paternal involvement in childrearing has increased, and fathers have increasingly been included in research examining parent-child interactions, a trend that is important for several reasons (Bailey, 1994; Cowan & Bronstein, 1988).

First, studies have shown that the behavior of mothers and fathers during parent-child interactions differ, and children respond differently to fathers than mothers during parent-child interactions (Dumas & Lechowicz, 1989; Tallmadge & Barkley, 1983). Furthermore, attributions and perceptions of child behavior differ somewhat based upon the sex of the parent, and previous research has found that parent stress and parent sense of competence are experienced differently by fathers and mothers (Deater-Deckard, 1998; Mash & Johnston, 1983a; Sobol, Ashbourne, Earn, & Cunningham, 1989). However, the influence of parent sex on parental attributions and perceptions, parent stress, and parent sense of competence remains unclear, and it is therefore essential that studies examining parent-child interactions include both mothers and fathers.

In summary, the identification of factors that influence parent attributions of
internal, stable, uncontrollable, and global causes for children’s behavior and negative parent perceptions and the examination of maternal and paternal differences in attributions for and perceptions of children’s behaviors are important next steps in research examining parent-child interactions. Identifying such factors will allow clinicians to have a better understanding of parents’ perceptions of their own behavior and their children’s behavior and subsequently allow clinicians to better tailor treatment programs to meet the needs of individual families. Likewise, the examination of differences between maternal and paternal attributions and perceptions will help clinicians work more effectively with both mothers and fathers within parent-training programs.

As such, the objectives of this study are as follows: (a) to examine the relationship between parent attributions for children’s behavior during parent-child interactions and the following: parent well-being (i.e., parent stress, parent sense of competence, and parent depression) and child behavior; (b) to examine the relationship between parent perceptions of child and parent behaviors during parent-child interactions and the following: parent well-being and child behavior; (c) to examine the relationship between parent-recorded and researcher-recorded observations of parent-child interactions; (d) to examine differences between mothers’ and fathers’ attributions of child behavior; (e) to examine differences between mother-child and father-child interactions; (f) to identify predictors of parent attributions for child behaviors; and (g) to identify predictors of parent perceptions of parent and child behaviors.
CHAPTER II
REVIEW OF PREVIOUS LITERATURE

In the following literature review, topics relevant to parent attributions for and parent perceptions of parent and child behavior during parent-child interactions will be addressed. First, parent-child interactions will be discussed, including research pertaining to both parent behavior and child behavior during these interactions. Second, parent attributions for both child behavior and parent behavior will be addressed. Third, parent perceptions of child behavior will be discussed. The impact of parent attributions and parent perceptions on parent-child relationships and outcomes in parent-training programs will also be considered. Fourth, the influence of parent well being, specifically parenting stress, parent sense of competence, and parent depression, on parent-child interactions and parent attributions and perceptions will be discussed. Finally, differences between mothers and fathers with regard to parent-child interactions, parent cognitions, and parent well being will be addressed.

Parent-Child Interactions

Background on Parent-Child Interactions

Observations of the interactions between parents and their children have been recognized as an important source of information to clinicians. According to Roberts (2001), observational data from parent-child interactions supplements information regarding child behavior and parent-child relationships obtained via interview and questionnaires, and observations of these interactions assist clinicians in identifying
problematic child and parent behaviors and parent-child relationship patterns for the purpose of developing intervention plans.

An extensive amount of research has documented the relationship between parent and child behavior within parent-child interactions and disruptive behavior problems in children. Specifically, both less responsive and more controlling parenting behaviors have been associated with increased levels of child behavior problems (Gardner, 1994; Mash & Johnston, 1982). Additionally, more aversive child behavior (e.g., argumentative behavior, noncompliance) is associated with disruptive child behaviors exhibited across multiple settings (Anderson, Lytton, & Romney, 1986; Gardner).

The impact of aversive parent and child behavior within parent-child interactions becomes more clear when the stability of disruptive behavior problems in children is considered. Behavior problems demonstrated during the preschool years are unlikely to resolve without intervention for at least half of children (Campbell, 1995). Additionally, studies show that harsh discipline practices and dysfunctional parent-child interaction patterns, which have been identified as risk factors for children's disruptive behavior problems, are also unlikely to resolve without intervention (Campbell, Breaux, Ewing, Szumowski, & Pierce, 1986; Weinfield, Ogawa, & Egeland, 2002). Due to the relationship between child behavior problems and parent-child interactions, the observation of parent-child interactions is an important tool for identifying dysfunctional interaction patterns and, once such problems are identified, appropriate treatment for children and their families can be initiated.
Parent-child interactions are also an important component of parent-training programs. For example, Eyberg (1988) initially conceptualized PCIT as consisting of a combination of operant behavioral and play therapy techniques. Within the first stage of treatment in PCIT and across behavioral parent-training programs in general, parents are taught differential reinforcement, the technique of providing attention to positive child behaviors while ignoring aversive child behaviors. Parents are taught to use this skill with their children specifically within a 5-minute play interaction. Focusing on parent-child interactions within this limited time period serves to improve parent-child relationships as a whole, as the skills parents learn to implement within the 5-minute interaction often generalize to the other interactions they share with their children throughout the day (Hembree-Kigin & McNeil, 1995).

Types of Parent-Child Interactions

Observations of parent-child interactions can occur in a multitude of settings, including laboratory settings, the home environment, or in public places, and can be either structured (i.e., parents are given specific instructions on what should occur during the interactions and specific tasks should be completed) or unstructured (i.e., specific instructions are not provided on how parents and children should interact and parents and children are not expected to complete specific tasks) interactions. However, most studies examining parent-child interactions have employed structured observations in a laboratory setting (Roberts, 2001).

The PCIT literature recommends the use of three structured, 5-minute interactions, particularly for pretreatment and posttreatment assessments: child-directed
interaction (CDI), parent-directed interaction (PDI), and cleanup. The CDI, in which children are allowed choice within a play activity and parents are instructed to follow their children’s lead, is intended to stimulate children’s positive behavior and allow observation of parent-child interactions within an optimal situation. The PDI, in which parents are instructed to structure the play between themselves and their children, is intended to illuminate parental efficacy in providing directions and eliciting their children’s cooperation and often provides an opportunity to observe noncompliant and disruptive child behaviors. Finally, the cleanup task, in which parents are instructed to give their children commands to cleanup, is especially likely to elicit noncompliant and disruptive child behaviors and therefore allows clinicians to observe parents’ skills in managing these behaviors (Hembree-Kigin & McNeil, 1995).

Roberts (2001) published a review of previous studies that had employed CDI, PDI, and cleanup task observations. He reviewed 28 studies that included CDI observations and 45 studies that included PDI observations and/or cleanup tasks. Based upon the data obtained from Roberts’ review, the psychometric properties for the three parent-child interaction observations appear to be adequate. Specifically, the mean interrater agreement ratios range from 83% for child behavior categories on CDI observations to 95% for child behavior categories on PDI and cleanup task observations. Furthermore, the parent-child interaction patterns between clinic-referred and nonclinic-referred families during the observations have been shown to differ somewhat in expected areas (e.g., clinic-referred parents were more critical and issued more commands and clinic-referred children exhibited more negative behaviors).
However, Roberts recommended the use of the CDI and cleanup task observations exclusively, stating that these observations provide better predictions of child and parent behavior in the home than PDI observations.

Parent Behavior and Parent-Child Interactions

A vast amount of research has been conducted on parenting behavior within parent-child interactions. The following parent behavior variables have been associated with problematic parent-child interactions across studies: parent negativity and critical behavior; lack of parental responsiveness toward their children, and vague communication. In contrast, parents’ use of more direct communication methods (e.g., providing children with specific rather than vague direction) is related to more positive child behavior within parent-child interactions.

Negative parent behavior. Parents’ negative and critical behavior during their interactions with their children has emerged as a significant predictor of problematic parent-child interactions across nonclinical and clinical samples. For example, Heller and Baker (2000) observed mother-child interaction patterns in a community sample of mothers and their preschool-age children. Follow-up assessments were conducted each year over an approximately 4-year period to investigate relationships between child behavior and other variables, including parent-child interactions. Heller and Baker reported that negative maternal behavior (defined as “any resultant negative response to child behavior”), as observed when children were preschoolers, was associated with child externalizing behavior problems at the initial observation and the 2-year follow-up
assessment (p. 488). Furthermore, increased maternal commands and increased use of repeated commands were significantly associated with both child symptoms and diagnoses of disruptive behavior disorders at the final assessment.

Brophy and Dunn (2002) compared parent behavior during parent-child interactions between a clinical sample of mothers and their children and a matched control group. They conducted initial and 18-month follow-up assessments of both groups of mothers and their children. The clinical sample of mothers were observed to demonstrate more negative control (e.g., demand immediate compliance, threaten aversive consequences) and initiate fewer connected communication exchanges (i.e., attend and appropriately respond to the child's message) at the initial assessment than the control group of mothers, and the clinical sample of mothers demonstrated both higher levels of negative control and lower levels of positive control (e.g., praise, open-ended questions) at the time of the follow-up assessment than the control group.

Comparisons of parent-child interactions between families of children exhibiting disruptive behavior problems and control families have indicated there are differences in negative parent behavior between these groups (Forehand, 1986). Specifically, Forehand, King, Peed, and Yoder (1975) compared structured and unstructured parent-child interactions between treatment-referred and nontreatment referred mothers and their children. Mothers in the former group were observed to issue significantly more commands and offer more criticisms to their children than mothers in the latter group during the unstructured interaction, but not the structured interaction. Similarly, in a study comparing parent-child interactions between families of children diagnosed with
attention-deficit/hyperactivity disorder (ADHD) and exhibiting high levels of oppositional behaviors, families of children diagnosed with ADHD and exhibiting low levels of oppositional behavior, and families of children not exhibiting disruptive behavior problems, Johnston (1996b) found that parents of both groups of children with ADHD exhibited more negative-reactive (e.g., physical punishment) and fewer positive (e.g., rewarding positive behaviors) parenting behaviors during parent-child interactions than parents of children without behavior problems.

*Lack of parental responsiveness.* Research conducted by Parpal and Maccoby (1985) and Johnston, Murray, Hinshaw, Pelham, and Hoza (2002) has identified lack of parental responsiveness as an additional parenting behavior related to problematic parent-child interactions. Parpal and Maccoby contrasted the influence of varying levels of maternal responsiveness on child compliant behavior. Maternal behavior varied from noninteraction to consistent responses toward children's behavior. Parpal and Maccoby noted that, while noninteractive and responsive maternal behavior did not result in significant differences in compliance as a whole, responsiveness was more effective with children whom mothers described as “difficult.”

Johnston et al. (2002) observed interactions between mothers and their sons within a subsample of families from the Multimodal Treatment Study of Children with ADHD. Six dimensions of maternal behavior were observed: authoritative control, sensitivity of control, responsiveness, positive affect, acceptance of the child, and involvement with the child. Maternal responsiveness (i.e., overall adaptability to child behavior) emerged as a significant and unique predictor of mothers' ratings of
children’s conduct problems; less responsiveness was associated with increased conduct problems.

*Vague parental communication.* Vague, nondirective parental communication has also been associated with negative child behavior and problematic parent-child interactions. Research (e.g., Bugental, Lyon, Lin, McGrath, & Bimbela, 1999) has indicated that ambiguous parent communication patterns (e.g., lack of consistent response toward child behavior) are related to decreases in children’s levels of attention and engagement on tasks. Furthermore, vague parental communication has been specifically associated with child noncompliant behavior.

For example, Dumas and Lechowicz (1989) studied the content of parent directives within parent-child interactions and specific antecedents for child noncompliant behavior. Overall, they found that children responded to parent directions with compliance 34% of the time, noncompliance 14% of the time, and ignoring 52% of the time. Children were less likely to comply with indirect than direct commands; rather, children tended to ignore parent indirect commands.

In contrast, research (e.g., Dumas & Lechowicz, 1989; Hembree-Kigin & McNeil, 1995; Kuczynski & Kochanska, 1995; Westerman, 1990) indicates that specificity in parent directives significantly increases the likelihood of compliant child behavior. For instance, Williams and Forehand (1984) examined antecedents of child compliant and noncompliant behavior via home observations. They noted that direct commands emerged as the best predictor of compliance, whereas indirect commands emerged as the best predictor of noncompliance.
While primarily documenting the impact of parenting behavior on parent-child interactions, the previous body of literature also suggested that aversive child behaviors have great influence on the adults with whom they interact. The relationship between aversive child behaviors within parent-child interactions and subsequent parent actions was examined among parents and nonrelated boys who were trained to exhibit characteristics of either “normal” boys or boys exhibiting symptoms characteristic of disruptive behavior problems (e.g., hyperactivity, defiance). Parents who engaged in interactions with boys in the disruptive behavior group were more likely to report having experienced unpleasant interactions. Interestingly, when given the opportunity to consume as much of a preferred alcoholic beverage as they liked following the interaction before engaging in a second interaction with the same child, parents who engaged in interactions with boys in the disruptive behavior group consumed significantly more alcohol (Pelham et al., 1997). It can be hypothesized that parents of actual children exhibiting disruptive behavior problems are even more negatively affected by their interactions with their children because they engage in repeated interactions over time with their children.

Indeed, research has indicated that children with disruptive behavior problems demonstrate higher levels of aversive behavior and lower levels of positive behavior during parent-child interactions. Gomez and Sanson (1994) observed mother-son interactions in three groups: dyads in which the mother reported significant hyperactive and conduct problem behaviors, dyads in which the mother reported significant
hyperactive behaviors only, and dyads in which no significant behavior problems were reported. The most problematic interactions were found within the first group of dyads, as higher levels of noncompliant child behavior and more negative mother-son interactions characterized this group in general. Furthermore, studies by Gardner (1987) and Forster et al. (1990) indicated that children with parent-reported behavior problems exhibit more aggressive and argumentative behaviors and less praise when interacting with their mothers than their normative peers.

Furthermore, research clearly demonstrates that reciprocal parent and child behaviors mark parent-child interactions. Wahler and Dumas (1986) identified the existence of “behavior chains” within parents’ interactions with their children, stating that certain parenting behaviors serve to maintain specific child behaviors and vice versa. For example, mothers of boys exhibiting significant hyperactivity have been observed to demonstrate high levels of directive and controlling behaviors and less interactive behavior in response to their sons’ highly active, inattentive, and noncompliant behaviors (Cunningham & Barkley, 1979; Mash & Johnston, 1982). Likewise, children’s behavior often parallels that of their parents. For instance, Kuczynski, Kochanska, Radke-Yarrow, and Girnius-Brown (1987) found that children’s use of negotiation as a means of resisting maternal directives was associated with increased maternal use of negotiation strategies.

Summary

The existing research clearly indicates that both parent and child behaviors within parent-child interactions are important areas of study, as aversive parenting and
child behaviors are significant contributors to problematic parent-child interactions. Furthermore, parent-child interactions have important research and clinical implications because they have been shown to both identify families of children with behavior problems and those who could most benefit from parent-training programs. Based upon research conducted by Roberts (2001), it appears that structured parent-child interactions, particularly the CDI and clean-up task observations from the PCIT literature, are especially useful assessment and treatment tools.

While parent-child interactions can assist in identifying families most in need of behavioral parent training services, previous research indicates that participation in parent-training programs does not result in meaningful and long-term improvements in child behavior for all families (Serketich & Dumas, 1996). Furthermore, parent-training programs do not consistently result in improvements in overall family functioning (Scheel & Rieckmann, 1998). The study of variables that contribute to both positive and negative parent training outcomes has therefore become an area of increased research and clinical attention. Parent cognitions, including parent attributions and parent perceptions, as well as the impact of parent well being on parent cognitions, have been implicated in both parent-child interactions and subsequent treatment outcome within behavioral parent-training programs.

Parent Attributions

*Attribution Theory*

Attributions, or explanations about the causes of behavior, have been a central
component of social and educational psychology for over four decades. According to Sternberg and Williams (2002), attribution theories clarify both how people explain their own behavior and the behavior of others. Heider (1958) was the first researcher to develop an attribution theory. He proposed the existence of two basic attributions: dispositional attributions and situational attributions. According to Heider, a person’s internal characteristics are the cause of behavior with dispositional attributions, whereas external factors (e.g., the environment, other people) are the cause of behavior with situational attributions.

Weiner (1980) extended Heider’s research, developing one of the most influential models for understanding human behavior. Weiner’s model states that behavior can be characterized according to three dimensions: locus (i.e., location of the cause of the behavior), controllability (i.e., whether the cause of the behavior is controllable), and stability (i.e., whether the cause of the behavior remains stable). Behaviors are categorized dichotomously on each dimension. As such, the cause of a particular behavior can be perceived as originating either internal or external to an individual, it can be perceived as controllable or uncontrollable, and it can be perceived as stable or unstable. Weiner proposed the attributions that develop from the combination of these three dimensions impact affective and behavioral reactions toward others’ behavior and expectations for future behavior.

Expanding on Weiner’s model, researchers (e.g., Freeman, Johnston, & Barth, 1997) have proposed additional dimensions for characterizing behavior, including globality (i.e., whether the behavior occurs in limited situations or across many
situations) and responsibility (i.e., the extent to which an individual accepts personal responsibility for their own behavior or another's behavior). Weiner (1980) initially applied his attribution theory to the examination of adult social interactions, and his model has also been useful in the study of success and failure experiences in academic settings (Sternberg & Williams, 2002). Within the past two decades, attribution theory has provided a useful perspective for examining parent cognitions related to parent-child interactions. In particular, researchers have studied the impact of both "healthy" (i.e., attributing positive behaviors to internal, global, and stable factors; attributing aversive behaviors to external, specific, and unstable factors) and "unhealthy" (i.e., attributing positive behaviors to external, specific, and unstable factors; attributing aversive behaviors to internal, global, and stable factors) parent attributions for children's behaviors (Johnston & Freeman, 1997; Johnston, Reynolds, Freeman, & Geller, 1998).

Assessment of Parent Attributions

Parent attributions for children's behavior have been assessed via three primary methods: vignettes, recall, and videotaped parent-child interactions (Bugental, Johnston, New, & Silvester, 1998). Vignette methods typically consist of a series of scenarios depicting various child behaviors, and parents are instructed to read the scenarios and imagine that the child described in the scenarios is their own child. Parent attributions for the child behaviors described in the scenarios are then assessed. For example, Scott and Dembo (1993) employed a vignette method for assessing parent attributions, in which four examples of child noncompliance were discussed. Parent attributions for
each vignette were then assessed via a Likert scale format.

Recall methods typically require that parents recall instances of various behaviors exhibited by their own child over a 1- to 2-week period. Parent attributions are then assessed for a sample of the actual child behaviors exhibited over the specified period of time. For example, Johnston and Freeman (1997) assessed parent attributions via a recall method, where parents were provided with descriptions and examples of inattentive-overactive, oppositional defiant, and prosocial behaviors. Parents were then instructed to provide specific examples of each behavior as exhibited by their children over the past week, and their attributions for each behavior example were assessed via a Likert scale.

Videotaped parent-child interaction methods either consist of parent research participants watching videotaped interactions of parent and child actors or parents viewing videotapes of their own interactions with their children. For example, Dix and Reinhold (1991) assessed parent attributions after parents watched videotapes depicting a child exhibiting noncompliant behavior toward a request given by his or her mother. In contrast, Johnston and Freeman (1997) assessed parent attributions after parents viewed videotapes of themselves interacting with their children in structured play activities designed to elicit inattentive-overactive, oppositional defiant, and prosocial child behaviors.

The majority of studies have assessed parent attributions for each attribution dimension via a Likert scale or some other form of rating scale completed individually by parents or parents and researchers together. However, Johnston et al. (1998)
assessed parent attributions via open-ended questions (e.g., “Why do you think your child behaved that way?”), then coded the attributions parents provided into six categories (i.e., internal-controllable-stable, internal-controllable-unstable, internal-uncontrollable-stable, internal-uncontrollable, unstable, external-situational, external-parental). Likewise, most studies have assessed parent attributions in a laboratory setting, though some studies (e.g., Scott & Dembo, 1993; Sobol et al., 1989) had parents complete attribution measures at home without the researchers present. Finally, as previously noted, the most common dimensions of parent attributions for child behavior have included some combination of locus, controllability, stability, globality, and parent perceived responsibility for the behavior.

**Attributions Related to Child Behavior**

There is a significant body of literature regarding parent attributions for children’s behavior. Much of this research has focused specifically on differences in parental attributions between parents of “average” children and parents of children with externalizing behavior problems. However, parent attributions have also been assessed solely among nonclinical samples of parents and their children, and specifically among parents of children diagnosed with ADHD.

**Attributions among nonclinical samples.** Gretarsson and Gelfand (1998) suggested that, in general, parents “will not be objective observers of their children’s behavior, but will be positively biased under most circumstances” (p. 264). They examined parent attributions for positive and negative child behaviors in a nonclinical, middle-class sample of mothers via a recall method. Mothers were then asked to rate
whether the behaviors were caused by internal or external events, the stability of the behavior, and the degree to which children were responsible for the behavior. Gretarsson and Gelfand found that mothers tended to attribute positive behavior to dispositional characteristics and negative behaviors to situational characteristics. Furthermore, positive behaviors were viewed by mothers as stable over time, whereas negative behaviors were viewed as unstable.

Other studies (e.g., Coplan, Hastings, Lagace-Seguin, & Moulton, 2002; Dix & Reinhold, 1991; Geller & Johnston, 1995a; Scott & Dembo, 1993) have found that variables such as parenting attitudes and behaviors, child behavior, and parent affect can influence attributions among nonclinical samples of parents. Geller and Johnston examined the relationship between parent-reported parenting attitudes and behaviors and parent attributions for children’s behavior. Contrary to the “positive bias” assumption, their nonclinical sample of mothers did view negative child behaviors as resulting from internal child characteristics and as controllable by the child. These attribution ratings were associated with higher maternal ratings of being upset by and responding to the negative child behaviors.

Similarly, Dix and Reinhold (1991) and Coplan et al. (2002) investigated the relationship between maternal childrearing attitudes and attributions for children’s noncompliant behavior. Dix and Reinhold reported that mothers who expressed more authoritarian childrearing attitudes (i.e., use of more firm discipline and physical punishment) were also more likely to report more negative attributions for child noncompliant behavior (e.g., viewing the behavior as resulting from internal child
characteristics, viewing the child as responsible for the behavior) than mothers who did not express authoritarian attitudes. Likewise, Coplan et al. found that mothers who expressed authoritarian childrearing attitudes were more likely to attribute negative child behavior (e.g., aggression) to internal child characteristics than mothers who expressed authoritative childrearing attitudes (i.e., set expectations for child behavior, but are flexible and willing to listen to the child).

Scott and Dembo (1993) compared parent attributions for different types of noncompliant child behavior. They specifically examined whether maternal attributions differed when noncompliant behavior was described as directly defiant (e.g., the child saying “no” in response to a maternal directive) or passively noncompliant (e.g., the child ignoring a maternal directive). Like Geller and Johnston (1995a) and Dix and Reinhold (1991), Scott and Dembo found that a nonclinical sample of mothers did view negative child behavior as intentional and as resulting from dispositional characteristics. Furthermore, such attribution ratings were more likely with regard to directly defiant child behavior than passively noncompliant child behavior.

**Attributions among nonclinical and clinical samples.** In contrast to the positive attribution bias traditionally noted among nonclinical samples of parents, Gretarsson and Gelfand (1998) and Johnston (1996a) noted that clinical samples of parents tend to attribute their children’s negative behaviors to causes internal to the child. Studies that have examined parent attributions in clinical samples have provided support for the hypothesis that parents of children exhibiting significant behavior problems attribute their children’s behavior to dispositional factors and believe that they are not personally
responsible for their children’s negative behaviors.

For example, Baden and Howe (1992) examined attributions for child behavior in a subsample of mothers of children exhibiting significant disruptive behaviors and a normative subsample of mothers. Mothers were first asked to state their beliefs about the cause of their children’s behavior, and they then rated the cause on six dimensions: internal locus, external locus, stability, child control, parent control, and globality. As expected, mothers of children demonstrating disruptive behavior problems were significantly more likely than the control group of mothers to express negative attributions for their children’s behavior, attributing aversive behaviors to internal, stable, and global factors. In a similar study, Dix and Lochman (1990) noted that mothers of boys exhibiting significant levels of aggressive behavior were significantly more likely to believe that their sons’ negative behaviors were intentional and caused by dispositional factors, such as stubbornness and laziness, than mothers of boys not demonstrating significant aggressive behaviors.

Compas, Adelman, Freundl, Nelson, and Taylor (1982) compared attributions provided for child behavior between parents and children during clinical interviews. Parents and children were asked to verbally discuss the nature of the child’s difficulties and their beliefs regarding the cause of the child’s negative behaviors. Parents were significantly more likely to attribute child behavior to factors internal to the children than children were themselves. Interestingly, this discrepancy occurred only when parents and children were interviewed separately; when the family was interviewed together, parent and child attributions were more similar. In this situation, parents were
less likely to attribute children's behavior to factors internal to the child, while children were more likely to attribute their behavior to themselves.

**Attributions among parents of children with ADHD.** The investigation of attributions for child behavior in parents of children diagnosed with ADHD is an area that has garnered an increasing amount of research attention. Researchers have both compared parent attributions among parents of children with ADHD and nonclinical samples of children and examined parent attributions for ADHD related and non-ADHD related behaviors exclusively within parents of children with ADHD.

Sobol et al. (1989), Johnston and Freeman (1997), and Johnston et al. (1998) compared parent attributions for children's behavior between parents of children diagnosed with ADHD and a normative sample of parents. Consistent with previous research, Sobol et al. reported that parents of children with ADHD were more likely to describe compliant behavior as occurring infrequently and attribute this behavior to unstable and uncontrollable factors. The normative group of parents tended to view compliant behavior as more stable than noncompliant behavior, while parents of children with ADHD viewed compliance and noncompliance as equally unstable. Additionally, parents in the normative group anticipated more compliant behavior from their children in the future than parents of children with ADHD.

Johnston and Freeman (1997) and Johnston et al. (1998) compared parent attributions between parents of children diagnosed with ADHD and parents of children without disruptive behavior disorders: inattentive and hyperactive behaviors, oppositional defiant behaviors, and prosocial behaviors. Parents of children with
ADHD were more likely to describe ADHD-related behaviors as occurring frequently and prosocial behaviors as occurring infrequently than parents in the normative group. Further, parents of children with ADHD generally attributed both ADHD-related and oppositional behaviors to internal, controllable, and stable factors, while they viewed prosocial behaviors as less internally caused and less stable. In comparison, parents of children without behavior problems viewed negative behaviors as more externally caused and more unstable, and they viewed prosocial behaviors as more internally caused and as having greater stability over time.

Researchers have also examined differences in parent attributions for inattentive and hyperactive behaviors (i.e., diagnostic features of ADHD) and oppositional defiant behaviors exclusively among parents of children diagnosed with ADHD. Johnston and Patenaude (1994) hypothesized that parents of children with ADHD would view oppositional defiant behaviors as “more malicious and intentional” than ADHD-related behaviors because inattentive and hyperactive behaviors are typically viewed as components of a valid medical condition, while oppositional defiant behaviors “may be interpreted as deliberate attempts to manipulate the parent-child interactions” (p. 263). The results of two studies conducted by Johnston and her colleagues (i.e., Johnston & Patenaude; Johnston, Patenaude, & Inman, 1992) provided support for this hypothesis, as parents of children with ADHD were much more likely to view oppositional behaviors as being controllable by the child than inattentive and hyperactive behaviors. Additionally, oppositional behaviors were associated with greater parental disapproval, were more upsetting to parents, and were viewed as being more problematic than
inattentive and hyperactive behaviors.

Freeman et al. (1997) expanded this line of research by investigating parent attributions for inattentive and hyperactive behaviors, oppositional defiant behaviors, and prosocial behaviors in a sample of parents of children diagnosed with ADHD. Consistent with previous studies, ADHD-related behaviors were rated as less controllable than either oppositional or prosocial behaviors by this sample of parents. As might be expected, parents reported experiencing positive reactions (i.e., feeling "pleased") to prosocial behaviors that were demonstrated in the context of other prosocial behaviors, but they reacted negatively (i.e., reported feeling “upset”) to prosocial behaviors embedded within inattentive, hyperactive, and oppositional behaviors.

**Attributions Related to Parent Behavior**

Though much of the research on parent attributions has focused exclusively on attributions related to child behavior, some studies have investigated parent attributions related to both child and parent behaviors. In particular, researchers have examined parents' beliefs regarding their personal responsibility for their children's behavior and their ability to control the behavior.

Freeman et al. (1997) and Johnston and Freeman (1997) studied parental beliefs related to personal responsibility for ADHD-related behaviors and oppositional behaviors in parents of children with ADHD. Though parent attributions were assessed differently between studies (i.e., parent recall versus videotaped interactions), parents tended to view themselves as significantly less responsible for inattentive and
hyperactive behaviors than oppositional behaviors across both studies. Freeman et al. suggested that parents view inattentive and hyperactive behaviors as resulting from external conditions, whereas they are more likely to attribute oppositional and defiant behaviors to lack of discipline, subsequently accepting greater responsibility for the latter pattern of behavior.

Researchers have also examined parent beliefs related to their ability to control their children’s negative behaviors. Interestingly, studies by Dix and Lochman (1990) and Baden and Howe (1992) indicated that, like nonclinical samples of mothers, mothers of children with behavior problems generally viewed behavior management strategies as effective in managing children’s behavior and viewed inconsistent and critical parenting as responsible for children’s aversive behaviors. However, these mothers were more likely than a normative sample of mothers to view their own children’s behavior as outside of their control and believe that their attempts to intervene in their children’s misbehavior would be futile.

Gretarsson and Gelfand (1998) noted a relationship between parents’ attributions for their children’s behavior and their attributions for their own behavior within parent-child interactions. Specifically, parents who attribute children’s aversive behaviors to internal, stable, and uncontrollable factors also tend to view themselves as personally responsible for their behaviors and believe that they are unable to control the child behaviors. Gretarsson and Gelfand suggested that “viewing as a child as constitutionally impaired relieves parents of responsibility for the child’s condition and
for improving it,” a belief system that ultimately has negative effects for both parents and children (p. 268).

Summary

Overall, existing research examining parent attributions for children’s behavior has suggested that nonclinical samples of parents tend to view their children’s behavior more positively than parents of children with disruptive behavior problems, as normative groups of parents are more likely to attribute positive child behaviors to dispositional and stable factors and negative child behaviors to situational and unstable factors (Gretarsson & Gelfand, 1998). In contrast, parents of children with behavior problems such as ADHD are more likely to view their children’s behavior negatively, attributing more aversive child behaviors (e.g., inattention, hyperactivity, oppositional behavior) to internal, controllable, and stable factors. However, other researchers (e.g., Geller & Johnston, 1995a) have suggested that nonclinical samples of parents attribute negative child behaviors to internal and stable factors, particularly when questioned about specific incidents of aversive child behavior (e.g., noncompliance) or among parents expressing authoritarian childrearing attitudes. Further research is needed to better clarify attributions among nonclinical samples of parents.

Additionally, the method by which parent attributions are assessed appears to be an important consideration. Specifically, immediate assessment of parent attributions following in vivo parent-child interactions likely provides a more reliable account of parents’ attributions related to their children’s actual behavior, eliminating some sources of error. It can be hypothesized that assessing attributions via written or
videotaped vignettes and recall methods are comparatively weaker methods because parents may not be able to fully imagine their child in the role of the hypothetical child depicted in the vignette, or they may not accurately remember their child’s behavior from day to day. Likewise, requiring parents to complete tasks in a laboratory setting (or a home setting with the researcher present) rather than allowing parents to complete tasks individually in their homes and mail their responses to researchers likely yields more valid results, as researchers can be more certain that parents are completing the research tasks independently and are adequately attending to the tasks.

Parent Perceptions

Parent perceptions of their children’s behaviors are an additional cognitive factor that has been examined in relation to parent-child interactions. Perceptions refer to the manner in which parents view and describe their children’s behavior (i.e., whether they view the behavior as positive, negative, or neutral), rather than the causes they ascribe to the behavior. The manner in which parent perceptions are assessed has varied across studies. Most studies have assessed perceptions via parent ratings of specific instances of child behavior (i.e., the frequency with which various behaviors occur), though some studies have assessed parent perceptions via parent ratings of child behavior on behavior rating scales.

Perceptions and Child Treatment Status

The impetus for research in the area of parent perceptions for child behavior was an examination of differences between children referred by their parents for
psychological treatment and nontreatment referred children. As Lobitz and Johnson (1975) noted, clinic-referred children are assumed to exhibit significantly more antisocial behaviors than their nonreferred peers. However, studies have suggested that child behavior may not be the sole factor associated with the determination of clinical versus nonclinical status.

Lobitz and Johnson (1975) were among the first researchers to investigate parent perceptions of children's behavior. They conducted home and clinic observations of parent-child interactions and compared parent and child behaviors observed between clinic-referred and nonreferred families. Lobitz and Johnson determined that a combination of child behavior, parent behavior, and parent perceptions differentiated between referred and nonreferred families. Specifically, parents from referred families were observed to interact with their children in a more negative and controlling manner and rated their children as exhibiting more aversive behaviors than children from nonreferred families. Children from referred families exhibited significantly greater antisocial behaviors and significantly less prosocial behaviors within the home setting, but child behaviors did not differ when families were observed in the clinic setting.

Forehand and his colleagues expanded on Lobitz and Johnson's (1975) research, examining factors that predicted children's referral for treatment. In both studies (i.e., Forehand, Brody, & Smith, 1986a; Griest, Forehand, Wells, & McMahon, 1980), maternal perceptions of children's behavior emerged as the best discriminator between clinic-referred and nonclinic-referred children; contrary to Lobitz and Johnson's findings, child behavior and parent behavior did not significantly differ between clinic-
referred and nonclinic-referred groups.

Rickard et al. (1981) further investigated maternal perceptions in clinical and nonclinical families. Specifically, they compared a nonclinical sample of mother-child dyads to two clinic-referred samples of mother-child dyads. One of the clinic-referred samples was comprised of children who exhibited significantly more deviant behaviors than the nonclinical sample, whereas children's behavior in the second clinic-referred sample did not significantly differ from that of their nonclinical peers. Despite differences in children’s behavior between the two clinic-referred groups, Rickard et al. noted that parents’ ratings of their children’s behavior did not differ between the groups, though both groups of parents rated their children’s behavior as significantly more deviant than did parents in the nonclinical group.

*Parent Perceptions and Parent and Child Behavior*

Though the previously discussed research suggests that the treatment status of the child is most important with regard to parent perceptions of children’s behavior, other factors have been demonstrated to contribute to parents’ perceptions of their children’s behavior. For example, studies by Fox and Platz (1995) and Webster-Stratton (1985b) found that parent discipline and parent behavior during parent-child interactions were significant predictors of parents’ perceptions of child deviance. Webster-Stratton further indicated that actual negative child behavior, rather than inaccurate parents’ perceptions of child deviant behavior, significantly contributes to the manner in which parents’ view their children’s behavior. In fact, she found that,
after controlling for socioeconomic variables, mothers’ reports of child behavior problems were the best discriminator between children’s treatment-referred or nontreatment-referred status.

Webster-Stratton (1985b) specifically noted that treatment-referred children exhibited significantly less positive affect and were more dominant within mother-child interactions than their nontreatment-referred peers. Moreover, research by Furey, Forehand, Baskin, and Tauber (1986) suggested that mothers’ perceptions of children’s behavior are affected not only by current child behavior, but child behavior exhibited in previous days as well. Maternal ratings of child behavior in their study were more strongly influenced by previously and currently exhibited negative behaviors than positive behaviors. The studies conducted by Fox and Platz (1995), Furey et al., and Webster-Stratton suggested that mothers’ perceptions of their children’s behavior align fairly well with actual child behaviors.

Therefore, perhaps parents’ perceptions of their children’s behavior represent an “accurate” account of the behaviors children exhibit within the observational setting. In contrast, Strassberg (1995) suggested that parents of children with behavior problems have experienced more negative interactions with their children and, therefore, expect their children to demonstrate aversive behaviors. Within his clinical sample of mother-son dyads, Strassberg noted that mothers were “inclined to assume the worst from their sons both when he was cooperating and resisting directives” (p. 385). As such, it is often difficult to ascertain whether parents’ ratings of child behavior are accurate or whether parent ratings are unduly influenced by a history of aversive child behaviors,
particularly in families in which the children exhibit high levels of disruptive behavior problems.

Summary

Though the studies examining parents' perceptions provide important information regarding cognitive factors related to parent-child interactions, this area of research is limited in that studies have focused almost exclusively on parent perceptions of children's behavior. Very few studies have considered parent perceptions of their own behavior during parent-child interactions (e.g., Sessa, Avenevoli, Steinberg, & Morris, 2001). Parent perceptions of their own behaviors is an important area of study because these perceptions may impede positive parent-child interactions and parent and child well being. For instance, parents who are critical of their children and ineffectively manage misbehavior but perceive that they are responding positively to their children and effectively managing their children's behavior are likely frustrated at their children's lack of positive responses to their efforts.

Furthermore, research on parent perceptions is limited because studies have not consistently examined the relationship between parent-recorded child behaviors and researcher recordings of these same behaviors. Recent research (e.g., Hutchinson et al., 2001) has suggested that parents more accurately perceive normative levels of child behavior than clinically significant behavior problems, such as hyperactivity. More research investigating the accuracy of parent perceptions of their children's behavior and their own behavior is needed due to the impact of parent perceptions on parents' relationships with their children.
Impact of Parent Attributions and Perceptions

**Impact on Parent-Child Relationships**

Parent beliefs that negative child behaviors are attributable to internal, stable, and uncontrollable factors and parent perceptions that their children are exhibiting aversive behaviors have been associated with negative outcomes for the family system. Such negative attributions have been correlated with higher levels of arousal and negative affect in parents. Bugental, Blue, and Lewis (1990) investigated parent affect related to parent-child interactions in a mixed sample of clinical and nonclinical mother-child dyads. Mothers were observed engaging in individual interactions with sibling pairs, one child who had been identified as difficult to manage and the other identified as comparatively easy to manage. Bugental et al. described mothers' facial and vocal affective responses as more "dysphoric" during interactions with the difficult child. These responses were more likely to occur when mothers attributed their difficult child's behavior to factors beyond their personal control.

Consistent with the findings of Bugental et al. (1990), studies have indicated that parents are most likely to be upset by child behaviors when the behaviors are believed to be internal in origin, controllable (i.e., something the child should have been able to control), and stable (Dix, Ruble, Grusec, & Nixon, 1986; Johnston & Freeman, 1997; Miller, 1995). For example, Smith Slep and O'Leary (1998) videotaped a nonclinical sample of mothers engaging in structured interactions with their children. The interactions were designed to represent typical, yet challenging parent-child exchanges, as mothers were instructed to complete two separate tasks: (a) have their children
engage in independent play while they completed a simulated phone conversation, and (b) engage their children in a clean-up task. Smith Slep and O’Leary controlled mothers’ attributions for child misbehaviors. During the assessment of maternal attributions, mothers were either informed that child misbehavior was not the child’s responsibility or were informed that their children engaged in misbehavior voluntarily. The second group of mothers reported feeling more angry toward their children across both tasks.

Expanding on these studies, an extensive amount of research has indicated that high levels of parental frustration and arousal are linked to negative discipline practices via negative parent attributions (Bugental & Johnston, 2000; Katsurada & Sugawara, 2000; Miller, 1995; Nix et al., 1999; Smith & O’Leary, 1995). Specifically, Dix, Ruble, and Zambarano (1989) proposed that parents who believe that their children are responsible for their behavior and intentionally exhibit aversive behaviors “may think that children deserve condemnation, that negative affect is appropriate, and that more power-assertive discipline should be used” (p. 1374).

In a study examining this hypothesis, Dix et al. (1989) asked mothers of preschool and school-age children to read vignettes describing child behavior (e.g., stealing, selfishness), in which their children were the subjects of the vignettes. Mothers were randomly assigned to one of three treatment conditions: knowledge present (i.e., children in the vignettes were described as understanding that they should not engage in negative behavior, but did so anyway), knowledge absent (i.e., children in the vignettes were described as not having sufficient knowledge of potential
consequences for their behavior), and knowledge unspecified (i.e., no reference was made to children’s understanding of their behavior). As expected, mothers who believed that children understood the potential consequences of their behavior and felt that children had the ability to behave appropriately were more likely to evaluate controlling parenting behavior favorably. In contrast, parents who attributed responsibility for their children’s behavior partially to themselves exhibited lower levels of negative affect and were less likely to favor forceful discipline strategies.

Baden and Howe (1992) hypothesized that parent attributions favoring internal, stable, global, and uncontrollable causes for child behavior are implicated in coercive parent-child interactions. They suggested that parents who expect their children will behave in a negative manner and perceive that their children demonstrate aversive behaviors intentionally are more likely to initiate negative interactions with their children. However, these parents tend to disregard their contributions to the parent-child interactions, viewing children as solely responsible. Baden and Howe noted that coercive parent-child interactions will be maintained by parents’ reduced expectations for their ability to manage their children. In turn, the combination of reduced expectancies for parental effectiveness and negative attributional tendencies “form a set of parent cognitions that place parents at risk for withdrawing from negative interactions and failing to apply consistent discipline” (p. 471).

Finally, Bickett, Milich, and Brown (1996) and MacKinnon-Lewis and colleagues (i.e., MacKinnon-Lewis, Castellino, Brody, & Fincham, 2001; MacKinnon-Lewis, Lamb, Arbuckle, Baradaran, & Volling, 1992) investigated the reciprocal
relationships between both parent and child attributions and parent and child behavior. Hostile attribution tendencies on the part of both parents and their children (e.g., attributing negative parent and child behavior to dispositional factors, inferring that parents and children intended to engage in aversive behavior) across studies were related to more aversive and coercive parent-child interactions. Bickett et al. examined these attribution patterns in mothers of boys exhibiting clinically significant levels of aggressive behavior and mothers of boys exhibiting normal levels of aggressive behavior. They found that both mothers and their sons in the “aggressive” group were more likely to make hostile attributions in ambiguous situations than mothers and their sons in the “nonaggressive” group.

**Impact on Treatment Outcome**

Families characterized by long-standing coercive parent-child interactions have much to gain from parenting programs. However, their likelihood of successfully progressing within these programs is questionable. Griest and Wells (1983) were among the first researchers to suggest that parent cognitive variables, including attributions and perceptions, can negatively affect treatment outcome in parent-training programs. They noted that, while improvements in child behavior at the end of treatment have been objectively observed in the home environment in some families, parent descriptions of their children’s behaviors do not reflect the behavioral improvements, as parents continue to perceive fairly high levels of deviant child behavior. Griest and Wells suggested that negative parent cognitions regarding
children's behavior influenced this lack of parental recognition of child behavioral improvements.

More recently, Hoza et al. (2000) examined the relationship between parent attributions for children's behavior and outcome in a parent training program. They studied predictors of poor treatment outcome in a subsample of parents and children from the Multimodal Treatment Study of Children with ADHD. The following factors were found to be significant predictors of poor treatment outcome: mothers' and fathers' use of negative discipline, mothers' low self-esteem, fathers' low parenting efficacy, and fathers attributing noncompliant child behavior to the child's lack of effort and poor mood.

In perhaps the most comprehensive study investigating the impact of parent attributions on treatment outcome, Watson (1986) found that treatment was significantly less successful among mothers who offered higher rates of dispositional attributions for child behavior compared to mothers who offered higher rates of situational attributions. Furthermore, dropout rates were higher among mothers who offered higher rates of dispositional attributions.

No studies have examined the direct relationship between parent perceptions and treatment outcome, though researchers (e.g., Forehand, Furey, & McMahon, 1984; Webster-Stratton & Hammond, 1990) have noted that parent perceptions are indirectly related to poor treatment outcome. Specifically, positive correlations have been found between parent perceptions of child deviance and parental distress (e.g., depression, marital discord), and parental distress has emerged as a significant predictor of poor
treatment outcome in parent training programs.

Summary

It is clear that negative parent cognitions are associated with poor emotional functioning in parents, less optimal parenting practices, and negative parent-child interactions, and initial studies have suggested that parent attributions and perceptions can have a negative impact on treatment outcome. As such, an important next step is to identify variables that are related to the origin and maintenance of negative parental attributions for and perceptions of children’s behavior.

Parent Well Being

Parent Stress

Parent stress has consistently been documented as a factor related to both child and parenting behavior within parent-child interactions and parent cognitions (Deater-Deckard, 1998; Webster-Stratton, 1990). Parent stress includes both stress experienced specifically within the parent-child relationship and stress derived from external sources, and it can refer to both daily “hassles” as well as stressors that have progressive impact over longer periods of time.

Parent stress and parent-child interactions. An extensive amount of research has documented the relationship between parent stress and negative child behaviors. Higher levels of parenting stress have consistently been associated with disruptive child behaviors, including aggression, noncompliance, defiance, and impulsivity (Eyberg, Boggs, & Rodriguez, 1992; Fischer, 1990). In fact, Anastopoulos, Guevremont,
Shelton, and DuPaul (1992) examined perceived stress in parents of children with ADHD and noted that child behaviors accounted for 43% of the variance in parenting stress. Parents of children exhibiting severe levels of disruptive behaviors and those with multiple psychological diagnoses are especially likely to report high levels of stress (Podolski & Nigg, 2001; Ross, Blanc, McNeil, Eyberg, & Hembree-Kigin, 1998). Parents of children exhibiting significant conduct problems are also more likely than parents of children without behavior problems to report higher levels of stressful life events. For instance, Webster-Stratton (1990) found that clinic-referred families reported twice the number of life stressors than nonclinical families.

Deater-Deckard (1998) identified a circular relationship between child behavior, parenting behavior, and parenting stress. Specifically, he noted that child behavior problems can lead to parenting stress, and parenting stress can result in child behavior problems, as aversive parenting behavior (e.g., authoritarian, harsh, and negative discipline strategies) is positively correlated with parenting stress. Parent stress also appears to impact the quality of parent-child interactions. Observational studies have supported this association, demonstrating that higher parenting stress is related to harsher and less responsive parenting behavior and less rewarding interactions between parents and their children (McKay & Pickens, 1996; Webster-Stratton, 1988).

For example, Mash and Johnston (1983b) noted that mothers reporting higher levels of situational stress were less interactive with their children during a play activity, and Johnston and Pelham (1990) found that mothers with elevated stress levels delivered significantly more commands when interacting with their children. Wahler
and Dumas (1989) emphasized that the relationship between parent stress and dysfunctional parent-child interactions most often occurs not because of an absence of parenting skills, but because stress disrupts parent attention toward child behavior and hinders the use of more efficacious strategies of managing aversive child behaviors.

**Parent stress and parent cognitions.** Parent stress has also been shown to contribute to parent cognitions related to children's behavior. Harrison and Sofronoff (2002) investigated predictors of parent psychological distress in a sample of parents of children with ADHD. They specifically examined the contribution of children's overall behavior problems, severity of the children's ADHD symptoms, and attributions of cause and controllability of the children's ADHD behaviors on parenting stress and depressive symptoms. The results of the study indicated that the combination of the variables was significantly associated with both parenting stress and depression; the variables accounted for 24% of the variance in parenting stress and 21% of the variance in parent depression. The severity of the child's behavior problems and parents' perceived control over their children's behavior made unique contributions in predicting parent psychological distress; greater behavioral severity and lower perceived control were associated with higher levels of parenting stress. Likewise, in a review of studies investigating parent stress, Deater-Deckard (1998) noted that parent attributions of greater child responsibility and controllability for aversive behaviors lead to increased parental stress.

Middlebrook and Forehand (1985) hypothesized that parenting stress also influences parent perceptions of child behavior. They asked both clinic-referred and
nonreferred mothers to read a set of vignettes that varied in the severity of child behavior depicted and level of stress within the situation. The results of the study indicated that the combination of neutral child behavior and high stress situation was associated with mothers’ perceptions of more deviant child behavior. However, no significant differences in maternal perceptions were found in vignettes depicting combinations of high and low stress and appropriate and inappropriate behavior.

Based upon the results of their research, Middlebrook and Forehand (1985) suggested that “the effects of stress are negligible when child behavior is well defined,” but when child behavior is neutral “there is insufficient information about the child’s behavior for the mothers to make a clear judgment of the behavior” and maternal stress subsequently has greater influence on maternal perceptions of child behavior (p. 500). Johnston (1996a) further suggested that elevated stress levels negatively affect parents’ attention skills, and they are subsequently less able to accurately attend to children’s behavior: “As stress increases and the number of resources decreases, parents’ perceptions of child behavior are expected to diminish in accuracy, becoming more influenced by preexisting expectancies than by specific child behaviors” (p. 199).

**Parent Sense of Competence**

Parent sense of competence is an additional aspect of parent well being that affects parent-child interactions as well as other aspects of parent intrapersonal functioning. As conceptualized by Johnston and Mash (1989), parent sense of competence encompasses both parenting efficacy (i.e., the degree to which parents feel competent and confident in their ability to successfully manage their children’s
behavior) and satisfaction (i.e., parents’ contentment in the parenting role). Studies have shown that lower levels of parenting efficacy and satisfaction are associated with negative parent and child behaviors within the parent-child relationship (Roberts, Joe, & Rowe-Hallbert, 1992; Scheel, & Rieckmann, 1998).

*Parent sense of competence and child behavior.* Mash and Johnston (1983a) were among the first researchers to examine the relationship between parent efficacy and parent-child interactions, focusing in particular on child behavior within the interactions. Mash and Johnston compared parent-reported competence between parents of children diagnosed with ADHD and a normative group of parents. As they hypothesized, parents of children with ADHD reported significantly lower levels of parenting competence, with regard to both skill and knowledge of how to be a good parent, as well as lower levels of satisfaction with the parenting role.

In a related study, Johnston and Patenaude (1994) examined parent sense of competence in parents of children with ADHD, focusing in particular on differences in competency related to inattentive and hyperactive behaviors and oppositional defiant behaviors. Their findings indicated that parents who reported high levels of frustration with oppositional behaviors were more likely to report reductions in parenting efficacy and satisfaction. In contrast, parent-reported frustration with ADHD-related behaviors was associated with reduced enjoyment in the parenting role, but was not significantly related to parenting efficacy and frustration.

Johnston (1996b) further examined factors that differentiate between children with ADHD who exhibit comorbid lower levels of oppositional defiant behaviors and
children with ADHD who exhibit higher levels of oppositional defiant behaviors. She noted that the severity of parent-reported child behavior, observed child behavior, and parenting esteem together accurately differentiated between the two groups of children. Additionally, it was noted that parents of children without behavior problems reported the highest levels of parenting esteem, while parents of children with ADHD and higher levels of oppositional behaviors reported the lowest levels of parent esteem.

Kochanska, Kuczunski, and Radke-Yarrow (1989) also focused on the impact of negative child behaviors on parent sense of competence. They investigated the relationship between mothers' self-reported attitudes and practices regarding childrearing and their actual discipline strategies, as observed in a homelike setting. Kochanska et al. also assessed mothers' self-reported feelings of enjoyment in their parenting roles and their observed affect toward their children during the interactions. The results of the study indicated that children's cooperative behavior was more highly predictive of mothers' reported parenting enjoyment and affect toward their children than the behavior management strategies employed by mothers during the interactions; higher child compliance was associated with higher levels of parenting enjoyment.

Finally, Furey and Forehand (1984a, 1984b, 1986) investigated predictors of maternal satisfaction with their children's behavior across three studies. Mothers completed both daily child behavior ratings, in which the occurrence and nonoccurrence of pleasing and displeasing behaviors was indicated, and daily satisfaction ratings, in which mothers rated their overall satisfaction with their children during each 24-hour period. In their first study, Furey and Forehand (1984a) noted that both pleasing and
displeasing child behaviors emerged as significant predictors of maternal satisfaction; higher levels of pleasing behaviors and lower levels of displeasing child behaviors were associated with higher levels of maternal satisfaction. However, Furey and Forehand (1984b, 1986) identified negative child behaviors as better predictors of maternal satisfaction than positive child behaviors.

**Parent sense of competence and parenting behavior.** Researchers have also emphasized the contribution of parenting behavior during parent-child interactions on parent sense of competence, noting in particular that coercive and power-assertive discipline strategies are both directly and indirectly associated with lower levels of parenting efficacy. Specifically, studies have indicated that lower levels of parenting competence are related to less efficacious parenting (e.g., lower warmth and emotional support, less active direction, less structure) and more controlling discipline strategies, and parent discipline is indirectly related to sense of competence because parents have been shown to implement more negative discipline strategies in response to children’s aversive behaviors, which are directly associated with lower levels of parenting efficacy and satisfaction (Budd & Holdsworth, 1996; Day, Factor, & Szkiba-Day, 1994).

Bondy and Mash (1999) investigated the relationship between mothers’ self-reported parenting efficacy and their likely discipline responses to hypothetical situations portrayed in a series of vignettes. As anticipated, lower perceived parenting efficacy was significantly related to mothers’ verbally reported likelihood of responding to child misbehavior with coercive discipline strategies (e.g., spanking, slapping, yelling). Bondy and Mash emphasized the reciprocal relationship parents and children
have on one another, noting that lower parenting efficacy may result in the use of more aversive parenting strategies, which may in turn lead to an increase in children’s disruptive behaviors.

Mash and Johnston (1983b) examined parent sense of competence within mothers of children with ADHD in an observational study. Mothers were observed interacting with their children during a 15-minute unstructured play interaction and a 15-minute period where they were given a set of tasks for their child to complete (e.g., completing mazes, drawing pictures, putting away toys). Mash and Johnston focused on maternal behaviors associated with higher levels of self-perceived parenting competency. Mothers who reported higher levels of efficacy/esteem in the parenting role were observed to be more active and directive with their children during the structured task activity, but not within the play activity. Overall, Mash and Johnston noted that mothers’ involvement with their children during the play activity was positively correlated with their satisfaction as parents (i.e., the degree of comfort in the parenting role), while mothers’ involvement during the structured task activity was positively correlated with their perceived skill and knowledge related to parenting.

Very little research has specifically investigated the influence of parent sense of competence on parent attributions for and perceptions of children’s behavior. However, initial studies have indicated that parents who perceive themselves to be ineffective in managing their children’s behavior also perceive their children as exhibiting more aversive behaviors (Day et al., 1994). Geller and Johnston (1995a) suggested that “attributions of personal controllability may be associated with mothers’ feelings of
self-efficacy and with the belief that their intervention can stop the child’s behavior and/or prevent the child’s misbehavior from recurring” (p. 277). Overall, parent stress and parent sense of competence have been shown to be important factors related to child behaviors, parent well being, and parent-child relationships. However, more research is needed that specifically examines the influence of parent stress and parent sense of competence on parent cognitions and interaction patterns between parents and their children.

*Parent Depression*

Parent depression is the final parent well-being characteristic that has been most consistently studied in relation to parent-child interactions and parent cognitions (Forehand, Lautenschlager, Faust, & Graziano, 1986b; Lovejoy, 1991). Depression, as defined by the *Diagnostic and Statistical Manual of Mental Disorders (4th Ed., DSM-IV; American Psychological Association, 1994)* consists of at least a two-week period in which individuals experience a depressed mood and/or loss of interest or pleasure in usually enjoyable activities, in addition to symptoms such as changes in eating and sleeping patterns, fatigue, feelings of worthlessness, and thoughts of self-harm. Most studies that have examined parent depression associated with parent-child interactions and parent cognitions have asked parents to complete a self-report depression instrument (e.g., Beck Depression Inventory) and identified parents who meet a specific cut-off score as members of a “depressed” parent subsample.

*Parent depression and parent-child interactions.* Previous research has indicated that depressive symptoms impact the manner in which parents, particularly
mothers, interact with their children. Specifically, mothers reporting elevated
symptoms of depression tend to act more negatively toward (e.g., use spanking more
frequently in discipline situations, exhibit more critical statements) and engage less with
their children during structured and unstructured observations (Cox, Puckering, Pound,
& Mills, 1987; Forehand et al., 1986b; Gordon et al., 1989; Johnston & Short, 1993;
Webster-Stratton & Hammond, 1988). Furthermore, studies have suggested that
mothers with depression recognize the impact of their depressive symptoms on their
parenting behavior, as they are more likely to verbally report themselves as
demonstrating more friction and less affection within their family relationships, and
they report increased relationship dissatisfaction overall (Weissman, Paykel, &

Lovejoy (1991) further examined the relationship between mother-child
interactions and mother depression in an observational study of “depressed” and
“nondepressed” groups of mothers and their preschool-age children. Mothers engaged
in two 10-minute interactions with their children: an unstructured free play interaction,
and an interaction in which mothers were instructed to complete a cognitive task that
was designed to compete with their attention toward their children.

The results of the study indicated that the “depressed” and “nondepressed”
groups of mothers differed with regard to negative behavior; mothers with depression
were more likely to exhibit negative behavior (e.g., yelling, negative commands,
threats) during both mother-child interactions than mothers in the “nondepressed”
group. However, positive maternal behavior did not differ between groups, nor did
contingencies of maternal responses. Lovejoy (1991) noted that the children of mothers with depression tended to behave more negatively than children of mothers not reporting significant depressive symptoms; therefore, maternal behavior appeared to parallel child behavior.

**Parent depression and parent attributions.** Studies investigating the influence of parent depression on parent attributions for children’s behavior have generally found that depressive symptoms have a negative effect on mothers’ attributions; mothers with depression are more likely to attribute negative child behaviors as being caused by factors internal to the child and by factors that are stable and controllable (Geller & Johnston, 1995b; White & Barrowclough, 1998). Furthermore, research has suggested that depressed mood is associated with greater feelings of helplessness regarding managing child behaviors (Kochanska, Radke-Yarrow, Kuczynski, & Friedman, 1987).

Geller and Johnston (1995b) examined both mothers’ attributions for their children’s behavior and their reactions to their own behavior in a nonclinical sample of mothers and their children. Mothers were provided with written descriptions of negative parent and child situations (e.g., failing to have a good time on an outing with a friend) and asked to imagine that the situation happened to themselves (parent situation) or their children (child situation). Mothers were then asked to provide attributions for each situation according to the dimensions of internality, controllability, stability, and globality. With regard to child situations, the results of the study indicated that higher depression levels were associated with mothers’ attributing the cause of the situations to causes internal to and controllable by the child. In addition, higher
depression levels were associated with mothers’ attributing the cause of parent situations to internal, controllable, stable, and global factors.

White and Barrowclough (1998) investigated the relationship between maternal attributions for children’s behavior and depressed mood in mothers who described their preschool-age children as exhibiting significant behavior problems. Spontaneous maternal attributions for their children’s behaviors, as exhibited in the home environment, were assessed via an interview format. The extracted attributions were categorized on the dimensions of internal-external, controllable-uncontrollable, and stable-unstable. White and Barrowclough noted that mothers with elevated levels of depressive symptoms were more likely to attribute children’s problem behaviors to stable and controllable factors than mothers without depressive symptoms.

Interestingly, a study conducted by Dix and Reinhold (1991) suggested that parent attributions are also impacted by temporarily induced moods. Mothers were randomly assigned to one of three groups: (a) an “angry” group, in which mothers were instructed to recall an event of which their children were not a part that involved feelings of anger; (b) a “happy” condition, in which mothers were instructed to recall an event of which their children were not a part that involved feelings of happiness; and (c) a neutral condition, in which mothers were instructed to recall an event of which their children were not a part that involved neutral feelings. Mothers then viewed videotaped vignettes depicting children responding to maternal directives with noncompliant behavior. Maternal attributions for child behaviors were assessed following the viewing of the videotapes. Surprisingly, mothers who were induced to experience happy
feelings prior to watching the videotaped interactions reported more negative reactions toward noncompliant child behavior (e.g., were more likely to view the child as responsible for the behavior, were more likely to view children as lazy) than mothers in the other two groups. Dix and Reinhold suggested that children’s noncompliant behavior appeared more negative to these mothers because the behavior “contrasts with the positive outlook and expectations that positive affect engenders,” or the negative behavior resulted in a decrease in mothers’ positive mood (p. 267).

*Parent depression and parent perceptions.* Parent depression has been extensively studied in relation to parent perceptions of children’s behavior. Two main hypotheses have been identified with regard to the relationship between depression and parent perceptions: (a) parents’ depressive symptoms “color” their perceptions of children’s behavior, leading parents to perceive their children’s behavior as more negative than independent observations demonstrate (i.e., distortion hypothesis); and (b) parents with elevated depression levels perceive their children’s behavior more accurately, as parents in general tend to perceive their children’s behavior more positively than independent observations indicate (i.e., accuracy hypothesis; Querido, Eyberg, & Boggs, 2001).

A significant amount of research has provided support for the distortion hypothesis related to parent perceptions. First, Bond and McMahon (1984) and Forehand and his colleagues (i.e., Brody & Forehand, 1986; Forehand & Brody, 1985; Forehand et al., 1986a; 1986b; Forehand, Wells, McMahon, Griest, & Rogers, 1982; Rogers & Forehand, 1983) examined the relationship between depressed mood and
parent perceptions of children's behavior via home observations of parent-child interactions. Parents' perceptions of children's behavior among parents with depression were significantly different from researchers' observations of child behavior across studies, as these parents viewed their children's behavior more negatively than researcher observations indicated. Parents with elevated depressive symptoms particularly viewed their children as engaging in less compliant and more noncompliant behaviors than parents without depressive symptoms. However, researcher observations indicated that frequency of compliant and noncompliant behavior did not significantly differ between children of parents reporting significant symptoms of depression and children of parents not reporting elevated depressive symptoms (Rogers & Forehand).

Studies that have assessed parent perceptions of child behavior solely via parent report of child behavior problems have found similar support for the distortion hypothesis (Johnston & Short, 1993; Krech & Johnston, 1992; Webster-Stratton & Hammond, 1988). Specifically, parents were asked to rate child behavior on standardized behavior rating scales (e.g., Child Behavior Checklist) or by maintaining daily logs of child behavior. The results were similar to those obtained from the observational studies, as depressed mood was significantly associated with parents' likelihood of perceiving their children's behavior negatively. Johnston and Short noted that prosocial and deviant behaviors were especially susceptible to a negative attribution bias (i.e., parents with elevated depression levels perceived fewer prosocial and more deviant behaviors). Based upon the results from this body of research, Forehand et al.
(1986a) suggested that "the best predictor of which children will be referred to clinics for the treatment of child behavior problems is maternal perceptions of child maladjustment" (p. 48).

Though there is significant support for the distortion hypothesis related to depressed mood and parent perceptions, more recent research has failed to find support for the distortion hypothesis. For example, Richters (1992) published a review of 17 studies that reported findings in support of the distortion hypothesis. In contrast to the reported findings, Richters determined that none of the studies included in his review met the necessary criteria for establishing distortion in maternal perceptions of child behavior due to lack of consistent disagreement between maternal and researcher ratings of child behaviors.

Furthermore, researchers have demonstrated support for the accuracy hypothesis of parent perceptions. Jouriles and Thompson (1993) investigated the relationship between parent depression and perceptions of children's behavior by experimentally manipulating positive and negative moods in a sample of mothers not reporting significant symptoms of depression. Positive, negative, or neutral moods were induced by instructing mothers to relive a past positive, depressing, or neutral experience. Mothers were then shown previously recorded videotapes of their children engaging in a clean-up task and asked to rate children's behavior on a scale ranging from bad to good. Contrary to the distortion hypothesis, the results of the study indicated that depressed mood-induced mothers did not evaluate their children's behavior more negatively than neutral mood-induced mothers. Furthermore, mothers in the positive
mood induction group rated their children’s behavior more positively than mothers in either the neutral mood and depressed mood groups, as well as independent observers. Therefore, Jouriles and Thompson’s study provided initial support for the accuracy hypothesis.

Likewise, studies examining the accuracy hypothesis in samples of mothers with elevated depression symptoms and mothers not reporting significant symptoms of depression have noted similar results as those obtained by Jouriles and Thompson (1993). Specifically, the child behavior ratings of mothers with higher depression levels were found to be more consistent with child behavior ratings of independent observers than those of mothers with lower depression levels. Moreover, mothers not reporting significant depressive symptoms repeatedly underestimated the frequency of negative child behavior compared to independent observations of child behavior (Lovejoy, 1991; Querido et al., 2001). Lovejoy subsequently reported that “data suggest that it is nondepressed mothers who have a bias as evidenced through consistent underestimates of negative child behavior” (p. 705).

Summary

Previous research clearly indicates that parent well being, particularly stress, sense of competence, and depression, are implicated in parent and child behavior during parent-child interactions, parent attributions, and parent perceptions. It is therefore important that research examining parent-child interactions and parent cognitions consider the impact of parent well being on these variables.
In general, research in the broad area of child behavior has overwhelmingly focused on mothers’ perspectives of and well being related to their children’s behavior. Researchers (e.g., Bronstein, 1988; Cowan & Bronstein, 1988; Levant, 1988; McBride, Schoppe, & Rane, 2002) have explained the almost exclusive focus on mother data by stating that mothers are traditionally the parents who spend the most time with their children and therefore have greater awareness of their children’s behavior. However, research in the area of child behavior is increasingly recognizing the importance of input from both mothers and fathers, as researchers have noted that, while fathers’ involvement with their children is still less than that of mothers, fathers today are more actively involved in childrearing tasks than in previous decades (Bailey, 1994; Baker & Heller, 1996).

Furthermore, existing studies indicate that the inclusion of fathers as research participants is important due to the following: (a) fathers interact somewhat differently with their children than mothers, and the behavior of children often differs between fathers and mothers (Tallmadge & Barkley, 1983); (b) fathers’ cognitions about children’s behavior differ from those of mothers (Sobol et al., 1989; Webster-Stratton, 1988); and (c) fathers are affected somewhat differently by their interactions with their children than mothers (Deater-Deckard, 1998). All of these factors necessitate obtaining information regarding parent-child interactions, parent cognitions, and parent well being from both mothers and fathers.
Parent Sex and Parent-Child Interactions

The majority of studies that have investigated parent and child behavior in the context of parent-child interactions have focused specifically on mothers’ interactions with their sons (Tallmadge & Barkley, 1983). Because previous research has suggested that children respond differently to mothers than fathers, and behavior of mothers and fathers toward their children may differ as well, examining maternal and paternal interactions with their children is important.

Lytton (1979) conducted one of the first home observational studies in which both mothers’ and fathers’ interactions with their sons were examined. A nonclinical sample of parents and their children were observed engaging in unstructured interactions approximately three hours prior to the children’s bedtime. Lytton was particularly interested in observing parents’ responses to children’s compliant and noncompliant behaviors. The results of the study indicated that, while fathers were observed to be less interactive with their sons than mothers, the overall behavior of mothers and fathers did not significantly differ when parents engaged in one-on-one interactions with their sons. Rather, the most common responses toward compliant and noncompliant behavior on the part of both mothers and fathers were no response (i.e., ignoring) and continuing the chain of commands by offering an additional command before the child had opportunity to respond to the first command.

In a similar study, Russell and Russell (1996) compared interactions within a nonclinical sample of mothers and fathers and their children. Like Lytton’s (1979) study, the observations were conducted within the homes of the families participating in
the study. Both daily family activities (e.g., evening meal, bedtime routines) and a researcher-designed activity (i.e., ring toss game between parents and children) were observed. Russell and Russell specifically examined parent behaviors during the interactions, focusing on behaviors such as commands, negative reactions, affection, and caretaking. They noted no significant differences between mother-child and father-child interactions.

Contrary to the findings obtained by Russell and Russell (1996), Dumas and Lechowicz (1989) observed differences in maternal and paternal behavior within parent-child interactions. One-hour weekly observations were conducted in families’ homes over 2- to 4-week periods. Across observations, mothers were observed to give their children significantly more commands than fathers; mothers gave an average of approximately 41 commands per hour, while fathers gave an average of approximately 20 commands per hour.

In contrast to the home observational studies conducted by Lytton (1979), Russell and Russell (1996), and Dumas and Lechowicz (1989), Tallmadge and Barkley (1983) examined interactions between mother-son and father-son dyads within a clinical setting. Boys with ADHD and their parents and a normative sample of boys and their parents participated in the study, and they were instructed to engage in a structured play interaction and an unstructured interaction. Observations of these interactions revealed few differences between mothers’ and fathers’ interactional patterns. Rather, the behavior of parents of boys with ADHD and the normative sample of parents differed, as parents of the boys with ADHD gave their sons more commands, particularly during
the structured play observation. Observations of these interactions indicated that boys with ADHD exhibited significantly more negative behavior in response to their mothers' commands than their normative peers, while the behavior of boys with ADHD was more positive in response to their fathers' commands than their mothers’ commands and did not significantly differ from their normative peers.

Based upon data from the studies reviewed above, children’s behavior toward their mothers and fathers during parent-child interactions appears to differ more than mothers’ and fathers’ behavior. Though Lytton (1979), Russell and Russell (1996), and Tallmadge and Barkley (1983) did not find differences between maternal and paternal interaction patterns, Lytton and Tallmadge and Barkley found that the behavior of children was more negative when in the presence of mothers than fathers.

Finally, while the behavior of mothers and fathers does not appear to significantly differ during one-on-one parent-child interactions, studies have identified differences between mother-child and father-child interactions when mothers and fathers simultaneously interact with their children. Three studies examined differences between dyad and triad interaction configurations. Johnson (2001) observed play interactions between mothers, fathers, and their children. She reported that parents’ affect and time spent engaging their children differed between the dyad and triad interactions, as parents’ demonstrated less negative affect and were less engaging when both parents interacted with their children. Furthermore, mothers tended to provide increased structure within the interactions and fathers provided decreased structure in the triad than dyad interactions.
Lytton (1979) and Buhrmester, Camparo, Christensen, Gonzalez, and Hinshaw (1992) focused in particular on differences between mothers' and fathers' use of directives within the dyad and triad configurations. Lytton reported that children's tendency to engage in more noncompliant behavior toward mothers was similar across both types of interactions, and the fathers' presence during the triad interaction appeared to benefit mothers. Fathers took more responsibility toward their sons' behavior, and the children's compliance subsequently increased. Likewise, Buhrmester et al. described fathers' behavior during the triad interactions as "rescue-coercion," stating that fathers increased their demands, likely in response to children's higher likelihood of noncompliant behavior toward mothers, while the demands of mothers decreased. However, in contrast to Lytton's study, Buhrmester et al. identified negative implications of this pattern, noting that the interactions between fathers and sons consequently deteriorated.

*Parent Sex and Parent Attributions*

Research on parent attributions for children's behavior has focused primarily on maternal attributions. The majority of studies sampled mothers only, and most studies that have included both mothers and fathers included a much greater number of mothers than fathers. Differences between maternal and paternal attributions in some studies are not specifically examined due to the disparity in sample sizes between mothers and fathers, and maternal attributions are sometimes considered to represent parent attributions as a whole. For example, Jenson, Green, Singh, Best, and Ellis (1998) included 25 mothers and one father in their study, but their conclusions were
generalized to parents as a whole.

Sobol et al. (1989) conducted one of the few studies that has examined both mothers’ and fathers’ attributions for their children’s behavior. Parents of children with ADHD and without ADHD were asked to read six vignettes depicting noncompliant behavior, while imagining that their child was exhibiting the specific behavior described (e.g., interrupting while the parent was on the telephone, failing to play nicely with peers). The researchers examined parent attributions according to the dimensions of locus, stability, and controllability. The dimension of locus pertained to parent perceptions of whether the child’s behavior was due to factors internal or external to the parent. Differences were found between mothers’ and fathers’ attributions, with mothers’ attributing the cause of their children’s behavior as being external to themselves to a significantly greater degree than fathers. Additionally, mothers of children with ADHD were more likely to attribute the cause of the noncompliant behavior to unstable factors than fathers of children with ADHD, although parents of children with ADHD as a whole had lower expectations for influencing their child’s compliance in the future compared to parents of children without ADHD. In contrast to Sobol and others’ (1989) findings, other studies (e.g., Watson, 1986) have indicated that mothers view themselves as more responsible for children’s behaviors than fathers.

In a similar study, Johnston and Patenaude (1994) compared maternal and paternal attributions for children’s behaviors in a clinical sample of parents. Parents of children with ADHD provided their attributions for children’s inattentive-overactive and oppositional defiant behaviors according to the same attribution dimensions as
those included in the Sobol et al. (1989) study (i.e., locus, stability, and controllability). While Johnston and Patenaude did not find statistically significant differences between maternal and paternal attributions, clinically meaningful differences (i.e., moderate or large effect sizes) exist on each attribution dimension for both inattentive-overactive and oppositional defiant behaviors. The data indicate that mothers attributed inattentive-overactive behaviors more to factors external to the child, controllable factors, and stable factors than fathers. Mothers also attributed oppositional defiant behaviors more to external, uncontrollable, and stable factors than fathers.

Mills and Rubin (1990) conducted a study similar in design to that of Sobol et al. (1989), but included a nonclinical sample of parents. Parents were asked to read vignettes in which a child exhibited either aggressive behavior or social withdrawal, and they were instructed to imagine that their 4-year-old child was the subject of the vignette. Parents were then asked to indicate why they felt their child acted in the manner described. In contrast to Sobol and others’ findings and the statistical analyses of Johnston and Patenaude (1994), mothers and fathers in this study were found to provide similar causal attributions for both behaviors. Specifically, all parents were likely to attribute both aggressive behavior and social withdrawal to unstable factors. In fact, many parents indicated that aggressive behavior originated from age-related factors, suggesting that their child would “grow out” of the behavior with time.

Parent Sex and Parent Perceptions

Schaughency and Lahey (1985) were among the first to empirically examine consistency in maternal and paternal ratings of child behavior. Mothers and fathers of
children referred for behavioral treatment completed rating scales assessing child behavior problems (i.e., Conners Parent Rating Scale). Additionally, children’s teachers completed similar child behavior rating scales. Maternal and paternal ratings for children’s behavior were statistically significantly correlated in all behavioral areas assessed, and were most strongly correlated (i.e., correlations ranging between .61 and .69) for impulsive-hyperactive, perfectionism, psychosomatic, and anxiety behavioral areas.

Though maternal and paternal perceptions of children’s behavior were similar, Schaughency and Lahey (1985) noted two specific differences between mothers and fathers: (a) mothers’ ratings of children’s behavior were statistically significantly correlated with ratings of teachers in all behavior areas assessed (i.e., conduct problems, tension-anxiety, hyperactivity, and overall externalizing behaviors), whereas fathers’ and teachers’ ratings were statistically significantly correlated in one behavioral area (i.e., tension-anxiety); and (b) mothers’ ratings of children’s behavior in the areas of conduct problems and overall externalizing behavior problems were statistically significantly and positively correlated with self-reported depression, while fathers’ ratings of children’s behavior were not significantly associated with depressive symptoms.

In a similar study, Webster-Stratton (1988) compared maternal and paternal ratings of child behavior on two behavior rating scales: the Child Behavior Checklist (CBCL) and the Eyberg Child Behavior Inventory (ECBI). In addition, parents completed rating scales assessing their personal functioning and teachers’ ratings of
child behavior were included. Maternal and paternal ratings of children’s behavior were statistically significantly correlated on the Internalizing and Externalizing Problems scores and the Depression scale of the CBCL. In contrast, maternal and paternal ratings were not significantly associated on the CBCL Hyperactivity scale nor the Total Problem and Intensity scores of the ECBI. Mothers reported more behavior problems on the ECBI scales than fathers.

The comparison between parent and teacher ratings of child behavior yielded opposite results from those obtained in Schaughency and Lahey’s (1985) study; fathers’ ratings of children’s behavior in this study were statistically significantly correlated with teachers’ ratings, while mothers’ and teachers’ ratings were not significantly related. Finally, similar to the findings obtained by Schaughency and Lahey, Webster-Stratton (1988) noted that mothers’ ratings of child behavior were significantly affected by their personal functioning (i.e., mothers who reported higher levels of stress and more depressive symptoms rated their children’s behaviors as more deviant), while fathers’ ratings were not significantly affected by their personal well being. Furthermore, child behavior ratings of mothers reporting fewer depressive symptoms tend to be more highly associated with fathers’ child behavior ratings (Johnston, 1991).

Stollak et al. (1982) conducted a study similar to those of Schaughency and Lahey (1985) and Webster-Stratton (1988), but noted nearly opposite results. Based upon a combination of teacher and peer ratings, children were identified as exhibiting significant problem behaviors, as exhibiting a normative level of problem behaviors, or as “highly adjusted.” Interestingly, the results of the study indicated that fathers of
children identified as exhibiting behavior problems tended to be more negatively biased in their perceptions of their children’s behavior than fathers of children in the other two groups, whereas similar results were not found for mothers.

In contrast to previous research, the findings of a study conducted by Baker and Heller (1996) suggested that maternal and paternal ratings of child behavior are expected to differ, but are not significantly different. They investigated maternal and paternal perceptions of child behavior via completion of the CBCL within three groups: families of children not exhibiting significant behavior problems, families of children exhibiting moderate externalizing behavior problems, and families of children exhibiting high levels of externalizing behavior problems. The results of the study indicated that mothers’ and fathers’ ratings on the CBCL did not significantly differ; while mothers’ ratings were slightly higher than fathers’ ratings within the moderate and high behavior problem groups, mothers’ ratings were slightly lower than those of fathers within the no behavior problem group. Though actual ratings did not differ between mothers and fathers, both mothers and fathers perceived fathers as worrying less about their children’s behavior problems and mothers as viewing more behavior problems, feeling more concern about their children’s behavior, and feeling a greater need to seek treatment for their children.

Achenbach, McConaughy, and Howell (1987) conducted a meta-analytic study, in which parent, teacher, subject, and other informants’ ratings of children’s behavior via the CBCL were investigated across 119 studies. An average correlation of .60 was found between mother and father ratings of children’s behavior. This correlation was
higher than those obtained from ratings of different types of raters (i.e., parent/teacher, child/other rater), suggesting that mothers and fathers share similar views regarding their children's behavior than other informants. However, a correlation of .60 can be considered to reflect moderate agreement between mothers and fathers regarding children's behavior, and therefore suggests that mothers and fathers have somewhat different perceptions of their children's behavior.

Expanding on Achenbach and others' (1987) research, Eisenstadt, McElreath, Eyberg, and McNeil (1994) examined maternal and paternal agreement of child behavior ratings on the ECBI in a sample of parents who had initiated behavioral treatment for their children. Mothers reported significantly more behavior problems than fathers on both the Problem (i.e., number of behavior problems) and Intensity (i.e., frequency of behavior problems) scores. However, discrepancies in parent ratings did not result in differential classification for 80% of families. Discrepancies in classification for the remaining 20% of classification resulted from mothers’ rating children as exhibiting significantly more behavior problems than fathers. Similar to Achenbach and others’ findings, the results of this study suggested that mothers and fathers share similar perceptions of their children’s behavior, yet mothers tend to perceive more behavior problems than fathers.

**Parent Sex and Parent Well Being**

As previously discussed, parent stress and parent sense of competence have been linked with various negative outcomes for parents and children, including aversive child and parenting behavior during parent-child interactions, negative parental attributions
for and perceptions of children’s behavior, and increased depressive symptoms. While a great deal of research has been conducted examining the relationship between parent stress and child behavior in particular, the overwhelming majority of this research has examined maternal perceived stress levels exclusively. Likewise, studies investigating parent sense of competence have primarily sampled mothers. However, studies have begun to consider differences between maternal and paternal stress levels and perceived parenting competence, particularly as these variables relate to parent-child interactions.

**Parent stress.** It has traditionally been assumed that mothers experience greater stress levels than fathers, particularly with regard to their interactions with their children and efforts to cope with child misbehavior, perhaps because mothers typically spend more time with their children and therefore have a greater likelihood of being affected by repeated incidents of aversive child behavior (Deater-Deckard & Scarr, 1996). Indeed, some studies have shown found differences in maternal and paternal stress levels related to child behavior. For example, Podolski and Nigg (2001) investigated parent stress in mothers and fathers of children with ADHD and other disruptive behavior disorders. Mothers and fathers were found to rate oppositional and aggressive behaviors as equally distressing, but mothers were also found to rate inattentive behaviors as distressing above and beyond the effects of other disruptive behaviors. Inattentive behaviors did not significantly contribute to fathers’ levels of distress.

However, results from the majority of studies in which maternal and paternal stress levels have been compared have reported that, while mothers do tend to experience higher overall stress levels, the differences between maternal and paternal
stress are minimal and typically do not reach statistical or clinical significance (Crnic & Booth, 1991; Deater-Deckard, 1998; Deater-Deckard & Scarr, 1996). Furthermore, other factors (e.g., child behavior, child sex, socioeconomic status, marital relationship quality) have been found to be more important predictors of parent stress than parent sex (Baker, 1994; McBride et al., 2002).

Though examining general differences in maternal and paternal stress levels is important in terms of implications for parent-child relationships, a more specific examination of factors that differentially influence maternal and paternal stress may provide more revealing information. Interestingly, fathers' stress levels have been associated with their involvement with their children. Specifically, studies (e.g., Fagan, 2000; Noppe & Noppe, 1991) have shown that higher stress levels in fathers are associated with lower father involvement. In contrast, in a study in which parent stress was examined exclusively within a nonclinical sample of fathers, McBride (1989) noted that fathers whose wives were employed outside of the home (and therefore spent more time with their children) reported higher levels of stress, perhaps because these fathers did not have a choice about being more involved with their children.

*Parent sense of competence.* Very few studies have examined potential sex differences with regard to parent sense of competence, and the existing research has produced conflicting findings. Specifically, some studies have reported no significant differences between maternal and paternal perceived parenting competence. For example, Mash and Johnston (1983a) examined parent sense of competence in parents of children with ADHD and a normative group of parents. Both mothers and fathers of
children with ADHD reported lower levels of perceived competency in the parenting role than parents in the normative group, though mothers’ and fathers’ ratings of competency within each group were similar.

In contrast, other studies have identified significant differences in parent sense of competence between mothers and fathers, typically showing lower levels of perceived competence for fathers. For instance, Rogers and White (1998) examined sex differences in parenting satisfaction in a nonclinical sample of parents. In contrast to Mash and Johnston’s (1983a) findings, fathers in their study reported significantly lower levels of satisfaction in the parenting role than mothers. Moreover, fathers’ parenting satisfaction was noted to be more unstable than that of mothers.

As with the research examining maternal and paternal differences in parent stress levels, researchers focusing on parent sense of competence have suggested that investigating factors that are differentially related to maternal and paternal perceived parenting competence might be especially useful. Indeed, studies have indicated that different aspects of parent behavior during parent-child interactions between mothers and fathers are associated with parent sense of competence. For example, Goth-Owens, Stollak, Messe, Peshkess, and Watts (1982) found that fathers’ behaviors during parent-child interactions (e.g., negative affect, social physical play, object-mediated play) were associated with their self-reported parenting satisfaction, whereas mothers’ behaviors during parent-child interactions were not significantly associated with perceived parenting satisfaction.
Summary

The existing literature indicates that participation of both mothers and fathers in research related to child behavior issues is essential for many reasons. First, while studies investigating parent-child interactions have suggested few differences with regard to maternal and paternal behavior during parent-child interactions, research has fairly consistently indicated that child behavior toward mothers and fathers differs.

Second, research in the area of parent attributions and perceptions has suffered from a lack of information regarding fathers’ cognitions. Rather, studies have focused almost exclusively on mothers, and study conclusions have been erroneously generalized to parents as a whole. Existing research suggests that maternal and paternal attributions for and perceptions of child behavior differ. These findings may indicate that mothers and fathers simply view their children’s behavior differently. Alternatively, these findings may indicate that children behave differently when interacting with mothers versus fathers, and this behavior difference is reflected in parents’ ratings of their children’s behavior. Based upon findings from the Tallmadge and Barkley (1983) study previously discussed, it appears that mothers and fathers provide different ratings of their children’s behavior, at least in part because mother-child and father-child interactions differ. However, more research is needed to clarify maternal and paternal differences with regard to parent-child interactions, parent attributions, and parent perceptions.

Finally, existing literature in the area of parent well being is marked by a lack of consistent findings. Specifically, it is unclear whether mothers’ and fathers’ differ with
regard to their levels of parent stress and parent sense of competence. Furthermore, there is an overall lack of research investigating differences in depressive symptoms between mothers and fathers. Perhaps the discrepancy in reported prevalence rates of depression between women and men (i.e., prevalence rates suggest that twice as many females suffer from depression as males) has led researchers to disregard further examination of sex difference in depression (APA, 1994). Regardless, maternal and paternal differences with regard to stress, sense of competence, and depression are worthy of further study.

Summary

Research conducted over the last three decades has contributed considerable knowledge to our understanding of parents’ cognitions regarding their children’s behaviors. Studies have identified parent cognitions as an important area of study because of their relationship to outcomes in parent training programs. The existing research in the area of parent attributions for children’s behaviors has indicated that parents of children without behavior problems are more likely to attribute positive behaviors to child dispositional and stable factors and negative behaviors to situational and unstable factors, whereas parents of children with behavior problems are more likely to attribute negative behaviors to child dispositional, controllable, and stable factors. Additionally, research in the area of parent perceptions of children’s behavior has indicated that parents of children with behavior problems tend to view their children’s behaviors more negatively than parents of children without behavior
problems and more negatively than researcher observations of children’s behavior. Studies have shown that parents of children without behavior problems are less likely to view their children’s behaviors more negatively than observations of the behaviors indicate, though parents of children without behavior problems who are depressed tend to view their children’s behaviors more negatively (Johnston & Short, 1993; Rickard et al., 1981).

However, there are inconsistencies and gaps within the parent attribution and parent perceptions literature. First, not all studies in which parent attributions for children’s behavior among nonclinical samples were assessed have concluded that these parents view their children’s behavior more positively than parents of children with behavior problems; rather, some studies suggest that nonclinical samples of parents also attribute aversive child behaviors to child dispositional and stable factors. Second, parent attributions have not been assessed in a uniform manner across studies, and many studies have not assessed attributions of actual child behaviors. Third, previous research has focused exclusively on parent perceptions of child behavior within parent-child interactions. Fourth, the relationship between parent and researcher observations of child behaviors has not been consistently assessed across studies. Finally, literature in the overall area of child behavior has focused primarily on obtaining information from mothers rather than gathering information from both mothers and fathers. Research in the specific areas of parent attributions and parent perceptions has also primarily included mothers.

The purpose of this study was to investigate factors that are related to parent
attributions and perceptions of parent-child interactions. Specifically, this study
examined parent attributions for child behavior and parent perceptions of parent and
child behavior in the context of parents’ interactions with their children. Parent
perceptions were defined as parent ratings of parent and child behaviors during parent-
child interactions for the purpose of this study. Additionally, because previous research
has indicated that child behavior and parent well being affect parents’ cognitions related
to their children’s behaviors, the relationship between attributions and perceptions and
child behavior, parent stress, parent sense of competence, and parent depression was
investigated. Furthermore, the accuracy of parent perceptions of their children’s
behavior and their own behavior were examined. Finally, this study sought to clarify
possible differences between mothers’ and fathers’ interactions with their children, their
attributions and perceptions related to those interactions, and their levels of stress, sense
of competence as parents, and depression.

This study sought to address gaps in the existing literature on parent attributions
and perceptions via the following: (a) a nonclinical sample of parents and their children
engaged in structured parent-child interactions in a laboratory setting; (b) parent
attributions for child behavior and parent perceptions of parent and child behavior were
assessed immediately following actual parent-child interactions; (c) parent perceptions
regarding both child behavior and parent behavior were obtained; (d) the relationship
between parent-rated and researcher-rated child behaviors was studied; and (e) the study
actively sought participation of both mothers and fathers.

The specific research questions addressed in this study were as follows:
1. What is the relationship between parent attributions for children’s behavior and the following variables: parent stress, parent sense of competence, parent depression, and child behavior?

2. What is the relationship between parent perceptions of their children’s behavior and their own behavior and the following variables: parent stress, parent sense of competence, parent depression, and child behavior?

3. What is the relationship between parent-recorded and researcher-recorded parent and child behavior during parent-child interactions?

4. How do attributions differ between mothers and fathers?

5. How do parent-child interactions differ between mothers and fathers?

6. What factors are significant predictors of parent attributions?

7. What factors are significant predictors of parent perceptions?

Based on previous research, it was hypothesized that both parent well being variables and child behavior would be significantly related to parent attributions for children’s behavior. Specifically, it was expected that higher levels of parent stress, parent depression, and child behavior problems and lower levels of parent sense of competence would be significantly associated with negative parent attributions (i.e., internal, controllable, stable, global, and personal responsibility attributions for negative child behaviors; external, uncontrollable, unstable, specific, and decreased personal responsibility attributions for positive child behaviors). Further, it was hypothesized that one or more of these variables would emerge as significant predictors of negative parent attributions.
Likewise, it was hypothesized that parent well-being variables and child behavior would be significantly related to parent perceptions of parent and child behaviors. Specifically, it was expected that higher levels of parent stress, parent depression, and child behavior problems, and lower levels of parent sense of competence would be significantly associated with higher parent recordings of negative parent behaviors (i.e., critical statements) and negative child behaviors (i.e., noncompliance, disruptive behavior). Additionally, it was hypothesized that one of more of these variables would emerge as significant predictors of negative parent perceptions. More specifically, child behavior and parent stress were expected to emerge as significant predictors of parent attributions and child behavior and parent depression were expected to emerge as significant predictors of parent perceptions, on the basis of previous research.

Because previous studies have not examined the relationship between parent-recorded and researcher-recorded parent and child behaviors, there are no specific hypotheses regarding this research question. However, because most parents are likely not familiar with coding their behaviors and their children’s behaviors, low to moderate correlations were expected between parent-recorded and researcher-recorded behaviors.

Finally, based upon findings from previous research examining differences in maternal and paternal attributions for children’s behaviors and mother-child and father-child interactions, it was hypothesized that mothers would provide more negative attributions for children’s behaviors than fathers and children would exhibit higher
frequencies of negative behaviors toward mothers than fathers during parent-child interactions.
The participants in this study were 25 mothers, 15 fathers, and their children. A total of 32 children participated in the study. Participants were recruited via newspaper advertisement and advertisement in physicians’ offices and community agencies (e.g., copy centers, laundromats, childcare facilities).

The majority of parent participants were married \((n = 37; 92.5\%)\) and the biological parent of the child involved in the study \((n = 39; 98.0\%)\). The mean age of parents was 32.95 years \((SD = 6.65)\). Most parents were well educated, with the majority having attended either some college \((n = 15; 37.5\%)\) or having earned their bachelor’s degree \((n = 12; 30.0\%)\). Most mothers reported working as homemakers \((n = 12; 52.2\%)\), while professional fields were the most common area of employment for fathers \((n = 7; 50.0\%)\). The mean monthly income of families involved in this study was $2,804 \((SD = 1244.23)\), while the median monthly income was $2,700. According to the Utah Department of Workforce Services, the mean household income in northern Utah for 1999 (the most recent date for which data was available) was $3,527 (personal communication, June 2, 2003). Mothers reported spending an average of 11.88 waking hours per day with the child involved in the study, while fathers reported spending an average of 3.79 waking hours per day with the child involved in the study.

The average number of children in the households of families participating in
the study was 2.75 ($SD = 1.33$), and parents reported that they spend an average of 8.84 ($SD = 5.48$) hours per day with the target child. Most parent participants reported that they had taken a parenting class ($n = 27; 67.5\%$), with Love and Logic and various parenting classes offered through local churches, community agencies (e.g., Child and Family Support Center), and the Utah State University Family and Human Development department common classes noted among parents. Approximately half of parents reported that they have received counseling services ($n = 22; 55.0\%$), while the majority of parents reported not taking prescription medication to treat psychological problems ($n = 30; 75.0\%$). Parent demographic characteristics are presented in Table 1.

Children ranged in age from 4 to 8 ($M = 5.63; SD = 1.27$), with a fairly equal number of males ($n = 15; 48.0\%$) and females ($n = 17; 52.0\%$). The majority of children involved in the study were Caucasian ($n = 31; 97.0\%$). Most children had not received counseling services ($n = 28; 87.0\%$), or special education services ($n = 29; 91.0\%$). None of the children involved in the study had taken medication for psychological disorders, according to parent report. Child demographic characteristics are presented in Table 2.

**Instruments**

*Child Behavior Checklist*

Children’s disruptive behaviors were measured with the CBCL for ages 4-18 (Achenbach, 1991). The CBCL includes 113 items describing problem behaviors. Parents were asked to indicate whether each item was “not true (0),” “somewhat or
Table 1

Demographic Characteristics of Parents

<table>
<thead>
<tr>
<th>Demographic characteristics</th>
<th>Total sample $(N = 40)$</th>
<th>Mothers $(n = 25)$</th>
<th>Fathers $(n = 15)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>37 (92.5%)</td>
<td>22 (88.0%)</td>
<td>15 (100.0%)</td>
</tr>
<tr>
<td>Single; never married</td>
<td>1 (2.5%)</td>
<td>1 (4.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Single; divorced</td>
<td>2 (5.0%)</td>
<td>2 (8.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school graduate</td>
<td>6 (15.0%)</td>
<td>5 (20.0%)</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>Some college education</td>
<td>15 (37.5%)</td>
<td>10 (40.0%)</td>
<td>5 (33.3%)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>12 (30.0%)</td>
<td>8 (32.0%)</td>
<td>4 (26.7%)</td>
</tr>
<tr>
<td>Above bachelor’s degree</td>
<td>7 (17.5%)</td>
<td>2 (8.0%)</td>
<td>5 (33.3%)</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homemaker</td>
<td>12 (32.4%)</td>
<td>12 (52.2%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Professional</td>
<td>8 (21.6%)</td>
<td>1 (4.3%)</td>
<td>7 (50.0%)</td>
</tr>
<tr>
<td>Service-oriented</td>
<td>6 (16.2%)</td>
<td>3 (13.0%)</td>
<td>3 (21.4%)</td>
</tr>
<tr>
<td>Childcare/teaching</td>
<td>4 (10.8%)</td>
<td>4 (8.7%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Administration/management</td>
<td>2 (5.4%)</td>
<td>0 (0.0%)</td>
<td>2 (14.3%)</td>
</tr>
<tr>
<td>Office/secretarial work</td>
<td>2 (5.4%)</td>
<td>2 (8.7%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Production/manufacturing</td>
<td>2 (5.4%)</td>
<td>1 (4.3%)</td>
<td>1 (7.1%)</td>
</tr>
<tr>
<td>Student</td>
<td>1 (2.7%)</td>
<td>0 (0.0%)</td>
<td>1 (7.1%)</td>
</tr>
<tr>
<td>Received counseling services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>22 (55.0%)</td>
<td>16 (64.0%)</td>
<td>6 (40.0%)</td>
</tr>
<tr>
<td>No</td>
<td>18 (45.0%)</td>
<td>9 (36.0%)</td>
<td>9 (60.0%)</td>
</tr>
<tr>
<td>Prescribed medication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10 (25.0%)</td>
<td>10 (40.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>No</td>
<td>30 (75.0%)</td>
<td>15 (60.0%)</td>
<td>15 (100.0%)</td>
</tr>
<tr>
<td>Taken a parenting class</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>27 (67.5%)</td>
<td>19 (76.0%)</td>
<td>8 (53.3%)</td>
</tr>
<tr>
<td>No</td>
<td>13 (32.5%)</td>
<td>6 (24.0%)</td>
<td>7 (46.7%)</td>
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<tr>
<td>Number of adults in household</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3 (7.5%)</td>
<td>3 (12.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>2</td>
<td>37 (92.5%)</td>
<td>22 (88.0%)</td>
<td>15 (100.0%)</td>
</tr>
<tr>
<td>Number of children in household</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7 (17.5%)</td>
<td>4 (16.0%)</td>
<td>3 (20.0%)</td>
</tr>
<tr>
<td>2</td>
<td>11 (27.5%)</td>
<td>7 (28.0%)</td>
<td>4 (26.7%)</td>
</tr>
<tr>
<td>3</td>
<td>14 (35.0%)</td>
<td>9 (36.0%)</td>
<td>5 (33.3%)</td>
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<td>4</td>
<td>3 (7.5%)</td>
<td>2 (8.0%)</td>
<td>1 (6.7%)</td>
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<td>5</td>
<td>3 (7.5%)</td>
<td>2 (8.0%)</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>6</td>
<td>2 (5.0%)</td>
<td>1 (4.0%)</td>
<td>1 (6.7%)</td>
</tr>
</tbody>
</table>
Table 2

Demographic Characteristics of Children

<table>
<thead>
<tr>
<th>Demographic characteristics</th>
<th>Total sample (N = 32)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
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<tr>
<td>Male</td>
<td>15</td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
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<tr>
<td>Caucasian</td>
<td>31</td>
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<tr>
<td>Biracial</td>
<td>1</td>
</tr>
<tr>
<td>Received counseling</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
</tr>
<tr>
<td>No</td>
<td>28</td>
</tr>
<tr>
<td>Prescribed medication</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
</tr>
<tr>
<td>Receiving special education</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>No</td>
<td>29</td>
</tr>
</tbody>
</table>

sometimes true (1),” or “very often or often true (2)” as it applied to their child over the previous 6 months. Three broadband problem behavior scores are obtained: a total problems score (based on the total ratings of the 113 items), an internalizing behaviors score, and an externalizing behaviors score. According to Achenbach (1991), the CBCL has demonstrated good test-retest reliability (correlations ranging between .70 and .95 over a 1-week period), and has been shown to distinguish between clinical and
nonclinical samples and among various clinical subgroups. Further, the CBCL correlates well with other parent behavior rating scales (Merrell, 1999). The CBCL has been well researched and is widely used in both clinical and research settings.

**Parenting Stress Index-Short Form**

Parenting stress was assessed with the Parenting Stress Index-Short Form (PSI-SF). The PSI-SF (Abidin, 1995; Loyd & Abidin, 1985) is a 36-item derivative of the full-length Parenting Stress Index. The items on the PSI-SF describe various parent, child, and environmental factors that are often perceived as stressful by parents. Parents are asked to indicate their agreement with each item according to a 5-point Likert scale, which ranges from “strongly agree” to “strongly disagree” for most items. A total score and three subscale scores (i.e., parental distress, parent-child dysfunctional interaction, difficult child) are derived from parents’ responses on the PSI-SF. According to Abidin, the total score is designed to provide a measure of parents’ overall experience with parenting stress. The parental distress subscale (PD) provides a measure of parenting and other personal factors that contribute to parenting stress (e.g., parenting competency, lack of social support); the parent-child dysfunctional interaction subscale (P-CDI) assesses parent-child interaction patterns that are contributing to parent stress; and the difficult child subscale (DC) provides a measure of parent perceived child behaviors that are contributing to parenting stress (e.g., noncompliance, demanding behavior).

According to Abidin (1995), the PSI-SF has demonstrated good internal consistency reliability (i.e., correlations ranging from .80 for the P-CDI subscale and
.91 for the total score) and test-retest reliability over a six-month period (i.e., correlations ranging from .68 for the P-CDI subscale and .85 for the PD subscale). The total score and subscales of the PSI-SF share high correlations with their counterparts on the full-length PSI (correlations ranging from .87 for the DC subscale and .95 for the total score). Little information is known about the validity of the PSI-SF specifically, though the full-length PSI has demonstrated good validity (Abidin). The PSI has been extensively used as a measure of parenting stress, particularly with parents of children with ADHD (Baker & McCal, 1995; Fischer, 1990).

**Parenting Sense of Competence Scale**

The Parenting Sense of Competence Scale (PSOC; Johnston & Mash, 1989; Ohan, Leung, & Johnston, 2000) is a 16-item instrument that is designed to measure parents’ esteem within the parenting role. Parents are asked to indicate their agreement with each item according to a 6-point Likert scale, ranging from “strongly agree” to “strongly disagree.” A total score is obtained by adding the scores from the individual items, reversing the scores on the eight positive items. The minimum score is 16, and the maximum score is 96. Higher scores are indicative of greater perceived parenting competence. The PSOC includes two separate factors: self-efficacy (i.e., perceived capability of coping successfully with parenting situations) and satisfaction (i.e., sense of happiness and contentment in the parenting role). Seven of the 16 items on the PSOC pertain to the self-efficacy factor, and the remaining nine items pertain to the satisfaction factor.

Ohan et al. (2000) examined the PSOC factor structure originally proposed by
Johnston and Mash and determined that the two factors assess distinct aspects of parenting self-esteem for both mothers and fathers. According to Johnston and Mash (1989), the PSOC demonstrates adequate internal consistency reliability (correlations ranging between .75 for the satisfaction factor and .79 for the total score). Additionally, scores on the PSOC have been shown to be statistically and negatively related to internalizing and externalizing problem behavior scores on the CBCL (Johnston & Mash).

Beck Depression Inventory-Second Edition

Parent depression was assessed with the Beck Depression Inventory-Second Edition (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report instrument that is designed to measure the severity of depressive symptoms in adults. According to Beck et al., the BDI-II was developed to assess the symptoms listed under the DSM-IV (APA, 1994) criteria for depressive disorders. Respondents are asked to rate each item on a 4-point scale ranging from 0 to 3 in severity. A total score is obtained by adding the scores from the individual items. The minimum score is 0 and the maximum score is 63, with higher scores indicative of more severe depression.

According to Beck et al. (1996), the BDI-II demonstrates excellent internal consistency reliability (i.e., correlations ranging from .92 for a sample of outpatients to .93 for a sample of college students) and test-retest reliability over a 1-week period (a correlation of .93 was obtained from a sample of outpatients). Additionally, the BDI-II correlates well with self-report instruments measuring similar constructs and distinguishes accurately between outpatient and clinical groups.
Written Analogue Questionnaire

Parental attributions were assessed using a modified form of the Written Analogue Questionnaire (WAQ; Johnston & Freeman, 1997). In the original form of the WAQ, parents are asked to read 12 scenarios describing children’s inattentive-overactive, oppositional defiant, and prosocial behaviors. Parents are instructed to imagine that the scenarios describe an interaction between themselves and their children and then rate on a scale of 1 to 10 to what degree the child’s behavior was due to internal, stable, global, and controllable factors. Additionally, parents are asked to rate their perceived responsibility for the behavior and their affective and behavioral responses to the behavior. The following is an example of a scenario included on the original form of the WAQ: “Your child enters the kitchen just as you have finished sweeping the floor and getting the dust in a pile to pick up. The child doesn’t wait for you to finish and heads straight to the fridge. As he/she rushes through the kitchen, the pile of dirt scatters across the floor.”

For the present study, the WAQ was modified to pertain specifically to parents’ attributions of their children’s actual behavior during parent-child interactions. As such, parents were asked to provide attributions for their children’s disruptive, positive, compliant, and noncompliant behavior during the interactions. The following attribution factors were included in this study: internal, stable, global, controllable, and parents’ perceived responsibility. The remaining two attribution factors included in the WAQ were not included, as they were not deemed relevant to this study. The use of the WAQ is considered experimental at this time. However, Johnston and Freeman (1997)
reported that the attributions parents in their sample made for child behavior on the WAQ were positively and highly correlated with parents’ verbal attributions of their own children’s behavior.

**Dyadic Parent-Child Interaction Coding System**

The Dyadic Parent-Child Interaction Coding System (DPICS; Eyberg & Robinson, 1983; Hembree-Kigin & McNeil, 1995; Robinson & Eyberg, 1981), a structured observational coding system, was completed separately by parents and two researchers. The DPICS is a coding system for three parent-child interactions: CDI, PDI, and clean up. The DPICS was used to record parent and child behaviors and verbalizations during the parent-child interactions. The CDI and clean-up interactions were used for this study because a review by Roberts (2001) indicated that, among the three interactions, they provide the best predictions of child and parent behavior in the home.

Parent behaviors and verbalizations were coded into the following ten categories: descriptive statement, reflective statement, unlabeled praise, labeled praise, question, critical statement, direct command, indirect command, ignoring disruptive behavior, and responding to disruptive behavior. Child behaviors were coded into the following five categories: disruptive behavior, positive behavior, no opportunity, compliance, and noncompliance. The child behavior category of positive behavior is not included in the DPICS; rather, that behavior category was created for this study. Parent and child behaviors and verbalizations corresponding to each of the categories
were tallied and summed to obtain a total for each category.

According to Robinson and Eyberg (1981), the DPICS has demonstrated adequate reliability and clinical utility when used with families of children with and without conduct problems. They reported that parent and child behaviors, as coded via the DPICS, correctly classified 94% of families (i.e., those children reported to demonstrate conduct problems exhibited higher rates of noncompliance during parent-child interactions, and their parents were more critical and directive). Additionally, Robinson and Eyberg reported that DPICS ratings were responsible for 61% of the variance in parent report of child behavior problems within the home.

**Demographic Questionnaire**

Parents were asked to complete demographic sheets, which consisted of a series of questions about themselves and their children. Questions about parents included the following: age, gender, marital status, educational level, and occupation. Questions about children included the following: age, gender, and ethnic background. Parents were also asked to report their family size, family structure, annual income, and whether they had taken a parenting class. Finally, parents were asked to report any medications they and their child were currently taking to treat psychological problems and whether they or their child had ever received counseling services.

**Qualitative Questions**

Information about parent-child interactions and parent attributions was also obtained via qualitative questions. The researcher asked parents the following
questions: (a) Was this a typical interaction between you and your child? Why or why not? (b) Why do you think your child engaged in disruptive behavior? (c) Why do you think your child engaged in positive behavior? (d) Why do you think your child engaged in compliant behavior? (e) Why do you think your child engaged in noncompliant behavior?

Procedures

The advertisement recruitment materials for this study consisted of posters and handouts (see Appendix A). They were placed in various community agencies and physicians’ offices, and an advertisement appeared in the local newspaper twice. The advertisement materials briefly described the study and the incentives for participating and instructed parents to contact the researcher for more information on this study. Additional information about the study was provided during this initial telephone conversation, and an appointment was scheduled with parents who agreed to participate in the study. A total of 50 parents contacted the researcher. Of that group of parents, 48 agreed to participate in the study; however, 7 of the 48 parents failed to present for their scheduled appointments and were unable to be reached when the researcher attempted to contact them to reschedule the appointments. Therefore, 41 parents completed the study. The data from one mother was unusable due to complications with the video equipment.

Parents attended one appointment at the Utah State University Psychology Community Clinic with their children. Simultaneous appointments were scheduled for
families in which both parents participated in the study. The same protocol was followed for each parent that participated in the study (see Appendix B). The researcher explained the study in greater detail upon families’ arrival to the Psychology Community Clinic, and parents were given the opportunity to ask questions about the study. Following this, parents signed a consent form indicating their willingness to participate in the study (see Appendix B). Next, parents completed the CBCL, PSI-SF, PSOC, the BDI-II, and a demographic information form (see Appendix C). Children were invited to play with toys while their parents completed the measures.

Following the completion of the measures, parents and children were instructed to engage in two 5-minute interactions, both of which were videotaped. For two-parent families in which both mothers and fathers interacted with the same child, the order of mother-child and father-child interactions was counter-balanced. That is, mother-child interactions took place before father-child interactions in half of the families, and father-child interactions took place before mother-child interactions in the other half of families.

Prior to the first interaction, the researcher instructed parents to play with their child as they do at home. The researcher left the room, returning after five minutes. Parents were then instructed to engage their child in a “clean-up task,” giving their child approximately 10 commands related to cleaning up the toys within the 5-minute period. The researcher again left the room and returned after 5 minutes. These tasks were chosen in order to obtain an approximation of how parents and children interact in the home and how children respond to parental commands. Additionally, these tasks are
commonly employed within parent training programs, such as parent-child interaction therapy, and they have been recommended for use due to their reliable coding (Hembree-Kigin & McNeil, 1995; Roberts, 2001).

Following the completion of the interactions, parents were asked to view the videotapes twice. During the first viewing, parents were asked to watch the videotape without the researcher present. They were asked to watch both the play interaction and clean-up task and code their behavior and their child's behavior during the interactions with the DPICS (e.g., identify when they gave commands or provided praise, identify when their child complied with a command). The researcher provided parents with a brief explanation of the coding system before they watched the videotape and parents were also provided with a handout to reference while they watched the videotapes. This handout included each parent and child behavior summarized on the DPICS, but the behaviors were described in briefer and more basic terminology (see Appendix C).

During the second viewing, the researcher watched the videotapes with parents. The researcher paused the videotape each time disruptive, positive, compliant, or noncompliant behavior was exhibited by the child, up to five total behaviors in each category. The researcher identified the child behavior exhibited on the videotape, and parents' attributions for these child behaviors were assessed through the adapted WAQ (see Appendix C). Additionally, qualitative information about the parent-child interactions and parent attributions was obtained via five questions, which were answered by parents during a brief interview with the researcher (see Appendix C).

After the viewing of the videotapes, parents were thanked and provided with
monetary compensation (i.e., $25 gift certificate) for their participation. Children were given a small reward (e.g., ball, stuffed animal, puzzle) for their participation. Parents were also given the opportunity to ask more specific questions about the study. Two parents (one mother and one father) scored within the severe range on the BDI-II. The researcher conducted a risk assessment with these parents prior to their departure and provided the parents with treatment options.

Two mothers and their children (one girl and one boy) agreed to participate in a pilot phase of the study prior to the recruitment of the study participants. Both mothers were acquaintances of a graduate student who assisted with this study, and one of the mothers was participating in a parent-training program with her target child at the time of her participation in the pilot phase. The mothers completed all steps of the program except the completion of the CBCL, PSI-SF, PSOC, BDI-II, and demographic information form. They then provided feedback on the study, particularly the observational coding system. Both mothers reported one concern related to the coding of children’s positive behavior, indicating that the description of this behavior was unclear. The description for this behavior was revised based upon this feedback.

The researcher and a graduate student assistant individually coded the videotapes using the DPICS. Prior to coding the tapes, the researcher and assistant discussed the coding system and individually coded videotapes of the two mothers who had participated in a pilot phase of the study. The coding of the pilot videotapes continued until an 80% reliability was achieved and the researcher and assistant had discussed specific areas of disagreement in coding. The graduate student assistant
coded videotaped interactions from 10 participants (i.e., 25% of the total sample). The videotapes coded by the assistant were chosen at random.

Interrater agreement was determined by dividing the number of agreements by the total number of behaviors observed in each parent and child behavior category. The overall interrater agreement for combined parent and child behaviors was 81%. The interrater agreements for each behavior category are presented in Tables 3 and 4.

Interrater agreement ratios were considerably higher overall for parent behaviors and disruptive and positive child behaviors than child behaviors following parent commands (i.e., no opportunity, compliance, noncompliance). The latter child behaviors were not readily visible across videotapes (i.e., the child was out of the picture on the videotape), which hindered the observation of these behaviors and likely contributed to the lowered interrater agreement.

Table 3

<p>| Interrater Agreement Rates by Parent Behavior Category |
|---------------------------------------------|------------------|------------|
| Behavior category | Interrater agreement ratio | %     |
| Description       | 28/34             | 82        |
| Reflection        | 35/43             | 81        |
| Unlabeled praise  | 16/19             | 84        |
| Labeled praise    | 5/6               | 83        |
| Question          | 144/156           | 92        |
| Critical statement| 4/5               | 80        |
| Direct command    | 46/57             | 81        |
| Indirect command  | 53/62             | 85        |
| Ignoring          | 0/0               | 0         |
| Responding        | 3/3               | 100       |</p>
<table>
<thead>
<tr>
<th>Behavior category</th>
<th>Interrater agreement ratio</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disruptive behavior</td>
<td>2/2</td>
<td>100</td>
</tr>
<tr>
<td>Positive behavior</td>
<td>1/1</td>
<td>100</td>
</tr>
<tr>
<td>No opportunity (direct command)</td>
<td>14/22</td>
<td>64</td>
</tr>
<tr>
<td>Compliance (direct command)</td>
<td>25/33</td>
<td>76</td>
</tr>
<tr>
<td>Noncompliance (direct command)</td>
<td>2/5</td>
<td>40</td>
</tr>
<tr>
<td>No opportunity (indirect command)</td>
<td>18/31</td>
<td>58</td>
</tr>
<tr>
<td>Compliance (indirect command)</td>
<td>23/34</td>
<td>68</td>
</tr>
<tr>
<td>Noncompliance (indirect command)</td>
<td>4/10</td>
<td>40</td>
</tr>
</tbody>
</table>
CHAPTER IV

RESULTS

Descriptive Statistics

Means, standard deviations, ranges, and effect sizes for the CBCL scores, parenting stress scores, parenting sense of competence scores, and depression scores appear in Table 5. Independent $t$ tests were conducted to examine differences between mothers and fathers with regard to these variables. No statistically significant differences were found between mothers and fathers. However, a clinically significant difference was found between mothers' and fathers' ratings of child externalizing behavior problems on the CBCL. Mothers rated their children as exhibiting more externalizing behavior problems than fathers. It should be noted that although this study included a nonclinical sample of parents and children, 13 children were rated by their parents as demonstrating borderline significant or clinically significant levels of internalizing, externalizing, or total problem behaviors on the CBCL.

Parent Attributions, Parent Stress, Parent Sense of Competence, Parent Depression, and Child Behavior

The first objective of this study was to examine the relationship between parent attributions and the following variables: child behavior, parent stress, parenting sense of competence, and parent depression. Child behavior, parent stress, parenting sense of competence, and parent depression were all measured via parent self-report. The
Table 5

Means, Standard Deviations, Ranges, and Effect Sizes for Child Behavior and Parent Well-Being Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total sample (N = 40)</th>
<th>Mothers (n = 25)</th>
<th>Fathers (n = 15)</th>
<th>ES mothers vs. fathers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>Range</td>
<td>M</td>
</tr>
<tr>
<td>CBCL total problems score</td>
<td>27.15</td>
<td>16.66</td>
<td>2-78</td>
<td>28.52</td>
</tr>
<tr>
<td>CBCL internalizing problems</td>
<td>6.18</td>
<td>7.19</td>
<td>0-26</td>
<td>5.64</td>
</tr>
<tr>
<td>CBCL externalizing problems</td>
<td>11.50</td>
<td>9.59</td>
<td>0-32</td>
<td>12.12</td>
</tr>
<tr>
<td>PSI-PD</td>
<td>25.63</td>
<td>6.46</td>
<td>14-50</td>
<td>25.56</td>
</tr>
<tr>
<td>PSI-PCDI</td>
<td>21.58</td>
<td>5.20</td>
<td>13-37</td>
<td>21.68</td>
</tr>
<tr>
<td>PSI-DC</td>
<td>29.08</td>
<td>7.87</td>
<td>14-53</td>
<td>30.00</td>
</tr>
<tr>
<td>PSI total</td>
<td>76.28</td>
<td>16.35</td>
<td>45-140</td>
<td>77.24</td>
</tr>
<tr>
<td>PSOC satisfaction</td>
<td>38.43</td>
<td>5.99</td>
<td>22-49</td>
<td>37.88</td>
</tr>
<tr>
<td>PSOC efficacy</td>
<td>28.43</td>
<td>5.15</td>
<td>19-41</td>
<td>29.00</td>
</tr>
<tr>
<td>PSOC total</td>
<td>66.88</td>
<td>9.39</td>
<td>43-83</td>
<td>66.92</td>
</tr>
<tr>
<td>BDI</td>
<td>9.38</td>
<td>9.31</td>
<td>1-46</td>
<td>9.96</td>
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</table>
relationships between parent attributions and these variables were analyzed via Pearson correlations.

Statistically significant correlations were found between parent-reported child behavior problems and the following parent attributions: disruptive behavior globality, disruptive behavior stability, parent responsibility for disruptive behavior, and parent responsibility for compliance. Higher levels of child behavior problems were associated with parents viewing disruptive behavior as occurring across multiple settings and stable over time, parents viewing themselves as more responsible for disruptive behavior and less responsible for compliant behavior.

Statistically significant correlations were found between parent-reported stress and the following parent attributions: disruptive behavior globality, and compliant behavior globality and stability. Higher levels of parent stress were associated with parents viewing disruptive behavior as occurring across multiple settings and viewing compliant behavior as occurring across limited settings and unstable over time.

Statistically significant correlations were found between parent sense of competence and the following parent attributions: disruptive behavior globality, parent responsibility for disruptive behavior, and compliant behavior globality. Lower parent sense of competence was associated with parents viewing disruptive behavior as occurring across multiple settings, viewing themselves as more responsible for disruptive behavior, and viewing compliant behavior as occurring across limited settings.

Finally, parent depression was statistically significantly correlated with the
parent attributions of disruptive behavior responsibility, and positive behavior locus. Higher levels of parent depression were associated with parents viewing themselves as more responsible for disruptive behavior and viewing positive behavior as caused by factors external to the child. The results of these analyses are presented in Table 6.

Parent Perceptions, Parent Stress, Parent Sense of Competence, Parent Depression, and Child Behavior

The second objective of this study was to examine the relationship between parent perceptions of parent and child behaviors during parent-child interactions, as measured by parents' ratings of their behavior and their children's behaviors, and the following variables: child behavior, parent stress, parenting sense of competence, and parent depression. The relationships between parent-observed parent and child behaviors and these variables were analyzed via Pearson correlations. As previously noted, the following parent behaviors were coded: direct commands, indirect commands, ignoring, responding, descriptive statements, reflective statements, unlabeled praise, labeled praise, questions, and critical statements. The following child behaviors were coded: no opportunity, compliance, and noncompliance following direct commands; no opportunity, compliance, and noncompliance following indirect commands; disruptive behavior; and positive behavior.

In order to reduce the number of analyses performed, the following parent behaviors were correlated with parent-reported child behavior, parent stress, parent sense of competence, and parent depression: commands, ignoring, responding,
### Table 6

**Correlations between Parent Attributions and Parent-Reported Child Behavior and Parent Well Being**

<table>
<thead>
<tr>
<th>Parent attribution</th>
<th>CBCL Total</th>
<th>Internalizing</th>
<th>Externalizing</th>
<th>PSI PD</th>
<th>PSI PCDI</th>
<th>PSI DC</th>
<th>PSI Total</th>
<th>PSOC Sat</th>
<th>PSOC Eff</th>
<th>PSOC Total</th>
<th>BDI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>r</td>
<td>n</td>
<td>r</td>
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<td>n</td>
<td>r</td>
<td>n</td>
<td>r</td>
<td>n</td>
</tr>
<tr>
<td>Disruptive locus</td>
<td>10</td>
<td>.44</td>
<td>10</td>
<td>.36</td>
<td>10</td>
<td>.29</td>
<td>10</td>
<td>.45</td>
<td>10</td>
<td>.30</td>
<td>10</td>
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<tr>
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<td>-.04</td>
<td>10</td>
<td>.23</td>
<td>10</td>
<td>-.19</td>
<td>10</td>
<td>.13</td>
<td>10</td>
<td>.33</td>
<td>10</td>
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<tr>
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<td>10</td>
<td>-.63*</td>
<td>10</td>
<td>-.29</td>
<td>10</td>
<td>-.64*</td>
<td>10</td>
<td>-.31</td>
<td>10</td>
<td>.04</td>
<td>10</td>
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<tr>
<td>Disruptive stability</td>
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<td>.60</td>
<td>10</td>
<td>.23</td>
<td>10</td>
<td>.68*</td>
<td>10</td>
<td>.13</td>
<td>10</td>
<td>-.34</td>
<td>10</td>
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<tr>
<td>Disruptive responsibility</td>
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<td>.48</td>
<td>10</td>
<td>-.55</td>
<td>10</td>
<td>-.53</td>
<td>10</td>
<td>-.21</td>
<td>10</td>
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<tr>
<td>Positive locus</td>
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<td>.23</td>
<td>9</td>
<td>-.08</td>
<td>9</td>
<td>.51</td>
<td>9</td>
<td>.30</td>
<td>9</td>
<td>.46</td>
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<td>Positive controlability</td>
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<td>1.40</td>
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<td>.5</td>
<td>9</td>
<td>.2</td>
<td>9</td>
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<td>9</td>
<td>-.03</td>
<td>9</td>
<td>.09</td>
<td>9</td>
<td>.27</td>
<td>9</td>
<td>-.21</td>
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<td>.00</td>
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<td>.16</td>
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<td>.11</td>
<td>39</td>
<td>.05</td>
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<tr>
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<td>39</td>
<td>.29</td>
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<td>39</td>
<td>.00</td>
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<td>.08</td>
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<td>.17</td>
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<td>.38*</td>
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<td>39</td>
<td>.02</td>
<td>39</td>
<td>-.36*</td>
<td>39</td>
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*(table continues)*
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<tr>
<th>Parent attribution</th>
<th>CBCL Total</th>
<th>Internalizing</th>
<th>Externalizing</th>
<th>PSI PD</th>
<th>PSI PCDI</th>
<th>PSI DC</th>
<th>PSI Total</th>
<th>PSOC Sat</th>
<th>PSOC Eff</th>
<th>PSOC Total</th>
<th>BDI</th>
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<td>.15</td>
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<td>-.24</td>
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<td>.07</td>
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<td>.19</td>
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<td>-.01</td>
<td>.13</td>
<td>.03</td>
<td>-.08</td>
<td>-.31</td>
<td>-.19</td>
</tr>
<tr>
<td>Noncompliance controllability</td>
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<td>.32</td>
<td>.23</td>
<td>.19</td>
<td>.46</td>
<td>.34</td>
<td>.36</td>
<td>-.06</td>
<td>-.18</td>
<td>.06</td>
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<tr>
<td>Noncompliance globality</td>
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<td>-.21</td>
<td>-.36</td>
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<td>-.27</td>
<td>.34</td>
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<td>.17</td>
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<tr>
<td>Noncompliance stability</td>
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<td>.10</td>
<td>.01</td>
<td>.27</td>
<td>.01</td>
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<td>.15</td>
<td>.10</td>
<td>-.13</td>
<td>.06</td>
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<tr>
<td>Noncompliance responsibility</td>
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<td>-.24</td>
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<td>-.41</td>
<td>-.19</td>
<td>-.24</td>
<td>.02</td>
<td>-.30</td>
<td>.12</td>
</tr>
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</table>

Note. Higher scores on parent attributions are indicative of external, uncontrollable, specific, and stable attributions and attributions of decreased parent responsibility

* p < .05  
** p < .01
descriptive statements, reflective statements, praise, questions, and critical statements.

Likewise, the following child behaviors were correlated with child behavior and parent well-being variables: total no opportunity, compliance, and noncompliance; disruptive behavior, and positive behavior. Because only two parents were observed to ignore disruptive child behavior, ignoring was not included in any analyses.

First, statistically significant correlations were found between child behavior and parent well being variables and parents’ reported use of descriptive statements and critical statements. Higher ratings of total child behavior problems, parenting stress, and depression, and lower ratings of parenting efficacy and satisfaction were associated with higher reported use of descriptive statements. Parents’ reported use of critical statements was statistically significantly correlated with total child behavior problems, parenting satisfaction, and depressive symptoms. Higher levels of behavior problems and depression and lower ratings of parenting satisfaction were associated with higher reported use of critical statements.

Additionally, statistically significant correlations were found between child behavior and parent well-being variables and parent-observed no opportunity, compliant, noncompliant, and disruptive child behaviors. Specifically, a statistically significant correlation was found between no opportunity child behavior and externalizing behavior problems. Higher ratings of externalizing behavior problems were associated with higher parent-reported no opportunity behavior.

Statistically significant correlations were found between compliant child behavior following parent commands and the following: parenting stress related to
parenting a difficult child and parenting satisfaction. These results indicate that lower parenting stress and higher parenting satisfaction is associated with higher parent-reported compliant behavior.

Statistically significant correlations were found between noncompliant child behavior and the following: total behavior problems and internalizing behavior problems, total parenting stress and parenting stress across all three subscales of the PSI-SF, and depression. The results of these correlations indicate that higher levels of child behavior problems, parenting stress, and parent depression are associated with higher parent-reported noncompliant behavior.

Disruptive child behavior was statistically significantly correlated with internalizing behavior problems and the difficult child subscale of the PSI-SF. These correlations indicate that higher ratings of internalizing child behavior problems and higher perceived parenting stress related to parenting a difficult child were associated with higher rates of child disruptive behavior during parent-child interactions. The results of these analyses are presented in Table 7.

Parent-Recorded and Researcher-Recorded Parent and Child Behaviors

The third objective of this study was to examine the relationship between parents' ratings and the researcher's ratings of parent and child behaviors during parent-child interactions. The association between parent-recorded and researcher-recorded observations of the following parent behaviors was examined: commands, disruptive
Table 7

Correlations between Parent Recordings of Parent and Child Behaviors and Parent-Reported Child Behavior and Parent Well Being

<table>
<thead>
<tr>
<th>Behavior</th>
<th>CBCL Total</th>
<th>Internalizing</th>
<th>Externalizing</th>
<th>PSI PD</th>
<th>PSI PCDI</th>
<th>PSI DC</th>
<th>PSI Total</th>
<th>PSOC Sat</th>
<th>PSOC Eff</th>
<th>PSOC Total</th>
<th>EDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent commands</td>
<td>39</td>
<td>-0.25</td>
<td>39</td>
<td>-0.25</td>
<td>39</td>
<td>-0.18</td>
<td>39</td>
<td>-0.28</td>
<td>39</td>
<td>-0.15</td>
<td>39</td>
</tr>
<tr>
<td>Parent responding</td>
<td>8</td>
<td>0.23</td>
<td>8</td>
<td>0.19</td>
<td>8</td>
<td>-0.29</td>
<td>8</td>
<td>-0.37</td>
<td>8</td>
<td>-0.18</td>
<td>8</td>
</tr>
<tr>
<td>Parent descriptions</td>
<td>19</td>
<td>0.56*</td>
<td>19</td>
<td>0.14</td>
<td>19</td>
<td>0.37</td>
<td>19</td>
<td>0.48*</td>
<td>19</td>
<td>0.67**</td>
<td>19</td>
</tr>
<tr>
<td>Parent reflections</td>
<td>28</td>
<td>0.14</td>
<td>28</td>
<td>0.10</td>
<td>28</td>
<td>0.06</td>
<td>28</td>
<td>0.07</td>
<td>28</td>
<td>0.16</td>
<td>28</td>
</tr>
<tr>
<td>Parent praise</td>
<td>35</td>
<td>0.02</td>
<td>35</td>
<td>0.19</td>
<td>35</td>
<td>-0.02</td>
<td>35</td>
<td>0.08</td>
<td>35</td>
<td>-0.13</td>
<td>35</td>
</tr>
<tr>
<td>Parent questions</td>
<td>39</td>
<td>-0.12</td>
<td>39</td>
<td>-0.04</td>
<td>39</td>
<td>-0.07</td>
<td>39</td>
<td>-0.21</td>
<td>39</td>
<td>-0.07</td>
<td>39</td>
</tr>
<tr>
<td>Parent critical statements</td>
<td>11</td>
<td>0.70*</td>
<td>11</td>
<td>0.56</td>
<td>11</td>
<td>0.56</td>
<td>11</td>
<td>0.59</td>
<td>11</td>
<td>0.14</td>
<td>11</td>
</tr>
<tr>
<td>Child no opportunity</td>
<td>7</td>
<td>-0.75</td>
<td>7</td>
<td>-0.31</td>
<td>7</td>
<td>-0.90**</td>
<td>7</td>
<td>-0.10</td>
<td>7</td>
<td>-0.28</td>
<td>7</td>
</tr>
<tr>
<td>Child compliance</td>
<td>38</td>
<td>-0.27</td>
<td>38</td>
<td>-0.11</td>
<td>38</td>
<td>-0.23</td>
<td>38</td>
<td>-0.23</td>
<td>38</td>
<td>-0.15</td>
<td>38</td>
</tr>
<tr>
<td>Child noncompliance</td>
<td>15</td>
<td>0.53*</td>
<td>15</td>
<td>0.73**</td>
<td>15</td>
<td>0.48</td>
<td>15</td>
<td>0.67**</td>
<td>15</td>
<td>0.77**</td>
<td>15</td>
</tr>
<tr>
<td>Child disruptive</td>
<td>10</td>
<td>0.55</td>
<td>10</td>
<td>0.66*</td>
<td>10</td>
<td>0.57</td>
<td>10</td>
<td>0.34</td>
<td>10</td>
<td>0.35</td>
<td>10</td>
</tr>
<tr>
<td>Child positive</td>
<td>26</td>
<td>-0.19</td>
<td>26</td>
<td>-0.29</td>
<td>26</td>
<td>-0.06</td>
<td>26</td>
<td>-0.35</td>
<td>26</td>
<td>-0.39</td>
<td>26</td>
</tr>
</tbody>
</table>

*p < 0.05

**p < 0.01
behavior, responding to disruptive behavior, descriptive statements, reflective statements, praise, questions, and critical statements. The relationship between parents' and the researcher's ratings of ignoring was not examined due to the infrequency with which this behavior was observed. The association between parent-recorded and researcher-recorded observations of the following child behaviors was examined: no opportunity following commands, compliance following commands, noncompliance following commands, disruptive behavior, and positive behavior.

The relationship between parent and researcher observations of parent and child behaviors was analyzed via Pearson correlations and independent $t$ tests. Statistically significant correlations were found between parent-recorded and researcher-recorded commands, reflective statements, praise, questions, and compliance. Statistically significant differences were found for descriptive statements, commands, questions, positive behavior, and compliance. Effect sizes were also calculated to determine the clinical significance of parent-researcher differences. Cohen (1988, as cited in Pedhazur & Schmelkin, 1991) considers effect sizes of .20 as small, .50 as moderate, and .80 as large. Clinically meaningful differences were found for descriptive statements, responding to disruptive behavior, commands, questions, compliance, no opportunity, and positive behavior. The results of these analyses are presented in Table 8.

Maternal and Paternal Attributions

The fourth objective of this study was to examine differences between maternal
Table 8

*Relationships between Parent-Recorded and Researcher-Recorded Parent and Child Behaviors*

<table>
<thead>
<tr>
<th>Parent and child behaviors</th>
<th>Parent ratings</th>
<th>Researcher ratings</th>
<th>(r)</th>
<th>(t)</th>
<th>(ES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N)</td>
<td>(M)</td>
<td>(SD)</td>
<td>(N)</td>
<td>(M)</td>
</tr>
<tr>
<td>Responding</td>
<td>8</td>
<td>3.13</td>
<td>2.30</td>
<td>11</td>
<td>2.00</td>
</tr>
<tr>
<td>Descriptive statements</td>
<td>19</td>
<td>2.79</td>
<td>2.15</td>
<td>38</td>
<td>6.11</td>
</tr>
<tr>
<td>Reflective statements</td>
<td>28</td>
<td>3.21</td>
<td>2.53</td>
<td>32</td>
<td>3.53</td>
</tr>
<tr>
<td>Praise</td>
<td>35</td>
<td>3.49</td>
<td>3.49</td>
<td>37</td>
<td>3.32</td>
</tr>
<tr>
<td>Questions</td>
<td>39</td>
<td>8.59</td>
<td>6.70</td>
<td>39</td>
<td>17.97</td>
</tr>
<tr>
<td>Critical statements</td>
<td>11</td>
<td>1.45</td>
<td>0.82</td>
<td>8</td>
<td>1.75</td>
</tr>
<tr>
<td>No opportunity</td>
<td>7</td>
<td>1.57</td>
<td>0.79</td>
<td>35</td>
<td>2.94</td>
</tr>
<tr>
<td>Compliance</td>
<td>38</td>
<td>5.21</td>
<td>3.13</td>
<td>39</td>
<td>6.90</td>
</tr>
<tr>
<td>Noncompliance</td>
<td>15</td>
<td>2.73</td>
<td>2.96</td>
<td>21</td>
<td>3.38</td>
</tr>
<tr>
<td>Disruptive behavior</td>
<td>10</td>
<td>2.20</td>
<td>1.87</td>
<td>11</td>
<td>2.36</td>
</tr>
<tr>
<td>Positive behavior</td>
<td>26</td>
<td>3.31</td>
<td>2.36</td>
<td>9</td>
<td>1.33</td>
</tr>
</tbody>
</table>

and paternal attributions for children's behavior. Differences in mothers' and fathers' attributions for positive, disruptive, compliant, and noncompliant behavior were analyzed via independent \(t\) tests.

Two statistically significant differences in maternal and paternal attributions for children's behavior emerged: mothers were significantly more likely to view themselves as responsible for their children's noncompliant behavior than fathers \((t = 3.90, p < .001)\), and mothers were more likely to view themselves as responsible for children's compliant behavior than fathers \((t = 2.02, p < .05)\).

Effect sizes were calculated to determine if meaningful differences existed.
between maternal and paternal attributions for children’s behavior. Meaningful differences (i.e., large or moderate effect sizes) were found between mothers and fathers for the following attribution dimensions: locus, globality, and stability of disruptive behavior; parent responsibility for disruptive behavior; locus, controllability, and stability for positive behavior; parent responsibility for positive behavior; parent responsibility for compliance; and parent responsibility for noncompliance.

With regard to disruptive behavior, this data suggests that fathers were more likely to view this behavior as caused by factors internal to the child and more likely to view this behavior as occurring across situations, whereas mothers were more likely to view this behavior as stable and view themselves as responsible for the behavior. With regard to positive behavior, fathers were more likely to view this behavior as being within the child’s control, yet they were also more likely to view themselves as responsible for the behavior. Mothers were more likely than fathers to view this behavior as caused by factors internal to the child and stable. Finally, as previously noted, mothers were more likely to view themselves as responsible for both compliant and noncompliant behavior. The \( t \) test and effect size results are included in Table 9.

Qualitative information about parent attributions for children’s disruptive, positive, compliant, and noncompliant behaviors was also obtained. Following the assessment of parent attributions for child behaviors during the interactions, the researcher asked parents why they believed their children exhibited positive, compliant, disruptive, and noncompliant behavior. When asked to provide spontaneous attributions for their children’s positive and compliant behaviors, both mothers and
Table 9

Analyses of t Tests Comparing Maternal and Paternal Attributions for Child Behavior

<table>
<thead>
<tr>
<th>Attribution</th>
<th>Mothers</th>
<th>Fathers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Disruptive locus</td>
<td>4.86</td>
<td>2.34</td>
</tr>
<tr>
<td>Disruptive controllability</td>
<td>2.71</td>
<td>1.80</td>
</tr>
<tr>
<td>Disruptive globality</td>
<td>1.43</td>
<td>1.33</td>
</tr>
<tr>
<td>Disruptive stability</td>
<td>9.71</td>
<td>0.76</td>
</tr>
<tr>
<td>Disruptive responsibility</td>
<td>6.14</td>
<td>2.27</td>
</tr>
<tr>
<td>Positive locus</td>
<td>2.00</td>
<td>1.41</td>
</tr>
<tr>
<td>Positive controllability</td>
<td>1.25</td>
<td>0.50</td>
</tr>
<tr>
<td>Positive globality</td>
<td>2.75</td>
<td>3.50</td>
</tr>
<tr>
<td>Positive stability</td>
<td>9.50</td>
<td>1.00</td>
</tr>
<tr>
<td>Positive responsibility</td>
<td>7.25</td>
<td>2.22</td>
</tr>
<tr>
<td>Compliance locus</td>
<td>4.33</td>
<td>2.12</td>
</tr>
<tr>
<td>Compliance controllability</td>
<td>1.88</td>
<td>1.60</td>
</tr>
<tr>
<td>Compliance globality</td>
<td>3.13</td>
<td>2.51</td>
</tr>
<tr>
<td>Compliance stability</td>
<td>9.21</td>
<td>1.22</td>
</tr>
<tr>
<td>Compliance responsibility</td>
<td>4.67</td>
<td>2.32</td>
</tr>
<tr>
<td>Noncompliance locus</td>
<td>4.45</td>
<td>2.88</td>
</tr>
<tr>
<td>Noncompliance controllability</td>
<td>2.45</td>
<td>1.86</td>
</tr>
<tr>
<td>Noncompliance globality</td>
<td>3.00</td>
<td>2.86</td>
</tr>
<tr>
<td>Noncompliance stability</td>
<td>8.91</td>
<td>1.70</td>
</tr>
<tr>
<td>Noncompliance responsibility</td>
<td>4.64</td>
<td>2.80</td>
</tr>
</tbody>
</table>

fathers were most likely to attribute these behaviors to their children’s nature or other child characteristics; 52% of mothers (n = 13) and 53% of fathers (n = 8) attributed these behaviors to their children’s nature. Fathers were more likely than mothers to attribute these behaviors to parental guidance or authority; 40% of fathers (n = 6) and 16% of mothers (n = 4) attributed positive and compliant behaviors to parent factors. In contrast, mothers were more likely than fathers to attribute these behaviors to
characteristics of the environment (e.g., interactions were observed, the child received one-on-one attention) and the positive consequences the children received as a result of these behaviors; 44% of mothers \( (n = 11) \) and 13% of fathers \( (n = 2) \) attributed positive and compliant behaviors to environmental factors.

When asked to provide spontaneous attributions for their children’s disruptive and noncompliant behaviors, the child’s nature was the most common response of both mothers \( (28%; \ n = 7) \) and fathers \( (27%; \ n = 4) \), though fewer parents attributed these behaviors to children’s nature than positive and compliant behaviors. Parents also attributed these behaviors to characteristics of the task (e.g., the child did not want to stop playing in favor of cleaning up). Interestingly, one mother and one father (of different children) attributed their children’s noncompliant behavior to the lack of incentives for complying with parent instructions.

Parent and Child Behaviors During Parent-Child Interactions

The fifth objective of this study was to examine differences between mother-child and father-child interactions. Mother-child and father-child interactions were investigated via researcher coding of parent and child behaviors during the videotaped interactions. Differences in mothers’ and fathers’ interactions with their children were analyzed via independent \( t \) tests.

No significant differences were found with regard to parent and child behavior between mother-child and father-child interactions, according to the researcher’s observations. Effect sizes were calculated to determine if meaningful differences
existed between mother-child and father-child interaction patterns. Meaningful differences (i.e., large or moderate effect sizes) were found between mothers and fathers for the following observed behaviors: parent critical statements, noncompliant child behavior, disruptive child behavior, and positive child behavior.

With regard to parent behaviors, these results suggest that mothers were observed to make more critical statements than fathers. With regard to child behaviors, children were observed to exhibit more noncompliant, disruptive, and positive behaviors when interacting with their mothers than their fathers. The \( t \) test and effect size results are included in Table 10.

Qualitative information of parent-child interactions was obtained via talking with parents about their interactions with their children and observation of parent-child

Table 10

*Analyses of \( t \) Tests Comparing Researcher Observations of Mother-Child and Father-Child Interactions*

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Mothers ( M )</th>
<th>Fathers ( M )</th>
<th>( T )</th>
<th>( p ) value</th>
<th>( ES )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent commands</td>
<td>11.79</td>
<td>11.33</td>
<td>.313</td>
<td>.756</td>
<td>-0.11</td>
</tr>
<tr>
<td>Parent responding</td>
<td>2.13</td>
<td>1.67</td>
<td>.438</td>
<td>.672</td>
<td>-0.33</td>
</tr>
<tr>
<td>Parent descriptive statements</td>
<td>5.71</td>
<td>6.79</td>
<td>.467</td>
<td>.644</td>
<td>-0.15</td>
</tr>
<tr>
<td>Parent reflective statements</td>
<td>3.30</td>
<td>3.92</td>
<td>.669</td>
<td>.509</td>
<td>0.24</td>
</tr>
<tr>
<td>Parent praise</td>
<td>3.09</td>
<td>3.71</td>
<td>.609</td>
<td>.546</td>
<td>0.20</td>
</tr>
<tr>
<td>Parent questions</td>
<td>18.79</td>
<td>16.67</td>
<td>-.810</td>
<td>.423</td>
<td>-0.27</td>
</tr>
<tr>
<td>Parent critical statements</td>
<td>2.00</td>
<td>1.00</td>
<td>-.866</td>
<td>.420</td>
<td>-1.28</td>
</tr>
<tr>
<td>Child no opportunity</td>
<td>3.24</td>
<td>2.50</td>
<td>-.980</td>
<td>.334</td>
<td>-0.37</td>
</tr>
<tr>
<td>Child compliance</td>
<td>6.25</td>
<td>7.93</td>
<td>1.41</td>
<td>.166</td>
<td>0.45</td>
</tr>
<tr>
<td>Child noncompliance</td>
<td>4.00</td>
<td>2.14</td>
<td>-1.44</td>
<td>.165</td>
<td>-0.85</td>
</tr>
<tr>
<td>Child disruptive behavior</td>
<td>2.63</td>
<td>1.67</td>
<td>-.768</td>
<td>.462</td>
<td>-0.61</td>
</tr>
<tr>
<td>Child positive behavior</td>
<td>2.00</td>
<td>1.00</td>
<td>-1.53</td>
<td>.170</td>
<td>-1.15</td>
</tr>
</tbody>
</table>
interactions. As previously noted, following the assessment of parent attributions for child behaviors during the interactions, the researcher asked parents a series of questions designed to obtain qualitative information about the interactions (i.e., the degree to which parents viewed the interactions as typical). Thirty-seven of the 40 parents reported that the interactions were similar to the interactions they typically share with their children at home, though many of these parents indicated that their children’s behavior during the interactions or characteristics of the interaction were slightly different (e.g., the child is typically slower to comply or challenges the parent authority more at home, parents rarely engage in one-on-one interactions with their children at home). The remaining three parents reported that their children’s behavior during the interactions differed significantly from their behavior in the home, stating that the children’s behavior were more reserved in the clinic setting or their children play only independently at home.

Qualitative observations of the videotaped parent-child interactions indicated that, though mothers were more likely than fathers to engage their children in the same activity (i.e., worked together with their children on the same activity); 100% (n = 25) of mothers engaged their children in the same activity, while 60% (n = 9) of fathers engaged their children in the same activity. The remaining 40% of fathers played alongside, but not with, their children.

Both mothers and fathers, but particularly mothers, used high frequencies of broad commands (e.g., “Clean up the toys”), commands with two or more parts (e.g., “After you put away the markers, put the cars in the box”), and “pseudo-commands”
(e.g., “I think we’re supposed to clean up”); 24% of mothers \((n = 6)\) and 33% of fathers \((n = 5)\) used broad commands, 60% of mothers \((n = 15)\) and 47% of fathers \((n = 7)\) used two-part commands, and 36% of mothers \((n = 9)\) and 13% of fathers \((n = 2)\) used “pseudo-commands.” Moreover, parents often did not give their children ample opportunity to comply with one command before offering a follow-up command, which led to repeated incidents of “no opportunity” child behavior. No opportunity child behavior occurred with 84% of mothers \((n = 21)\) and 93% of fathers \((n = 14)\), according to researcher coding of parent and child behaviors.

Mothers and fathers were equally likely to respond to children’s queries about why they had to clean up the toys; 28% of mothers \((n = 7)\) and 27% of fathers \((n = 4)\) responded to children’s queries. Both mothers and fathers were observed to ignore noncompliant child behavior quite often; 50% of the mothers and 57% of the fathers who experienced noncompliant child behavior ignored the behavior. In contrast, mothers and fathers were much more likely to respond to disruptive behaviors than ignore these behaviors. Twenty-six total incidents of disruptive behavior were observed, and parents responded to 22 of these incidents while ignoring the remaining four incidents. Finally, both mothers and fathers did not consistently reward positive or compliant child behaviors via praise. Specifically, 287 incidents of positive and compliant child behaviors were observed across the interactions of the total sample of parents and children, while 123 praise statements from parents were observed.
Predictors of Parent Attributions

The sixth objective of this study was to examine how well child behavior, parenting stress, parenting sense of competency, and parent depression predict parent attributions for child disruptive, positive, compliant, and noncompliant behavior. Seven stepwise multiple regressions were conducted, predicting the following: disruptive behavior globality, disruptive behavior stability, responsibility for disruptive behavior, positive behavior locus, compliant behavior globality, compliant behavior stability, and responsibility for compliant behavior. The following independent variables were entered into all regression analyses: total behavior problems, internalizing behavior problems, externalizing behavior problems, the three subscales and total score of the PSI-SF, the two subscales and total score of the PSOC, and parent depression. Regression analyses were conducted only for the attribution dimensions found to correlate significantly with one or more of the independent variables.

One variable emerged as a significant predictor of parents' attributions of disruptive behavior globality: parenting stress related to parenting a difficult child. Higher parenting stress was a significant predictor of parents viewing disruptive behavior as occurring across situations. Approximately 47% of the variance in parents' attributions of disruptive behavior globality can be accounted for by difficult child parenting stress ($F = 8.81, p < .05$).

Three variables emerged as significant predictors of parents' attributions of disruptive behavior stability: child externalizing behavior problems, and parenting stress related to dysfunctional parent-child interactions and difficult child behavior. Higher
parent ratings of externalizing behavior problems and parenting stress related to
difficult child behavior and lower parent ratings of parenting stress related to
dysfunctional parent-child interactions were significant predictors of parents viewing
disruptive behavior as stable over time. Approximately 39% of the variance in parents’
attributions of disruptive behavior stability can be accounted for by child externalizing
behavior problems ($F = 6.79, p < .05$), approximately 65% of the variance in parents’
attributions of disruptive behavior stability can be accounted for by child externalizing
behavior problems and parenting stress related to dysfunctional parent-child interactions
($F = 9.33, p < .05$), and approximately 87% of the variance can be accounted for by
child externalizing behavior problems and parenting stress related to dysfunctional
parent-child interactions and difficult child behavior ($F = 21.01, p < .01$).

One variable emerged as a significant predictor of parents’ attributions of
personal responsibility for disruptive child behavior: parenting satisfaction. Higher
parent ratings of parenting satisfaction were a significant predictor of parents viewing
themselves as not personally responsible for disruptive child behavior. Approximately
42% of the variance in parents’ attributions of personal responsibility for disruptive
child behavior can be accounted for by parenting satisfaction ($F = 7.43, p < .05$).

One variable emerged as a significant predictor of parents’ attributions of locus
of positive child behavior: parent depression. Higher parent depression was a
significant predictor of parents attributing positive behavior to factors external to the
child. Approximately 56% of the variance in parents’ attributions of positive behavior
locus can be accounted for by depression ($F = 11.20, p < .05$).
One variable emerged as a significant predictor of parents’ attributions of compliant behavior globality: parenting satisfaction. Higher parenting satisfaction was a significant predictor of parents viewing compliant behavior as occurring across situations. Approximately 36% of the variance in parents’ attributions of compliant behavior globality can be accounted for by parenting satisfaction ($F = 22.04, p < .001$).

One variable emerged as a significant predictor of parents’ attributions of compliant behavior stability: parenting stress related to dysfunctional parent-child interactions. Higher parenting stress in this area was a significant predictor of parents viewing compliant behavior as unstable. Approximately 10% of the variance in parents’ attributions of compliant behavior stability can be accounted for by parenting stress related to dysfunctional parent-child interactions ($F = 5.38, p < .05$).

Finally, one variable emerged as a significant predictor of as parents’ attributions of personal responsibility for compliant child behavior: child externalizing behavior problems. Lower externalizing behavior was a significant predictor of parents viewing themselves as not personally responsible for compliant child behavior. Approximately 8% of the variance in parents’ attributions of personal responsibility for compliant child behavior can be accounted for by parent-reported externalizing behavior problems ($F = 4.23, p < .05$). Results of all parent attribution regression analyses are presented in Table 11.

Predictors of Parent Perceptions

The final objective of this study was to examine how well child behavior,
Table 11

Summary of Stepwise Regression Analyses for Parent-Reported Child Behavior and Parent Well-Being Predicting Parent Attributions

<table>
<thead>
<tr>
<th>Attribution</th>
<th>Predictors</th>
<th>B</th>
<th>t</th>
<th>p</th>
<th>F</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disruptive globality</td>
<td>PSI-SF DC subscale</td>
<td>-.724</td>
<td>-2.97</td>
<td>.018</td>
<td>8.81</td>
<td>.465</td>
</tr>
<tr>
<td>Disruptive stability</td>
<td>CBCL externalizing problems</td>
<td>.677</td>
<td>2.61</td>
<td>.031</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSI-SF PCDI subscale</td>
<td>-.533</td>
<td>-2.62</td>
<td>.034</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>PSI-SF DC subscale</td>
<td>.642</td>
<td>3.58</td>
<td>.012</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Model 1&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td>.031</td>
<td>6.79</td>
<td>.391</td>
</tr>
<tr>
<td></td>
<td>Model 2&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td>.011</td>
<td>9.33</td>
<td>.649</td>
</tr>
<tr>
<td></td>
<td>Model 3&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
<td>.001</td>
<td>21.01</td>
<td>.870</td>
</tr>
<tr>
<td>Disruptive responsibility</td>
<td>PSOC satisfaction</td>
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<td>2.73</td>
<td>.026</td>
<td>7.43</td>
<td>.417</td>
</tr>
<tr>
<td>Positive locus</td>
<td>Depression</td>
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<td>.561</td>
</tr>
<tr>
<td>Compliance globality</td>
<td>PSOC satisfaction</td>
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<td>-2.47</td>
<td>.000</td>
<td>22.04</td>
<td>.356</td>
</tr>
<tr>
<td>Compliance stability</td>
<td>PSI-SF PCDI subscale</td>
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<td>.026</td>
<td>5.38</td>
<td>.103</td>
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<tr>
<td>Compliance responsibility</td>
<td>CBCL externalizing problems</td>
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<td>-2.06</td>
<td>.047</td>
<td>4.23</td>
<td>.078</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: CBCL externalizing problems  
<sup>b</sup> Predictors: CBCL externalizing problems, PSI-SF PCDI subscale  
<sup>c</sup> Predictors: CBCL externalizing problems, PSI-SF PCDI subscale, PSI-SF DC subscale

parenting stress, parenting sense of competency, and parent depression predict parent and child behaviors during parent-child interactions. Five stepwise multiple regressions were conducted, predicting the following: parent descriptive statements and critical statements, and child no opportunity, compliant, noncompliant behavior. The following independent variables were entered into all regression analyses: total behavior problems, internalizing behavior problems, externalizing behavior problems, the three subscales and total score of the PSI-SF, the two subscales and total score of the PSOC, and parent depression. Regression analyses were conducted only for the parent and child behaviors found to correlate significantly with one or more of the independent variables. One variable emerged as a significant predictor of parents’ reported use of descriptive statements: parenting stress related to parenting a difficult child. Higher
parenting stress was a significant predictor of parents’ reported use of descriptive statements. Approximately 42% of the variance in parents’ descriptive statements can be accounted for by total parenting stress ($F = 13.79, p < .01$).

Two variables emerged as significant predictors of parents’ reported use of critical statements: depression and parenting stress related to dysfunctional parent-child interactions. Higher levels of depressive symptoms and parenting stress were significant predictors of parents’ reported use of critical statements. Approximately 57% of the variance in parents’ critical statements can be accounted for by depression ($F = 13.99, p < .01$), and approximately 80% of the variance in parents’ critical statements can be accounted for by depression and stress ($F = 20.35, p < .001$).

One variable emerged as a significant predictor of parent-reported no opportunity child behavior following parent commands: externalizing behavior problems. A higher level of externalizing behavior problems was a significant predictor of no opportunity behavior. Approximately 78% of the variance in no opportunity behavior can be accounted for by externalizing behavior problems ($F = 21.83, p < .01$).

One variable emerged as a significant predictor of parent-reported compliant child behavior following parent commands: parenting stress related to difficult child behavior. Lower parenting stress in this area was a significant predictor of compliant behavior. Approximately 9% of the variance in compliant behavior can be accounted for by parenting stress related to difficult child behavior ($F = 4.65, p < .05$).

One variable emerged as a significant predictor of noncompliant child behavior following parent commands: parenting stress related to dysfunctional parent-child
interactions. Higher parenting stress in this area was a significant predictor of noncompliant behavior. Approximately 56% of the variance in noncompliant behavior can be accounted for by parenting stress related to dysfunctional parent-child interactions ($F = 18.81, p < .001$).

Finally, one variable emerged as a significant predictor of disruptive child behavior: internalizing behavior problems. A higher level of internalizing behavior problems was a significant predictor of disruptive behavior. Approximately 37% of the variance in disruptive behavior can be accounted for by internalizing behavior problems ($F = 6.31, p < .05$). Results of all parent perceptions regression analyses are presented in Table 12.

Table 12

Summary of Stepwise Regression Analyses for Parent-Reported Child Behavior and Parent Well-Being Predicting Parent Perceptions

<table>
<thead>
<tr>
<th>Parent/child behaviors</th>
<th>Predictors</th>
<th>$B$</th>
<th>$t$</th>
<th>$p$</th>
<th>$F$</th>
<th>$R^2$</th>
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</thead>
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<tr>
<td>Descriptive statements</td>
<td>PSI-SF DC subscale</td>
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<td>3.71</td>
<td>.002</td>
<td>13.79</td>
<td>.415</td>
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<td>Critical statements</td>
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<td></td>
<td>PSI-SF PCDI subscale</td>
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<td>-3.33</td>
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<td></td>
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<td></td>
</tr>
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<td>Model 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No opportunity</td>
<td>CBCL externalizing problems</td>
<td>-.902</td>
<td>-4.67</td>
<td>.005</td>
<td>21.83</td>
<td>.776</td>
</tr>
<tr>
<td>Compliance</td>
<td>PSI-SF DC subscale</td>
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<td>.038</td>
<td>4.65</td>
<td>.090</td>
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<tr>
<td>Non-compliance</td>
<td>PSI-SF PCDI subscale</td>
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<td>4.34</td>
<td>.001</td>
<td>18.81</td>
<td>.560</td>
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<tr>
<td>Disruptive</td>
<td>CBCL internalizing problems</td>
<td>.664</td>
<td>2.51</td>
<td>.036</td>
<td>6.31</td>
<td>.371</td>
</tr>
</tbody>
</table>

$^a$ Predictors: Depression

$^b$ Predictors: Depression, PSI-SF PCDI subscale
CHAPTER V
DISCUSSION

Overview

Findings from this study contribute to the existing literature on parent-child interactions and parent attributions for and perceptions of children's behavior. The results of this study provide support for relationships between parents' attributions and parent-reported child behavior problems and parent well-being. Additionally, significant relationships were found between parent perceptions of parent and child behaviors and parent-reported child behavior problems and parent well-being. Furthermore, this study identified differences in parent attributions and parent-child interactions between mothers and fathers.

Factors Related to Parent Attributions of Children's Behaviors

The first objective of this study was to examine relationships between parent attributions for children's disruptive, positive, compliant, and noncompliant behaviors and parent-reported child behavior problems, parent stress, parent sense of competence, and parent depression. Statistically significant correlations were found for attributions related to disruptive, positive, and compliant child behaviors, but not noncompliant child behavior. First, higher levels of child behavior problems and parenting stress related to raising a "difficult child" and lower levels of parenting satisfaction were
associated with parents’ viewing disruptive behaviors as occurring across multiple settings. Second, higher levels of child behavior problems were associated with parents’ viewing disruptive behaviors as stable over time. Third, lower levels of child behavior problems and parent depression and higher levels of parenting satisfaction and overall sense of competence was associated with lower perceived parental responsibility for disruptive behaviors.

With regard to positive child behaviors, higher levels of depressive symptoms were associated with parents viewing these behaviors as caused by situational factors rather than caused by factors internal to the child (i.e., viewing the child as a temperamentally “good” child).

With regard to child compliance, higher levels of parenting stress and parent depression, and lower levels of parenting satisfaction and overall parent sense of competence were associated with parents viewing compliant behaviors as occurring across a limited number of settings. Second, higher levels of parenting stress related to dysfunctional parent-child interactions were related to parents’ viewing compliance as unstable over time. Third, lower levels of child behavior problems were associated with parents viewing themselves as responsible for their children’s compliant behaviors.

The findings pertaining to globality and stability of disruptive behavior and specificity and instability of compliance and child behavior problems are consistent with previous research examining parent attributions among clinical samples of parents and their children, as parents of children exhibiting significant behavior problems are more likely to report more negative attributions (i.e., attribute disruptive behaviors to
global and stable factors and compliance to unstable factors; Baden & Howe, 1992; Sobol et al., 1989). Additionally, these findings are consistent with research studies that have documented negative attributions for child behavior problems (i.e., attribute aversive behaviors to internal and controllable factors) among nonclinical samples of parents (e.g., Dix & Reinhold, 1991; Geller & Johnston, 1995a).

The attribution dimension of parent responsibility has previously been associated with ADHD-related behaviors, but not disruptive behaviors overall or child compliance; as such, these also represent new findings (Freeman et al., 1997; Johnston & Freeman, 1997). The findings of those previous studies and this study are not directly comparable because negative child behaviors were separated into inattentive-overactive behaviors and oppositional defiant behaviors in the previous research studying attributions in parents of children with ADHD. However, parents in this study viewed themselves as less personally responsible for negative child behaviors than studies of parents of children with ADHD, perhaps because parents in this study were not asked to provide attributions for both oppositional defiant and ADHD related (i.e., inattentive behaviors, hyperactive-impulsive behaviors). Freeman et al. (1997) noted that parents of children with ADHD seem to view ADHD-related behaviors as resulting from external conditions, whereas they view themselves as comparatively more responsible for oppositional defiant behaviors.

Finally, parent stress and sense of competence have not previously been examined in relation to parent attributions of globality, stability, and parent responsibility for child behavior, though the findings are consistent with research that
has identified relationships between overall lower levels of parent well-being and more negative attributions for child behavior (Geller & Johnston, 1995b).

Overall, the results of these analyses indicate that parents within the most distressed families, those characterized by higher rates of child behavior problems and parenting stress and lower levels of perceived parenting competence, were more likely to report negative attributions for their children’s behaviors. These findings suggest that behavioral parent training programs, in which interventions for child behavior problems are the primary focus, will be of only some benefit to the most highly distressed families. Within these families, interpersonal and environmental stressors other than children’s negative behaviors will likely impede parents’ abilities to focus exclusively on effecting improvements in their children’s behaviors. Parent training programs that are modified to include interventions for child behavior problems as well as interventions for parent attributions and parent well being would likely be of greater benefit to the most highly distressed families.

However, caution should be used in interpreting the results of these analyses, as the high number of correlational analyses increase the likelihood of Type I error. This is especially important to note since some of the correlations found to be statistically significant were only low to moderate correlations (i.e., in the .30 to .50 range).

Factors Related to Parent Perceptions of Parent and Child Behaviors During Parent-Child Interactions

The second objective of this study was to examine relationships between parent
perceptions of parent and child behaviors and parent-reported child behavior problems, parent stress, parent sense of competence, and parent depression. Statistically significant correlations were found for parents' ratings of parent descriptive statements and critical statements and child no opportunity, compliant, and noncompliant behaviors following parent commands. No statistically significant relationships were found for the remaining eight parent behaviors and two child behaviors.

Higher levels of child behavior problems, parenting stress, and parent depression and lower levels of parent sense of competence were associated with higher parent reported use of descriptive statements. Higher levels of child behavior, higher levels of parental depression, and lower levels of parenting satisfaction were associated with higher parent reported use of critical statements. Higher levels of externalizing behavior problems were associated with higher parent-reported no opportunity behavior. Lower parenting stress related to difficult child behavior and higher parenting satisfaction was associated with higher parent-reported compliant behavior. Higher levels of internalizing behavior problems, parenting stress, and parent depression were associated with higher parent-reported noncompliant behavior.

These findings suggest that overall increased family distress is related to parent-reported use of descriptive and critical statements. The relationship between decreased parent well-being and increased use of critical statements is consistent with previous research indicating that parents experiencing high levels of stress are more likely to respond negatively toward their children, and they are in turn likely to feel less satisfied in the parenting role (Budd & Holdsworth, 1996; Deater-Deckard, 1998). However, the
relationship between increased family distress and increased use of descriptive statements is surprising, as descriptive statements are considered an efficacious parenting strategy within the parent training literature. In fact, parents are taught to increase their use of descriptive statements as part of parent training programs as a means of improving their positive attending skills (Hembree-Kigin & McNeil, 1995). Perhaps the context of the statements and the manner in which they are delivered are more important variables to consider than the frequency with which the statements are used by parents. Further examination of the relationship between descriptive statements and family distress variables is needed.

The relationships between higher frequencies of aversive child behaviors and lower frequency of compliance and higher parent-reported family distress are consistent with previous research (e.g., Baker & Heller, 1996; Donenberg & Baker, 1993) demonstrating the negative impact of child behavior problems on overall family functioning. Specifically, findings from previous studies have indicated that parents of children who exhibit higher frequencies of negative behaviors report more negative feelings toward parenting, less certainty about their abilities as parents, and less satisfaction with the parenting role and their parenting abilities (Baker & Heller; Donenberg & Baker). With regard to no opportunity behavior, qualitative observations of parent-child interactions indicated that this behavior most often occurred because parents delivered another command before giving their children sufficient opportunity to comply with the first command. The relationship between no opportunity behavior and parent-reported
child behavior problems makes intuitive sense, as parents are not giving their children the opportunity to comply with parent directives and subsequently are likely to view their children as engaging in more deviant (e.g., noncompliant) behaviors. Alternatively, it is possible that children have exhibited noncompliant and defiant behaviors following parent commands in the past, and perhaps parents delivered back-to-back commands because they wanted to decrease the likelihood of children responding defiantly and having to force their children to comply with the first command. Regardless, the relationship between no opportunity child behavior and higher parent-reported externalizing behavior problems in this study indicates the need for continued emphasis within parent training programs on teaching parents how to most effectively deliver commands.

Again, caution should be used in interpreting the results of these analyses because the high number of correlational analyses increase the likelihood of Type I error. This is especially important to note since some of the correlations found to be statistically significant were only low to moderate correlations (i.e., in the .40 to .50 range).

Parent-Recorded Versus Researcher-Recorded Observations of Parent-Child Interactions

The third objective of this study was to examine the relationship between parent-recorded and researcher-recorded parent and child behaviors during parent-child interactions. Statistical comparisons of parent and researcher observations of parent and
child behaviors yielded significant correlations with regard to the following behaviors: parent commands, reflective statements, praise statements, and questions, and compliant child behavior. Parent ratings and researcher ratings of parent commands, descriptive statements, and questions, and child compliant and positive behavior were found to statistically significantly differ.

The significant correlations between parent and researcher observations of reflective statements and questions are not surprising, as these behaviors involve simple repetition of child statements or inquiry about child behavior. Additionally, reflective statements and questions are common verbalizations used by parents when interacting with their children, and parents are likely especially able to recognize their use of these verbalizations (Hembree-Kigin & McNeil, 1995).

Likewise, the significant correlations between parent and researcher observations of praise statements and child compliance are not surprising among this sample of parents because most parents reported having participated in some kind of parenting class. Increasing parents’ use of praise and child compliant behavior are common topics across most parenting classes, and parents who participated in this study were likely better able to recognize praise statements and compliant behavior because of their familiarity with these behaviors. Further analyses of parent and researcher observations of parental commands indicated that parents and researcher correlations were higher for direct than indirect commands, suggesting that parents were better able to recognize clear and explicitly stated instructions (e.g., “Put the toys in the box”) as commands than more vague instructions (e.g., “Clean up the toys”).
It should be noted that the statistically significant correlations were modest (i.e., in the .40-.50 range). Surprisingly, the highest correlation between parent and researcher observations occurred for parent critical statements (i.e., correlation of .782), but this correlation was not found to be statistically significant, likely because of the small sample size (i.e., 11 parents reported using critical statements and researcher observations indicated that eight parents used critical statements). In fact, low sample size was likely an issue among correlations for all parent and child behaviors. The statistically significant correlations were found among behaviors exhibited by at least 35 parents or children. Therefore, it is perhaps more useful to discuss the magnitude of the correlations between parent-recorded and researcher-recorded parent and child behaviors than the level of statistical significance of these correlations.

Low correlations between parent ratings and researcher ratings (i.e., correlations ranging between 0 and 0.3) were found for parent responding, parent use of descriptive statements, and positive child behavior. Modest correlations (i.e., correlations ranging between 0.3 and 0.7) were found for the following behaviors: parent commands, reflective statements, praise, and questions; and child no opportunity, compliant, noncompliant, and disruptive behaviors. One high correlation (i.e., correlation above .70) was found between parent recordings and researcher recordings: critical statements.

The low correlations for parent responding, descriptive statements, and positive behavior and significant differences between parent and researcher ratings of descriptive statements and positive behavior are not surprising. Though most parents who participated in this study had taken a parenting class, none reported that they had
participated in parent training. Increased use of descriptive statements and increased recognition of how parents respond to their children's behaviors are skills taught within the context of parent training programs, and parents in this study were likely relatively unfamiliar with these skills and therefore had difficulty coding parent responding behavior and descriptive statements (Hembree-Kigin & McNeil, 1995).

With regard to positive child behavior, the low correlation suggests that either parents and researchers have different ideas of how to categorize positive behavior or the definition of this behavior was unclear and, therefore, difficult to code. It is interesting that parents appeared to have more difficulty coding positive child behavior than compliance, as these behaviors are similar. Perhaps compliance was easier for parents to identify because it followed a parental command.

The modest and high correlations for the remaining parent and child behaviors are also not surprising because they are more typical behaviors within parent-child interactions; parents frequently use commands and questions when interacting with their children and are familiar with children's compliant, noncompliant, and disruptive behaviors (Hembree-Kigin & McNeil, 1995). Likewise, as noted above, these behaviors are commonly discussed within general parenting classes, in which the majority of parents in this study have participated. However, the statistically significant differences between parent and researcher ratings of commands and questions suggest that, because these behaviors are commonly used by parents, parents may not realize how often they are actually using these verbalizations, leading to different parent and researcher ratings. Furthermore, though parent and researcher ratings for child
compliance were similar, the statistically significant difference in ratings suggests that parents had difficulty recognizing what constituted compliance.

The low and moderate correlations and statistically significant differences found between parent and researcher ratings of most parent and child behaviors suggest that the parents who participated in this study are unfamiliar with identifying parent and child behaviors, despite the previous participation in parenting classes among the majority of parents. Existing parent training programs can be modified to include parent perceptions of child and parent behaviors as well as parent attributions for children’s behaviors. Parent perceptions are an important area of focus, as parents may view children’s behaviors more negatively because they are unsure what constitutes negative child behaviors and for what behaviors their children should be disciplined.

Though both the accuracy (i.e., depressed parents perceive their children’s behaviors accurately while non-depressed parents have a positive bias toward their children’s behaviors) and distortion (i.e., depressive symptoms lead parents to perceive children’s behaviors as more negative than objective observations indicate hypotheses related to the “accuracy” of parent perceptions have been supported within previous literature (e.g., Querido et al., 2001), the results of this study do not directly support either hypothesis. Parents did not consistently rate their children as demonstrating more or fewer aversive behaviors than the researcher. Parents rated their children as demonstrating more positive behaviors than the researcher, the researcher rated children as demonstrating more noncompliant and no opportunity behaviors, and parent and researcher ratings of compliant and disruptive child behaviors were fairly equal.
Moreover, the accuracy and distortion hypotheses were developed specifically in relation to the association between parent perceptions and parent depression and this study used a normative sample of parents.

Maternal Versus Paternal Attributions of Children’s Behaviors

The fourth objective of this study was to examine differences between maternal and paternal attributions for disruptive, positive, compliant, and noncompliant child behaviors. Two statistically significant differences were found: mothers were significantly more likely than fathers to view children’s noncompliant and compliant behaviors as their responsibility. Clinically meaningful differences between maternal and paternal attributions were found for all child behaviors assessed. Specifically, fathers were more likely to view disruptive child behaviors as originating from factors internal to the child and viewed the behavior as occurring across multiple situations. Mothers were more likely to view disruptive child behaviors as stable across time and viewed themselves as responsible for the behaviors. With regard to positive child behaviors, fathers were more likely to view these behaviors as controllable by the child and as resulting from factors internal to the child. Mothers were more likely to view these behaviors as stable across time. Finally, mothers were also more likely to view themselves as responsible for both compliant and noncompliant behaviors.

Both mothers and fathers offered more negative than positive attributions for disruptive child behaviors, but more positive attributions for positive child behaviors. Combined parental attributions for these behaviors indicate that mothers and fathers
believe that their children’s disruptive behaviors occur across many situations and that their children will continue to engage in these behaviors over time. In contrast, there are striking differences between mothers’ and fathers’ perceived responsibility for all child behaviors. Fathers tended to view children as responsible for their own behaviors, demonstrated via their internal attributions for disruptive and positive child behaviors. However, mothers viewed themselves as responsible for all behaviors except positive child behaviors. The mothers in this study reported spending more time with their children than fathers (i.e., mothers spend an average of 11.88 waking hours per day with their children, while fathers spend an average of 3.79 waking hours per day with their children) and are consequently much more likely to encounter discipline situations. As such, greater maternal perceived responsibility for child behavior may have resulted from the greater time mothers spend with their children and their subsequent greater likelihood of managing child behavior.

Interestingly, qualitative assessment of maternal and paternal attributions indicated that both mothers and fathers were most likely to attribute both positive child behaviors (i.e., compliant and positive behaviors) and negative child behaviors (i.e., noncompliant and disruptive behaviors) to factors internal to their children (e.g., their children’s nature or temperament). These results are indicative of both a positive attribution bias toward positive behaviors, consistent with Gretarsson and Gelfand’s (1998) study, and a negative attribution bias toward negative behaviors, consistent with research conducted by Coplan et al. (2002) and Geller and Johnston (1995a). In contrast to the results of the statistical analyses described above, neither mothers nor
fathers spontaneously indicated themselves as personally responsible for their children’s negative behaviors. In fact, only one mother and one father suggested that they were responsible for these behaviors because they did not provide incentives for compliance.

The statistically and clinically meaningful differences between maternal and paternal attributions for disruptive, positive, compliant, and noncompliant behaviors indicate that mothers and fathers view children’s behavior differently. These results suggest the need for participation of both mothers and fathers within parent training programs. In general, mothers are much more likely to participate in parent training programs than fathers, and they are more likely to complete treatment than fathers (Coplin & Houts, 1991). Watson (1986) noted that fathers’ attributions for children’s behaviors likely affect mothers’ attributions; perhaps fathers view mothers as responsible for children’s behaviors, which causes mothers to view themselves as responsible for children’s behaviors as well. The participation of both mothers and fathers in parent training programs and increased focus on parent attributions within these programs would better clarify the relationships between maternal and paternal attributions and their influence on mother-child and father-child interactions.

Mother-Child and Father-Child Interactions

The fifth objective of this study was to examine differences between mothers’ and fathers’ behavior and child behavior toward mothers and fathers during parent-child interactions, as coded by researchers. No statistically significant differences were found. However, clinically meaningful differences were found between mothers’ and
fathers’ observed use of critical statements and noncompliant, disruptive, and positive child behaviors exhibited toward mothers and fathers. Mothers were observed to use a higher frequency of critical statements. Children were observed to engage in higher levels of noncompliant, disruptive, and positive behaviors when interacting with their mothers as opposed to their fathers.

The greater amount of time mothers spend with their children may also be implicated in these results. Because mothers have had more opportunity to witness child behaviors on a daily basis, they were likely better able to recognize noncompliant, disruptive, and positive behaviors than fathers. Alternatively, the higher rates of child noncompliant, disruptive, and positive behaviors within mother-child than father-child interactions may support the findings of Tallmadge and Barkley (1983), which suggested that children tend to engage in less aversive behaviors when interacting with their fathers.

Though previous research (e.g., Deater-Deckard, 1998) has suggested that lower rates of parent personal well being are related to parenting behavior (i.e., parents who report higher levels of stress and depression are more negative during parent-child interactions), there were no differences in personal well being between mothers and fathers who participated in this study. Therefore, the meaningful differences in mother-child and father-child interactions found in this study cannot be explained by maternal and paternal differences in personal well being.

Qualitative assessment of maternal and paternal interactions with their children revealed that, consistent with previous research (e.g., Lytton, 1979), mothers tended to
be more interactive with their children than fathers. Interestingly, delivery of commands tended to present difficulties for many parents, particularly mothers. Specifically, parents were observed to deliver broad and multiple-part commands, and they often did not give their children enough time to comply with a command before delivering a follow-up command. Though research conducted by Wruble, Sheeber, Sorensen, Boggs, and Eyberg (1991) indicated that children begin to comply with parental commands within approximately five seconds the majority of the time, Stiffman (1982) documented the average latency of compliance as approximately 19 seconds. Failure to give children enough time to comply with commands before delivering another command has the potential to lead to increased child frustration and noncompliant behavior and subsequent increased parental distress.

Though both mothers and fathers tended to ignore noncompliant behavior, mothers were more likely to be led into coercive interactions with their children by responding to children’s queries about the need for cleaning up. As Patterson (1982) documented, coercive interactions are characterized by lack of contingency on the part of parents in responding to child behaviors, and parents giving directives but withdrawing these directives over time in response to aversive child behaviors (e.g., defiance, argumentative behavior). Likewise, observations of parent-child interactions indicated that parents were not consistent in responding to positive child behaviors. In fact, children’s rate of positive behaviors (i.e., compliance, positive behavior) was more than twice the rate of parent praise. Contrary to Roberts’ (1985) assertion, praise does not appear to be a “ritualistic” behavior on the part of parents participating in this study.
In contrast, parents overwhelmingly reacted to disruptive child behavior by responding to the child, typically offering a sympathetic or reassuring statement, rather than ignoring the behavior or providing a negative consequence for the behavior. Numerous studies have emphasized that the combination of lack of positive consequences for positive child behaviors and negative consequences for aversive child behaviors has the potential to lead to significant problem behaviors in children and troublesome parent-child interactions (Hembree-Kigin & McNeil, 1995; Kuczynski et al., 1987; Roberts & Hatzenbuehler, 1981; Wahler & Dumas, 1986).

Again, results indicate the need for mothers and fathers to participate in parent-training programs. The results suggest that mothers tend to share both more positive and negative interactions with their children, as demonstrated through children’s higher frequencies of positive, compliant, and noncompliant behaviors when interacting with their mothers. In contrast, findings suggest that fathers share rather neutral interactions with their children, as children do not behave in an especially positive or negative manner when interacting with fathers. Mothers could benefit from participation in parent training programs by learning strategies to maintain their positive interactions with their children and decrease their negative interactions, while fathers could benefit from participation in parent training programs by learning strategies to increase their positive interactions with their children. Furthermore, the results of this study indicate that neither mothers nor fathers regularly reciprocate children’s positive behaviors via praise or other positive parental behaviors. Therefore, both mothers and fathers could benefit from positive attending strategies taught in parent training programs.
Predictors of Parent Attributions

The sixth objective of this study was to identify predictors of parent attributions for disruptive, positive, compliant, and noncompliant child behaviors. Results of the regression analyses used to examine child behavior problems and parent well-being as predictors of parent attributions revealed some statistically significant relationships. Higher frequencies of child behavior problems were significant predictors of parents’ viewing disruptive behaviors as stable over time and viewing themselves as not personally responsible for compliant child behavior. Higher levels of parenting stress were significant predictors of parents’ viewing disruptive behaviors as occurring across multiple settings and stable over time, and compliant behaviors as unstable over time. Higher levels of parent sense of competence, specifically parenting satisfaction, were significant predictors of parents’ perceiving themselves as less responsible for children’s disruptive behavior and parents’ viewing compliant behavior as likely to occur across multiple settings. Finally, higher parent depression was a significant predictor of parents’ viewing positive child behaviors as resulting from environmental factors.

These relationships suggest that parents of families characterized by elevated levels of family distress are more likely to report negative cognitions related to their children’s behaviors. These findings are particularly notable because a nonclinical sample of parents participated in the study, and parents reported that their children exhibit relatively low frequencies of problem behaviors. Moreover, the majority of parents who participated in this study reported that they had attended at least one
parenting class (and some parents indicated that they had participated in multiple parenting classes). As such, it appears that even parents of children not demonstrating significant problem behaviors attribute their children’s disruptive behaviors to internal, stable, and global factors and their children’s positive behaviors to environmental factors, particularly in the context of environmental and interpersonal stressors. Therefore, while families of children exhibiting significant behavior problems have the most to gain from parent training programs, all families could benefit from parent training programs designed to address both child behaviors and parent cognitions.

Additionally, the findings suggest that parenting classes have not adequately addressed parent cognitions and their relationship to child behavior. Because parenting classes typically focus on relaying general information on child development and parent discipline strategies to parents, parent cognitions could most logically be incorporated within parent training programs, which focus more specifically on helping parents identify and modify antecedents and consequences for child behaviors (Kerr, 2001; Levant, 1988).

Predictors of Parent-Recorded Parent and Child Behaviors During Parent-Child Interactions

The final objective of this study was to identify predictors of parent perceptions of parent and child behaviors. Results of the regression analyses conducted to examine child behavior problems and parent well being as predictors of parent-recorded parent and child behavior during parent-child interactions revealed some statistically
significant relationships. Higher levels of parenting stress were significant predictors of higher parent-recorded descriptive statements, critical statements, compliant behavior, and noncompliant behavior. Parent depression was an additional predictor of critical statements. Higher levels of externalizing child behavior problems were significant predictors of no opportunity child behavior following parent commands.

These findings are consistent with previous research and indicate that both negative parent and child behaviors are more strongly characteristic of more highly distressed families (i.e., families characterized by elevated child behavior problems and parent depression; Forehand et al., 1986b; Webster-Stratton & Hammond, 1988). The results of these analyses suggest that parent training programs focusing exclusively on improving child behavior via modifying parenting behaviors and parent-child interaction patterns will not be entirely successful, as environmental and interpersonal parental stressors impinging on the family system have great impact on both parent and child behaviors and should be specifically addressed within parent training programs.

Limitations and Future Directions

There are several limitations to consider when interpreting the findings of this study. First, efforts were made to recruit a fairly wide range of parent participants through placement of advertisement materials in various community locations. However, the majority of parents who participated in the study were recruited from newspaper advertisement, and the sample is therefore limited to those parents who had access to the newspaper and received information about the study from that source. It
can be speculated that more highly educated parents have or seek access to newspapers, and the sample of this study consisted primarily of well-educated parents. Indeed, the parents of this study were fairly well educated, with many having attended at least some college. Additionally, the sample is limited in that parents were sampled from one geographic area; no attempts were made to sample parents and children from geographic regions other than northern Utah and southern Idaho. Furthermore, despite the monetary incentive provided to parents who participated in the study, it should be noted that parent participants were those who were willing to accompany their children to a one to two-hour appointment.

Second, a rather small group of mothers and fathers were recruited for participation because of the time commitment expected of parent participants. A rather small number of fathers in particular were recruited due to the difficulties in securing father participation. The small sample size limited the power of the statistical analyses; fewer statistically significant differences (i.e., t test analyses) than clinically meaningful differences (i.e., analyses via effect sizes) were found likely due to the sample size. Future studies should seek to examine parent-child interactions, parent attributions, and parent perceptions among larger samples of mothers and fathers.

Third, parents and children were obviously aware that their play interactions were videotaped and would be viewed by the researcher. Russell, Russell, and Midwinter (1992) noted that reactivity effects are inherent within observations of parent-child interaction, defining reactivity as "the tendency for behavior to change when and because it is under observation" (p. 263). Logically, parents likely wanted to
be viewed in a positive light, and their behavior during the interactions may not have been an accurate representation of the parent-child interactions that occur daily within the home environment. Likewise, though child participants in this study were rather young, their behavior could also have changed as a result of being observed. In fact, some child participants were observed to ask their parents whether they had "been good," suggesting that parents also tried to ensure that their children and family system as a whole were viewed positively. It is ethically difficult to eliminate reactivity effects from observational studies, as, whether in a home or laboratory setting, researchers must inform study participants that they are being observed. However, perhaps future studies could compare parent-child interactions between home and laboratory studies to identify whether reactivity effects are most prominent within one particular setting.

Fourth, the observation system used in this study (i.e., DPICS) was imperfect. In particular, the original form of the DPICS does not specifically include positive behavior as a child behavior coded by observers, but was added for this study. As previously noted, the parents who participated in the pilot phase of this study reported one concern with regard to the coding system, which pertained to the definition of positive behavior. Positive behavior was defined more explicitly based upon this feedback (i.e., the specific examples of sharing toys, complimenting the parent, and cleaning up without being asked). However, the most severe discrepancy in parent-recorded and researcher-recorded observations of parent and child behaviors occurred with positive child behavior. As previously noted, this may suggest that parents and researchers have different ideas about what constitutes positive behaviors.
Alternatively, positive behavior may have been especially difficult to code. Further studies in which parent definitions for parent and child behaviors are assessed are needed to determine whether parent ideas about child behaviors differ from those of researchers and clinicians.

Furthermore, because this study sought to extend the existing research by examining parent perceptions for both child behavior and parent behavior, parents were asked to code more behaviors than in previous studies. Though parents were informed that they could watch the videotapes more than once to ensure that they had accurately coded all parent and child behaviors, few parents seemed to do so, likely to avoid further time constraints. While the two researchers who coded the videotapes are familiar with observing parent-child interactions and coding a variety of parent and child behaviors, it is likely that the parents who participated in this study were highly unfamiliar with these tasks. This unfamiliarity, rather than inaccuracy in parent perceptions, could have created the discrepancies in parent and researcher ratings of parent and child behaviors. This is the first study to use the DPICS to examine differences between parent ratings and researcher ratings of parent and child behaviors; therefore, further research utilizing the DPICS for this purpose is needed.

Fifth, the setting of the study was not ideal, particularly with regard to the videotaping equipment. The video cameras were mounted on stands in the observation rooms, and they therefore captured only those parent and child behaviors that took place directly in front of the cameras. As a result, many parent and child behaviors, particularly children's compliant and noncompliant behaviors in response to parent
commands, were not observable on the videotapes. Moreover, the sound on the videotapes was imperfect; parent and child verbalizations on many videotapes were inaudible for a few seconds and therefore could not be coded. Overall, videotape imperfections occurred for 21 of the 40 parent-child dyads.

Sixth, parent and child behaviors during the clinic observations of this study may not provide an accurate representation of their interactions in the home environment. As noted above, parents in particular were likely motivated to portray themselves positively, and they perhaps enjoyed more positive interactions with their children in the clinic setting than their typical home interactions. Furthermore, though Roberts (2001) indicated that the child-directed interaction and clean-up task provide the best predictions of parent-child interactions within the home among the observations typically employed within the parent-child literature, Roberts and his colleagues (Brumfield & Roberts, 1998; Powers & Roberts, 1995) suggested that these interactions do not provide the most accurate representation of home interactions, recommending that interactions consisting of simulated home situations (e.g., morning, mealtime, and bedtime routines) provide a better representation of parent-child interactions within the home. Perhaps future research could examine differences in parent-child interactions between a variety of home and laboratory interactions, including both structured and unstructured interactions.

Seventh, the mother and father comparison data are somewhat complicated in that eight mother-father pairs interacted with the same child while the remaining seven mother-father pairs interacted with different children. The interaction order in which
the eight children who interacted with both their mothers and fathers was counterbalanced in order to eliminate order effects; four of the children interacted with their mothers first and four of the children interacted with their fathers first. However, the parent attribution comparisons and parent-child interaction comparisons were not based on similarly conducted observations across all pairs.

Eighth, a nonclinical sample of parents and children were specifically sought for participation in this study due to inconsistent findings with regard to parent attributions in this population within the existing literature. However, future studies should further compare maternal and paternal interaction patterns, attributions, and perceptions between nonclinical and clinical groups of children. Furthermore, the majority of studies that have explored parent attributions in clinical groups of children have focused on disruptive behavior disorders, particularly ADHD. Recent studies have investigated the influence of medication treatment on parents’ attributions for their children’s behavior among families of children with ADHD (Jenson et al., 1998; Johnston et al., 2000; Johnston & Leung, 2001). This line of research could be expanded to children with other psychological disorders (e.g., depression, anxiety) and their families.

Finally, due to the small sample size, this study sought to include an equal representation of boys and girls in order to generalize the findings to children as a whole; the sample size and number of variables already included in the study impeded a thorough investigation of differences in parent-child interactions, parent attributions, and parent perceptions between boys and girls. Future research in these areas should consider such gender comparisons.
Conclusions

This study is among few that have investigated differences between mothers and fathers with regard to parent attributions for child behavior, parent perceptions of both child and parent behaviors, and observed child and parent behaviors during parent-child interactions. Furthermore, this study is also among few that have investigated the accuracy of parent perceptions of child and parent behavior.

The results of this study have important implications for research and clinical practice. Contrary to previous research (e.g., Gretarsson & Gelfand, 1988) suggesting that nonclinical samples of parents are positively biased with regard to their children’s behavior, the nonclinical sample of parents in this study offered positive attributions for their children’s positive behaviors, but offered negative attributions for their children’s disruptive behaviors. The few studies that have investigated the relationship between parent attributions and treatment outcome have noted that negative attribution tendencies are related to poor treatment outcome (Hoza et al., 2000; Watson, 1986). However, further study is warranted due to the lack of overall research attention examining the impact of parent attributions on treatment outcome, in combination with the increasing emphasis on identifying factors related to poor treatment outcome in parent training programs (Holden, Lavigne, & Cameron, 1990; Johnston & Mash, 2001; van de Wiel, Matthys, Cohen-Kettenis, & van Engeland, 2002). The findings from this study suggest that, while parent training programs focusing exclusively on improving child behaviors and parent-child interactions may not be of significant benefit to families of children without behavior problems, even nonclinical families could likely
benefit from parent training programs expanded to focus more broadly on child behavior, parent behavior, parent cognitions, and parent well being.

Behavioral strategies, and participation in parent training programs in particular, have been identified as efficacious in treating child disruptive behavior problems, particularly noncompliance, and have been associated with statistically and clinically significant improvements in child behavior, parent stress, and parent sense of competence (Anastopoulos, Shelton, DuPaul, & Guevremont, 1993; Bahl, Spaulding, & McNeil, 1999; Kalb & Loeber, 2003; Pisterman et al., 1992; Thompson, Ruma, Schuchmann, & Burke, 1996; Wahler & Bellamy, 1997). However, recent reviews of the status of parent training programs have emphasized the limitations of these programs and recommended methods of improving the programs with the goal of providing improved treatment for all families (Forehand & Kotchick, 2002; Hartman, Stage, & Webster-Stratton, 2003; Herschell, Calzada, Eyberg, & McNeil, 2002). In particular, researchers have focused on the high dropout rates, noting that parent-initiated premature termination from parent training programs suggests that the programs were not entirely successful in meeting families' needs. While dropout rates in parent training programs are similar to dropout rates for psychological treatment as a whole, dropouts within parent training programs are significant for two primary reasons: (a) Families who prematurely terminate their participation in parent training programs tend to be the most distressed families and likely the families who could benefit most from parent training programs; and (b) Treatment programs that offer combined behavioral parent training and parent counseling specifically focusing on
addressing individual parent and overall contextual concerns are characterized by lower dropout rates than behavioral parent training programs alone (Gross, 2001; Kazdin, 1996; McMahon, Forehand, Griest, & Wells, 1981; Prinz & Miller, 1994).

Previous research has indicated that expanding parent training and behavioral treatment programs for children and their families by focusing more specifically on parent cognitions related to child behavior and overall parent and family well being yields positive results for both children and families (Dadds, Sanders, & James, 1987; Dumas & Wahler, 1985; Podolski & Nigg, 2001; Sanders, Dadds, & Bor, 1989; Sanders & McFarland, 2000). The results of this study emphasize the importance of expanding parent training programs to include interventions focused on fostering more positive parental cognitions for children’s behaviors by decreasing parent stress and depression and increasing parenting competency, as negative parent attributions and perceptions were characteristic of the most highly distressed families in this study. Forehand and his colleagues have recommended that clinicians routinely assess parent and overall family well-being among families participating in parent training programs and identify whether directly addressing family distress is appropriate within the parent training context or whether families should be referred for additional treatment (Forehand & Kotchick, 2002; Wierson & Forehand, 1994).

However, neither assessment of parenting and overall family functioning nor directly addressing parent and family distress are characteristic of the overwhelming majority of parent training programs and parenting classes as a whole. Though the majority of parents who participated in this study had taken a parenting class, parents,
particularly mothers, still viewed their children’s behavior rather negatively, attributing disruptive child behaviors as stable across time and as occurring across multiple situations. In fact, Webster-Stratton is among few clinicians who have regularly implemented a family component as part of a treatment package. Webster-Stratton’s ADVANCE program was designed to train parents to better cope with interpersonal distress via discussion of communication and problem-solving skills. According to Webster-Stratton (1994), the ADVANCE program has produced additional improvements in parenting behavior and parenting satisfaction, beyond those associated with parent training programs alone. Parent training programs could be similarly expanded to address parent attributions for and perceptions of child behavior, in addition to focusing more broadly on overall parent and family distress. Though such modifications to existing programs would require extensive work on the part of clinicians, the potential benefits, such as reduced dropout rates, higher rates of treatment acceptability among parents, and overall improved treatment services, would certainly outweigh the drawbacks (Cross Calvert & Johnston, 1990; Prinz & Miller, 1994; Reimers et al., 1993).

Finally, the findings of this study also indicate the importance of father participation in both research examining overall child behavior issues and treatment programs designed to address child behavior problems. Recently published reviews of extant parent training programs (e.g., Forehand & Kotchick, 2002; Hartman et al., 2003; Herschell et al., 2002) have identified current challenges within parent training programs, specifically noting the impact of environmental stressors on treatment
outcome and the lack of research with regard to the effectiveness of parent training in non-Caucasian families as primary challenges. Surprisingly, these reviews failed to identify the lack of father participation in parent training programs as a challenge (Coplin & Houts, 1991). Though a considerable number of studies (e.g., Fagan & Iglesias, 1999; Kerr, 2001; McBride, 1990, 1991a, 1991b; Meyers, 1993) have documented the positive impact of father involvement in parent education and general parenting classes on father-child relationships and fathers’ well-being, fathers have not consistently been recruited for participation in parent training programs nor has their completion of programs been emphasized, and parent training outcome studies have not thoroughly examined outcome variables with both mothers and fathers (Coplin & Houts; Gross, Fogg, & Tucker, 1995). For example, Coplin and Houts indicated that pretreatment parent-child interactions often consist solely of mother-child interactions, and obtaining data from mothers is typically emphasized whereas obtaining data from fathers is often considered positive, yet optional.

In sum, mothers and fathers who participated in this study were found to differ with regard to parent-child interactions and attributions, but more research is needed to further examine parent sex differences among larger samples of parents. Moreover, the differences in parent-child interactions and attributions noted in this study and the current lack of parent training outcome studies thoroughly examining both maternal and paternal characteristics suggest that parent training programs should be tailored to meet the specific needs of both mothers and fathers, as well as the family system as a whole (Watson, 1986).
REFERENCES


APPENDICES
Appendix A

Recruitment Material
Dr. Gretchen Gimpel, an associate professor in the psychology department at Utah State University, and Angela Ehrlick, a graduate student, are currently working on a research study looking at how parents interact with their children. Parents between the ages of 4 and 8 are eligible to participate in the study.

Parents will be asked to complete rating scales pertaining to their children’s behavior and their feelings about parenting. In addition, parents and children will participate in two brief, videotaped interactions.

***Each parent who participates in the study will be given a $25 gift certificate. $50 gift certificates will be given if both parents from two-parent families participate in the study. Children will be given a small reward for their participation.***

For more information about the study, please contact Angela Ehrlick at (435) 797-1986.
Appendix B

Protocol and Consent for Parent Participation
STUDY PROTOCOL

Code Number: 169

Date:

Study explained to parent and child; any questions addressed.

*We are interested in studying parents’ thoughts about their interactions with their children. We are asking parents to participate in two 5-minute interactions with their children, both of which will be videotaped. After the two interactions, we will be asking your thoughts about your behavior and your child’s behavior during the interactions. Before the interactions, we would like you to complete some forms about your child’s behavior and your stress level and feelings about parenting.*

Consent form explained and signed by parent
(Keep signed consent form and provide one to parent)

Rating scales completed by parent

- CBCL
- PSI-SF
- PSOC
- BDI-II
- Demographic form

First interaction explained to parent

*I would like you to play with your child for five minutes. Play together like you do when you are at home.*

(Make sure the interaction is being recorded and leave the room. Return after five minutes have passed.)

Second interaction explained to parent

*Now, I would like you to have your child clean up the toys. Give your child 5-10 commands related to cleaning up. I will return in five minutes.*

(Leave and room and return after five minutes have passed.)

Videotape is viewed the first time

- Brief explanation of coding system is provided; handout and coding sheet given to parent
- Both 5-minute interactions are coded by the parent without the researcher present

(Step into the hall while the parent codes the tape.)

Videotape is viewed the second time

- Videotape paused each time a disruptive, positive, compliant, or noncompliant behavior is exhibited by the child (up to 5)
- The behavior is identified to the parent; parent attributions about the behavior are assessed via the WAQ
- Qualitative information about the interactions is obtained

Parents and children thanked; compensation/reward provided
INFORMED CONSENT
Parent-Child Interactions: The Role of Parent Sense of Competence and Parent Stress

Introduction
Angela Ehrlick, a psychology graduate student at Utah State University, and Dr. Gretchen Gimpel, a faculty member in the Department of Psychology are conducting this research to examine parents' thoughts regarding their play interactions with their children. You have been asked to take part because you are the parent of a child between the ages of four and eight.

Procedures
During this study, you will be asked to engage in two five-minute videotaped play interactions with your child. After completing the play interactions, you will be asked to watch the videotapes twice and provide your perceptions of your child's behavior and your behavior during the interactions. In addition to participating in the play interactions, you will be asked to complete paper and pencil measures that relate to your child's behavior, your stress level, and your feelings about being a parent. The time required for your participation is approximately 1 hour.

New Findings
You will be told of any significant new findings discovered during the course of this study via either a mailed letter or a phone call.

Risks
There are no potential serious risks associated with participating in this study. You may experience some slight psychological distress completing the rating scales on your child's behavior or on your own psychological status and some discomfort about being videotaped, but these risks are considered minimal.

Benefits
Although there may not be direct benefits to you, this study will benefit clinicians working with children with behavior problems. Through this study more information about parents' thoughts regarding their interactions with their children will be obtained. This information will aid clinicians in their work with parents and children by allowing them to better tailor treatments to specific family needs.

Payment
You will be paid $25 at the end of this study for your participation. There is no cost to you to participate in this study. To receive the $25 you must complete the entire study. If you chose to withdraw from the study before your participation is complete, you will not receive this payment.

Explanation and Offer to Answer Questions
Angela Ehrlick, Dr. Gretchen Gimpel, or a student working with them, have explained this study to you and answered any questions you have at this time. If you have other questions, you may reach Angela Ehrlick at 797-1986 or Dr. Gretchen Gimpel at 797-0721.

Voluntary Nature of Participation and Right to Withdraw without Consequence
Participation in this research is entirely voluntary. You may refuse to participate or withdraw from the study at any time without consequence.
INFORMED CONSENT
Parent-Child Interactions: The Role of Parent Sense of Competence and Parent Stress

Confidentiality
Information about you and your child will be kept confidential and will be available only to people directly involved in the project. You will be assigned a code number and this number will be used when the data is stored in the computer. Public presentations of the results of this study will in no way identify you or your child. The videotapes of you and your child will be destroyed at the end of the study. All data and videotapes will be kept in a locked file cabinet, which will be accessible only by people directly involved in the project.

IRB Approval Statement
The Institutional Review Board (IRB) for the protection of human subjects at Utah State University has reviewed and approved of this research project. You may call the IRB at (435) 797-1180 with any questions regarding the approval of this project.

Copy of Consent
You have been given two copies of this Informed Consent Form. Please sign both and retain one copy for your files.

Investigator Statement
"I certify that the research study has been explained to the above individual by me or my research staff, and that the individual understands the nature and purpose, the possible risks, and benefits associated with taking part in this research study. Any questions that have been raised have been answered."

Signature of Principal Investigator and Student Investigator

Grelchen A. Gimpel, Ph.D.
Principal Investigator
(435) 797-0721

Angela Ehrlick, B.A.
Student Investigator
(435) 797-1986

Signature of Subject
I have read and understand this consent form and I am willing to participate in this study.

Signature __________________________ Date __________
Appendix C

Study Protocols and Demographic Information Form
**PSI-SF**

Please circle the response which best represents your opinion:

Circle the SA if you strongly agree with the statement.
Circle the A if you agree with the statement.
Circle the NS if you are not sure.
Circle the ND if you disagree with the statement.
Circle the SD if you strongly disagree with the statement.

**YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.**

<table>
<thead>
<tr>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>NS</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I often have the feeling that I cannot handle things very well.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>2. I find myself giving up more of my life to meet my children's needs than I ever expected.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>3. I feel trapped by my responsibilities as a parent.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>4. Since having this child, I have been unable to do new and different things.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>5. Since having this child, I feel that I am almost never able to do things that I like to do.</td>
<td></td>
<td>A</td>
<td>NS</td>
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<td>SD</td>
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<td>6. I am unhappy with the last purchase of clothing I made for myself.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>7. There are quite a few things that bother me about my life.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>8. Having a child seems to have increased the number of problems that I expected in my relationship with my spouse (male/female friend).</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>9. I feel alone and without friends.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>10. When I got to a party, I usually expect not to enjoy myself.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>11. I am not as interested in people as I used to be.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>12. I don't enjoy things I used to.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>13. My child rarely does things for me that make me feel good.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>14. Most times I feel that my child likes me and wants to be close to me.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>15. My child smiles at me much less than I expected.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>16. When I do things for my child, I get the feeling that my efforts are not appreciated very much.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>17. When playing, my child doesn't often giggle or laugh.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>18. My child doesn't seem to learn as quickly as most children.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>19. My child doesn't seem to smile as much as most children.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>20. My child is not able to do as much as I expected.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>21. It takes a long time and it is very hard for my child to get used to new things.</td>
<td></td>
<td>A</td>
<td>NS</td>
<td>D</td>
<td>SD</td>
</tr>
</tbody>
</table>

**For statement 22, choose from choices 1 to 5 below.**

22. I feel that I am:
   
   a) a very good parent
   b) a better than average parent
   c) an average parent
   d) a person who has some trouble being a parent
   e) not very good at being a parent
23. I expected to have closer and warmer feelings for my child than I do, and this bothers me.  
24. Sometimes my child does things that bother me just to be mean.  
25. My child seems to cry and fuss more often than most children.  
26. My child generally wakes up in a bad mood.  
27. I feel that my child is very moody and easily upset.  
28. My child does a few things that bother me a great deal.  
29. My child reacts very strongly when something happens that he/she doesn’t like.  
30. My child gets upset easily over the smallest thing.  
31. My child’s sleeping or eating schedule was much harder to establish than I expected.  

<table>
<thead>
<tr>
<th>23.</th>
<th>24.</th>
<th>25.</th>
<th>26.</th>
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<th>28.</th>
<th>29.</th>
<th>30.</th>
<th>31.</th>
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<tr>
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<td>My child seems to cry and fuss more often than most children.</td>
<td>My child generally wakes up in a bad mood.</td>
<td>I feel that my child is very moody and easily upset.</td>
<td>My child does a few things that bother me a great deal.</td>
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<td>My child gets upset easily over the smallest thing.</td>
<td>My child’s sleeping or eating schedule was much harder to establish than I expected.</td>
</tr>
</tbody>
</table>

**For statement 32, choose from choices 1 to 5 below.**

32. I have found that getting my child to do something or stop doing something is:  
   a) much harder than I expected  
   b) somewhat harder than I expected  
   c) about as hard as I expected  
   d) somewhat easier than I expected  
   e) much easier than I expected  

**For statement 33, choose from choices 1 to 5 below.**

33. Think carefully and count the number of things which your child does that bothers you.  
   Please circle the number which includes the number of things you counted.  
   a) 1-3  
   b) 4-5  
   c) 6-7  
   d) 8-9  
   e) 10+  

34. There are some things my child does that really bother me a lot.  
35. My child turned out to be more of a problem than I expected.  
36. My child makes more demands on me than most children.  

<table>
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<th>32.</th>
<th>33.</th>
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<tbody>
<tr>
<td>I have found that getting my child to do something or stop doing something is:</td>
<td></td>
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</table>
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| c) about as hard as I expected  
| d) somewhat easier than I expected  
| e) much easier than I expected |

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<th>33.</th>
<th>34.</th>
<th>35.</th>
<th>36.</th>
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<tbody>
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<td>Think carefully and count the number of things which your child does that bothers you. Please circle the number which includes the number of things you counted.</td>
<td>There are some things my child does that really bother me a lot.</td>
<td>My child turned out to be more of a problem than I expected.</td>
<td>My child makes more demands on me than most children.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>33.</th>
<th>34.</th>
<th>35.</th>
<th>36.</th>
</tr>
</thead>
<tbody>
<tr>
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<td>My child makes more demands on me than most children.</td>
</tr>
</tbody>
</table>

(Abidin, 1995; Loyd & Abidin, 1985)
PSOC

Please circle the response for each statement which best expresses how you honestly feel.

SA = Strongly Agree  A = Agree  MA = Mildly Agree
SD = Strongly Disagree  D = Disagree  MD = Mildly Disagree

1. The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired.
   SA  A  MA  MD  D  SD

2. Even though being a parent could be rewarding, I am frustrated no while my child is at his/her present age.
   SA  A  MA  MD  D  SD

3. I go to bed the same way I wake up in the morning – feeling that I have no accomplished a whole lot.
   SA  A  MA  MD  D  SD

4. I do not know what it is, but sometimes when I'm supposed to be in control, I feel more like the one being manipulated.
   SA  A  MA  MD  D  SD

5. My parents were better prepared to be good parents than I am.
   SA  A  MA  MD  D  SD

6. I would make a fine model for new parents to follow in order to learn what they would need to know in order to be good parents.
   SA  A  MA  MD  D  SD

7. Being a parent is manageable and any problems are easily solved.
   SA  A  MA  MD  D  SD
8. A difficult problem in being a parent is not knowing whether you’re doing a good job or a bad one.

SA A MA MD D SD

9. Sometimes I feel like I’m not getting anything done.

SA A MA MD D SD

10. I meet my own personal expectations for expertise in caring for my child.

SA A MA MD D SD

11. If anyone can find the answer to what is troubling my child, I am the one.

SA A MA MD D SD

12. My talents and interests are in other areas, not being a parent.

SA A MA MD D SD

13. Considering how long I’ve been a parent, I feel thoroughly familiar with this role.

SA A MA MD D SD

14. If being a parent of a child were only more interesting, I would be motivated to do a better job as a parent.

SA A MA MD D SD

15. I honestly believe I have all the skills necessary to be a good parent to my child.

SA A MA MD D SD

16. Being a parent makes me tense and anxious.

SA A MA MD D SD

(Johnston & Mash, 1989)
### Dyadic Parent-Child Interaction Coding System

<table>
<thead>
<tr>
<th>PARENT BEHAVIORS</th>
<th>TALLY</th>
<th>TALLY</th>
<th>CHILD BEHAVIORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct command followed by...</td>
<td></td>
<td></td>
<td>No opportunity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Compliance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Noncompliance</td>
</tr>
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<td></td>
<td></td>
<td>No opportunity</td>
</tr>
<tr>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Noncompliance</td>
</tr>
<tr>
<td>Ignores</td>
<td></td>
<td>Disruptive behavior</td>
<td></td>
</tr>
<tr>
<td>Responds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Descriptive statement</td>
<td></td>
<td>Positive behavior</td>
<td></td>
</tr>
<tr>
<td>Reflective statement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unlabeled praise</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labeled praise</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical statement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other verbalization</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Child's Name**  
**Observer's Name**  
**Parent's Name**  
**Date**
SUMMARY OF CODE DEFINITIONS

Descriptive statement A declarative sentence or phrase that gives an account of the objects or people in the situation or the activity occurring during the interaction (e.g., You're building a pickup truck; You're sitting quietly).

Reflective statement A declarative phrase or statement that immediately repeats the child's verbalization. The reflection may be exactly the same words the child said, may contain synonymous words, or may contain some elaboration on the child's statement, but the basic content must be the same as the child's message (e.g., CHILD: I made a big square. PARENT: You made a big square inside this big circle).

Unlabeled praise A nonspecific verbalization that expresses a favorable judgment on an activity, product, or attribute of the child (e.g., Great; Nice; Good work; Perfect).

Labeled praise Any specific verbalization that expresses a favorable judgement on an activity, product, or attribute of the child (e.g., That's a terrific house you made; You have a nice smile).

Question A descriptive or reflective statement expressed in question form. Some questions are differentiated from statements by voice inflection (e.g., That's the baby?).

Critical statement A verbalization that finds fault with the activities, products, or attributes of the child (e.g., You're being naughty; That's a sloppy picture).

Direct command A clearly stated order, demand, or direction in declarative form. The statement must be sufficiently specific as to indicate the behavior that is expected from the child (e.g., Put your hands in your lap; Please put that block here).

Indirect command An order, demand, or direction for a behavioral response that is implied, nonspecific, or stated in question form (e.g., Put it here, okay?; Let's take out the red blocks).

Disruptive behavior Any cry (inarticulate or utterance of distress), yell (loud screech, scream, shout, or loud crying), whine (words uttered in a slurring, nasal, high-pitched, falsetto voice), smart talk (impudent or disrespectful speech; e.g., You're stupid, No, I hate you, Why should I, That's just great), destructive (destroys, damages, or attempts to damage any object; such as throwing blocks at a wall, damaging Lincoln Logs on the table, or kicking toy box), or physical negative (bodily attack or attempt to attack the parent; such as hitting, slapping, biting, pinching, throwing something at the parent, kicking, pulling hair, twisting finger, or standing on toe) behavior.
<table>
<thead>
<tr>
<th>Positive behavior</th>
<th>Positive verbalizations (e.g., complimenting or praising the parent), sharing, polite verbal exchange (e.g., please, thank you), or proactive clean up.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignores</td>
<td>Parent remains silent, maintains a neutral facial expression, avoids or breaks eye contact with the child, and makes no movement in response to the child, except to turn away.</td>
</tr>
<tr>
<td>Responds</td>
<td>Any verbal or nonverbal reaction by the parent following a disruptive child behavior.</td>
</tr>
<tr>
<td>No opportunity</td>
<td>Child is not given an adequate chance to comply with a command (e.g., command is vague; behavior requested is not within the child’s competence; parent quickly repeats a command; parent quickly issues another command; parent issues a command while the child is already doing the requested action; parent does the requested behavior for the child).</td>
</tr>
<tr>
<td>Compliance</td>
<td>Child obeys, begins to obey, or attempts to obey a direct or indirect parental command within ten seconds (e.g., PARENT: Draw a person. CHILD: [Immediately begins drawing a face]).</td>
</tr>
<tr>
<td>Noncompliance</td>
<td>Child does not begin obeying a direct or indirect parental command (e.g., ignoring the parent; refusing to obey; countercommanding; making an excuse; arguing) within ten seconds.</td>
</tr>
</tbody>
</table>

(Hembree-Kigin & McNeil, 1995)
**DEMOGRAPHIC INFORMATION SHEET**

**Parent/Family Information**

Parent age: ___________  
Parent gender: Male  Female

Marital status:

- __________ Married/cohabiting
- __________ Never married; single parent
- __________ Not married; divorced/separated
- __________ Not married; widowed
- __________ Not married; living with other family members

Education level:

- __________ Less than high school
- __________ High school graduate
- __________ Associate’s degree/some college
- __________ Bachelor’s degree
- __________ Above bachelor’s degree

Occupation:  

Size of family:  

# adults in family  
# children in family

Net monthly family income:  

Approximately how many waking hours per day do you spend with your child?  

Have you ever taken a parenting class?  Yes  No  If yes, please describe:  

Please list any medications you are currently taken or have taken in the past (e.g., anti-depressant medication) and over what period of time you took the medication:  

**Child Information:**

Age of child: _________  
Gender of child: Male  Female

Ethnicity of child:  

Has your child ever received any counseling services?  Yes  No  If yes, please describe:  

Please list any medications your child is currently taken or has taken in the past (e.g., stimulant medication) and over what period of time your child took the medication:  

Does your child receive any special education services?  Yes  No  If yes, please describe:  

Thinking About Child Behavior

Person completing this form ___________________________ Date __________________

Instructions:

I would like you to watch the videotape of your interaction with your child one more time. This time, I will be watching the videotape with you. As we watch the tape, I will be pausing on occasion to ask you some questions about your child’s behavior during the interactions. After I read each question, you will be asked to indicate your agreement with the response on a 10-point scale. There are no right or wrong answers, and if you have difficulty judging, just go with your first impression.

A. Disruptive behavior
B. Positive behavior
C. Compliance
D. Noncompliance

1. To what extent do you think your child’s behavior was caused by something about him or her versus something about other people or the situation?

1----------2------------3-----------4-----------5-----------6-----------7 -----------8-----------9---- -----10

2. To what extent was your child’s behavior within his or her control?

1----------2------------3-----------4-----------5-----------6-----------7 -----------8-----------9-----------10

3. To what extent is the reason your child behaved as he or she did something that happens in many situations versus something that is specific to this situation?

1----------2------------3-----------4-----------5-----------6-----------7 -----------8-----------9-----------10

4. To what extent is the reason your child behaved as he or she did something that is a one time thing or something that is likely to happen again in the future?

1----------2------------3-----------4-----------5-----------6-----------7-----------8-----------9-----------10

5. To what extent do you believe that something you said or did was responsible for your child’s behavior?

1----------2------------3-----------4-----------5-----------6-----------7-----------8-----------9-----------10

(Adapted from Johnston & Freeman, 1997)
### Parent Behaviors

<table>
<thead>
<tr>
<th>Description</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive statement</td>
<td>A statement describing the child’s behavior</td>
</tr>
<tr>
<td>Reflective statement</td>
<td>A repetition of what the child says</td>
</tr>
<tr>
<td>Unlabeled praise</td>
<td>A nonspecific, positive statement about the child or his/her behavior</td>
</tr>
<tr>
<td>Labeled praise</td>
<td>A specific, positive statement about the child or his/her behavior</td>
</tr>
<tr>
<td>Question</td>
<td>Any question directed toward the child</td>
</tr>
<tr>
<td>Critical statement</td>
<td>A negative statement about the child or his/her behavior</td>
</tr>
<tr>
<td>Direct command</td>
<td>A clearly stated direction given to the child</td>
</tr>
<tr>
<td>Indirect command</td>
<td>An unclearly stated direction given to the child</td>
</tr>
<tr>
<td>Ignores</td>
<td>Deliberate lack of attention to the child’s verbalization or behavior</td>
</tr>
<tr>
<td>Responds</td>
<td>Any reaction to the child’s disruptive behavior</td>
</tr>
</tbody>
</table>

### Child Behaviors

<table>
<thead>
<tr>
<th>Description</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disruptive behavior</td>
<td>Negative child behavior, including crying, yelling, whining, and aggression</td>
</tr>
<tr>
<td>Positive behavior</td>
<td>Positive child behavior, including sharing toys, complimenting parents, and cleaning up without being asked</td>
</tr>
<tr>
<td>Compliance</td>
<td>The child is given a command and follows through within 10 seconds</td>
</tr>
<tr>
<td>Noncompliance</td>
<td>The child is given a command, but fails to follow through within 10 seconds</td>
</tr>
<tr>
<td>No opportunity</td>
<td>The child is given a command, but has no opportunity to follow through with it</td>
</tr>
</tbody>
</table>
QUALITATIVE QUESTIONS FOR PARENTS

1. Was this a typical interaction between you and your child? Why or why not?

2. After disruptive behavior: Why do you think your child engaged in that behavior?

3. After positive behavior: Why do you think your child engaged in that behavior?

4. After compliant behavior: Why do you think your child engaged in that behavior?

5. After noncompliant behavior: Why do you think your child engaged in that behavior?
CURRICULUM VITAE

ANGELA LYNNE WAGENAAR EHRICK

Address:

3107 Xylon Ave. South Apt. 308
St. Louis Park, MN 55426
(612) 616-5260 (home)
(612) 813-6504 (work)
angela.ehrlick@childrenshc.org

EDUCATION

5/2004  Doctor of Philosophy – Combined Clinical, Counseling, and School Psychology, APA Accredited Program, Utah State University, Logan, Utah

Dissertation: Maternal and paternal attributions and perceptions related to parent-child interactions

Advisor: Gretchen Gimpel, Ph.D.
Grade-point average: 3.93

5/2002  Master of Science – Counseling Psychology, Utah State University, Logan, Utah

Thesis: Disruptive behaviors in early childhood: The role of parent discipline and parent stress
Advisor: Gretchen Gimpel, Ph.D.
Grade-point average: 4.0

5/1998  Bachelor of Arts – Psychology, Spanish, Concordia College Moorhead, Minnesota

Senior Thesis: Temperament and its effects on academic achievement, Type A behavior, and emotional defensiveness
Advisors: Albert Bartz, Ph.D. and Mark Krejci, Ph.D.
Grade-point average: 3.95
CLINICAL EXPERIENCE

9/2003-present
Pre doctoral Internship, Children’s Hospitals and Clinics, Minneapolis, Minnesota

Provide psychological services to children, adolescents, and their families in a hospital setting. Provide outpatient therapy and psychological evaluations and inpatient consultation and therapy for children with various pediatric conditions. Participate in hospital rounds as a multidisciplinary team member for general pediatrics, cystic fibrosis, hematology/oncology, and craniofacial team. Provide supportive therapy to high school students within a multidisciplinary school clinic setting and present occasional in-services to students and staff on mental health topics. Other clinical experiences include co-leading a skills training group for boys ages 6-7 and co-leading a support and skills training group for adolescents with chronic illnesses. Child clients are ethnically diverse, ranging in age from 2 to 18, and have a wide array of diagnoses.

Supervisors: Sharon Berry, Ph.D., Julie Erickson, Ph.D., Sherrie Kamm, Ph.D., Jonathan Miller, Ph.D., Julia Reid, Ph.D., Gay Rosenthal, M.A., Jason Walker, Ph.D., Karen Wills, Ph.D., and Mary Zielinski, Ph.D.

Graduate Practicum Experience

9/02-8/03
Early Childhood Practicum at the Up to 3 Program, Center for Persons with Disabilities, Utah State University

Served as a multidisciplinary team member in an early intervention program. Conducted initial behavioral evaluations and provided behavioral treatment to English- and Spanish-speaking families of children ages 0-3 with behavioral pediatric concerns. Was a team member on monthly assessments of children with pervasive developmental disorders and participated in the development of Individual Family Service Plans and Individualized Education Plans.

Supervisor: Gretchen Gimpel, Ph.D.

9/01-8/02
Clinical Child Practicum at the Psychology Community Clinic, Utah State University
Conducted intake interviews and psychological assessments and provided outpatient therapy to preschool and school age children with emotional and behavioral concerns.  
*Supervisor: Gretchen Gimpel, Ph.D.*

5/01-8/01  
**Clinical Practicum at the Psychology Community Clinic, Utah State University**

Conducted intake interviews and psychological assessments and provided individual and marital therapy to adult clients.  
*Supervisor: Susan Crowley, Ph.D.*

9/00-5/00  
**Counseling Practicum at the Counseling Center, Utah State University**

Conducted intake interviews and provided individual therapy to university students.  
*Supervisors: Mary Doty, Ph.D. and Erica Liu Wollin, PsyD*

9/99-5/00  
**School Practicum in the Clinical Services Program of the Center for Persons with Disabilities, Utah State University**

Provided comprehensive psychological evaluations, as part of a multidisciplinary team, to children and adolescents with emotional, behavioral, cognitive, learning, and developmental disorders. Was responsible for conducting intake interviews; cognitive, academic, and social/emotional/behavioral assessment; completing written reports; and conducting feedback sessions with children and parents.  
*Supervisor: Pat Truhn, Ph.D.*

1/99-10/99  
**Practicum at the Psychology Community Clinic, Utah State University**

Conducted intake interviews and psychological assessments and provided individual and marital therapy to adult clients.  
*Supervisor: Susan Crowley, Ph.D.*

**Additional Clinical Experience**

9/02-7/03  
**Graduate Assistant, Autism Support Services: Evaluation, Research, and Treatment (ASSERT) Program, Center for Persons with Disabilities, Utah State University**
Served as the student member on a committee involved in planning an Applied Behavior Analysis treatment program for children with pervasive developmental disorders. Coordinated the pre- and post-treatment evaluations for the four children involved in the pilot program and provided ABA to two children in a classroom setting for a period of two months.

*Supervisors: Thomas Higbee, Ph.D. and Gretchen Gimpel, Ph.D.*

**11/01-1/02**

*Psychodiagnostician for the Weber School District, Ogden, Utah*

Conducted psychoeducational evaluations for school-age children.

*Supervisor: Maren McFarlane, M.Ed.*

**8/00-8/03**

*Student Therapist, Psychology Community Clinic, Utah State University*

Provided individual therapy to children and adults with emotional and behavioral disorders.

*Supervisors: Gretchen Gimpel, Ph.D., Susan Crowley, Ph.D., and Kevin Masters, Ph.D.*

**1/00-8/03**

*Student Therapist, Clinical Services Program of the Center for Persons with Disabilities, Utah State University*

Provided individual and family therapy to children with emotional and behavioral disorders and their families.

*Supervisor: Pat Truhn, Ph.D.*

**1/00-8/03**

*Student Therapist, Attention-Deficit/Hyperactivity Disorder Treatment Study, Utah State University*

Provided parent training and stress management treatment to parents of children diagnosed with ADHD. Was responsible for conducting intake interviews and weekly treatment sessions, writing treatment summaries, and communicating regularly with physician referral sources. Conducted initial and follow-up cognitive and behavioral assessment.

*Supervisor: Gretchen Gimpel, Ph.D.*

**1/00-5/00**

*Co-Leader, Strengthening Families: Lifelong Learning for Parents parenting group, Head Start, Preston, Idaho*
Served as a co-leader in conducting a parent training group for parents of preschool-age children with disruptive behavior problems. Provided weekly phone calls and occasional home visits.

*Supervisor: Kathryn Hoff, Ph.D.*

9/99-5/00

**Co-Therapist, Clinical Services Program of the Center for Persons with Disabilities, Utah State University**

Served as a co-therapist with Kathryn Hoff, Ph.D. in providing parent training and behavioral therapy for children with disruptive behavior problems and their families.

*Supervisors: Kathryn Hoff, Ph.D. and Pat Truhn, Ph.D.*

9/99-12/99

**Co-Leader, Social Skills Group, Clinical Services Program of the Center for Persons with Disabilities, Utah State University**

Served as a co-leader for a weekly social skills group for children ages 8-10.

*Supervisor: Pat Truhn, Ph.D.*

**Work and Training Experiences (graduate program sanctioned)**

9/02-8/03

**Psychology Trainee in the Utah Leadership Education in Neurodevelopmental Disabilities Regional Program, Utah State University and University of Utah**

Served as the psychology trainee in this 300-hour training program. Attended weekly didactic meetings, completed 100 clinical hours at pediatric training sites in Logan, Utah and Salt Lake City, Utah, and coordinated a research project examining parents' understanding of psychological evaluation results and satisfaction with their children's evaluations.

*Supervisors: Gretchen Gimpel, Ph.D., Judith Holt, Ph.D., and Fan Tait, M.D.*

9/00/5/01

**Psychology Trainee in the Interdisciplinary Training Program, Center for Persons with Disabilities, Utah State University**

Completed a 300-hour training program designed to enhance interdisciplinary treatment practices in future healthcare providers. Attended weekly didactic meetings, completed 70
clinical hours at treatment programs for individuals with disabilities, and participated in research projects examining genetic correlates of ADHD and autism and parent perceptions of psychoeducational evaluations.

Supervisors: Pat Truhn, Ph.D. and Judith Holt, Ph.D.

5/00-8/03

Graduate Assistant, Clinical Services Program of the Center for Persons with Disabilities, Utah State University

Coordinated comprehensive multidisciplinary evaluations for children and adolescents. Was responsible for: intake interviews; cognitive, academic, adaptive behavior, and social/emotional/behavioral assessment; and feedback sessions with children and parents. Presented cases during weekly consultation meetings with a multi-disciplinary team. Diagnoses included cognitive, developmental, learning, speech/language, behavioral, and emotional disorders. Provided supervision to graduate students completing their school psychology practicum.

Supervisor: Pat Truhn, Ph.D.

Other Work Experience


Youth Counselor, Gerard of Minnesota, Austin, Minnesota

Youth counselor for adolescents ages 12-17 with emotional and behavioral disorders at a residential treatment facility. Implemented treatment programs and co-led group discussions.

Supervisor: Janice Green, B.A.

Related Experience

1/97-4/97

Intern with Head Start, Moorhead, Minnesota

Interacted with preschool-age children from varied ethnic backgrounds in a classroom setting. Translated program forms and parent handbook from English into Spanish.

Supervisors: Janet Hausmann, B.A. and Mary Rice, Ph.D.

9/93-12/93

Volunteer with Adult Community Treatment, Austin, Minnesota

Volunteered with an adult outpatient day treatment program for adults with chronic mental illnesses. Participated in group activities and group therapy.

Supervisor: Carol Clark, B.A.
MANUSCRIPTS IN PREPARATION


CONFERENCE PRESENTATIONS


Collett, B., Gimpel, G., Johnson, C., Veeder, M., Gunderson, T., Gee, M., Ehrlick, A.,
Hughes, K., Berglof, H., & Odell, J. D. (2002, August). The effects of
stimulant medication on children’s cognitive performance. Poster presented at
the annual conference, American Psychological Association, Chicago, IL.

behaviors in young children. Poster presented at the Early Intervention
Research Institute annual conference, Logan, UT.

Collett, B. R., Ehrlick, A., Johnson, C., Veeder, M. A., Berglof, H. K., Gunderson, T. L.,
Cluster subtypes among children diagnosed with ADHD. Poster presented at the
annual conference, Association for the Advancement of Behavior Therapy,
Philadelphia, PA.

November). Trials and tribulations in parent training: Uncovering hidden
obstacles to effective interventions. In W. Warzak (Chair), Troubleshooting
behavioral protocols: What to do when tried and true fail. Symposium
conducted at the international conference, Association for Behavior Analysis,
Venice, Italy.

Webb, T., Ehrlick, A., & Goodson, J. (2001, November). Trainee activities and
perspectives: Trainees’ involvement in the Children’s Supplemental Security
(SSI) Project. Roundtable discussion presented at the annual conference,
Association of University Centers on Disabilities, Bethesda, MD.

Collett, B. R., Ehrlick, A., Johnson, C., Veeder, M., Berglof, H., Gunderson, T., Gage,
ADHD subtypes in clinical practice. Poster presented at the annual conference,
American Psychological Association, San Francisco, CA.

Gimpel, G. A., Collett, B. R., Gage, J. D., Gunderson, T. L., Veeder, M. A., Ehrlick, A.,
Berglof, H. K., Jones, T., Johnson, C., Greenson, J. N., Trayford, L., &
parent training program. Poster presented at the annual conference, American
Psychological Association, San Francisco, CA.

Hoff, K. E., & Ehrlick, A. (2001, April). “Mom, I can’t find my shoe!” Use of the
mystery motivator with early morning dawdlers. In W. Jenson (Chair), Mystery
motivators: A symposium on the development and research validation of an
effective technique. Symposium conducted at the annual conference, National
Association of School Psychologists, Washington, DC.


PRESENTATIONS


“Stress management tips.” Presented in 9th and 12th grade health classes, Southwest High School, Minneapolis, MN, October 29 and 31, 2003.


“Psychology and early intervention programs.” Presented at an Up to 3 early intervention staff meeting, January 21, 2003.


“Case coordinator responsibilities.” Co-presented at a Clinical Services staff meeting, November 1, 2002.

“Interdisciplinary practice with ADHD and learning disabilities.” Presented at a Utah Leadership Education in Neurodevelopmental Disabilities seminar, October 18, 2002.

“Clinical Services Program.” Co-presented at a Bear River Community Mental Health staff meeting, February 12, 2002.

“Case coordinator responsibilities.” Co-presented at a Clinical Services staff meeting, October 5, 2001.
"Infant and toddler mental health.” Presented at a Clinical Services staff meeting, February 7, 2001, and an Up to 3 early intervention staff meeting, February 8, 2001.

**TEACHING EXPERIENCE**

1/03-5/03  
**Instructor for Cognitive Psychology (distance education course), Utah State University**

Responsibilities included: preparing and giving a weekly lecture, preparing and grading exams, grading papers, maintaining grades, and facilitating exam reviews.

9/01-12/01  
**Instructor for Cognitive Psychology (distance education course), Utah State University**

Responsibilities included: preparing and giving a weekly lecture, preparing and grading exams, grading papers, maintaining grades, and facilitating exam reviews.

1/01-5/01  
**Instructor for Educational Psychology (distance education course), Utah State University**

Responsibilities included: preparing and giving a weekly lecture, preparing and grading exams, grading papers, maintaining grades, and facilitating exam reviews.

1/00-5/00  
**Instructor for Educational Psychology (on-campus course), Utah State University**

Responsibilities included: preparing and giving a weekly lecture, preparing and grading exams, grading papers, serving as instructor for five weekly labs, maintaining grades, facilitating exam reviews, and holding office hours.

1/00-5/00  
**Instructor for Educational Psychology (distance education course), Utah State University**

Responsibilities included: preparing and giving a weekly lecture, preparing and grading exams, grading papers, maintaining grades, and facilitating exam reviews.

9/99-12/99  
**Teaching Assistant for Educational Psychology, Utah State University**
Responsibilities included: serving as instructor for five weekly labs, grading papers, maintaining grades, facilitating exam reviews, and holding office hours. Lectured on the behavioral principles of learning.

*Supervisor: Lani Van Dusen, Ph.D.*

**9/99-7/99**

Co-Instructor for Educational Psychology, Utah State University

Responsibilities included: preparing and giving a daily lecture, serving as instructor of a weekly lab, preparing exams, grading papers, maintaining grades, facilitating exam reviews, and holding office hours.

*Supervisor: Carla Reyes, Ph.D.*

**1/99-5/99**

Teaching Assistant for Psychology of Gender, Utah State University

Responsibilities included: leading class discussions, grading papers, preparing exams, maintaining grades, and holding office hours. Lectured on parenthood, physical health, and treatment of mental health disorders.

*Supervisor: Carla Reyes, Ph.D.*

**9/98-5/99**

Teaching Assistant for Educational Psychology, Utah State University

Responsibilities included: serving as instructor for five weekly labs, grading papers, maintaining grades, facilitating exam reviews, and holding office hours. Lectured on cognitive principles of learning and behavioral principles of learning.

*Supervisors: Carla Reyes, Ph.D. and Camille Odell, M.S.*

**9/98-5/99**

Teaching Assistant for Abnormal Psychology, Utah State University

Responsibilities included: grading papers and exams, maintaining grades, facilitating exam reviews, and holding office hours. Lectured on mood disorders, anxiety disorders, dissociative disorders, somatoform disorders, and schizophrenia.

*Supervisors: Gretchen Gimpel, Ph.D. and Kathryn Hoff, Ph.D.*
Teaching Assistant for Statistics and Research Methods, Concordia College

Responsibilities included: grading quizzes and assignments, tutoring students, and facilitating discussion groups for introductory psychology students.

Supervisor: Albert Bartz, Ph.D.

GRADUATE RESEARCH EXPERIENCE

9/03-present

Early development of children with hearing loss

Principal Investigator: Susan Nittrouer, Ph.D. (Utah State University)

Serving as a research assistant on a National Institutes of Health-National Institute on Deafness and Other Communication Disorders-funded longitudinal study. The study will examine how age of identification of hearing loss and type of language input affect spoken language, cognitive, and social development. Will complete psychological and speech/language assessment of children with hearing loss and children with normal hearing under the age of 5. Testing will begin in spring 2003.

9/02-present

Parents' understanding of psychological evaluations

Co-Investigators: Angela Ehrlick, Janet Carter, Julie Gifford, and Gretchen A. Gimpel (Utah State University) and Brent R. Collett (University of Washington)

Investigating parents' understanding of and satisfaction with the results of their children's psychological evaluations, as verbally communicated to them. Data collection started in November 2002 and is ongoing. Responsible for developing assessment measures and preparing written results and was responsible for coordinating data collection and analyzing results while at Utah State University.

12/01-present

Maternal and paternal attributions and perceptions related to parent-child interactions

Principal Investigator: Angela Ehrlick (Utah State University), Dissertation

Investigated mothers' and fathers' attributions for children's behaviors and their perceptions of their behaviors and children's behaviors during parent-child interactions. Data collection was completed in November 2002 and dissertation was defended in August 2003. Awaiting final approval of document from the School of Graduate Studies.
Disruptive behaviors in early childhood: The role of parent discipline and parent stress
*Principal Investigator: Angela Ehrlick (Utah State University), Master’s Thesis*
Examined the relationship between parent discipline and parent stress on preschool children’s disruptive behaviors. Surveyed 111 parents on their use of discipline techniques, their stress level, and their children’s disruptive behaviors.

Treatment of attention-deficit/hyperactivity disorder
*Principal Investigator: Gretchen Gimpel, Ph.D. (Utah State University)*
Served as graduate student clinician in an ongoing research study examining the clinical effectiveness of behavioral parent training and cognitive-behavioral stress management training for parents of children diagnosed with Attention-Deficit/Hyperactivity Disorder. Served as research assistant in related projects focused on children with ADHD, including an investigation of the effects of stimulant medication on children’s cognitive performance, examination of cluster subtypes of ADHD, and examination of genetic variables related to ADHD.

Investigation of parent training/stress management training as interventions for Head Start parents.
*Principal Investigator: Theresa Gunderson, M.A. (Utah State University)*
Assisted a Ph.D. candidate in collecting dissertation data. Attended a weekly parent training/stress management group for parents of preschool children with disruptive behavior problems and collected data for reliability purposes.

Disruptive behavior disorders project
*Principal Investigator: Kathryn Hoff, Ph.D. (Utah State University)*
Served as graduate student clinician for a behavioral parent training group for Head Start parents. Investigated the effectiveness of behavioral parent training strategies in reducing disruptive behavior problems and weekly communication (i.e., phone calls, home visits) on parents’ completion of homework and overall satisfaction with the group.
UNDERGRADUATE RESEARCH EXPERIENCE

9/97-5/98

Research Assistant, Department of Psychology, Concordia College
Supervisor: Patricia Halvorson, Ph.D.
Selected by the psychology department faculty to assist in the assessment of the department for the 1997-1998 academic year. Served as the student member of the assessment committee, took part in developing and organizing assessment materials, analyzed the data gathered, and prepared a final report.

12/97-12/97

Temperament and its effects on academic achievement, type A behavior, and emotional defensiveness
Principal Investigator: Angela Wagenaar (senior thesis)
Supervisor: Albert Bartz, Ph.D.
Conducted an independent study examining the effects of childhood temperament, as reported by parents, on undergraduate students’ self-reported academic achievement, type A behavior, and emotional defensiveness. Designed and conducted the study, analyzed and interpreted the data, and presented the results through an oral presentation and poster presentation.

1/97-4/97

Relationship between aggression and athletics: Gender and stress as variables.
Co-Investigators: Jolene Byer, Kara Norland, Kristine Nystrom, Julie Ronning, and Angela Wagenaar
Supervisor: Mark Krejci, Ph.D.
Conducted a study comparing self-reported aggression in collegiate athletes and non-athletes. As one of five co-investigators, was responsible for designing and conducting the study, analyzing and interpreting the data, and presenting the results through a written report.

2/97-4/96

The effect of learning disabilities on the self-concept of adolescents.
Co-Investigators: Angela Wagenaar and Stacie Larson
Supervisor: Albert Bartz, Ph.D.
Conducted a study comparing the self-reported academic and social self-concept of adolescent students diagnosed with a learning disability and students with no learning disability diagnoses. As one of two investigators, was responsible for designing and conducting the study, analyzing and interpreting the data, and presenting the results through a written report and oral presentation.
ACADEMIC DISTINCTIONS AND HONORS EARNED

4/2002  Walter R. Borg scholarship recipient, Utah State University
1998-2003  Dean’s Honor List, Utah State University
5/1998  Summa Cum Laude graduate, Concordia College
1994-1998  Dean’s Honor List, Concordia College

PROFESSIONAL ORGANIZATIONS

9/2002-present  Association for Advancement of Behavior Therapy, student affiliate
10/00-present  American Psychological Association, student affiliate
4/1998-present  Omicron Delta Kappa (national leadership society)
10/95-present  Psi Chi
3/1995-present  Sigma Delta Pi (Spanish honor society)