THE DETERMINANTS AND CONSEQUENCES OF EMPATHIC PARENTING:
TESTING AN EXPANSION OF BELSKY’S MODEL OF PARENTING USING SEM

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Dissertation Prepared for the Degree of
DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS
May 2010

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Morse, Margaret K. *The determinants and consequences of empathic parenting: Testing an expansion of Belsky’s model of parenting using SEM*. Doctor of Philosophy (Counseling Psychology), May 2010, 233 pp., 6 figures, 28 tables, references, 341 titles.

An understanding of factors that enhance empathic parenting behaviors is of considerable importance to the study of child development and to the development of parenting interventions to promote child adjustment. Moreover, gaining a better understanding of the factors that predict empathic parenting with older children is of interest since most research examining parental empathy focuses on infants. These were the goals of the current study.

Guided by Belsky’s 1984 process model of the determinants of parenting that impact child development, an expanded model of the determinants of parenting is proposed that includes various parent, child, and contextual factors of influence. Using data from a community sample, a partial least squares path analysis approach was employed to test the model’s strength in predicting empathically attuned parenting with children ages 5 to 10 years and, ultimately, the child’s psychoemotional functioning. Results support the expanded model; however, a reduced model was found to be superior and revealed unique relationships between the determinants of parenting. Specifically, a parent’s psychoemotional functioning and childrearing beliefs and attitudes were found to be critical to the parent’s ability to engage in empathic parenting behaviors. Other parent factors such as the parent’s developmental history of abuse, maladaptive personality traits, and age, along with contextual factors and child characteristics, were found to influence parenting only indirectly through their impact on the parent’s level of psychoemotional distress or childrearing beliefs and attitudes. Ultimately, the current findings support Belsky’s claim that parent factors are the strongest predictors of empathic parenting.
Implications of these findings are many. The results highlight the importance of assessing a parent’s childrearing beliefs and attitudes and level of distress in conjunction with characteristics of the child when a family comes in for treatment. Moreover, the results identify many points of intervention to stopping the cycle of abuse.
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ACKNOWLEDGMENTS

This project has been ten years in the making, and I could not have done it without the help and encouragement of many. I would particularly like to thank my chair, Patricia Kaminski, PhD, for not giving up on me and seeing this project through to the end and to my other committee members, Sue Bratton, PhD, Vicki Campbell, PhD, and Shelley Riggs, PhD, for their patience, interest, and insights. I would also like to thank Richard Herrington for leading me down the rabbit hole of statistics and helping me make sense of my data and gain confidence in my understanding of my data analysis. There is also the work and collaboration of many colleagues and undergraduate researchers that I would like to acknowledge, particularly that of Micki Burns, PhD, Aubrey Austin, MS, Jane Jooste, PhD, Cicely LaBorde, MS, Linda Casto, MS, Arlene Rivero, PhD, Patrick Turnock, PhD, Maggie Hollyfield, PhD, Angela McKenna, MS, Rebecca Lloyd, MS, Christy Beifus, and Jennifer Huynh. On a more personal note, I would like to acknowledge the constant love and encouragement I received from my husband, parents, and friends throughout this process. And to Sam, my baby boy - May the time spent away from you to complete this project be a distant memory…Now let’s go play!
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Empathic parenting behaviors, such as being emotionally available, supportive of a child’s initiative, and sensitively attuned and responsive to a child’s cues and developmental needs, have long been considered important to the social, emotional, and cognitive development of children. As such, an understanding of factors that enhance these types of parenting skills with children of all ages is of considerable importance to the study of child development and ultimately to the development of parenting interventions to promote child adjustment. The majority of research on empathic parenting, however, has focused on parenting during infancy, with little emphasis on empathic parenting with older children. Due to the different developmental tasks faced by older children, exploring factors that influence empathic parenting with older children would be a notable contribution to the literature.

In 1984, Jay Belsky proposed an ecological process model of the multiple psychosocial determinants of parenting that influence child development (see Figure 1). This theoretical model presumes that child development is predicted by parenting that is directly determined by three domains of influence: 1) the parent’s psychological resources, 2) child characteristics such as temperament, and 3) contextual factors that impact the parent-child relationship such as the parents’ social network, marital quality, and work commitments. Belsky posited, however, that factors included in the parent domain such as the parent’s personality and psychological well-being are the most important factors in buffering the parent-child relationship from threats to its integrity that could negatively impact child development.

At the time Belsky proposed his model he lamented that rarely in any single research effort were all the domains of influence examined at once, leaving the process and relationships
between these determinants and child outcome open to speculation (Belsky, 1984; Belsky, Robins, & Gamble, 1984). Inspired by Belsky’s ecological process model, many researchers (e.g., Hipke, 2002; Kochanska, Clark, & Goldman, 1997; Luster, 1998; Meyers, 1999; Rodgers, 1998; van Bakel & Riksen-Walraven, 2002) over the past 25 years have examined multiple aspects related to the proposed determinants of parenting and their direct, indirect, and interactive relationships to various parenting behaviors and ultimately child development. Most of these researchers have used multiple regression or path analyses to explore the unique contribution and interaction effects of various aspects of the domains of influence (parent, child, and contextual). Although more sophisticated statistical procedures such as structural equation modeling (SEM) have been available for decades, few researchers (e.g., Belsky, Hertzog, & Rovine, 1986; Pianta, Egeland, & Erickson, 1989; Simons, Lorenz, Wu, & Conger, 1993; van Bakel & Riksen-Walraven, 2002) have implemented this statistical approach to test the combined and interactive relationships of the determinants in this particular process model.

The goal of the current study was twofold. First, guided by Belsky’s (1984) process model of the determinants of parenting that impact child development, the current study hoped to broaden the understanding of factors that influence empathic parenting behaviors with older children. Second, an expanded version of Belsky’s model was proposed that included multiple factors of the parent’s contribution to empathic parenting along with contributions from the child and contextual sources of support and stress (see Figure 2). By utilizing an advanced statistical approach such as structural equation modeling (SEM) that allows for the combination of multiple variables that have otherwise been studied independently, the current study also aimed to elaborate and strengthen the validity of Belsky’s theoretical model. More specifically, using existing data from a community-based sample, this investigation employed a variance-based
SEM approach (i.e., partial least squares path analysis) to test the proposed model of the determinants of parenting. The relationship between empathic parenting behaviors and child development such as the child’s psychoemotional functioning was also examined within this model.

Following a review of Belsky’s (1984) process model of the determinants of parenting and the importance of empathic parenting, the literature pertaining to the three domains of influence is discussed in more detail. Various aspects of each domain are reviewed with particular attention to those variables that were included in the expanded model that was tested in the current study. After offering a rationale for the current study, the methods of data collection and statistical analysis are outlined. Finally, the results of the study are presented followed by a discussion of the findings, the limitations of the current study, and the implications for clinical practice and future research.

A Multidetermined, Process-Oriented Model of Parenting

Belsky’s (1984) process model of parenting evolved from studies of the etiology of child abuse and his interest in understanding the individual differences in parental functioning. Combining all the research that examined the impact of single sources of influence on child abuse such as parents’ past abuse history, socioeconomic status, marital quality, parental psychopathology, and difficult child characteristics, Belsky proposed that competent parental functioning is multiply determined. He identified three domains of determinants of parental functioning. These are the personality and psychological resources of the parent, the characteristics of the child, and the contextual sources of stress and support in which the parent-child relationship is embedded. Belsky included the parents’ developmental history as a predictor of the parent’s personality and current psychological well-being. He also referred to a
parent’s level of education and age as parent factors that reflect psychological resources and maturity that impact parenting. Contextual factors discussed by Belsky include the parents’ marital relationship, social network, and work status since these factors can provide emotional and instrumental support or stress as well as guidance for the parent-child relationship. In addition, child characteristics such as temperament, physical health, age and gender were recognized as important influences on parenting.

While Belsky (1984) identified three domains of determinants (i.e., parent characteristics, child characteristics, and contextual factors), he emphasized the central role of parent factors as the primary agent through which child and contextual factors influence caretaking. That is, even though child characteristics and contextual factors such as marital relations or support networks have been shown to contribute to growth-promoting parenting, these factors themselves are influenced by the personality and psychological well-being of the parent. Furthermore, these contextual factors and child characteristics indirectly influence parenting by affecting a parent’s psychological well-being. In this way, parent factors are the most important in buffering the parent-child relationship from stress and other threats to its integrity (Belsky et al., 1986; Hipke, 2002; Mulsow, Caldera, Pursley, Reifman, & Huston, 2002; Pianta et al., 1989).

Positive Parenting

Because Belsky’s (1984) model was developed from research on child maltreatment, this model is particularly strong in predicting parenting that is abusive, hostile, and neglectful (see Cicchetti & Carlson, 1989 for an extensive review). However, Belsky suspected that these same determinants played a role in influencing parenting behavior that falls within the normal range of functioning and fosters healthy child development. In reviewing the literature associated with attachment security in infancy as well as social learning theory related to parenting and prosocial
and antisocial behavior in older children, Belsky and colleagues (1984) concluded that “across childhood, it is parenting that is sensitively attuned to children’s capabilities and to the developmental tasks they face that promotes the kinds of developmental outcomes thought important: emotional security, behavioral independence, social competence, and intellectual achievement” (p. 254). Thus, sensitively attuned and responsive parenting has been the focus of much research related to the determinants of parenting (see De Wolff & van IJzendoorn, 1997) and, ultimately, child adjustment (e.g., Brenner & Fox, 1998; Cowan, Cohn, Cowan, & Pearson, 1996).

**Parental empathy and attuned parenting behaviors.** Empathy has been identified as an important facilitator of sensitively attuned, responsive and supportive caregiving (Baker & Baker, 1987; Belsky et al., 1984; Elson, 1985; Feshback, 1989). Empathy is the ability to decenter from self and to take on the perspective of others without judgment (Allport, 1961, as cited in Wispé, 1987; Mead, 1934, as cited in Wispé, 1987; Rogers, 1961, 1975). While there is some controversy regarding the conceptualization of empathy as a cognitive or affective construct, there is little disagreement about its impact on parenting and child development (see Strayer, 1987). Feshback (1989) takes an integrative approach, stating the following:

Although empathy is defined as a shared emotional response between observer and stimulus person, it is contingent upon cognitive factors. Thus in this integrative-affective model, the affective empathic reaction is postulated to be a function of three component factors: 1) the cognitive ability to discriminate affective cues in others, 2) the more mature cognitive skills entailed in assuming the perspective and role of another person, and 3) emotional responsiveness - that is, the affective ability to experience emotions. . . .
Implicit in this and other models of empathy is the critical requirement of differentiation of self from object. (p. 352)

Rogers (1951) wrote about the importance of parental empathy in creating a supportive emotional climate where a child feels safe exploring their environment, as well as loved, accepted, and valued as an individual of worth, no matter what he or she does. Contemporary psychoanalytic theorists and researchers have also emphasized both the importance of parental empathy (e.g., Sroufe, 1996) and attuned parenting behaviors (e.g., Stern, 1977) as the basis for establishing a secure attachment bond between parent and child that, in turn, is the basis for developing emotion regulation capacities, self-confidence, and interpersonal trust. That is, empathically attuned parenting promotes child self-acceptance and valuing of emotional experiences as useful guides to action and goal attainment, sets the stage for empathy towards others and prosocial behavior, and overall “is conducive to promoting children’s emotional, intellectual, physical, social, spiritual, and creative growth” (Bavolek & Keene, 2001, pp. 6-7; Borduin, Schaeffer, & Heiblum, 1999; Eisenberg & Mussen, 1989; Paivio & Laurent, 2001; Rogers, 1961). Conversely, the absence of a caregiver’s empathic and attuned responses to the child’s needs can have detrimental effects on the parent-child relationship and child development. The latter may include poor self-esteem, lower academic achievement, an increased chance of psychopathology, and poor peer relations (Paivio & Laurent; Ornstein & Ornstein, 1997). In their overview of Kohut’s self-psychology, Baker and Baker (1987) state that a consistent lack of parental empathy results in the child’s inability to develop intrapsychic structures that regulate self-esteem and modulate negative affect, leaving the person overly dependent on those close to them to provide those functions.
Of particular interest in the current study was the relationship between empathic parenting and children’s psychoemotional distress, a relationship which is supported by research. For example, adolescents who perceive their family environment to be more warm and supportive and have a parent that is more attuned to their psychological state are better adjusted emotionally, exhibiting less anxiety, hyperactivity, emotionality, somatization, and behaviors associated with conduct disorder (Barber, Bolitho, & Bertrand, 2001). Similarly, parents with aggressive children who were taught content reflection and empathic responding were successful in reducing their children’s aggressive behavior (Eagle, 2004). Rothbaum and Weisz (1994) conducted a meta-analysis on the relationship between children’s externalizing behaviors (aggression, hostility, and noncompliance) and parenting variables. They discovered that parenting behaviors reflective of empathy, such as parental approval, guidance, motivational strategies (use of positive and fair incentives), and synchrony (acknowledging and cooperating with child’s needs), loaded on the dimension of acceptance/responsiveness and were each negatively related to children’s externalizing behavior. Moreover, when two or more of these parenting variables were combined, the effect size and percentage of studies in which significant links between parenting and child externalizing behavior were found increased as a function of the number of aggregated variables. These findings indicate that parenting behaviors reflective of parental empathy are predictive of children’s psychological well-being, such as emotional adjustment and externalizing behaviors.

In summary, parental empathy and attuned parenting behavior is critical to the parent-child relationship and child development. Therefore, it is important to identify the types of parent, child, and contextual factors that influence empathic parenting. This was one of the primary goals of the current study.
Measurement of empathically attuned parenting. The measurement of empathic parenting spurs confusion and debate. Questions arise regarding the conceptualization and operationalization of empathy and how it is expressed during parent-child interactions across childhood (see Eisenberg & Strayer, 1987a, 1987b; Kilpatrick, 2005; Strayer, 1987).

The manifestation of parental empathy in parent-child interactions has been discussed in the literature and assessed by researchers in a variety of ways, including parental warmth (Borduin et al., 1999; Rogers, 1961), sensitivity and responsiveness (Ainsworth, 1985; Ainsworth, Blehar, Waters, & Wall, 1978; Biringen, 1990, 2000; Hoff, Munck, & Greisen, 2004; McElwain & Villing, 2004), attunement (Dombrowski, Timmer, Blacker, & Urquiza, 2005; Emde, 1980), synchrony (Barber et al., 2001; Feldman, 2007), and emotional availability (Biringen, 2000; Lum & Phares, 2005; Sorce & Emde, 1981) (for general reviews see Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003; Feshbach, 1987). While these behaviors are not necessarily defining criterion of empathy, they are likely to be closely associated with parental empathy and are often used to represent empathic parenting behaviors or attributes. Therefore, a summation of the literature characterizes empathic parenting as child-centered such that the parent is attending to the child’s point of view and feelings and is able to understand and share these feelings (Feshback, 1987). In doing so, parents convey warmth and acceptance, are appropriately attentive and responsive to the children’s behavioral cues and developmental needs, are emotionally available and attuned, avoid imposing their will, and are physically nurturing and supportive of the child’s initiative and developing sense of self (e.g., Borduin et al., 1999; Bretherton, 1987; Collins, Madsen, & Susman-Stillman, 2002; Dunn & Brown, 1994; Dunn, Brown, & Beardsall, 1991; Holigrocki, Frieswyk, Kaminski, Betan, Katsavdakis, & Fantz, 1998; Kochanska, Friesenburg, Lange, & Martel, 2004; Maccoby, 1992;
Repeatedly, these parenting behaviors have been identified as key variables associated with a positive parent-child relationship and positive child outcome across child age (Ainsworth et al., 1978; Keiley, Lofthouse, Bates, Dodge, & Pettit, 2003; Maccoby & Martin, 1983; Rothbaum & Weisz, 1994; Shumow, Vandell, & Posner, 1998).

While empathic parenting has received a great deal of attention in the developmental literature, most of the interest has centered on infants and their caregivers, particularly mothers. This focus on infancy, in part, is a reflection of the predominance of attachment theory that states that attachment security between mother and infant is important to later child development such as reduced risk for behavioral problems (e.g., Tizard & Hodges, 1978), increased popularity among peers (e.g., LaFreniere & Sroufe, 1985; Sroufe, Fox, & Pancake, 1983) and emotional regulation (e.g., Cummings & Davies, 1996; Strayer & Roberts, 2004). As a result, researchers have focused on identifying maternal behavior that is associated with secure vs. insecure mother-infant attachment. In fact, there is an extensive body of research, both cross-sectional and longitudinal (see Bakermans-Kranenburg et al., 2003), that examines the relationship between observed maternal behaviors such as warmth, sensitivity, and responsiveness and infant attachment classification, typically assessed by the Strange Situation observational technique developed by Ainsworth (e.g., Ainsworth et al., 1978). This research has been used to develop interventions to teach parenting skills that promote secure attachments (see Bakermans-Kranenburg et al., 2003).

In most studies using infants, operational definitions of empathic parenting have included measuring levels of synchrony, harmonious responsiveness, and accurate interpretation of infant signals. While a few studies have used questionnaires and interviews as measures of parental
behavior, the vast majority of parental behavior measures that reflect sensitive and responsive parenting have been derived from observations of mother-infant interactions. Some observations were in the home while others were in the lab. Rating scales were developed by the researchers to capture the various aspects of positive parenting that were of interest such as maternal sensitivity, the quality of physical contact, and harmonious interactions (Biringen, 1990), parental responsiveness, structuring of interactions, nonhostility, and nonintrusiveness (Biringen, 2000; Biringen, Robinson, & Emde, 2000; Edelstein et al., 2004; Pipp-Siegel & Biringen, 1998; Volling, McElwain, Notaro, & Herrera, 2002), and parent verbal behavior such as use of praise, description, reflection, and lack of commands and critical statements (Dombrowski et al., 2005). Most of these constructs can be subsumed under the concept of child-centered empathically attuned parenting behaviors.

Efforts to extend the assessment of empathic parenting behaviors beyond infancy have been relatively rare (Barber et al., 2001). Because of developing capacities and changing needs of children as they age, the findings related to empathic parenting behavior during infancy are not necessarily generalizable to interactions between parents and older children. Therefore, there is a need for research that examines empathic and attuned parenting behaviors across childhood and how these behaviors relate to child development at various ages. For example, in infancy, warm, attentive, moderately stimulating, responsive, and nonrestrictive caregiving is considered empathic and critical to secure attachment and later positive outcomes (Belsky & Vondra, 1989). However, as children develop more cognitive, physical, and communicative capacities, and become more autonomous and independent, empathically attuned parenting requires a different array of skills. That is, successful parenting of older children involves conveying warmth and acceptance while increasing the demands for age-appropriate behavior, continuously adapting
processes of control to appeal to the child’s sense of reason and self-concept, fostering self-management and social responsibility while still monitoring their behavior, and maintaining positive bonds while fostering the child’s distinctive sense of self (Baumrind, 1967; Collins et al., 2002; Maccoby & Martin, 1983).

In general, the research that has been conducted regarding empathic parenting with older children supports its importance beyond infancy (e.g., Barber et al., 2001; Hipke, 2002; Luster & Rhoades, 1989; Strayer & Roberts, 2004; Warren, 2003). However, the majority of this research has relied on self-report measures that typically tap into the parent’s childrearing attitudes regarding empathic parenting (e.g., Bavolek & Keene, 2001) and parenting style pertaining to parental involvement, limit-setting and discipline (e.g., Baumrind, 1967; Maccoby & Martin, 1983). Some researchers (e.g., Grotevant & Carlson, 1989) have questioned the use of these self-report measures as reliable and valid assessments of parental empathy, pointing out the lack of contextual or situation-specific information to ground items and the need for lie or social desirability validity scales. The use of observational coding methods can avoid some of these reliability and validity concerns, although these methods have psychometric difficulties of their own (e.g., achieving adequate inter-rater reliability). At the same time, observational coding methods are more likely than self-report measures to tap into the dyadic, reciprocal nature of attuned parent-child interactions that are indicative of empathic sensitivity (Biringen et al., 2000). Therefore, another significant contribution of the current study was the use of an observational coding method to assess empathically attuned parenting with older children (ages 5 to 10 years) who have different capacities and developmental needs than infants and younger children.
While Belsky (1984) used the term “personality” to represent parent factors in his model, he often referred to multiple parent variables such as age, education, self-esteem and psychopathology along with characteristics associated with stable personality traits (e.g., agreeableness, extraversion, neuroticism) (see Belsky, 1984, 1990, 1996; Belsky et al., 1995; Belsky et al., 1984; Belsky & Vondra, 1989). Basically, Belsky and colleagues seemed to be referring to all parent characteristics related to psychological functioning that could impact competent parenting, assuming that a certain level of psychological health and knowledge of children is needed to decenter from self, understand the perspective of the child, and provide positive parenting that is empathic and attuned to each child’s needs (Belsky, 1984; Belsky & Vondra, 1989).

Belsky (1984 and 1990) proposed parent characteristics to be the most important determinants of parenting because they not only directly influence parenting but, can also affect social networks and the context in which the parent-child relationship is embedded (Belsky et al., 1986; Hipke, 2002). That is, to provide empathically attuned parenting and develop adequate support networks that can buffer the parent-child relationship from stress, individuals must be free of excessive fear and inhibition and other types of psychopathology in order to confidently engage with their children and others (Cloninger, 1987; Pianta et al., 1989). Longitudinal data supports this claim. Specifically, characteristics of personality dysfunction and poor psychological well-being in parents (e.g., antisocial personality disorder, emotional instability, alcoholism) predict lower levels of marital adjustment and social support that, in turn, predict later maladaptive parenting behaviors and poorer parent-child relationship quality (Belsky et al., 1986; Hipke, 2002; Pianta et al., 1989).
At the same time, Belsky’s model (1984) also contends that contextual factors influence parenting due, in part, to their impact on parent factors, suggesting a reciprocal relationship between parent and contextual determinants of parenting. That is, while contextual factors influence parent factors that impact parenting, the parent characteristics are also influencing the context in which the parent-child relationship is embedded. In fact, Belsky and other researchers (e.g., Belsky et al., 1995; Kotchick, Dorsey, & Heller, 2005; McLoyd, 1990) have found that parent factors such as current mood and levels of distress mediate the relationship between contextual sources of stress (e.g., those associated with lower socio-economic status) and deficits in parenting. As stated by Dix (1991), “parents’ occupations, marital relations, and other stresses and supports influence the quality of parenting because they influence the emotions parents experience with children” (p. 3-4). That is, the impact that life events and contextual sources of stress or support have on parenting depends on the parents’ affective reactions to those events, more than on the events per se (Pianta et al., 1989; Sarason, Shearin, Pierce, & Sarason, 1987).

In this way, while parent characteristics can influence contextual factors such as available social support and job stress (e.g., Hipke, 2002; Belsky & Vondra, 1989), it is the parent’s emotional reaction to these contexts that directly affects parenting (Belsky et al., 1995; Kotchick et al., 2005).

To better understand this reciprocal relationship between parent and contextual determinants of parenting, it would seem useful to assess a parent’s personality separately from their psychoemotional functioning and examine each factor’s unique relationships with contextual factors of stress and support. Ultimately, both direct and indirect influences of parent and contextual factors on empathic parenting could be measured. While multiple researchers inspired by Belsky’s (1984) model (e.g., Belsky et al., 1986; Belsky, 1996; Hipke, 2002; Meyers,
1999; van Bakel & Riksen-Walraven, 2002) have tried to shed light on the relationship between a variety of parent characteristics (e.g., age, intelligence, ego-resiliency, personality traits) and specific parenting practices, the majority of these researchers have typically chosen one or two aspects of adult psychological resources and used hierarchical multiple regression analyses or mediated/moderated path analyses to determine the unique or combined variance accounted for by these variables in predicting some type of parenting behavior or child outcome (for a further discussion of this issue, see Belsky & Barrends, 2002). While this is informative, it does not examine the distinct relationship that different systematic taxonomies of parent characteristics may have with other influential factors in the parenting system. Thus, rather than lumping together personality traits, factors of psychoemotional functioning such as depression and alcoholism, and other parent characteristics such as age and education to represent “parent personality” (Belsky, 1984), it would be valuable to separate these parent factors and try to better understand how they may uniquely interact with other determinants in the model to predict empathic parenting. Specifically, creating two separate constructs that systematically measure parent personality traits and the parent’s psychoemotional functioning would be of particular interest. It may be that a parent’s personality traits function differently in predicting parenting behaviors than their psychoemotional functioning (e.g., depression, level of distress) and other parent factors such as parent age and education. In fact, Belsky and colleagues found that the relationship between parent personality and parenting is mediated by other parent factors such as parent’s mood and emotional experience (Belsky et al., 1995).

The role that a parent’s childrearing beliefs and attitudes play in parenting has also been a noteworthy area of research (e.g., Crnic & Low, 2002; Darling & Steinberg, 1993; Luster, 1998; Sigel & McGillicuddy-De Lisi, 2002). Although Belsky (1984) does not specifically mention
the role that these parental cognitions have in his model, an extensive body of literature indicates that childrearing beliefs and attitudes influence parenting behaviors (e.g., discipline methods, parental involvement) that are critical to child development (Crnic & Low, 2002; Luster, 1998; Darling & Steinberg, 1993; Sigel & McGillicuddy-De Lisi, 2002). Therefore, the inclusion of parenting beliefs and attitudes as a separate parent factor that influences empathically attuned parenting would broaden and strengthen Belsky’s process model of the determinants of parenting.

Following is a review of the literature pertaining to the various parent factors included in the proposed expanded model that were tested in the current study. Five separate parent constructs are identified, including the parent’s developmental history, personality traits, psychoemotional functioning, childrearing beliefs and attitudes, and age. Each of these parent factors is proposed to have a unique pathway in predicting empathically attuned parenting behaviors.

Parent’s developmental history. Theories of personality development such as interpersonal, self-psychology, and object-relations perspectives (e.g., attachment theory) suggest that personality develops largely from interactions with primary caregivers. From these interactions, we develop models of self, others, and the world that continue to guide our behaviors and interactions with others to meet basic needs of connection and competence (Bowlby, 1969, 1973, 1980). From this standpoint, early experiences with caregivers shape one’s developing personality, psychological resources, and beliefs that one has as an adult that could affect how an individual parents their own children (Belsky, 1984; Belsky et al., 1984; Belsky et al., 1986; Bogaerts, Vanheule, & Declercq, 2005; Bornstein, 1992; Doron & Kyrios, 2005; Hogue, 1999; Main & Goldwyn, 1984). Moreover, one’s developmental history and
current personality are believed to influence the relationships one has as an adult [e.g., quality of one’s marital relationship (Riggs & Kaminski, 2010)], extent of social networks that could provide support for or add stress to the parent-child environment (see Grossmann, Grossmann, & Watters, 2005; Shaver & Haven, 1993; and Sroufe & Fleeson, 1986 for reviews).

The effects of child maltreatment in particular are relevant to a person later providing empathically attuned parenting to their own children. As stated by Paivio and Laurent (2001):

Child abuse and neglect are considered traumatic empathic failures that can have lasting effects on development. The experiences engender intense negative emotions, and, at the same time, these feelings and the associated needs are ignored, invalidated, or violated …. With minimal support, children learn few skills for managing intense negative emotions, which results in problems with both emotional underregulation and overcontrol. (p. 215)

There are long-term effects of empathic failures of child abuse. Difficulties regulating emotions can have a disorganizing effect that interferes with learning, performance and social relations (Paivio & Laurent, 2001). In fact, adult survivors of childhood abuse often report continued difficulties regulating and processing emotions, poor psychoemotional functioning, and interpersonal difficulties (Herman, 1992). Likewise, rejected or neglected children, more so than accepted children, are more likely to grow up to be aggressive and hostile, to have low self-esteem, to be dependent or defensively independent, to be emotionally unstable, and to have a negative worldview (Palermo, 2004; Pianta et al., 1989; Rohner & Rohner, 1980). Therefore, parents who suffer abuse themselves as children are less likely to develop the capacity for positive sustained relationships and to provide empathically attuned parenting (Feshbach, 1987; Heinicke, 2002; Paivio & Laurent, 2001). In addition, abused parents are more likely than
parents without abuse histories to go on to abuse their own children (Belsky & Vondra, 1989; Hunter, Kilstrom, Kraybill, & Loda, 1978; Leahy, 1991).

In contrast, parents who report a history of a positive relationship with their caregiver(s) have more adaptive personality traits (e.g., higher self-esteem and lower hostility), less anxiety, and more satisfying interpersonal relationships as adults (Belsky et al., 1986; Biringen, 1990; Cowan et al., 1996). In turn, parents who were identified to have secure models of attachments with their caregivers are warmer, more responsive and attuned to their child’s emotional state while interacting with their children, and more likely to develop secure attachment relationships with their own children in comparison to parents who report an insecure attachment relationship with their parents (Belsky et al., 1986; Haft & Slade, 1989; Main, Kaplan, & Cassidy, 1985).

A parent’s developmental history also influences childrearing beliefs and attitudes that impact parenting behaviors (see Holden, 1995; McGillicuddy-De Lisi & Sigel, 1995), supporting the intergenerational transmission of childrearing beliefs and attitudes. That is, a parent’s beliefs and attitudes about children’s and parents’ roles and responsibilities related to child development are influenced by one’s experience with his or her own parents (along with other factors such as education and experience with other children, adults, social institutions and culture) (see McGillicuddy-De Lisi & Sigel, 1995). The childrearing beliefs and attitudes that have received the most attention in the empirical literature are parents’ attitudes toward discipline and physical punishment, in particular. For example, parents’ attitudes regarding harsh parenting, including physical punishment and yelling, are correlated with their reports of their own parents’ harsh parenting style (Simons, Whitbeck, Conger, & Wu, 1991). Other findings support the notion that exposure to physical abuse in childhood may lead to the development of personal norms and attitudes that increase the risk of transgenerational persistence of physical abuse, particularly
among those individuals who do not label their own experience as abusive (Bower-Russa, Knutson, & Winebarger, 2001).

Although a significant amount of research supports the intergenerational transmission of attachment style and incompetent parenting (see Cicchetti & Carlson, 1989), the majority of abused children do not grow up to be abusive parents (Sroufe, Egeland, Carlson, & Collins, 2005). That is, a history of childhood maltreatment is only one risk factor among many in the prediction of child abuse, with only an estimated transgenerational persistence rate approaching 30% (e.g., Zaidi, Knutson, & Melm, 1989). In fact, there is significant evidence that many/most individuals who have suffered abuse break the cycle, parent competently, and develop positive relationships with their children (Egeland, Jacobitz, & Sroufe, 1988).

Factors that help break the cycle of abuse include receiving emotional support from a nonabusive adult during childhood, participating in therapy, and having had a nonabusive and more stable, emotionally supportive, and satisfying relationship with a mate (Egeland et al., 1988). In contrast, abused mothers who reported abusing their own children experienced significantly more life stress and interpersonal distrust and were more anxious, dependent, immature and depressed. Moreover, parents with histories of child abuse who are more likely to break the cycle of abuse not only refrain from negative parenting behaviors but demonstrate advance positive parenting behaviors such as emotional synchrony (Austin, Kaminski, & Martin, 2009). These findings suggest that even though a parent may have suffered abuse as a child, those who have acknowledged and worked through the difficulties in childhood, have experienced positive interpersonal relationships, and have rejected the child-rearing styles or values of their parents are possibly protected against continuing the pattern of abuse and poor relationships with their own children (Main & Goldwyn, 1984). This goes against the
deterministic view of the effects of child abuse and stresses the importance of the parent’s current psychological functioning and attitudes and the availability of emotionally supportive relationships in affecting their ability to provide positive, nonabusive parenting to their children.

**Parent personality.** Personality evolves from an interaction of one’s innate disposition (i.e., nature) and developmental experiences (i.e., nurture) and has been defined as an enduring dispositional pattern of perceiving, thinking, feeling, and behaving over time and space that distinguishes a person from another (see Lerner, 1988). Therefore, by definition, a person’s personality should be systematically related to the way in which they parent their children. Ironically, the link between parent personality and parenting behaviors has not been examined as rigorously as one might expect, considering theoretical claims of its importance. Moreover, most researchers that have examined the relationship between personality and parenting have not used systematic taxonomies of personality, but instead, have focused on one or two characteristics related to psychological functioning such as ego-development (Hauser, Powers, Noam, & Jacobson, 1984), impulsivity, antisocial personality traits, and emotional instability (e.g., Hipke, 2002). This reliance on crude measurements of parent personality calls for a more comprehensive approach to the measurement of personality and its role in parenting.

The five-factor model of personality (e.g., neuroticism, extraversion, openness, agreeableness, and conscientiousness) is one of the leading empirically derived taxonomies of personality. While it has been applied to research linking parent personality, parenting, and child outcomes (e.g., Clark, Kochanska, & Ready, 2000; Kochanska et al., 1997; Kochanska et al., 2004; Metsäpelto & Pulkkinen, 2003; Prinzie, Stams, Deković, Reijntjes, & Belsky, 2009), it has not been used to the extent expected based on its prominence in the field of personality. Moreover, there is unequal attention to all five traits, with the most research focusing on the
impact of neuroticism (i.e., prone to emotional instability) (see Belsky & Barrends, 2002; Vondra, Sysko, & Belsky, 2005).

Overall, results using measures that assess the dimensions of the Big Five model suggest that higher scores on agreeableness, openness, and extraversion, and lower scores on neuroticism are correlated with more empathic and attuned parenting behaviors (Clark et al., 2000; de Hann, Prinzie, & Deković, 2009). For example, structural equation modeling revealed that higher openness to experience, lower neuroticism, and higher extraversion were positively related to parental nurturance, while lower openness was positively associated with parental restrictiveness (Metsäpelto & Pulkkinen, 2003). Similarly, mothers who were identified to have a “positive” personality, which included being less neurotic, more extroverted, and more agreeable, reported less parenting stress than mothers with a “negative” personality (Mulsow et al., 2002). Moreover, neuroticism and disagreeableness in mothers is negatively correlated with warm, responsive parenting and shared positive emotions with their children and positively associated with power-assertive discipline such as yelling, spanking, and the expression of negative affect during interactions with their children (Kochanska et al., 1997; Kochanska et al., 2004). Conversely, conscientiousness is positively correlated with attentiveness (Kochanska et al., 2004). Specific to fathers, neuroticism is positively associated with parenting stress while extraversion and agreeableness in fathers is negatively correlated with parenting stress (Belsky et al., 1995). In addition, highly agreeable fathers who are more open to new experiences were more responsive to and had more shared positive interactions with their child than fathers who were more disagreeable and set in their ways (Kochanska et al., 2004).

Other researchers have examined the relationship between parenting and other personality characteristics such as Type A traits (Forgays, 1992), impulsivity and emotionality
(Hipke, 2002), and mistrust, manipulativeness, aggression, dependency, entitlement, and workaholism (Kochanska et al., 2004). Results indicate that mothers who endorsed Type A traits, such as being time-pressed, wanting to be in control, and tending to express aggression/hostility, reported higher levels of child-related stress and personal stress than mothers who were identified as Type B women (Forgays). Mothers who described themselves as more mistrustful, manipulative, cynical, and suspicious developed less positive and responsive relationships with their children over four years, while mothers describing themselves as more dependent were more responsive and had more positive affective interactions with their child (Kochanska et al., 2004). Additionally, impulsivity in fathers was directly related to poor discipline consistency (Hipke).

The relationship between personality disorders and parenting behaviors has been less researched. The Diagnostic and Statistical Manual of Mental Disorders Fourth Edition-Text Revision (DSM-IV-TR; APA, 2000) defines a personality disorder as “an enduring pattern of inner experiences and behavior that deviates markedly from the expectations of the individual’s culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment” (p. 685). This maladaptive pattern of inner experiences and behavior “manifests in at least two of the following areas: cognition, affectivity, interpersonal functioning or impulse control . . . and leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning” (APA, 2000, p. 686).

Often, parents with personality disorders have a history of dysfunctional attachment in their own childhoods (Bornstein, 1992; Doron & Kyrios, 2005). Therefore, it seems reasonable to assume that parents with disordered personality traits may have difficulty providing empathically attuned parenting that requires a significant level of interpersonal skills, the
capacity to control impulses and delay gratification of one’s own needs, and the capacity to tolerate angry feelings and children’s distress (Adshead, Falkov, & Göpfert, 2004).

Of particular interest to the current study is the influence of some of the personality disorders identified in the *DSM-IV-TR* (APA, 2000). The *DSM-IV-TR* groups the ten personality disorders into three clusters based on descriptive similarities. Cluster A includes schizoid, schizotypal, and paranoid personality disorders, which are similar in that these individuals often appear odd or eccentric and are distrustful of others, detached, and experience acute discomfort in close relationships. Cluster B includes the narcissistic, antisocial, histrionic, and borderline personality disorders. These individuals want attention and affection from others, but often have strained relationships due to their tendencies to be dramatic, unempathic, hostile, emotional, or erratic. In contrast, Cluster C includes avoidant, dependent, and obsessive-compulsive personality disorders and represents individuals who are anxious, fearful, and/or preoccupied to the extent that it interferes with important areas of functioning such as social and occupational roles. In comparison to the five-factor model of personality traits, the classification system of the personality disorders outlined in the *DSM-IV-TR* (APA, 2000) is clinically derived rather than theoretically or empirically based.

Most research involving these personality disorders and parenting focuses on the development of these disordered personality patterns (e.g., Bornstein, 1992; Doron & Kyrios, 2005; Hogue, 1999). That is, researchers ask adults with personality disorders to report on their past and current relationship with their own parents and describe the parenting they received. Very few researchers have examined how these personality styles in parents influence parenting behavior, specifically empathically attuned parenting. Those who have studied disordered personality and parenting behaviors have found personality disorders to be associated with
maladaptive parenting behaviors. For example, narcissistic, antisocial, and borderline personality disorders in parents are associated with an increased risk of violence to others (Widiger & Trull, 1994) that could result in child abuse. In addition, antisocial and schizoid personality disorders are typical among child molesters in comparison to a normal (non-molesting) control group (Bogaerts et al., 2005). In a case study approach designed to describe maternal behavior of mothers with borderline personality disorder, all of the mothers reported doubt about their effectiveness as a parent (Schacht, 2004). These borderline mothers also reported that mood instability, depression, and withdrawn behaviors related to their personality disorder had negatively influenced their parenting, resulting in increased responsibilities placed on their children. Similarly, schizoid, schizotypal, histrionic, and passive aggressive characteristics in parents are highly associated with dysfunctional parenting beliefs such as reversing parent-child roles and placing increased responsibilities on children (Gallant, Gorey, Gallant, Perry, & Ryan, 1998). Even parents with Cluster C disorders can experience consequent parenting problems. For example, a case study revealed that a mother with obsessive-compulsive characteristics who focused on the tidiness of her house tended to restrict her children from exploring their environment by keeping them in a playpen or car seat for most of the day (Luster, 1998).

A parent’s personality shapes not only parental behavior but the way adults function in other roles in their lives that are presumed to affect the way in which parents care for their children and thereby the child’s development (e.g., Adshead, 2003; Adshead et al., 2004; Belsky, 1984; Heinicke, 1984). Individuals with personality disorders often have other psychological problems, most often mood disorders and problems with substance abuse that could impact parenting (see APA, 2000 for more details). In addition, people with difficult personalities tend
to have strained, unstable, or minimal relationships (Segrin, 2001) that could otherwise provide emotional and instrumental support to the parent. Moreover, people who tend to distrust others and are uncomfortable in close relationships (characteristics associated with Cluster A personality disorders) may refuse help from family members or mental health services.

While characteristics associated with all ten personality disorders identified in the *DSM-IV-TR* (APA, 2000) would be expected to influence empathic parenting, the current study was most interested in the personality characteristics associated with the paranoid, schizoid, schizotypal, antisocial, borderline, dependent, and avoidant personality disorders. The exclusion of the characteristics associated with narcissistic, histrionic, and obsessive-compulsive personality disorders was based on various factors, mainly related to measurement issues. Therefore, the rationale for this decision is discussed in more detail in the METHOD section to follow.

*Parent psychoemotional functioning.* In addition to parent personality, other characteristics related to the parents’ psychoemotional functioning have received a great deal of attention in the parenting literature. The link between maternal depression, parenting, and child outcome has been the most studied (e.g., Jacob & Johnson, 1997a; Lovejoy, Graczyk, & O'Hare, 2000), followed by other parent psychopathology such as anxiety, alcoholism, and schizophrenia (Jacob & Johnson, 1997b; Sher, Walitzer, Wood, & Brent, 1991; see Göpfert, Webster, & Seeman, 2004). Other indicators of parent psychoemotional functioning such as self-esteem, self-efficacy, general distress, and stress specific to being a parent have been studied to a lesser extent but have been found to be related to parenting behaviors. Of particular interest to the current study is the relationship between empathically attuned parenting and maternal depression, general distress, and distress associated with becoming a parent.
Depression impacts the parent-child relationship and ultimately the child behavior by interfering with a parent’s ability to relate to their children in a positive and sensitive manner that would convey empathy (e.g., Jacob & Johnson, 1997a). For example, research on verbal and nonverbal communication of depressed individuals show that in comparison to their non-depressed counterparts, people who are depressed talk quieter and slower, pause more frequently when speaking, take longer to respond, speak in a monotone voice, make more negative statements, have less animated facial expressions, express less emotion, and make less eye contact when interacting with others (see Segrin, 2001). This communication style is synonymous with insensitive, emotionally unavailable, and unempathic parenting behavior that would have a negative impact on the parent-child relationship. In fact, numerous investigations have shown that depressed parents tend to be less affectionate, responsive, involved and spontaneous and more punitive, irritable, disorganized and intrusive than non-depressed parents (e.g., Burke, 2003; Fleming, Ruble, Flett, & Shaul, 1988; Gelfand & Teti, 1990; Hamilton, Jones, & Hammen, 1993; Jacobs & Johnson, 1997a; Leadbeater, Bishop, & Raver, 1996; Romano, Tremblay, Boulerice, & Swisher, 2005). Similarly, mothers who report higher levels of depression and anxiety are less likely to provide consistent discipline and appropriate structure and guidance when interacting with their children than mothers who report low symptoms of depression and anxiety (Crawford & Manassis, 2001; Rodgers, 1998). In turn, during mother-child interactions, children of depressed mothers express more negative affect, are generally tense and irritable, spend less time looking at their mother, look less happy, and overall exhibit behavioral patterns indicative of rejection in comparison to children who interact with their non-depressed mothers (e.g., Cohn, Campbell, Matias, & Hopkins, 1990). Ultimately, children of depressed parents are at a much higher risk for behavioral, emotional, and cognitive problems
than children of non-depressed parents (e.g., Downey & Coyne, 1990; Pettersson & Albers, 2001).

While the parent may not be experiencing symptoms of depression, having a general feeling of being overwhelmed and stressed can also influence parenting. That is, parents who report high levels of stress exhibit significant parenting deficits such as harsh and erratic discipline, inappropriate expectations of children, a lack of warmth while interacting with their children, and less sensitivity to their infants’ behavioral cues (Belsky et al., 1995; Crnic, Greenberg, Ragozin, Robinson, & Basham, 1983; Dix, 1991; Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000).

Distress specific to the parenting role refers to the impaired sense of parenting competence, stress associated with the restrictions placed on other life roles, feeling isolated and lonely and general dissatisfaction with life since becoming a parent (Abidin, 1995). Research has shown that parents satisfaction and sense of competence in the parenting role impacts parenting behavior (Donovan, Leavitt, & Walsh, 1990; Locke & Prinz, 2002; Thompson & Zuroff, 1999). For example, Thompson and Zuroff (1999) found that mothers who reported being dissatisfied with their role as a parent tended to lack maternal warmth, which in turn predicted insecure attachments in their daughters. Specific to parenting competence, Donovan et al. (1990) found mothers who reported more competence in the parent role were more responsive and displayed less defensive behaviors while interacting with their children. In a longitudinal study, de Hann et al. (2009) found a parent’s sense of competence in the parenting role to be an important mechanism that can explain the link between a parent’s personality and parenting behaviors. Specifically, parents who were extraverted and agreeable had a higher sense of parental competence which then predicted the parent being more warm and less likely to
overreact (e.g., yell and scream) when interacting with their children. In this way, parents’ sense of competence in their role as a parent mediated the relationship between their personality and parenting behaviors.

*Childrearing beliefs and attitudes.* Another parent factor that has been correlated with parenting behaviors and child outcome are childrearing beliefs and attitudes (see Holden & Buck, 2002; Sigel, McGillicuddy-De Lisi, & Goodnow, 1992). A parent’s beliefs and attitudes about childrearing practices are of interest because such cognitions are intrinsic to the exercising of parental responsibilities (Sigel & McGillicuddy-De Lisi, 2002), affect the emotional climate of the parent-child relationship, and can influence parenting behaviors (Crnic & Low, 2002; Luster, 1998; Darling & Steinberg, 1993). As mentioned previously, childrearing beliefs and attitudes are influenced by one’s experience with his or her own parents (Simons, Beaman, Conger, & Chao, 1992), along with other factors such as education and experience with other children, adults, social institutions and culture (see McGillicuddy-De Lisi & Sigel, 1995). In fact, using a longitudinal research design, Woodward and Fergusson (2002) found that the psychosocial profile of mothers at greatest risk of physically punishing or mistreating their child was that of a young woman with a personal history of strict parenting who entered motherhood at an early age, and who was attempting to parent a behaviorally difficult child within a dysfunctional family environment characterized by elevated rates of inter-parental violence and childhood sexual abuse. Similarly, exposure to previous physical discipline increases a positive attitude towards its use (Deater-Deckard, Lansford, & Dodge, 2003; Jackson et al., 1999).

While most researchers study the direct relationship between childrearing attitudes and beliefs and child adjustment (e.g., Shumow et al., 1998), this relationship may be better understood when parenting behavior is taken into account. In fact, in a review of empirical
findings, Darling and Steinberg (1993) concluded that parental beliefs and values regarding childrearing were direct determinants for parental practices and behaviors and indirect determinants for child outcomes. Specific childrearing beliefs about standards of performance for the child, parental empathy regarding children’s needs, and discipline measures are of particular interest to empathically attuned parenting behavior since less favorable beliefs and attitudes pertaining to these categories are risk factors for child maltreatment (Bavolek & Keene, 2001).

Inappropriate expectations that parents have for their children refer to the parents’ tendency to overestimate the typical skills and abilities of children at specific developmental levels (Bavolek & Keene, 2001). Mothers who have inappropriate expectations of their children tend to engage in less favorable parenting behaviors. For example, mothers who had unrealistic expectations of children (expected too much of children too soon) when assessed prenatally, provided less supportive care for their children when assessed at 36 and 54 months (Luster, 1998). Similarly, mothers who believe strongly in early mastery of developmental skills and the importance of formal academic education for children received higher ratings on anxiety, rigidity, and criticalness from observers than mothers who did not hold these beliefs (Hyson, Hirsh-Pasek, Rescorla, Cone, & Martell-Boinske, 1991).

Closely related to expectations placed on children are parents’ levels of empathic awareness of children’s needs. A parent’s attitude regarding child-centered care that attends to the needs of the child plays a critical role in organizing sensitively attuned and responsive behaviors during parent-child interactions (Dix, 1992). In fact, mothers who believe that they can spoil their children by being responsive and sensitive to their needs and who endorse childrearing attitudes and beliefs that are not child-centered provided toddlers with less
supportive care (Luster, 1998; Luster & Rhoades, 1989). Conversely, mothers who scored higher on self-report measures of conscientiousness and empathy provided more responsive and consistently attuned parenting (Kochanska et al., 2004). Moreover, the degree to which mothers endorse an authoritative parenting style that encourages a child to share their feelings was positively correlated with asking questions and praising their child during a teaching task (Vargas & Busch-Rosnagel, 2003). Similarly, using partial least squares analysis, Strayer and Roberts (2004) found that a parent’s report of emotional empathy positively predicted reports of parenting behaviors that encourage a child’s emotional expressiveness and independence, and negatively predicted authoritarian parenting behaviors and the use of anxiety and guilt to control children. As a result, children whose parents reported taking their children’s needs into account scored higher on self-concept and lower on observed aggression than children of parents who had lower empathy scores (Kaminski et al., 2009; Warren, 2003).

The link between parenting behavior and parenting beliefs regarding discipline techniques has been the most studied (see Cipani, 2004; Wissow, 2002). As would be expected, beliefs in the value and benefits of corporal punishment as a means of discipline are correlated with higher reports of spanking (Ateah & Durrant, 2005; Holden, Coleman, & Schmidt, 1995) and increased physical abuse (Corral-Verdugo, Frias-Armenta, Romero, & Munoz, 1995). Bower-Russa et al. (2001) found that a history of severe physical punishment as a child, failure to acknowledge an abusive history when it had occurred, and adult attitudes regarding physical discipline were all uniquely associated with selecting more punitive disciplinary strategies when individuals were faced with child misbehavior in an analog parenting task. The use of verbal and corporal punishment has harmful effects on children in that it is associated with increased behavior problems (Brenner & Fox, 1998; Dadds, 1987) and is implicated as the first step in a
developmental sequence that leads to antisocial behavior (Patterson, DeBaryshe, & Ramsey, 1989).

*Parent age.* Psychological resources such as the wisdom and maturity that comes with age are also important parent factors to examine regarding parenting. In fact, studies comparing the parenting practices of teenage and older mothers such as the quality of the home environment provided, the quality of mother-child interactions, and the attachment style of the child, often find differences favoring the older, more mature mothers (Baharudin & Luster, 1998; Luster & Mittelstaedt, 1993). For example, in a study addressing the links between maternal childbearing age and parenting behaviors among 1,702 low-income mothers participating in the Early Head Start Research and Evaluation Project, teenage mothers were significantly less supportive, more detached, more intrusive, and more negative/hostile with their 14-month old infants than older mothers (Berlin, Brady-Smith, & Brooks-Gunn, 2002).

While parent age may be indicative of parent maturity that influences parent behavior directly, a parent’s age has also been associated with childrearing beliefs and attitudes that can impact parenting. For example, regardless of race, teenage mothers are more likely to endorse parenting beliefs consistent with an authoritarian parenting style that stresses obedience and relies on power-assertion (Kohen & Brooks-Gunn, 2001, as cited in Moore & Brooks-Gunn, 2002). Teenage mothers have less knowledge of child development and age-appropriate child behaviors and less optimal attitudes about childrearing related to feeding, teaching, early stimulation, and discipline than older mothers (Field, Widmayer, Stringer, & Ignнатoff, 1980). Overall, a parent’s age and the knowledge that comes with experience may influence parenting behavior directly as well as indirectly by way of its relationship to child-rearing attitudes and beliefs.
At the same time, it is important to note that studies of custodial grandparents have linked increased parental age with less adaptive parenting attitudes, likely due to cohort effects (Kaminski, Casto, Hayslip, Wilson, & Anton, 2005; Kaminski, Hayslip, Wilson, & Casto, 2008). However, the problem of a curvilinear relationship between parent age and adaptive parenting attitudes is not likely to appear in studies of traditional parents of children within a limited age range such as the current one because few parents are likely to be old enough for a cohort effect to be apparent.

**Child Factors and Empathically Attuned Parenting**

There is strong evidence that children actively influence the manner in which their parents treat them and the nature of the emerging parent-child relationship (Belsky et al., 1984; Crnic & Low, 2002; Kochanska et al., 2004). Simply consider the variation in parenting by the same adult with their different children (Feinberg & Hetherington, 2001). Belsky et al. (1984) proposed that there are four primary child characteristics that exert the greatest influence on parenting: age, gender, temperament, and physical health. While some of these factors will be discussed further (temperament and health), it is important to note that Belsky (1984, 1990) believes child characteristics to be the least effective in buffering the parent-child relationship from threats to its integrity. That is, while child characteristics are influential, the parent’s personality and psychological resources as well as the contextual factors surrounding the parent-child relationship are more important buffers against poor parenting. For example, researchers (Hunter et al., 1978) examining the antecedents of child abuse and neglect in premature infants found that 9 out of 10 parents who ultimately maltreated their premature infants (considered a difficult child characteristic) had themselves been abused as children and had an ill-defined, poorly-integrated view of their own experiences. This suggests that parents’ developmental
history and resulting personal resources may have more influence on competent parenting than child characteristics such as prematurity. Similarly, higher perceived control over caregiving, increased self-esteem, and higher self-efficacy in parents buffers the adverse effect of difficult child behavior on parenting behaviors (Bugental, Blue, & Cruzcosa, 1989; Jackson, 2000; Vitanza, 1995/1996). This further supports the notion that characteristics of the parent are the most influential determinant of parenting and buffer the effect of child characteristics (Bates & Pettit, 1981).

*Temperament*. Temperament has been defined as behavioral proclivities that are “neither immutable nor completely plastic,” (Belsky et al., 1984, p. 263). This elusiveness regarding the plasticity of a child’s temperament, in combination with the reliance on correlational data, leaves room for debate regarding the direction of influence between a caregiver and a child. For example, some theorists have proposed that infants’ style of affect regulation reflects infants’ temperamental style such that some infants may naturally be better able to regulate emotions than others (Rothbart & Derryberry, 1981, as cited in Putnam, Sanson, & Rothbart, 2002). Other theorists contend that infants whose emotional needs are met by caregivers may develop better regulation skills than those whose caregivers are unresponsive or rejecting (Braungart-Rieker, Garwood, Powers, & Wang, 2001). Thus, it is unclear whether an infant’s affect regulation make sensitive parenting more likely to occur or if sensitive parenting promotes infant affect regulation behaviors. Although the debate surrounding the causal direction between parent and child behavior continues, there is enough research to support a general consensus that “the infant’s temperament regulates and is regulated by the actions of others from the earliest hours” (Rothbart, 1989, p. 195) such that a reciprocal relationship exists.
Much evidence indicates that parents’ perception of their child as easy or difficult to soothe is related to parent behavior and the parent-child relationship (e.g., Jackson, 2000). Observer ratings of child temperament are also correlated with parenting behavior. For example, observers’ ratings of an infant’s proneness to joy is linked to more attuned and empathic parenting, including maternal responsiveness, consistent tracking, and shared positive affect between mother and child (Kochanska et al., 2004). In contrast, children rated to have more difficult temperaments, such as negative mood, high activity level, proneness to anger, and inclination to disobey, evoke from parents behavior that is less responsive, more adversarial and controlling, and designed to reduce the child’s aversiveness (Bell & Chapman, 1986; Kochanska et al., 2004; Putnam et al., 2002; van den Boom & Hoeksma, 1994). Moreover, highly extraverted mothers were more likely to engage in power-assertive parenting when rearing children with more difficult temperaments, but not when rearing temperamentally easier toddlers (Clark et al., 2000).

While temperament may directly influence parent-child interactions, it has also been shown to affect parent stress levels (e.g., Jackson, 2000; Mulsow et al., 2002; Ostberg & Hagekull, 2000), which suggests an indirect relationship to parenting (Belsky et al., 1995). That is, a child’s temperament is suspected to affect the parent’s patience and physical stamina required to manage the child (Belsky et al., 1984) that, in turn, could affect empathically attuned parenting that promotes child development. Furthermore, for parents of children with more difficult temperaments, the importance of social networks and other contextual factors that can provide more instrumental and emotional support may be critical to buffering parental distress caused by difficult children that require more time and energy.
Ultimately, the relationship between parent and child is reciprocal such that the child’s temperament affects the parent behaviors that, in turn, can predict child adjustment. For example, research shows that the interaction of child temperament, parent depression, parenting behaviors, and family environment factors are among the strongest predictors of internalizing and externalizing behaviors (e.g., Bates, Pettit, Dodge, & Ridge, 1998). Likewise, in a study that examined the relations between preschool children’s attachment security, temperament, and peer relations, attachment security was positively associated with child temperament, and both attachment and temperament made significant and unique contributions to reports of peer acceptance (Szewczyk-Sokolowski, Bost, & Wainwright, 2005).

A child’s temperament can also directly influence his or her later development (van Lieshout, 2000). In fact, recent longitudinal work is consistent with the conclusion that individual differences in temperamental emotionality and regulation predict important outcomes in later childhood, adolescence, and adulthood, such as social competence with peers, emotional and behavioral problems, and self-concept (see Eisenberg, Fabes, Guthrie, & Reiser, 2002; Goldsmith, Aksan, & Essex, 2001). Likewise, hyperactive children have been found to have more conduct, learning, personality and emotional problems than normal children (Barkley, Fischer, Edelbrock, & Smallish, 1991; Befera & Barkley, 1985).

Ultimately, it seems that the interaction, or “goodness of fit,” between child temperament and parenting behaviors predict child adjustment (Lerner, 1988; Putnam et al., 2002). For example, for girls, difficult temperament (as reflected by noncompliance) was predictive of later behavior problems only when combined with parental rejection (Shaw et al., 1998). Similarly, in summarizing the results of multiple studies, Putnam et al. (2002) state that “temperament characteristics such as anger, emotion dysregulation, and negativity are most likely to lead to
maladaptive outcomes when parents are interfering, negatively dominant, or power assertive” (p. 267). These findings provide further support for the value of empathically attuned parenting that is focused on the specific needs of the child in creating an advantageous environment for the child.

Children with special needs: Physical, mental, and behavioral difficulties. The negative impact of children with disabilities or illnesses on parental stress and parent-child interactions has also been examined (see Goldberg & De Vitto, 2002; Hodapp, 2002; Hodapp & Ly, 2005). Because sick children require more energy, it is not surprising that research shows that mothers of children with special needs (e.g., prematurity, autism, mental retardation, epilepsy, etc.) have increased levels of parenting stress when compared to mothers of healthy children (e.g., Krauss, 1993; Levin & Banks, 1991). Moreover, Solnit and Stark (1961, as cited in Hodapp, 2002) proposed that parents of children with any kind of defect often experience periods of mourning that occur in response to the birth of the defective child and may reoccur in response to the child’s on-going limitations and failures to meet developmental milestones (Wikler, 1986). Similarly, Olshansky (1962, as cited in Hodapp, 2002) noted that most parents of mentally retarded children experience chronic sorrow throughout their lives.

In addition to increased parental stress and feelings of sorrow, the special needs of children with disabilities or illnesses also impact the dynamics of parent-child interactions that can result in less empathically attuned parent-child interactions. For example, children who are deaf or hard of hearing have been described as less responsive, less active, and less engaging while interacting with their hearing mothers (Koester, 1995). At the same time, however, the mothers of these hearing-impaired or deaf children have been described as more intrusive, rigid, and negative, and less likely to respond to their child’s focus of attention or topic choice (e.g.,
Lederberg & Mobley, 1990; Meadow-Orlans, 1997). Similarly, parents of children with autism and Down syndrome are more intrusive, directive, and controlling while interacting with their children (Marfo, 1990; Tannock, 1988; Watson, 1998). While these types of parenting behaviors may be indicative of less favorable parent-child interactions, this may be a reflection of the parents continuous efforts to teach their children skills, or seeing parent-child interactions as “teaching sessions” rather than play (Cardoso-Martins & Mervis, 1984, as cited in Hodapp, 2002). In addition, it may be difficult for parents to engage in empathically attuned parenting behaviors with their autistic or Down syndrome child due to the child’s language/communication and social-emotional disabilities that result in less clear or readable interactive cues (Hyche, Bakeman, & Adamson, 1992; Walden, 1996). Nevertheless, mothers of Down syndrome children who are able to follow the child’s lead, respond to the child’s interests and behaviors, and prolong parent-child joint attention help to improve their child’s receptive abilities (Harris, Kasari, & Sigman, 1996), supporting the value of empathically attuned parenting with this population.

Of particular interest in the current study is the influence of difficult child behaviors such as inattention and hyperactivity-impulsivity on empathic parenting and child development. While child-rearing can be stressful and challenging for anyone, it is exacerbated for the parents of children who have difficulty sustaining attention and/or are highly active and impulsive (Barkley, 1990). Children with these characteristics, such as those diagnosed with attention-deficit/hyperactivity disorder (ADHD), are reported to have disruptive behaviors that are difficult to manage and require more structured environments and closer supervision. For example, parents have described hyperactive children as less compliant and generally more negative in parent-child interactions than children who are not hyperactive (Befera & Barkley, 1985; Gomez
& Sanson, 1994), imposing increased caretaking demands on their parents (Barkley, Anastopoulos, Guevremont, & Fletcher, 1992). In turn, parents of children with ADHD and behavioral difficulties report considerable frustration and family disruption in their attempts to manage their children’s behavior (Krauss, 1993; Sobol, Ashbourne, Earn, & Cunningham, 1989). Such problems can result in more negative, controlling, and disapproving parenting behaviors (Barkley et al., 1991; Cunningham & Barkley, 1979; Gomez & Sanson, 1994; Tallmadge & Barkley, 1983) that are inconsistent with empathic parenting. In fact, parents of children with ADHD have demonstrated a relative lack of empathy, warmth, and involvement with their children when compared to control parents (East, 1991; Pettit & Bates, 1989; Stormshak, Bierman, McMahon, & Lengua, 2000). What is more interesting is that when children with ADHD are medicated and, therefore, less hyperactive and more compliant than when they were unmedicated, their mothers’ behavior was observed to become less aversive (i.e., decrease in controlling behaviors and increase in more non-directive interactions) (Barkley, 1989; Barkley, Karlsson, Pollard, & Murphy, 1985). This further supports the impact that child factors such as difficult behaviors can have on a parent’s display of empathically attuned parenting.

The most compelling evidence of the effects of child behavior on parenting behavior comes from research that examined mothers’ interactions with children with and without conduct disorder who were not related to them. The researchers discovered that mothers react to disobedient, negative, and highly active children with more negative, controlling behavior in comparison to their interactions with children without conduct disorder (Anderson, Lytton, & Romney, 1986).

In addition to the effects on parenting, researchers suggest that difficult child behaviors such as inattention and hyperactivity-impulsivity have a profound and pervasive effect on many
areas of the child’s functioning, including performance and behavior in school, self-concept, relationships with parents and siblings, and peer relationships (Barkley, 1997; Barkley et al., 1992; Pelham, Wheeler, & Chronis, 1998). For example, impulsivity in early childhood is also related to externalizing problems later in childhood and adolescence (Leve, Kim, & Pears, 2005; Shaw, Owens, Giovannelli, & Winslow, 2001).

**Contextual Factors and Empathically Attuned Parenting**

Beyond individual characteristics associated with the parent and child, there are powerful forces emanating from the broader social context in which the parent-child relationship is embedded that influence parenting. Contextual factors such as the family’s socioeconomic status (SES), the quality and availability of support networks and resources, and external stressors that take up a parent’s time and energy can act as sources of both stress and support for a parent (see Cochran & Walker, 2005; Hoff, Laursen, & Tardiff, 2002).

While Belsky and colleagues (Belsky, 1984; Belsky et al., 1984) identified three contextual factors in particular – the parent’s social network, marital quality, and work commitments – as influential to parenting, they also mentioned that the importance of these factors is their relationship or contribution to the availability and quality of emotional and instrumental support and to the associated social expectations pertaining to the parenting role. That is, contextual factors function to impact parenting in three general ways: They can provide emotional support (e.g., quality friendships that help a parent feel loved and valued which enhances psychological well-being), instrumental or practical assistance (e.g., providing information, quality childcare which can free up parental energy/time), and positive social expectations of parental involvement that serve as guides about what is and is not appropriate behavior and may influence the parent’s commitment to the parent role.
Although Belsky draws direct relationships between contextual factors such as marital quality, work, and social networks and parenting, by stating that the significance of these factors is the emotional and practical support they provide suggests that their influence on parenting behaviors may be better modeled as indirect, by way of the parent’s psychological functioning. Thus, it is the parent’s emotional reaction to these contextual sources of support or stress that affect parenting rather than the contextual factor per se (Belsky & Barrends, 2002; Belsky et al., 1995). In fact, results from the Mother-Child Interaction Research Project (Pianta et al., 1989) suggest that “stressful experiences and a lack of support may be influential in maltreatment to the extent to which they tax the coping ability of parents, but may not be necessary or sufficient causal factors” (p. 246). Similarly, using structural equation modeling, Simons and colleagues (1993) found that reports of social network support influenced parenting behaviors through its effect on maternal psychological functioning. Furthermore, Belle (1982, as cited in Cochran & Walker, 2005) found that it is not the size of one’s social network, frequency of contact, or proximity of members but rather the parent’s belief that they have someone to turn to that was associated with emotional well-being and parenting practices. Therefore, while contextual factors such as financial and relationship stressors and family size may increase differential treatment of children by their parents (Crouter, McHale, & Tucker, 1999), the influence of these contextual factors on parenting may be indirect by way of affecting the parents’ psychoemotional functioning rather than directly influencing parenting (Kim & Brody, 2005).

For these reasons, a direct relationship between contextual factors and empathic parenting behaviors seems unnecessary. Thus, in contradiction to Belsky’s (1984) original model (see Figure 1), the arrows that represent direct pathways between contextual factors and empathically attuned parenting were removed and redirected through the various parent factors (see Figure 2
for the model tested in the current study). In addition, instead of modeling Belsky’s traditional contextual influences of work characteristic, marital quality, and social network, the current model arranged contextual factors into sources of emotional support, instrumental stress, and the family’s SES. That is, characteristics related to work such as occupational status were included as indicators of SES. Similarly, characteristics associated with a parent’s social networks such as the number of other adults that help care for the children and the parent’s reports of interpersonal problems that could impair network ties were included as indicators of instrumental/practical stress and emotional support respectively.

Prior to discussing the role of emotional and instrumental sources of stress and support as well as SES in predicting parenting, it should be noted that the relationship between parenting and marital status and/or marital quality was not examined explicitly in the current study. This was due to the use of archival data that does not include measures of marital satisfaction or conflict, which are considered significant contributors to parenting and child adjustment (see Fincham & Hall, 2005). The critical role that marital quality has on parenting and child outcome, however, should not be overlooked, and therefore, will be discussed briefly here.

Investigators have repeatedly found that spousal support of both the emotional and instrumental variety is associated with parenting behaviors reflective of empathy (Belsky et al., 1986; Hipke, 2002). For example, high marital quality and satisfaction are correlated with parenting that is responsive, sensitive, warm, and accepting (e.g., Cowan & Cowan, 2000; Goldberg & Easterbrooks, 1984). In contrast, marital discord and dissatisfaction undermine and disrupt effective parenting practices, resulting in more permissive, more authoritarian, and less authoritative parenting styles (e.g., DeVito & Hopkins, 2001; Fauber & Long, 1991; Reid & Crisafulli, 1990).
While both marital satisfaction and discord have been shown to impact parenting and child outcome directly, there has been an increasing focus on how couples manage conflict in their relationship, revealing the more important role that marital conflict has for understanding child development (see Ficham & Hall, 2005). Several studies have shown that the relationship between marital discord and child outcome is partially or fully mediated by ineffective parenting (Fauber, Forehand, Thomas, & Wierson, 1990; Vandewater & Lansford, 1998; Webster-Stratton & Hammond, 1999).

Three processes have been identified to account for these indirect effects: marital conflict disrupts parental discipline, diminishes the affective quality of parent-child interactions, and increases parent-child aggression (Fincham, Grych, Osborne, 1994). For example, marital discord has been correlated with child rejection, low parental involvement, and low emotional responsivity (Fauber et al., 1990; Webster-Stratton & Hammond, 1999), which are behaviors that are inconsistent with empathically attuned parenting. In contrast, marital happiness is correlated with parental satisfaction (i.e., overall relationship with children is happy, close, and better than that of other parents and gives the parent a great deal of satisfaction) (Rogers & White, 1998).

Overall, these findings suggest that marital conflict may drain the parents’ resources to the point that it reduces parents’ ability to recognize and respond to the child’s emotional needs and that negative affect from marital conflict may overflow into the parent-child interactions, resulting in increased parent irritability and harsher, less attentive, and less sensitive parenting behaviors (Easterbrooks & Emde, 1988). This is indicative of a spillover effect whereby the affective tone of the marriage spills over into the parent-child relationship. While there is some evidence for a compensatory effect of marital quality on parenting, such that to compensate for marital frustration or dissatisfaction parents may try to fill the void by developing fulfilling relationships.
with their children (Belsky, Youngblade, Rovine, & Volling, 1991; see Erel & Burman, 1995), there is stronger evidence to support the spillover model (Erel & Burman).

There is also significant evidence that marital discord, particularly overt conflict that children witness, can directly impact child outcome (see Buehler, Anthony, Krishnakumar, & Stone, 1997). “According to social learning theory, negative marital interactions lead children to adopt similar maladaptive behaviors through the process of modeling” (Fincham & Hall, 2005, p. 206), such that children acquire poor conflict resolution skills and dysfunctional strategies for affect expression (Easterbrooks & Emde, 1988). Marital conflict is also a source of stress on children that can lead to distress and poor psychological functioning (Fincham, Grych, & Osborne, 1994).

In sum, marital quality, particularly marital discord, appears to have both direct and indirect relationships with child outcome. That is, the emotional overtones of the parent’s marital quality can spillover onto the parent-child relationship, impacting parenting behaviors that can then affect child adjustment. Directly, the marital conflict can model maladaptive coping and interpersonal skills and create a stressful environment that impacts child development. Therefore, while marital quality per se was not measured explicitly, the hope was that the emotional overtones of marital satisfaction or marital discord would be represented by the lack of emotional support and instrumental stress constructs identified in the model and discussed below. Unfortunately, the direct relationship between marital quality and child outcome could not be modeled in the current study.

Sources of emotional support and stress. Emotional support involves those relationships that provide a parent with affective, empathic support that makes them feel cared for, valued, understood, and capable of working through difficulties (Crockenberg, 1988). Emotional
support may come from a spouse or significant other, extended family or friends and may influence parenting by buffering the impact of stressors on the parent’s psychological functioning (Cochran & Niego, 1995). In fact, a parent’s sense of connection with the community, neighborhood, and friends influences their psychological well being and ability to parent effectively (e.g., Garbarino & Sherman, 1980). For instance, mothers who had the most positive outlook on relationships and reported higher levels of interpersonal trust tended to provide the most supportive care and stimulating environments for their children (Luster, 1998). Moreover, ratings of family cohesion were found to be the best predictor of parent stress for both two-parent and single-parent families, where higher ratings of family cohesion were associated with lower levels of stress (Duis, Summers, & Summers, 1997). In general, mothers who perceive higher levels of emotional support report being warmer, less aggressive toward, and less rejecting of their children less than mothers with lower levels of emotional support (Colleta, 1981).

Crittenden (1985) proposed that “on the basis of her working model, a mother may influence her relationship with her network, just as she appears to do in her relationship with her child, through the processes of generalizations and repetition of ingrained patterns of behavior” (p. 1301). In this way, the parent’s personality and associated interpersonal patterns are influential to the type of support that a person has available. If parents have difficult personalities that result in strained or unsatisfying relationships, then adequate emotional support that could make a parent feel loved and valued will not be available. As a result, a parent’s psycholoemotional functioning will be affected and poor parenting may be one consequence. For example, interpersonal sensitivity is a significant contributor to psychological distress (Vitanza, 1995/1996), which can interfere with empathic parenting behavior. Furthermore, an
individual’s beliefs in the trustworthiness of others is an important criteria for building social support networks that can enhance a person’s well-being and life (Cutrona, Russell, & Gardner, 2005; Ong & Ward, 2005).

Sources of instrumental/practical support and stress. Instrumental or practical support refers to concrete help that reduces the number of tasks or responsibilities a parent must perform, typically household and child care tasks (Crockenberg, 1988). Therefore, instrumental/practical stress refers to those contextual factors that increase the number of tasks and responsibilities a parent must perform or reduce the time and energy a parent can put toward parenting responsibilities. The lack of instrumental or practical support can lead to increased daily hassles that influence a parents’ psychoemotional functioning that, in turn, may interfere with empathically attuned parenting (Belsky, Woodworth, & Crnic, 1996). For instance, reports of daily hassles are negatively associated with general life satisfaction and satisfaction in the parent role and positively correlated with the parent’s negative mood (Crnic & Booth, 1991; Crnic & Greenberg, 1990). Moreover, researchers have consistently found strong correlations between daily stressors and psychological distress, suggesting that the parent’s psychological well-being may mediate the relationship between instrumental stress and parenting behaviors.

The number of children in the household, the lack of other caregivers to take on some of the time-consuming responsibilities of parenting, and a parent’s workload are just some of the contextual sources of instrumental stress that have been found to be related to parenting stress and parent well-being (Duis et al., 1997; Ostberg & Hagekull, 2000; Rodgers, 1998; Voydanoff & Donnelly, 1998). For example, mothers who had more children received lower scores on measures of the quantity and quality of the social, emotional, and cognitive support made available to the child in their home environment than did mothers with fewer children (Luster,
Women who reported access to child care through their social network were less dominating, emotionally warmer, and more sensitive to the needs of their children than mothers who did not report this kind of network support (Longfellow, Zelkowitz, Saunders, & Belle, 1979 as cited by Cochran & Niego, 1995).

Specific to a parent’s work hours, Crouter and McHale (2005) state that “work influences childrearing via its effects on parents’ views of the world, the opportunities and constraints jobs pose for parents who need to balance multiple roles, and the daily stresses (and exhilarations) of the work day that shape parents’ emotional states as they leave their workplace to resume their parenting roles” (Crouter & McHale, 2005, p. 292). While earlier research often reflected negative expectations of the impact of maternal employment on child outcome, more recent research supports the positive influence of maternal employment on mothers’ psychological well-being as well as child development (see Gottfried, Gottfried, & Bathurst, 2002). In addition, as mothers’ participation in the workforce increases, father involvement in child care also increases, indicating a shift in and reorganization of the division of labor to accommodate women’s dual roles (see Gottfried et al., 2002).

While maternal employment has not been shown to alter the amount of time that a mother spends with her children, some research suggests that a parent’s workload and work hours represent time demands that could interfere with parenting responsibilities (e.g., Crouter, Bumpus, Maguire, & McHale, 1999; Leinonen, Solantaus, & Punamäki, 2003). In fact, maternal role satisfaction appears to play a significant part in mediating the relationship between employment and parenting (Gottfried, Gottfried, & Bathurst, 1995), with flexible work schedules being a major factor in role satisfaction (Gottfried, Gottfried, & Bathurst, 1998, as cited in Gottfried et al., 2002). More specifically, as mother’s work hours increased, mother’s attitudes
towards dual responsibilities of work and parenting become more negative. Moreover, more demanding jobs (e.g., time demands, workloads, and difficulty in accomplishing certain task) lead to an increase in stress symptoms, work-family conflict, feeling overwhelmed, and inability to cope (Crouter, Bumpas, et al., 1999; Moen & Yu, 2000; Perrone & Worthington, 2001), which in turn, can influence quality of parenting. In fact, an increased workload is associated with less authoritative parenting in fathers (Leinonen et al., 2003).

In connection with role satisfaction, a parent’s general psychological well-being is critical to the impact that employment can have on parenting. That is, mothers’ mood mediates the relationship between employment and parenting style (Hoffman & Youngblade, 1999) such that working mothers were less depressed. In turn, depressed mood was positively related to less growth-promoting parenting styles (i.e., permissive and authoritarian parenting styles) and negatively correlated with positive parenting (i.e., authoritative parenting style).

Of course many of these sources of instrumental support are dependent on the family’s socioeconomic status (SES) and the parent’s ability to maintain relationships with people who would be willing to help out with parenting responsibilities. That is, parents who have difficulty maintaining relationships might have less people to turn to for instrumental caregiving help. The impact of SES on parenting is discussed in more detail in the following section.

**Socioeconomic status.** Early research on childrearing and child adjustment focused on aspects of the family’s socioeconomic status (SES) such as social class and poverty (Hoff et al., 2002). The link between poverty and increased risk for poor child outcome has been well established (e.g., McLoyd, 1990). However, the potential pathways between poverty and child development, such as health and nutrition, the home environment, parenting beliefs and
behaviors, parental mental health, and neighborhood conditions are still being explored (e.g., Brooks-Gunn & Duncan, 1997; Kotchick et al., 2005).

Parents’ education, income, and occupational status are variables that are often combined to represent a family’s SES. Over the years, two schools of thought have emerged regarding the measurement of SES (Hoff et al., 2002). Some theorists and researchers argue that the independent variables that constitute SES (education, job status, and income) have individual and unique relationships to parenting (Bronfenbrenner, 1958 as cited in Hoff et al., 2002) while others argue that these components of SES function together to impact families in a manner than cannot be meaningfully reduced to its parts (Featherman, Spnenner, & Tsunematsu, 1988). This latter view is the stance that will be taken in the current study. That is, although different components of SES often have different associations with different aspects of parenting (e.g., behaviors, discipline styles, and childrearing beliefs), there is reason to believe that these factors together create a “coherent, irreducible force” (likened to different cultures) that influences parenting (Hoff et al., 2002). For example, economic resources available to a family shape the physical location and quality of housing, affect access to health care and education, and influences level of family stress (Brooks-Gunn & Duncan, 1997). Socioeconomic hardship exposes low-SES parents to additional hardships (e.g., living in a difficult neighborhood, working extended hours/2 jobs, discrimination) that undermine their emotional state (see McLoyd, 1990 for a review). Thus, socioeconomic resources reflect elements of a wider social context in which family life is embedded. With this being said, a discussion of the relationship between parenting and SES as an aggregated variable follows.

While a substantial amount of research has tested a direct relationship between SES and parenting, there is also evidence that this relationship is mediated by other factors such as
instrumental and emotional support and childrearing beliefs and attitudes. That is, network resources available to parents vary substantially depending on factors such as parent’s educational experience, income, and occupation (Cochran & Niego, 1995). For instance, household income and social class makes a sizeable difference in the social networks reported by parents such that people with more income were more likely to report adequate amounts of companionship and practical support than were the poor (Cochran & Gunnarsson, 1990; Fischer, 1982). Similarly, a parent’s education level and the family income make a sizeable difference in the social networks reported (Fischer, 1982). Cochran and Gunnarsson found that mothers in white collar families reported larger networks than did women in blue collar household, which they suggested was a result of women in white collar families having more leisure time to build social relations. Along those same lines, Roschelle (1997) suggests that more impoverished families do not have the time and resources necessary to become involved in offering or receiving support from others.

This lack of support (emotional or instrumental) may lead to more distress among lower SES parents. For example, financial stress was associated with less sensitive parenting among the chronically depressed mothers, but among parents who were not depressed, income was unrelated to parent sensitivity (NICHD Early Child Care Research Network, 1999). The importance of social support as a buffer or mediator between SES and parenting is further supported by findings that show that poor parenting is related less to low income and more with inadequate social support to provide concrete, instrumental support regarding child care. For example, when neighborhoods were equated on such characteristics as SES, race, income, and education, there was a significantly greater amount of child maltreatment in the area identified as “at risk” based on lack of supervision for children, the lack of a network for alternative child care
for working mothers, and a general lack of helpfulness among neighbors (Garbarino & Sherman, 1980). That is, the most salient difference between the two types of neighborhoods was the availability of networks of neighbors who performed specific, concrete tasks for parents, tasks directed at reducing economic stress and personal burdens.

The relationship between SES and parenting may also be mediated by parents’ childrearing beliefs and attitudes. Early research on the relations between social class and childrearing identified variation in parents’ beliefs about the role of parents and in their expectations and goals for their children as a function of social class differences (e.g., Kohn, 1963, 1969, 1979). Kohn hypothesized that social class differences in the requirements and expectations for children were related to differences in the requirements and expectations fathers needed to meet to succeed in their jobs (Kohn & Schooler, 1983). More specifically, Kohn (1963) proposed that parents from divergent social classes differ in the characteristics that they value most in their children, hypothesizing that parents from working-class backgrounds would be more likely to value conformity to external rules, emphasize obedience, good manners, and to impose constraints on their children. Research has supported this hypothesis (Crouter, 1984), finding that parents who work in more participative environments (e.g., team approach to problem solving, etc.) emphasized the importance of cooperation and collaboration among family members at home. Similarly Greenberger, O’Neil, and Nagel (1994) found that parental work complexity (level of supervising or negotiating) and work challenges (variation and self-direction in work) predicted mothers’ and fathers’ reports of the importance of firm but flexible control in their parenting. In contrast, parents with less education and from lower-income households were more likely to endorse dysfunctional parenting beliefs such as inappropriate developmental expectations for children and a strong belief in the benefits of physical

Mcloyd (1990) proposes that economic hardship may expose low-SES parents to additional hardships (e.g., living in a difficult neighborhood or working extended hours/2 jobs) that undermine their ability to use inductive discipline strategies and that result in higher parental reliance on harsh and physical punishment (see McLoyd, 1990). In fact, using structural equation modeling, Pinderhughes and colleagues (2000) found that SES differences in discipline responses are due to differences in parenting beliefs and to higher levels of stress and emotional reactivity.

Statement of Purpose

The primary goal of the current study is to broaden the understanding of factors that influence empathic parenting behaviors using an expanded version of Belsky’s (1984) process model of the determinants of parenting. Simultaneously, because of the statistical approach used and the inclusion of numerous additional variables, the current study aimed to elaborate and strengthen Belsky’s theoretical model. This study extends previous research in four ways: 1) By using a variance-based structural equation modeling, the predictive power of a model of empathic parenting that examines the relationship between multiple variables combined to represent latent constructs is able to be tested; 2) An expanded version of Belsky’s (1984) process model of the determinants of parenting is proposed and tested that includes various parent factors, child factors, and contextual factors that influence empathic parenting and ultimately child development; 3) The current study extends the research on parent factors by including multiple latent constructs to represent various facets of parent psychological resources such as parent age, developmental history of abuse, personality, psychoemotional functioning,
and childrearing beliefs and attitudes; and 4) The current study focuses on empathically attuned parenting behaviors with school-age children, an age group that has been underrepresented in empirical studies of parental empathy.

First, partial least squares (PLS) estimation procedures, a form of structural equation modeling (SEM), is used to determine the goodness of fit of predictive relationships between various characteristics of parents, children, and the family contexts related to a parent’s empathically attuned parenting behavior and, ultimately, aspects of child outcome. “The primary advantage that SEM-based procedures have over first-generation techniques such as principal components analysis, factor analysis, discriminant analysis, or multiple regression is the great flexibility that a researcher has for the interplay of theory and data” (Chin & Newsted, 1999, p. 307-308). That is, PLS modeling allows for 1) relationships among multiple predictor and criterion variables to be modeled and tested at the same time, 2) unobservable latent variables to be constructed by combining multiple indicators that have otherwise been studied independently, and 3) the ability to statistically test a priori substantive/theoretical and measurement assumptions against empirical data. (This statistical approach is explained in more detail in the Methods section.)

Second, the current study proposes an expanded version of Belsky’s model that includes and compares the predictive relationships between various parent, child and contextual factors related to parenting and child outcome. That is, different aspects of parent factors (past abuse history, maladaptive personality, psychoemotional distress, nurturing childrearing beliefs, and parent age) that influence parenting and child adjustment are examined. Two levels of contextual sources of support and stress (emotional and instrumental) are also included as well as the family’s SES to better understand their relative relationships with the different parent factors.
and their predictive relationships to empathically attuned parenting. Child characteristics such as measures of temperament, level of inattention and hyperactivity/impulsivity are also included as representative of challenging child characteristics that predict parenting behaviors. Measures of child psychoemotional functioning were included to better understand how empathically attuned parenting and child characteristics influence aspects of child adjustment.

Third, the current study extends the research on parent factors by including multiple latent constructs representative of various parent psychological resources. Because PLS path modeling allows multiple indicators to be grouped together to represent latent constructs, various parent factors that have typically been examined independently (e.g., physical abuse, emotional abuse, etc.) are able to be examined together as representing a latent constructs (e.g., parent abuse history). Then, the various parent constructs (that are composites of their indicators) are modeled to have distinct relationships with other influential factors in the model (child and contextual) in predicting empathic parenting. It is important to note that while Belsky (1984) spoke of a parent’s level of education as a parent factor that influences parenting, this parent variable, when combined with the parents’ occupational status and family income to represent SES, is indicative or representative of a broader contextual influence on the parent-child relationship. Therefore, parent education is included as an indicator of SES (a contextual influence) rather than a separate parent factor.

Finally, the current study examines empathically attuned parenting behaviors with school-age children, an age group that has been underrepresented in empirical studies of parental empathy. Most research regarding parenting behaviors associated with parental empathy has focused on the parent-infant relationship, and while this is important, it is not generalizeable to older children with different capabilities and developmental needs. Another strength of the
current study is the use of observational assessments of parental empathy and attuned behaviors, as social desirability and other phenomena can weaken the validity of the self-report measures which are often used to measure this construct.

In sum, the model of the determinants of empathic parenting tested in the current study is as follows (see Figure 2): As was purported by Belsky (1984), the proposed model suggests parent factors are the most important factors in buffering the parent-child relationship from threats to its integrity that could negatively impact child development. Consistent with Belsky’s model, the parent’s developmental history is proposed to predict parenting indirectly by way of its relationship with parent factors, including the parent’s current personality, psychoemotional functioning, and childrearing beliefs and attitudes. In turn, these three parent factors, along with parent age, are proposed to be the most influential factors in predicting parenting, as they are modeled to have direct and indirect relationships to empathically attuned parenting and to be the primary agent through which child or contextual factors influence caretaking. That is, contextual factors such as emotional support/stress, instrumental support/stress, and the family’s SES are modeled to be indirect predictors of empathic parenting by way of their relationship to the parent’s psychoemotional functioning, and childrearing beliefs and attitudes. Specifically, family SES is proposed to influence empathic parenting and child adjustment by way of its positive relationship to parents’ nurturing childrearing beliefs and attitudes and negative association with level of instrumental stress. While emotional support/stress is expected to be influenced by the parent’s personality, it is expected to impact empathic parenting by way of its influence on the level of instrumental support/stress and the parent’s psychoemotional functioning. Child characteristics are expected to predict empathic parenting directly and indirectly by way of their influence on a parent’s psychoemotional functioning. And finally,
empathic parenting and child characteristics are expected to predict child adjustment, specifically the child’s psychoemotional functioning.
CHAPTER 2

METHOD

Participants

This study used archival data that was collected between spring 2001 and spring 2003. Over the course of two years over 170 parent-child dyads were recruited to participate in a large series of studies that were examining various aspects of the parent-child relationship, particularly with children diagnosed with attention deficit/hyperactivity disorder (ADHD). Exclusion criteria also included parents of children with pervasive developmental disorders, mental retardation, or history of traumatic brain injury (based on parent report). From this data base, ninety comparison mothers and fathers and their children ages 5 years, 0 months to 10 years, 11 months were selected for the current study, after eliminating those who had not completed the necessary measures or had unacceptable scores on the validity scales embedded within the twelve questionnaires used in the study. An additional ten dyads were randomly selected from among the subsample of children with ADHD, reflecting the prevalence rate of this disorder among school-aged children.

Of the 100 parents, 82 were mothers or stepmothers and 18 were either fathers, stepfathers, or a male guardian. The mean age of the entire sample was 37.6 years old with 84% being Caucasian and 70% being married. Fifty-two percent of the sample had degrees from a university or an advanced degree beyond college, and 65% worked either part-time or full-time outside of the home. The median annual household income of the sample was between $50,000 and $60,000. Seventy-seven percent of parents had two or more children in the home, and 75%
had at least one other adult to help care for the children. (See descriptive statistics of sample in Tables 1 and 2.)

Procedure

Parent-child dyad participants were recruited in several ways. Control parent-child dyads were recruited from the community through posters, flyers, windshield flyers, and newspaper advertisements (see Appendix A). Families with ADHD children were referred through ADHD support groups (e.g., CHADD, ADDA), family therapy clinics, school counselors, parent education groups, and flyers posted in physicians’ offices and pharmacies. Participants who were interested contacted the researchers by phone and were told about the study and its procedures. Parents of ADHD children were made aware that participation required that their child delay or skip 1 dose of their stimulant medication (as standard in observational studies of ADHD children). Parents were also told that participation included a thirty minute videotaped parent-child play interaction. Parents also spent approximately two hours completing questionnaires. Each child also spent approximately 45 minutes to an hour completing three child-report questionnaires with the help of a trained graduate student. People who wished to participate were scheduled for a 3-hour appointment.

Upon arrival at the testing site (University of North Texas Psychology Building – Terrill Hall or Great Lakes Academy in Plano), participants were greeted and informed consent was obtained (see Appendix B). Assent was also solicited and obtained from all child participants if their parent chose to sign the informed consent, as seen on the last page of the informed consent form. After providing informed consent, the parent and child were left alone for a few minutes. Parents of ADHD children were discretely reminded by one researcher that these few minutes of privacy were intended to allow the child time to take their medication, which would reach a
therapeutic blood level in approximately 45 minutes (PDR, 2004). This particular timing of medication administration was used so that children with ADHD would not have adequate amounts of stimulant medication in their system during the parent-child interaction task, but would have the benefit of medication while completing questionnaires. The other researcher(s) who were collecting data from the child were blind to the child’s ADHD status.

Once consent was obtained, parents and their son or daughter participated in the Parent Child Interaction Assessment (PCIA; Holigrocki, Frieswyk, Kaminski, & Hough, 1997; Holigrocki, Kaminski, & Frieswyk, 2001), which is an analogue observation technique designed to evaluate aspects of parent-child relational functioning. The PCIA was videotaped and all materials and toys were set up in a standardized manner. The administrator of the PCIA remained in the room except during the “Free Play” and “Clear Up” scenarios. During each scenario, the administrator remained quiet unless spoken to directly. Whenever necessary, a non-directive and warm response was given (Holigrocki, Kaminski, & Frieswyk, 1999).

Following the administration of the PCIA, parents were given one of 4 counterbalanced questionnaire packets to complete while the child was administered 3 measures by a trained graduate student (see Appendix C for child administration procedures). Following the completion of the child questionnaires, the child was allowed access to a number of age appropriate toys and was supervised by a member of the research team. After completion of all measures, the parent could choose to complete a letter addressed to the child’s teacher asking them to complete two questionnaires related to the child participant’s classroom behavior (see Appendices D and E). To ensure confidentiality, the child’s name was only on the letter to the teacher and the child’s research number (not name) was on the actual measures that the teacher was to complete and send back. A self-addressed envelope was attached so the teachers would
be able to return the measures to the researcher. Each teacher was sent $5 compensation after returning the completed questionnaires.

Problems with attendance and attrition in research with families have been historically evident. Thus, it is standard procedure to offer participants in family studies the types of support they may need to make participation possible. Examples of such support include transportation, childcare, and snacks. In addition, financial incentives are needed to make it worthwhile for families to relinquish a few hours of their Saturday to come in for testing. Therefore, participants were offered childcare and snacks. Further, dyads were paid $10 per hour for their time (usually about 3 hours). Following completion of the study, parents received a debriefing statement that explained more about the study and listed mental health resources in the community (see Appendix F).

Measures

Demographics

The Demographic Information and History Form (see Appendix G) was completed by the child’s participating guardian. Basic demographic information was collected from this form, such as parent and child gender, age, ethnicity, relationship status, estimated income, and educational level. Information regarding diagnostic information of the child (i.e., ADHD) and medical information was also obtained from this questionnaire.

Parent Factors

Indicators of developmental history: Parent’s developmental history of abuse. The Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998) was used to measure retrospective reports of child abuse among parents. The CTQ is a 28-item, self-report inventory designed to screen for histories of child maltreatment in adolescents and adults in five domains:
Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect, and Physical Neglect. Scores on these five subscales were used as indicators for parents’ developmental history of abuse.

To more clearly define the CTQ constructs, scores on the Emotional Abuse subscale reflect the extent of “verbal assaults on a child’s sense of worth or well-being, or any humiliating, demeaning, or threatening behavior directed toward a child by an older person” (Bernstein & Fink, 1998, p.2). CTQ Physical Abuse refers to “bodily assaults on a child by an older person that pose a risk of, or result in, injury” (p. 2). The Sexual Abuse subscale refers to “sexual contact or conduct between a child and older person; explicit coercion is a frequent but not essential feature of these experiences” (p. 2). The Emotional Neglect subscale refers to “the failure of caretakers to provide a child’s basic psychological and emotional needs, such as love, encouragement, belonging, and support” (p. 2). Finally, the Physical Neglect subscale measures the extent of “failure of caregivers to provide a child’s basic physical needs, including food, shelter, safety and supervision, and health” (p. 2).

Five items comprise each of the CTQ subscales described above; the CTQ also includes a 3-item Minimization/Denial scale to detect “false-negative trauma reports” (Bernstein & Fink, 1998, p. 1). Participants with elevated scores on the Minimization/Denial scale were not eligible for this study. Items are rated along a 5-point Likert-type scale denoting frequency, ranging from never true to very often true. The total raw scores for each CTQ scale reflect the severity of maltreatment in the area assessed. Although thresholds or “cut scores” have been developed to denote minimal, low, moderate, and severe categories of maltreatment, the present data was examined along a continuum to reflect severity ratings.
The CTQ has strong psychometric properties and was validated with data from seven samples of clinical and non-referred individuals \((N = 2,201)\). Factor analytic studies of the CTQ have yielded a 5-factor solution for the CTQ, with a coherent factor structure or “fit” across a variety of samples (see Bernstein & Fink, 1998 for details; also see Scher, Stein, Asmundson, McCreary, & Forde, 2001). This coherence across diverse samples attests to the CTQ’s construct validity. Internal consistency coefficients for the CTQ scales reported in the manual (Bernstein & Fink, 1998) were generally high, indicating strong reliability overall for the CTQ scales across samples. With the sample used for the current study, internal consistency reliabilities for the five scales ranged from \(\alpha = .714\) to \(\alpha = .936\).

Test-retest reliabilities for the CTQ scales range from \(r = .79\) for the Physical Neglect scale to \(r = .81\) for the Sexual Abuse and Emotional Neglect subscales, with an overall intraclass correlation of \(r = .86\). These test-retest reliabilities were assessed with a sample of adult substance abusers, over an interval ranging from 1.6 to 5.6 months (Bernstein & Fink, 1998).

The CTQ’s convergent and discriminant validity has also been demonstrated. The CTQ scales have been shown to correlate significantly with the Childhood Trauma Interview, a semi-structured interview that assesses six types of childhood maltreatment, including physical, sexual, and emotional forms of abuse and neglect (Bernstein & Fink, 1998). Moreover, the correlations between similar scales on the two instruments (e.g., Emotional Abuse and Emotional Abuse) were greater than those between the other scales (e.g., Emotional Abuse and Physical Abuse). Specifically, correlations for corresponding scales on the two measures ranged from \(r = .42\) to \(r = .58\) for the participating substance abuse sample \((n = 220)\). Convergence has also been demonstrated between corresponding scales of the CTQ and Child Maltreatment Interview (Walker, Bernstein, & Keegan, cited in Bernstein & Fink, 1998), and the CTQ and the
Evaluation of Lifetime Stressors (ELS; Bernstein & Fink). Moreover, scales on the CTQ were highly correlated with corresponding ratings on the ELS, and less highly correlated with non-corresponding ELS ratings, further attesting to the CTQ’s discriminant validity. Bernstein and Fink (1998) presented evidence of the CTQ’s concurrent validity through correlational data between all of the CTQ scales and trauma-related constructs, including depression (Beck Depression Inventory), Post-traumatic Stress Disorder (Civilian Mississippi Scale), dissociation (Dissociative Experiences Scale), and alexithymia (Toronto Alexithymia Scale; see Bernstein & Fink for details).

*Indicators of maladaptive parent personality.* Seven subscales of the Millon Clinical Multiaxial Inventory-III (MCMI-III; Millon, 1997) were used as indicators of maladaptive parent personality characteristics associated with personality disorders identified in the *DSM-IV-TR* (APA, 2000). The MCMI-III is a 175-item, true-false measure of personality and pathological syndromes for adults. The measure consists of 28 scales, classified within 5 broad areas including Clinical Personality Pattern scales (e.g., Dependent), Severe Personality Pathology scales (e.g., Borderline), Clinical Syndrome scales (e.g., Anxiety Disorder), and Severe Clinical Syndrome scales (e.g., Thought Disorder). There are also four modifying indices to assess response biases, including the Validity Index and the Disclosure, Desirability, and Debasement scales (see Appendix H for list of MCMI-III scales).

Scales were scored according to standard protocol. That is, raw scores for each scale of the MCMI-III are calculated by first assigning a value of 1 or 0 if the item response is in the keyed direction. These values are then multiplied by weights of either 1 or 2, with a weight of 2 representing a prototypic item for that scale. The weighted scores are then summed to form the raw scale scores that are then transformed into base rate (BR) scores in order to account for the
prevalence of the given attribute or disorder in the psychiatric population. For the personality scales, a BR score of 75 indicates the presence of a trait, while a BR of 85 indicates the presence of a disorder. Separate BR transformations are performed for males and females. Moreover, scores on the all of the personality and clinical syndrome scales are adjusted to account for an overly self-revealing or secretive response style (“Disclosure” adjustment). Adjustments are also made for those scales (e.g. Avoidant, Depressive, Self-Defeating, Schizotypal, and Borderline subscales) that may be distorted if respondents are experiencing acute or intense emotional states as assessed by elevated scores on the Anxiety or Dysthymia scales. Among respondents whose highest personality scale is Histrionic, Narcissistic, or Compulsive, an additional adjustment is made for a high level of defensiveness (“Denial/Complaint” adjustment).

The MCMI-III items were developed in adherence with the instrument’s guiding theoretical system and their congruence with DSM-IV criteria. It was designed for use with psychiatric or clinical populations (Millon, 1994). Since the introduction of the first version of the MCMI in 1977, the MCMI has become one of the most frequently used measures of personality disorders, and only the MMPI-2 and Rorschach Inkblot Test have generated more research than the MCMI (Craig, 1999). However, the majority of this research has been conducted with earlier versions of the MCMI.

The seven clinical and severe personality pattern scales used in the current study include the Paranoid (Scale P), Schizoid (Scale 1), Schizotypal (Scale S), Antisocial (Scale 6A), Borderline (Scale C), Avoidant (Scale 2A), and Dependent (Scale 3) scales. While the MCMI-III has subscales for Narcissistic (Scale 5), Histrionic (Scale 4), and Compulsive (Scale 7) personality patterns, there were complications in including these subscales as indicators for
parent personality. Specifically, they were loading in the opposite direction of the other seven scales and causing the maladaptive parent personality construct to be unreliable.

Upon examining the frequency distributions for the current sample and correlations between the personality subscales, some interesting trends were discovered. First, it became apparent that there were more elevated scores on the Narcissistic, Histrionic, and Compulsive subscales than the other seven personality disorder subscales. That is, only 11% (or lower) of the current sample earned a score that represented the presence of a trait or a disorder (score of 75 or higher) on the Paranoid, Schizotypal, Schizoid, Antisocial, Borderline, Antisocial, or Avoidant subscales. In contrast, the percentage of participants that earned a score that reflected the presence of a trait or a disorder jumped to 22% for the Narcissistic scale, 29% for the Compulsive scale and 48% for the Histrionic scale. In looking at the correlations, the Narcissistic, Histrionic and Compulsive scales were positively correlated with one another and all three were negatively correlated with most of the other seven scales. This helped to explain why these three scales were loading in the opposite direction than the other seven, resulting in poor reliability for the maladaptive parent personality construct.

To further understand this trend, the items included on each scale were examined, which revealed that multiple items that loaded on the Histrionic, Narcissistic, and Compulsive subscales pull for more adaptive traits that could result in elevated scores in a community sample. For example, agreeing with the following statements - “I like to flirt with members of the opposite sex,” “I think I am a very sociable and outgoing person,” “It is very easy for me to make new friends,” and “I never sit on the sidelines at a party” - all reflect positive self-esteem yet also load positively on the Narcissistic and Histrionic Scales. Similarly, agreeing with items such as “I keep very close track of my money so I am prepared if a need comes up” and “A good way to
avoid mistakes is to have a routine for doing things” load on the Compulsive subscale and can be considered adaptive traits/statements. Considering that the current study used a community sample, there is reason to conclude that the elevated scores on the Narcissistic, Histrionic, and Compulsive scales are reflective of more adaptive functioning versus pathology. In fact, research has shown that most normal persons obtain elevated scores on the Histrionic, Narcissistic, and Compulsive subscales (Choca & Van Denburg, 1997; Craig, 2002).

Based on these findings, only the Paranoid, Schizotypal, Schizoid, Antisocial, Borderline, Antisocial, and Avoidant subscales were used to represent the personality of the parent. This improved the construct’s reliability and resulting in a more unidimensional construct representing maladaptive personality traits and symptoms of personality disorders in the parents. That is, participants with higher scores on these personality disorder subscales endorsed items such as “I do what I want without worrying about its effect on others,” “I avoid most social situations because I expect people to criticize me,” and “Being alone, without the help of someone close to depend on, frightens me.”

Indicators of parent psychoemotional distress. Three aspects of psychoemotional functioning were included as indicators for parents’ psycholoemotional distress: a measure of depression, general distress, and parental distress. First, the Beck Depression Inventory – Second Edition (BDI-II) was used to assess the severity of symptoms associated with depression. The BDI-II is a 21-item self-report instrument that was developed as a screener for major depression for adolescents and adults. Respondents are asked to endorse statements that best describe the way they have been feeling during the past two weeks. Items reflect cognitive, affective, somatic, and vegetative symptoms of depression, and numerical values of zero, one, two, or three are assigned each statement to indicate degree of severity. Total scores can range
from 0-63, with higher scores indicating increasing severity of symptoms. While cutoff scores have been established to identify individuals with minimal (scores of 0-13), mild (14-19), moderate (20-28), or severe (29-63) symptoms of depression, Beck acknowledges that there is no arbitrary cutoff score and the specific cutoff depends on the characteristics of the patients used and the purpose for which the inventory is given. For the current study, the parent’s total score was used as a continuous variable to assess their endorsement of depressive symptoms.

Psychometric properties of the BDI-II have been well established for both clinical and nonclinical populations. The internal reliability coefficient alpha for the psychiatric outpatient and college student samples were .92 and .93 respectively (Beck, Steer, & Brown, 1996). Internal consistency reliability for the current sample was $\alpha = .93$. Beck et al. (1996) report the test-retest reliability at one week using an outpatient sample to be .93. Several types of analyses have established the validity of the BDI-II. That is, the BDI-II is correlated with other measures of depression, hopelessness, and suicide, but less so with anxiety, which is evidence of convergent and discriminant validity (Beck, Steer, & Brown). Analyses of factorial validity suggested two oblique factors, one representing the somatic dimension of self-reported depression and the other representing the cognitive-affective dimension (Beck, Steer, & Brown).

Second, the Distress scale from the Child Abuse Potential Inventory (CAPI, Form VI; Milner, 1986) was used to measure general distress among parents. The CAPI is primarily used to assess parental risk of child physical abuse. The CAPI is comprised of a total of 10 scales. The primary clinical scale is the 77-item Total Physical Child Abuse scale, which is composed of 6 constructs (i.e., subscales) that contribute to risk of abusing, including measures of personal distress or maladjustment (Distress scale), rigid attitudes towards children (Rigidity scale), lack of happiness (Unhappiness scale), negative views of one’s child (Problems with Child and Self
scale), and difficulties interacting with family members (Problems with Family scale) and others (Problems from Others). There are also 3 validity scales (Lie scale, Random Response scale, Inconsistency scale) and 3 Response Distortion Indices (Faking-Good index, Faking-Bad index, Random Response index).

The 160 items on the CAPI are written at a third grade reading level, in an Agree/Disagree forced-choice format. In the scoring of the Abuse scale, items are assigned weights based on their ability to predict child physical abuse (i.e., item regression beta weights in the original cross-validation study). Higher scores on the CAPI indicate an increased risk of parents physically abusing their child. The Distress subscale in particular is comprised of 36 items that tap into general themes of personal distress including “feeling frustrated, sad, lonely, depressed, worried, afraid, out-of-control, confused, mixed-up, upset, worthless, rejected, misunderstood, and angry” (Milner, 1986, p. 2).

The CAPI has been shown to have excellent internal consistency reliability. Milner (1986) presented data from several samples, including abuse (n = 152), neglect (n = 218), “at-risk” (n = 178), and non-abusing control (n = 2062) groups. Internal consistency reliabilities were calculated for each of these groups, as a function of gender, age, ethnicity, and educational status. Specific to the Distress scale, split-half and KR-20 reliability coefficients for all of the groups yielded reliabilities ranging from .80 - .97, with the large majority of coefficients falling above .90. Split-half and KR-20 coefficients for the control group as a whole were high (.94 and .93, respectively), with even higher coefficients for the abuse group (.96 and .96, respectively). The internal consistency reliability of the Distress scale for the current sample was adequate (α = .93 and a split-half reliability of r = .92. The Distress scale’s stability is also adequate (r = .87, r
=.90, r = .85 and r = .70 for a 1-day, 1-week, 1-month, and 3-month interval, respectively; Milner).

While no data is reported for the validity of the Distress scale in particular, Milner (1994) cited multiple studies to support the construct and predictive validity of the CAPI Abuse scale (see his review for a detailed summary). Construct validity has been established through numerous studies showing expected correlations between CAPI scores and constructs assumed to be related to child abuse. For example, significant correlations have been found between the CAPI and childhood history of abuse, social isolation and lack of social support, family problems, low self-esteem and poor ego development, life stress, anxiety, and depression, punitive discipline, and perceptions of children’s behavior (see Milner, 1994 for a more detailed review). More recent research supports significant relationships between CAPI scores and known risk factors for child abuse, including parental history of psychiatric illness, psychological distress, and low social support (Rodriguez & Murphy, 1997; Zelenko, Huffman, Lock, Kennedy, & Steiner, 2001). History of Substance Use Disorder (Ammerman, Kolko, Kirisci, Blackson, & Dawes, 1999), social problems (Haapasolo & Aaltonen, 1999), and anger expression (Rodriguez & Green, 1997) have also been cited as CAPI correlates. In the current study, the CAPI Distress scale is significantly correlated with other measures of distress such as the Beck Depression Inventory (r = .687) and the Parental Distress (r = .637) scale of the Parenting Stress Inventory: Short Form, suggesting adequate construct validity.

With respect to its predictive validity, several studies in Milner’s (1994) review, as well as other studies (e.g., Haz & Ramirez, 1998), provide compelling support for the CAPI’s ability to discriminate between child-abusing parents and matched comparison non-child-abusing parents. For example, hit rates (i.e., correct classification rates) in the 90% range have been
reported for the CAPI (e.g., Haz & Ramirez; Milner & Wimberly, cited in Milner, 1994). In summary, the CAPI is a reliable and valid instrument for assessing child physical abuse potential.

And finally, to assess parenting distress, the Parental Distress subscale of the Parenting Stress Inventory: Short Form (PSI/SF; Abidin, 1990) was used. The PSI/SF is a 36-item instrument that measures stress related to parent factors, child factors, and parent-child interaction factors and is appropriate for use with children aged 1 month to 12 years. Parents respond to the items on a five-point scale according to their degree of agreement with the items (i.e., strongly agree, agree, not sure, disagree, strongly disagree). Raw scores on items are combined, resulting in three subscales: Parental Distress, Difficult Child, and Parent-Child Dysfunctional Interaction. The scores from these three subscales can be combined to yield a Total Stress score. Higher scores indicate higher levels of perceived parenting stress. These raw scores can be converted into percentiles, with normal range for scores falling within the 15th to 80th percentiles; however, in the current study, the raw score from the Parental Distress subscale were used.

The Parental Distress subscale consists of 12 items and measures distress a parent is experiencing in his or her role as a parent, including components such as an impaired sense of parenting competence, stresses associated with the restrictions placed on other life roles, conflict with the child’s other parent, lack of social support, and the presence of symptoms of depression. According to the technical manual, the internal consistency measures for the Parental Distress subscale are adequate ($\alpha = .87$ and $r = .85$ for the test-retest reliability over a six-month interval; Abidin, 1995). The internal consistency reliability for the sample in the current study was $\alpha = .83$. 
The PSI/SF was compared to the full length Parenting Stress Index (PSI; Abidin, 1990) to confirm the validity of the shorter form. The Parental Distress subscale on the PSI/SF and full-length PSI correlated at $r = .92$. Extensive research has demonstrated the validity of the full-length PSI by comparing it to numerous established stress and stress-related measures. In turn, the correlations between the full-length PSI and other stress and stress-related measures may be taken as evidence for the construct validity of the PSI/SF (Abidin, 1995).

**Indicators of nurturing childrearing beliefs and attitudes.** Three of the five subscales generated by the Adult-Adolescent Parenting Inventory – 2 (AAPI-2; Bavolek & Keene, 2001) were used as indicators of nurturing parenting beliefs and attitudes. The AAPI-2 is a 40-item self-report measure of parenting and childrearing attitudes of adolescents and adults (ages 13 and older). Parents rate each of the 40 statements on a 5-point Likert scale ranging from strongly agree, agree, uncertain, disagree, to strongly disagree. The AAPI-2 has a fifth grade reading level, and the average time to complete the inventory in 12-17 minutes.

Responses to the items provide an index of risk in five parenting behaviors by generating five subscale scores: Inappropriate Expectations of Children (7 items; i.e., “Children should do what they’re told to do, when they are told to do it. It’s that simple”), Lack of Empathetic Awareness of Children’s Needs (10 items; i.e., “Children should keep their feelings to themselves”), Strong Belief in the Use and Value of Corporal Punishment (11 items; i.e., “Spanking teaches children right from wrong”), Reversing Parent-Child Family Roles (7 items; i.e., “Parents should be able to confide in their children”), and Oppressing Children’s Power and Independence (5 items; i.e., “Children who receive praise will think too much of themselves”). Raw scores on each subscale are typically converted to sten scores, which range from 1-10, and represent a normal distribution based on gender. Low sten scores indicate agreement with these
inappropriate parenting attitudes and a higher risk for abusive parenting practices while higher scores reflect a more nurturing, non-abusive parenting philosophy. Taking this into consideration, the subscales were renamed in the current study for clarity. That is, the subscales were renamed as follows: Appropriate Expectations of Children, Empathetic Awareness of Children’s Needs, Disbelief in the Use and Value of Corporal Punishment, Appropriate Parent-Child Family Roles, and Promoting Children’s Power and Independence.

Adult and adolescent parents, both abusive and non-abusive, from 53 different states contributed to the normative data. Specifically, norms include 713 adult parents to represent the “normal or non-abusive” parent population, 198 adolescent non-parents to represent the “normal teenage,” and 87 adolescent mothers to represent the “adolescent parent.” Separate norms were generated for male and female and adolescent parents who have not received formal parent training.

The AAPI-2 parenting constructs represent a summary of theory, research, and practice in describing abusive and neglecting parenting practices. Research with the AAPI-2 has found abusive parents express significantly more dysfunctional parenting attitudes than non-abusive parents in all five AAPI-2 constructs (Bavolek & Keene, 2001). Content validity was demonstrated through item and factor analysis of data reviewed by professionals in various helping fields. In addition, adequate internal consistency has been reported for all subscales of the AAPI-2 (alphas > .80). Unfortunately, in the current study internal consistency measures were inadequate for all of the subscales except the Disbelief in the Use and Value of Corporal Punishment subscale, which had an alpha of .84. To improve internal consistency of the other subscales, items were deleted until adequate reliability was obtained. The highest alpha possible for the Appropriate Expectations of Children subscale was .70, which was obtained after
dropping one item from the scale. Three items were dropped from the Empathetic Awareness of Children’s Needs subscale to obtain the highest possible alpha of .73. Unfortunately, the Promoting Children’s Power and Independence subscale had to be dropped from the current study since an adequate alpha level was not obtainable. In addition, the Appropriate Parent-Child Family Roles was also dropped from the study because, despite obtaining an adequate alpha of .70 by deleting one item, the Reversing Parent-Child Family Roles subscale did not load well on its latent construct (Nurturing Childrearing Beliefs and Attitudes), and removing it increased the composite reliability of the latent construct to an adequate level (> .70).

Because items were deleted to improve internal consistency in the current study, sten scores were rendered unusable. Therefore, raw scores computed after certain items were deleted to improve internal consistency were used to represent a participant’s score on each of the four subscales used in the study. As it is with sten scores, low raw scores indicate agreement with the inappropriate parenting attitudes and a higher risk for abusive parenting practices while higher scores reflect a more nurturing, non abusive parenting philosophy.

*Parent age.* Parent age was included as a measure of parent maturity or wisdom that is assumed to come with age. The parent’s age (in years) was obtained from the demographic survey that was completed by the parent.

*Child Factors*

Three aspects of challenging child characteristics were included as indicators of child factors that are influential to the proposed model: Difficult child temperament, inattention, and impulsivity-hyperactivity. First, the Difficult Child subscale from the Parenting Stress Index/Short Form (PSI/SF; Abidin, 1990) was used to assess the parent’s perception of the child’s difficult temperament. The Difficult Child subscale consists of 12 items and assesses parents’
evaluations of their child’s mood, temperament (e.g., adaptability, demandingness), and behavior as easy or difficult in comparison to their expectations and other children (e.g., “My child seems to cry or fuss more often than most children”). According to the technical manual, the internal consistency measures for the Difficult Child subscale are adequate, with an alpha of .85 and a test-retest over a six-month interval score of .78 (Abidin, 1995). The internal consistency alpha for the sample in the current study was .88. The PSI/SF was compared to the full length Parenting Stress Index (PSI; Abidin, 1990) to confirm the validity of the shorter form. The Difficult Child subscale on the PSI/SF and full-length PSI correlated at $r = .95$.

Second, the ADHD Rating Scale-IV: Home Version (ADHD-RS-IV: HV; DuPaul, Power, Anastopoulos, & Reid, 1998) was used to assess the child’s inattentive and hyperactive-impulsive behaviors. The ADHD-RS-IV: HV is completed by the child’s guardian and consists of 18 items that were empirically derived from the ADHD diagnostic criteria in the DSM-IV (APA, 1994). For each item, the frequency of the child’s behavior at home within the last 6 months is rated on a 4-point Likert scale (0 = never or rarely, 1 = sometimes, 2 = often, 3 = very often). Subscales of the ADHD-RS-IV: HV include a 9-item Inattention subscale and a 9-item Hyperactivity-Impulsivity subscale (with scores ranging from 0 to 27). A Total Scale score (ranging from 0 to 54) can also be obtained by summing the raw scores of the two subscales. Raw scores from the Total Scale and the two subscales can then be converted to T-scores. Norms for the scale were derived separately for boys and girls from an ethnically and regionally representative sample of 2000 children (ages 4 to 19) (DuPaul et al.). For the current study, the Inattention and Hyperactivity-Impulsivity subscales was not used to determine ADHD status. Instead the T-scores from these subscales were used as an indicator of difficult child behavior.
that contributes to parenting as well as child outcomes such as a child’s psychological well-being.

The overall reliability and validity of the ADHD-RS-IV: HV is adequate. According to the technical manual, internal consistency coefficients for the three scales are adequate, ranging from $\alpha = .86$ to $\alpha = .92$. In addition, four-week test-retest reliability statistics ranged from $r = .78$ to $r = .86$ (DuPaul et al., 1998). DuPaul and his colleagues confirmed the validity of the ADHD-RS-IV: HV by comparing it to other measures used to assess ADHD symptoms. High correlations were found between the Hyperactivity-Impulsivity subscale of the ADHD-RS-IV: HV and the Conners Parenting Rating Scale – Revised (CPRS; Conners, 1989) Hyperactivity Index, the CPRS Impulsivity-Hyperactivity subscale, and the CPRS Conduct Problems subscale, ranging from $r = .65$ to $r = .81$. The Inattention subscale had a high correlation with the CPRS Learning Problems subscale ($r = .66$). As would be expected, lower correlations were found between the ADHD-RS-IV: HV and the CPRS subscales that are unrelated to ADHD (e.g., Psychosomatic, Anxious) (DuPaul et al.). For the sample in the current study, internal consistency was adequate for both scales with alphas of $.95$ for the Inattention subscale and $.94$ for the Hyperactive-Impulsive subscale.

**Contextual Factors**

*Indicators of a lack of emotional support: Interpersonal problems.* Two measures were used as indicators of interpersonal problems that are likely to be highly negatively correlated with levels of emotional support: The Problems with Family and Problems from Others subscales from the CAPI, Form VI (Milner, 1986). While these subscales do not direct measure an individuals’ perception of emotional support, they do assess a person’s level of interpersonal
problems that are indicative of unsatisfying relationships that could result in a lack of emotional support.

The Problem with Family subscale of the CAPI consists of 4 items that reflect difficulties in the respondent’s family relationships (e.g., “My family fights a lot”). Unfortunately, for the sample in the current study the internal consistency reliability was inadequate for this scale (alpha of .60) and one item (item 39) was dropped to improve the internal consistency alpha to .78. The technical manual reports adequate stability for the Problem with Family subscale with $r = .89$, $r = .75$, $r = .53$ and $r = .66$ for a 1-day, 1-week, 1-month, and 3-month interval, respectively (Milner, 1986).

The Problems from Others subscale consists of 6 items that collectively reflect an individual’s perception that relationships are the source of personal difficulties and unhappiness and that “relationships are viewed as a cause of disappointment rather than a resource because others cannot be counted on” (Milner, 1986, p. 3). Internal consistency for the current sample was adequate with an alpha of .75. The technical manual reports adequate stability for the Problems from Others scale with $r = .82$, $r = .79$, $r = .71$ and $r = .72$ for a 1-day, 1-week, 1-month, and 3-month interval, respectively (Milner, 1986).

Although the validity of these individual subscales was not reported in the technical manual, Milner (1994) cited multiple studies to support the construct and predictive validity of the CAPI Abuse scale (see his review for a detailed summary). Findings that reveal correlations between the CAPI Abuse scale and measures of social difficulty and isolation such as Social Introversion-Extroversion (Si) subscale of the MMPI and the social isolation subscale of the Parenting Stress Index suggests that those items included on the Problems with Family and Problem from Others subscales are tapping into valid constructs.
Indicators of instrumental/practical stress. One indicator was used to represent instrumental stress - the number of children in the household divided by the number of adult caregivers who help care for the children. This calculation was made using information obtained from the demographic survey completed by the parent. Lower scores represent less instrumental stress, while higher scores indicate more stress since there are more children but fewer number of caregivers to help provide childcare.

Originally, a second indicator of instrumental/practical stress that measured the parents work and/or school commitments was included. This information was obtained from the demographic survey where parents reported whether they were employed or in school full-time, part-time, or not at all. Higher values represented more commitments outside of the home, which indicated the parent had more demands of their time that would reflect instrumental stress. Unfortunately, this indicator had to be dropped from the study because it was compromising the reliability of the construct. That is, the children-to-caregiver ratio and amount of work/school commitments were not loading on the construct in a reliable manner.

Indicators of socioeconomic status (SES). Based on the parents’ responses to items on the demographic survey, two indicators will be used to represent the family’s SES: (1) the family’s annual household income and (2) their calculated social class. Parents were asked to approximate their yearly household income before taxes (including child support received if applicable) and respond on a 9-point Likert scale ranging from less than $10,000 to over $100,000. These nine levels of annual income were used as a continuous variable, with higher values indicating higher family income.

Using the Hollingshead’s (1975) Four Factor Index of Social Status, information about both parents level of educational attainment and occupational status were used to calculate the
family’s overall social class. The Four Factor Index of Social Status combines an ordinal ranking of ten occupational categories (ranging from higher executives, proprietors, and major professionals to unskilled employees to the unemployed) with a seven category ranking of educational categories (ranging from professional degree such as Master of Art (MA), Doctor of Medicine (MD), Doctor of Philosophy (PhD), to less than seven years of schooling). The occupational score is weighted by five, the educational scores weighted by three, and then the two are added to create an overall score for each individual, with higher scores representing higher social class.

Calculations for the family’s overall social status depends on the relationship or marital status of the parents and if one or both parents work. For example, for a married couple where one parent is employed, the family’s social status is calculated using only the employed parent’s weighted education and occupational scores. For families with two working parents, each parent’s individual social status scores are averaged to represent the family’s overall social status.

From the demographic survey, the participating parent was asked to report the last grade in school or the highest degree that they, as well the child’s other primary guardian, have completed or earned. They responded to a 9-point Likert scale ranging from 8th grade to an advanced degree beyond a university degree. To be consistent with the Four Factor Index of Social Status (Hollingshead, 1975), these responses were grouped into seven categories: 1) less than 7th grade, 2) 7th - 9th grade, 3) 10th - 11th grade, 4) high school graduate, 5) 1-3 years college, 6) four-year college graduate, 7) professional degrees such as MA, Master of Engineering (ME), PhD, Doctor of Law (LLD), and the like. Similarly, the participating parent reported his or her occupational title on the demographic survey, as well as that of the child’s other primary
guardian, and from these responses, each parent’s occupation was classified into one of ten categories consistent with the Four Factor Index of Social Status.

*Empathically Attuned Parenting*

The Parent-Child Interaction Assessment (PCIA; Holigrocki, Frieswyk, Kaminksi, & Hough, 1997) was used in conjunction with an observational coding system to assess parental attunement. The PCIA is an analogue observation technique designed to evaluate aspects of parent-child relational functioning. On the PCIA, a parent-child dyad is videotaped while they are given instructions about going on an imaginary trip to the zoo. A brief (90 seconds) free play interaction is followed by a series of instructions on playing out several scenes with toy people, animals, and blocks. These 15 co-construction tasks are designed to pull for emotions, as well as a variety of parenting behaviors, (e.g., level of involvement, nurturing, limit setting, and encouragement) (Holigrocki et al., 1999b). In addition, the scenarios put the children in situations “that may require them to delay gratification, achieve, take risks, negotiate autonomy, receive help, compete, and be comforted” (Holigrocki et al., 1999b, p. 417). After the parent and child have completed the construction tasks, they engage in a clean-up task. Finally, during the inquiry portion, the parent and child view the videotape of parts of their interaction are asked about the actions, feelings, thoughts, and desires of themselves and the other person.

For the present study, seven specific scenarios from the PCIA (e.g., Free Play, Tunnel, Hurt Arm, Waiting, High Rock, Lost Child, and Gift Shop) were coded for empathically attuned parenting. These scenes were chosen because of their applicability to the study of parental empathy in parent-child interactions, as each scenario required the parent to help the child with a problem, resolve a conflict, or set behavioral limits. Each of these scenarios begins with a scripted story stem that states that the child is thinking, feeling, or needing something different
from the parent. This allows for the observation of the parent’s ability to be attentive to the child, understand the child’s needs or wants, and relate to the child in an empathic manner. Using seven scenarios yielded 10.5 minutes of observable parent-child interaction behaviors.

The Global Assessment of Parental Attunement (GAPA; Kaminski et al., 2006) was used to measure empathically attuned parenting. The GAPA is a coding system that quantifies observations of five dimensions of attuned parenting: Attentiveness, Physical Relatedness, Verbal Relatedness, Emotional Synchrony, and Promotion of Initiative.

Behavioral dimensions of the GAPA were developed from the literature on parental empathy and attunement, as well as from the Parental Attunement Scale (PAS; Holigrocki et al., 1998) and the adapted Measurement of Empathy in Adult-Child Interaction (MEACI; Bratton, 1994). The Attentiveness dimension assesses the parent’s genuine effort to listen to and convey interest in the child, both verbally and nonverbally. Attentiveness also involves the ability to anticipate the child’s needs and respond to the child. Parents demonstrate attunement on the Physical Relatedness dimension by initiating positive physical contact with the child. The Verbal Relatedness dimension reflects the parent’s ability to recognize and convey understanding and acceptance of the child’s thoughts and preferences, and to facilitate the child’s self-exploration and sharing of these thoughts and preferences. The Emotional Synchrony dimension measures the parent’s interest in the child’s emotional experience, as well as the parent’s emotional congruence with the child. And last, the Promotion of Initiative dimension reflects the parent’s ability to collaborate with the child while allowing or encouraging the child to lead the interaction. That is, the parent may follow the child’s lead by copying or building upon the child’s play behavior. Parental limit-setting does not squash the spirit of child’s
initiative, and allows for alternative choices or initiative. For example, the parent may opt to alter the antecedents of environment so that child meets more with success.

The GAPA’s five behavioral dimensions (Attentiveness, Physical Relatedness, Verbal Relatedness, Emotional Synchrony, and Promotion of Initiative) are rated for the presence or absence of both *attunement* and *misattunement* for every 15 seconds of a given scenario. A thorough description of an attuned or misattuned parent behavior for each dimension allows coders to rate a variety of each parent’s attuned and misattuned behaviors across contexts. For the current study, a single score was obtained for each GAPA dimension. This was achieved by separately summing the attuned scores and misattuned scores across all seven scenarios for each GAPA dimension and then subtracting the misattuned totals from the attuned totals for each GAPA dimension. To eliminate the possibility that a negative value would result (i.e., higher misattuned score subtracted from lower attuned total) a value of 42 was added to each dimension total. This method yielded a whole, continuous number between 0 and 84 for each GAPA dimension, with higher values indicating higher levels of parental attunement.

Pairs of graduate student raters trained on the GAPA coding system viewed the PCIA videotapes for the current sample and rated the presence or absence of both Attunement and Misattunement for all five GAPA dimensions on the seven selected scenarios. A subsample of 20% of videotapes was randomly selected and coded by a second coder so that inter-rater reliability could be calculated for each code. Coders needed to attain a *kappa* of at least .60 for their codes to be considered reliable (Cohen, 1960; Landis & Koch, 1977). Raters achieved sufficient inter-rater reliability on most GAPA dimensions, but inter-rater reliability fell below .60 on some GAPA dimensions for certain pairs of raters. Moreover, despite excellent inter-rater reliability, the GAPA dimensions, Attentiveness Attunement and Attentiveness Misattunement,
were dropped from the study due to their lack of variability. That is, a majority of parents had perfect scores on Attentiveness and the range of scores across all parents was so restricted as to render the construct a useless variable.

To resolve the inter-rater reliability problems, new raters were recruited to re-rate some tapes. Five clinicians (two Master’s-level and three doctoral-level) with between 3 and 16 years of experience studied the GAPA until they achieved 80% agreement on a training tape. To minimize rater drift, once raters began working on their assigned tapes, they alternated between tapes where they were the sole rater and tapes that they shared with their rating partner. Inter-rater reliability was checked after each shared tape and raters discussed disagreements. The average inter-rater reliability ranged from $kappa = .60$ to $kappa = 1.0$.

The construct validity of the GAPA has been demonstrated by its correlations with other measures (Austin, 2007). Specifically, Austin reported that attunement scores on the Physical Relatedness dimension were positively correlated with measures of displays of physical nurturance by the parent, while misattunement scores were negatively correlated with measures of parental warmth and displays of physical nurturance and positively correlated with parent aggression/hostility. For the Verbal Relatedness dimension, attunement scores were negatively correlated with measures of parent aggression/hostility, and misattunement scores were negatively correlated with parent aggression/hostility. For the Emotional Synchrony dimension, attunement scores were found to be negatively correlated with parental aggression/hostility, while misattunement scores were positively correlated with role-reversing behaviors where parents put child in the parent role. And lastly, attunement scores on the Promotion of Initiative dimension were negatively correlated with reports of parental aggression/hostility, while the misattunement scores were positively correlated with parental aggression/hostility. These
correlations were all in the expected direction and support the construct validity of the GAPA dimensions.

**Child Development: Child Psychoemotional Distress**

The Internalizing and Externalizing scales from Achenbach’s Child Behavior Checklist (CBCL; Achenbach, 1991) were used as indicators of the child’s psychoemotional distress as reported by the parent. The CBCL is a behavior checklist completed by parents and consists of 118 items. Each item is rated on a 3-point scale (0 = not true; 1 = somewhat or sometimes true; 3 = very true or often true). This checklist yields nine “Problem Behavior Scales” and three “Competence Scales,” which are derived from multivariate statistical procedures conducted and reported separately for boys and girls in different age groups (Achenbach, 1991). The “Problem Behavior Scales” on the CBCL include: Attention Problems, Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems, Delinquent Behavior, Aggressive Behavior, and Sex Problems. The Competence Scales include: Activities, Social, and School. Results from the CBCL scales are reported in T scores ($M = 50; SD = 10$) to indicate how a child’s scale scores compare to the gender specific normative sample. T-scores in the range of 60-69 are considered to be at-risk scores, while scores above 70 (above the 98th percentile) are in the clinically significant range.

Factor analytic procedures were used to derive an Internalizing Scale (composed of Withdrawn, Somatic Complaints, and Anxious/Depressed) and an Externalizing scale (composed of Delinquent Behavior and Aggressive Behavior). “These groupings of symptoms reflect a distinction that has been detected in numerous multivariate analyses of children’s behavioral/emotional problems” (Achenbach, 1991, p. 60). While these groupings reflect contrasting kind of problems, these problems are not mutually exclusive and are often positively
correlated. In fact, Achenbach found that the mean Pearson r between CBCL Internalizing and Externalizing scores was .54 for the referred sample, and .59 for the nonreferred samples. The Pearson r between the CBCL Internalizing and Externalizing T-scores for the sample used in the current study was .50 and is significant at the \( p > .01 \) level.

Research with the CBCL has demonstrated the CBCL has sound psychometric properties. Specifically, Achenbach (1991) found the test-retest reliability of the Problem subscales on the CBCL to be good (\( r = .89 \)) over a seven-day period. Inter-parent reliabilities for the Problem scales were also found to be adequate (\( r = .65 \) to .75). The construct validity of the CBCL was assessed by comparing scores on the CBCL scales to the Conners Parent Questionnaire (CPQ; Conners, 1973) and the Quay-Peterson Revised Behavior Problem Checklist (RBPC; Quay & Peterson, 1983); analogous scales were correlated.

Psychometric properties of the Internalizing and Externalizing scales are strong. Internal consistency alphas for the Internalizing and Externalizing scales are good (.90 and .93 respectively). Internal consistencies for the current sample were adequate with alphas of .88 for the Internalizing scale and .91 for the Externalizing scale. These scales also have adequate test-retest reliability tested over a one-week interval (Internalizing, \( r = .89 \), Externalizing, \( r = .93 \)). Long-term stability was also tested and supported (Achenbach, Phares, Howell, Rauh, & Nurcombe, 1990 as cited in Achenbach, 1991). That is, over a one-year interval, the correlation coefficient for the Internalizing scale was \( r = .75 \) (between ages 6 and 7) and \( r = .82 \) (between ages 7 and 8). For the Externalizing scale, the correlation coefficients over a one year period were \( r = .87 \) (between ages 6 and 7) and \( r = .86 \) (between ages 7 and 8). Over the two year period (from age 6 to 8) the test-retest reliability was \( r = .70 \) for the Internalizing scale and \( r = .86 \) for the Externalizing scale. By comparing scores on the CBCL and Conners Parent
Questionnaire (CPQ; Conners, 1973) and the Quay-Peterson Revised Behavior Problem Checklist (RBPC; Quay & Peterson, 1983) the construct validity of the Internalizing and Externalizing scales were assessed and supported. The Internalizing scale of the CBCL was correlated with the Psychosomatic and Anxiety subscales of the CPQ and the Anxiety-Withdrawal subscale of the RBPC. The Externalizing scale of the CBCL was correlated with the Antisocial and Conduct Problem subscales of the CPQ and the Socialized Aggression subscale of the RBPC.

Data Analysis

A latent variable path analysis with partial least squares (PLS) estimation procedures was conducted to test the proposed model identifying the determinants of parenting (see Figures 2 and 3). Specifically, the SmartPLS 2.0 (M3) Beta program (Ringle, C.M., Wende, S., & Will, A., 2005) was used in the current study to calculate the necessary statistics. PLS path analysis is used to perform variance-based structural equation modeling (SEM) and allows researchers to explore hypothesized relationships among constructs without imposing certain restrictive statistical and structural assumptions that underlie the widely used covariance-based SEM programs such as LISREL (Falk & Miller, 1992). Similar to covariance-based SEM, variance-based SEM such as PLS allows simultaneous modeling of relationships among multiple independent and dependent constructs. Multiple manifest variables (indicators) are combined to create theoretically significant latent variables, and hypotheses about the directionality of relationships between latent variables are identified based on knowledge of theory and previous research (Falk & Miller, 1992). PLS path analysis was selected for the current study because it is ideally suited for use on small samples with multiple measures (Cowan et al., 1996).
Variance-based SEM such as PLS estimation procedures differs from covariance-based SEM in various ways. First, PLS estimation focuses on maximizing the variance of the dependent variables explained by the independent ones instead of reproducing the empirical covariance matrix which is done in covariance-based SEM (Haenlein & Kaplin, 2004). In addition, instead of first estimating model parameters and then case values (as is done in covariance-based SEM), PLS path analysis starts by calculating case values (Haenlein & Kaplan). Basically, PLS SEM attempts to obtain the best weight estimate for each block of indicators corresponding to each latent variable, which means that the latent variables are “estimated as exact linear combinations of their empirical indicators” (Fornell & Brookstein, 1982, p. 441). PLS SEM treats these estimates as perfect substitutes for the latent variable, which is based on the assumption that all measured variance of the variable is useful variance that should be explained. In PLS SEM, optimal linear relationships are computed between these estimated latent variables and are interpreted as the best set of predictions available for a given study considering all the limitations. Stated simply by Haenlein and Kaplan:

Consequently, the basic idea of PLS is quite straightforward: First the weight relations, which link the indicators to their perspective unobservable variables, are estimated. Second, case values for each unobservable variable are calculated, based on a weighted average of its indicators, using the weight relations as an input. Finally, these case values are used in a set of regression equations to determine the parameters for the structural relations. (p. 291)

Overall, in contrast to covariance-based SEM, PLS path analysis is not causal modeling but rather is considered component-based predictive modeling, which helps us to know “how predictable an event is given some understanding of other events in the system of prediction”
PLS path analysis gives more weight to the data than to the theory, allowing the data to guide the theory rather than the theory to override the data. Therefore, while PLS SEM can be used for theory confirmation, it can also be used to suggest where relationships might or might not exist and to suggest propositions for later testing.

The main limitation in using PLS path analysis is the problem of consistency at large, which occurs because the case values for the latent variables in PLS SEM are aggregates of manifest variables that involve measurement error. This means that “in all real-life situations, in which both the number of cases in the sample and the number of indicators per latent variable will be finite, PLS tends to underestimate the correlations between latent variables and overestimate the loadings (i.e., the parameters of the measurement model)” (Haenlein & Kaplan, 2004, p. 292). However, as the sample size and number of indicators are increased in PLS, the problem of consistency at large is reduced.

Despite this major limitation, there is good reason to use PLS SEM. It can be a desirable and powerful method of analysis because of the minimal demands on theoretical, measurement, distributional, and practical conditions (see Falk & Miller, 1992). That is, in PLS SEM, hypotheses can be derived from macro-level theory in which relevant variables are unknown, where relationships between theoretical constructs are conjectural, and the relationship between the theoretical constructs and manifest variables are vague.

Regarding measurement conditions, PLS allows you to use different levels of measurement (e.g., categorical, ordinal, and continuous indicators) in the same model. Distributionally, data can come from non-normal or unknown distributions, which has led to this approach being called “soft modeling” (Chin, 1998). In addition, residuals on manifest and latent variables can be correlated (heteroscedasticity) and indicators can have some degree of
unreliability. Indicators can also be modeled in either a reflective or formative mode, which is different from SEM where identification problems arise when using formative indicators.

Reflective indicators estimate their latent constructs in a fashion similar to a principal component analysis (Falk & Miller, 1992), and the direction of causality is from the latent construct to the indicators such that “changes in the latent construct are expected to be manifested in changes in all its indicators” (Henseler, Ringle, & Sinkovics, 2009, p. 289). In contrast, formative indicators estimate a latent construct as a regressed variate and the causality is from the indicators to the latent constructs such that “the indicators collectively represent all the relevant dimensions or independent underpinnings of the latent variable” (Henseler et al., 2009, p. 290).

Practically-speaking, PLS SEM is also desirable because cross-sectional, survey, secondary data, or quasiexperimental research designs can be used. In addition, unlike covariance-based SEM, the required sample size for PLS analysis is much less. That is, researchers need a sample size that is at least ten times the largest of two possibilities: (1) the block/latent construct with the largest number of formative indicators or (2) the dependent latent variable with the largest number of independent latent variables influencing it (Chin, 1998). In the current model, all blocks are with reflective indicators; therefore, the first possibility does not apply. The largest number of independent latent variables influencing a dependent variable is five. Specifically, both *Parent Psychoemotional Distress* and *Empathically Attuned Parenting* are predicted by five independent latent variables. Therefore, ten times the largest of these two would require a *N* of 50, and with the current sample size of 100, the current analysis meets this sample size criteria.

In sum, the computational efficiency of the PLS algorithm lends itself to estimating large complex models, including hundreds of latent variables and thousands of indicators, with
minimal restrictions. Therefore, using PLS analysis becomes an attractive statistical approach when a researcher wants to include a large number of indicators per latent variable but has a smaller sample size.

The proposed model tested in the current study (see Figures 2 and 3) includes 11 latent variables that are created from the manifest variables (or indicators) described in the Measures section. The first latent variable is titled *Parent’s Developmental History of Abuse* which has five reflective indicators: Emotional Abuse, Physical Abuse, Sexual Abuse, Physical Neglect, and Emotional Neglect. There are four latent constructs that account for other parent factors that have been discussed in association with Belsky’s model: *Maladaptive Parent Personality*, which in comprised of 7 reflective indictors of Schizoid, Schizotypal, Paranoid, Antisocial, Borderline, Avoidant, and Dependent; *Parent Psychoemotional Distress*, which includes the three reflective indicators of Depression, General Distress, and Parental Distress; *Nurturing Childrearing Beliefs and Attitudes*, which contains the 3 reflective indicators of parent’s beliefs and attitudes regarding Appropriate Expectations of Children, Empathetic Awareness of Children’s Needs, and Disbelief in the Use and Value of Corporal Punishment; and *Parent Age*, which includes the mothers’ age in years as the sole indicator. There is one latent variable called *Challenging Child Characteristics* that has three reflective indicators that account for difficult child characteristics that influence parenting, including Difficult Temperament, Inattention, and Hyperactivity. There are three latent variables that account for contextual sources of support and stress in the model: *Lack of Emotional Support: Interpersonal Stress*, which is comprised of 2 reflective indicators including Problems From Others and Problems With Family; *Instrumental/Practical Stress*, which has one reflective indicator that represents the total number of children divided by the total number of adults who care for children; and *SES*, which includes Family Income and Social
Status as reflective indicators. *Empathically Attuned Parenting* as a latent variable consists of 4 reflective indicators of Physical Relatedness, Verbal Relatedness, Emotional Synchrony, and Promotion of Initiative. And finally, one latent variables taps into child adjustment outcomes: *Child Psychoemotional Distress*, which consists of Externalizing and Internalizing problems.
CHAPTER 3

RESULTS

Partial least square (PLS) path models are defined by two sets of linear equations: the outer model and the inner model (Henseler et al., 2009). The outer model specifies the relationships between a latent variable and its block of observed or manifest variables (indicators) while the inner model specifies the relationship between the latent variables that have been drawn based on theory. Thus, the evaluation of the PLS path model results is a two step process that includes evaluating the reliability and validity of the outer measurement model, followed by evaluating the inner structural model (Henseler et. al, 2009; Tenenhaus, Vinzi, Chatelin, & Lauro, 2005). This sequence ensures that only reliable and valid construct measures are used before assessing the nature of relationships in the inner structural model (Hulland, 1999).

Evaluation of the Proposed Outer Measurement Model

The first step in evaluating the parameters of the PLS path analysis is to evaluate the outer measurement model, which includes testing the appropriateness of the indicators that are blocked together to represent a latent variable. Except for the two latent constructs that are represented by a sole indicator, all of the latent variables are modeled by reflective indicators. Reflective constructs are assessed with regard to their reliability and validity.

Reliability

Two types of reliability were examined: Internal consistency and indicator reliability. The traditional criterion for internal consistency is Cronbach’s alpha, which provides an estimate for the reliability based on the indicator intercorrelations and assumes all indicators are equally
reliable (Cronbach, 1951). Since PLS prioritizes indicators according to their reliability, a measure of composite reliability is considered a more appropriate measure of the internal consistency of indicators that make up a latent variable because it takes into account that indicators have different loadings (Henseler et al., 2009). Reliability as measured by Cronbach’s alpha or composite reliability is considered adequate when values are greater than or equal to .70 (Henseler et al.; Chin, 1998).

Acceptable Cronbach’s alpha values were obtained for all measurement models except for Nurturing Childrearing Beliefs and Attitudes construct (alpha = .574) and Interpersonal Stress construct (alpha = .543). While these Cronbach’s alphas are lower than .70, composite reliabilities for these measurement models are acceptable (≥ .70). That is, when taking into account that indicators have different loadings and prioritizing these indicators according to their reliability, the internal consistency (as measured by the composite reliability) is acceptable for Nurturing Childrearing Beliefs and Attitudes (.771) and Interpersonal Stress (.799). All other measurement models in the proposed model have acceptable Cronbach’s alphas (.718 to .852) and composite reliability values (.872 to .926) (See Table 3).

As the reliability of indicators varies, the reliability of each indicator should be assessed. An indicator’s reliability is assessed by examining the loading of the measure with its respective construct (Henseler et al., 2009). Higher loadings imply there is more shared variance between the construct and its measures than error variance (Hulland, 1999). Loadings on the paths between each manifest variable and its latent construct should be greater than or equal to .55 (Falk & Miller, 1992). When a manifest variable has a loading less than .55, it shares so little in common with the other measures that is of questionable value in defining the latent construct. For the current model, nearly all factor loadings on the path between a manifest variable and its
latent construct were greater than .55 (see Table 3). Only one manifest variable had a factor loading lower than .55. Specifically, the loading on the path between the manifest variable Sexual Abuse and its latent construct (Parent’s Developmental History of Abuse) was .355. While some psychometrists recommend eliminating reflective indicators from measurement models if their outer loadings are smaller than .40, Henseler et al. (2009) contend that an indicator with a low factor loading should only be eliminated if doing so would substantially increase the composite reliability of the measurement model. When Sexual Abuse was eliminated as an indicator of Parent’s Developmental History of Abuse, the composite reliability increased from .878 to .918. Since the composite reliability of the Parent’s Developmental History of Abuse latent construct was strong both with and without the Sexual Abuse indicator, the .04 increase was not considered substantial enough to eliminate Sexual Abuse as an indicator.

Validity

To determine the validity of the measurement model, two types of validity are typically examined: Convergent and discriminate validity (Henseler et al., 2009; Hulland, 1999). Convergent validity denotes that a set of manifest variables or indicators represent one underlying construct (the latent variable in question). The Average Variance Extracted (AVE) is used to evaluate convergent validity (Chin, 1998; Henseler et al.). An AVE value of at least .50 indicates adequate convergent validity as it means that a latent variable is able to explain more than half of the variance of its indicators on average. All measurement models had adequate convergent validity (see Table 4).

Discriminant validity signifies whether two different concepts have sufficient differences and represent two separate concepts. In PLS path modeling, two measures of discriminant validity are used: the cross-loading criterion and the Fornell-Larcker criterion (Henseler et al.,
The cross-loading criterion examines the discriminate validity at the indicator level. The loading of a manifest variable onto its latent variable should be greater than all of its cross-loadings onto other latent variables (Henseler et. al; Chin, 1998). This was found to be true for all of the manifest variables in the model, supporting the discriminant validity of the latent constructs (see Table 4).

The Fornell-Larcker criterion of discriminate validity postulates that a latent variable shares more variance with its assigned manifest variables than with any other latent variable (Fornell & Larcker, 1981). This criterion assesses discriminate validity at the construct level. Statistically, the AVE of a latent variable should be greater than the latent variable’s highest squared correlation with any other latent variable (Henseler et al., 2009). The Fornell-Larcker criterion was met for all latent constructs except for Maladaptive Parent Personality (see Table 4). The Maladaptive Parent Personality construct’s highest squared correlation was with Parent Psychoemotional Distress. Conceptually, this positive association is not surprising considering the amount of distress personality difficulties can create; however, additional statistics were computed to test the validity of the Maladaptive Parent Personality construct. That is, to further evaluate the discriminant validity of the Maladaptive Parent Personality construct, a third method of assessment was performed that examined the confidence interval around the disattenuated correlation. If the confidence interval (+/- 2 standard errors) around the disattenuated correlation does not contain a value of 1 then evidence of discriminant validity exists (Nunnaly & Bernstein, 1994). The confidence interval of the correlation between Maladaptive Parent Personality and Parent Psychoemotional Distress is 0.677 - 0.986, which does not contain the value of 1, suggesting adequate discriminate validity. Thus, since the Maladaptive Parent Personality construct meets two out of the three criterions for discriminant validity it was
determined to have adequate discriminate validity. Correlations between the latent constructs are also presented in Table 5.

**Evaluation of the Proposed Inner Structural Model**

With the outer measurement model determined to be reliable and valid, the evaluation of the inner structural model can proceed. The inner model is evaluated in multiple ways, including examining the amount of variance explained for endogenous (dependent) latent variables ($R^2$) and the impact of each predictor variable (Henseler et al., 2009). The model is also evaluated for its predictive relevance and overall goodness of fit (Chin, 1998; Tenenhaus et al., 2005).

**Variance Explained and Impact of Predictor Variables of Proposed Model**

Examining the amount of variance explained ($R^2$) of endogenous latent variables is the first step in evaluating the inner structural model. There are seven endogenous variables: 1) Nurturing Childrearing Beliefs and Attitudes, 2) Maladaptive Parent Personality, 3) Parent Psychoemotional Distress, 4) Lack of Emotional support: Interpersonal Stress, 5) Instrumental/Practical Stress, 6) Empathically Attuned Parenting, and 7) Child Psychoemotional Distress. The $R^2$ values for these endogenous variables can be seen in Figure 4 and Table 6. According to Cohen (1987), $R^2$ values of 0.02, 0.15, and 0.26 for endogenous latent variables are described as weak, moderate, and strong respectively. $F$ distribution values were also calculated to test the significance of the variance explained for each endogenous construct (see Table 6). Significant $F$ tests allow for the conclusion that the set of variables taken together predict the dependent/endogenous variable at better than chance levels.

The second step in evaluating the inner model is to assess the estimates of the path coefficients between the endogenous variable and its predictor variables. The path coefficients were first evaluated in terms of their sign and statistical significance, which is illustrated in
Figure 4. A bootstrapping procedure using 1000 subsamples was performed to obtain t-values of the path coefficients. Bootstrapping treats the observed sample as if it represents the larger population and creates larger samples by randomly drawing cases with replacement from the original sample (Henseler et al., 2009). The bootstrapping technique provides an estimate of the shape, spread, and bias of the sampling distribution of a certain statistic from which statistical inferences can be made. Besides t values of the path coefficient, 95th percentile confidence intervals of the path coefficients were also calculated from the bootstrapping procedure to provide more information about the magnitude of path estimates. Henseler et al. state that “if a confidence interval for an estimate path coefficient \( w \) does not include zero, the hypothesis that \( w \) equals zero is rejected” (p. 306). Furthermore, the width of the interval is an indication of the power of the procedure, with smaller widths indicating more power. Additional statistics were run to determine the impact of each predictor on their respective endogenous variables (i.e., effect size and percent contribution to \( R^2 \)). See Tables 7 – 13 for complete results.

Maladaptive Parent Personality was modeled to be predicted by one predictor variable, Parent’s Developmental History of Abuse. The variance accounted for was moderate and significant, \( F(1, 98) = 19.365, p < .05, R^2 = 0.165 \). Thus, a parent’s abuse history was a significant predictor of disordered personality traits (\( Beta = .406, t = 3.954, p < .05 \)) in the expected direction, accounting for 16.5% of the variance with a medium effect size. (See Table 7.)

Parent Psychoemotional Distress was modeled to be predicted by five predictor variables – Parent’s Developmental History of Abuse, Maladaptive Parent Personality, Interpersonal Stress, Instrumental/Practical stress, and Challenging Child Characteristics. The total variance accounted for Parent Psychoemotional Distress was significant and strong, \( F(5, 94) = 57.313, \)
$p < .05$, $R^2 = 0.753$. That is, 75.3% of the variation in Parent Psychoemotional Distress can be predicted on the basis of the five predictor variables.

Looking at the path coefficients from each of the five predictor variables to Parent Psychoemotional Distress, all were found to be significant, and the signs were in the expected direction (see Table 8). Specifically, Maladaptive Parent Personality was the most significant predictor ($Beta = .564$, $t = 7.557$, $p < .05$), accounting for 62.2% of the explained variance in Parent Psychoemotional Distress with a large effect size to suggest practical significance. Interpersonal Stress was the second most significant predictor ($Beta = .231$, $t = 3.545$, $p < .05$) with a large effect size of 0.677 and accounting for 22.2% of the explained variance in Parent Psychoemotional Distress. With a medium effect size, Challenging Child Characteristics was a significant predictor ($Beta = .114$, $t = 1.924$, $p < .05$), accounting for 6.5% of the explained variance of Parent Psychoemotional Distress. Similarly, Parent’s Developmental History of Abuse was also a significant predictor ($Beta = .109$, $t = 1.828$, $p < .05$), accounting for 6.4% of the explained variance in Parent Psychoemotional Distress. Finally, Instrumental/Practical Stress was found to be a significant predictor ($Beta = .102$, $t = 1.866$, $p < .05$), although it accounted for only 2.6% of the explained variance of Parent Psychoemotional Distress and had a smaller effect size. (See Table 8.)

Nurturing Childrearing Beliefs and Attitudes was modeled to have three predictor variables – Parent’s Developmental History of Abuse, Parent Age, and SES. The variance accounted for by these three predictor variables was weak and non-significant $F (3, 96) = 2.225$, $p > .05$, $R^2 = 0.065$. Despite this insignificance, it is valuable to examine the sign of the path coefficients of the predictor variables to determine if they were at least in the expected direction. The sign of the path coefficients from Parent Age to Nurturing Childrearing Beliefs and
Attitudes was in the expected direction (e.g., positive). In contrast, the sign of the path coefficient from Parent’s Developmental History of Abuse was not in the expected direction (e.g., negative instead of positive). The path coefficient from SES to childrearing beliefs and attitudes was so close to zero that the sign is not meaningful. (See Table 9.)

Interpersonal Stress was modeled to be predicted by one predictor variable, Maladaptive Parent Personality. The variance accounted was strong and significant, $F (1, 98) = 104.062, p < .05, R^2 = 0.515$. Thus, Maladaptive Parent Personality was a significant predictor of Interpersonal stress ($Beta = .718, t = 14.850, p < .05$) in the expected direction, accounting for 51.5% of the variation in Interpersonal Stress with a large effect size (see Table 10).

Instrumental Stress was modeled to have two predictor variables, Interpersonal Stress and SES. The variance accounted for by these two predictor variables was weak and non-significant, $F (2, 97) = 1.552, p > .05, R^2 = 0.031$. That is, only 3.1% of the variation of Instrumental Stress can be predicted on the basis of these two predictors. Despite this insignificance, the signs of the path coefficients from both Interpersonal Stress and SES to Instrumental Stress were in the expected direction (e.g., positive and negative, respectively) (See Table 11).

Empathically Attuned Parenting was modeled to be predicted by five variables – Maladaptive Parent Personality, Parent Psychoemotional Distress, Nurturing Childrearing Beliefs and Attitudes, Parent Age, and Challenging Child Characteristics. The total variance accounted for Empathically Attuned Parenting was strong and significant, $F (5, 94) = 6.469, p < .05, R^2 = 0.256$. That is, 25.6% of the variation in Empathically Attuned Parenting was accounted for by the five predictor variables.

Looking at the path coefficients of each of the five predictor variables, only one was found to be significant (see Table 12). Specifically, Nurturing Childrearing Beliefs and Attitudes
was the only significant predictor \( (Beta = 0.291, t = 2.602, p < .05) \), having a medium effect size and accounting for 41.0% of the explained variance of Empathically Attuned Parenting. Although the sign of the path coefficient was in the expected direction, Maladaptive Parent Personality was not a significant predictor \( (Beta = -0.127, t = 0.834, p < .05) \), accounting for 19% of the explained variance of Empathically Attuned Parenting with a small to medium effect size. Similarly, while the sign of the path coefficient was in the expected direction, Parent Psychoemotional Distress was not a significant predictor \( (Beta = -0.187, t = 1.277, p < .05) \). Nevertheless, Parent Psychoemotional Distress accounted for 27.8% of the explained variance of Empathically Attuned Parenting with a small to medium effect size. Parent Age also was not a significant predictor \( (Beta = -0.117, t = 1.191, p > .05) \) with a very small effect size and accounting for only .3% of the explained variance of Empathically Attuned Parenting. Furthermore, the sign of the path coefficient from Parent Age was in the opposite direction than expected (e.g., negative rather than positive). Lastly, Challenging Child Characteristics was not a significant predictor \( (Beta = -0.100, t = 1.029, p < .05) \), with a weak effect size of .040 and accounting for 11.6% of the explained variance of Empathically Attuned Parenting.

Child Psychoemotional Distress was modeled to be predicted by two predictor variables – Empathically Attuned Parenting and Challenging Child Characteristics. The total variance accounted for Child Psychoemotional Distress was strong and significant, \( F (2, 97) = 60.734, p < .05, R^2 = 0.556 \). That is, 55.6% of the variation in Child Psychoemotional Distress was predicted on the basis of the two predictor variables. The path coefficients from both predictor variables to Child Psychoemotional Distress were significant and in the expected direction (see Table 13). Specifically, Challenging Child Characteristics was the most significant predictor \( (Beta = 0.704, t = 14.390, p < .05) \) with a large effect size and accounting for 93.4% of the
explained variance of Child Psychoemotional Distress. Empathically Attuned Parenting was also a significant predictor \((\text{Beta} = -0.113, \ t = 1.693, \ p < .05)\), accounting for 6.6% of the explained variance of Child Psychoemotional Distress with a small-to-medium effect size.

*Predictive Relevance and Goodness of Fit of Proposed Model.*

With the endogenous variables evaluated, the next step in evaluating the inner model is to evaluate the model’s predictive relevance and overall goodness of fit (GoF). A model’s predictive relevance is its capability to predict observables or potential observables (Chin, 1998).

The Stone-Geisser’s criterion, \(Q^2\), is the predominant measure of predictive relevance and can be calculated using a blindfolding procedure (Chin). To estimate \(Q^2\) values, the blindfolding procedure “omits a part of the data for a particular block of indicators during parameter estimation and then attempts to estimate the omitted part using the estimated parameters. This procedure is repeated until every data point has been omitted and estimated” (Chin, 1998, p. 317). Omission and estimation of data points for the blindfolded construct depend on the chosen omission distance, which should be a prime integer between the number of indicators and cases (Wold, 1982). The omission distance for the current study was 11.

There are two types of \(Q^2\) statistics – cross-validated communality (cv-communality) and cross-validated redundancy (cv-redundancy). Cv-communality measures the quality of the measurement model for each block and is obtained if prediction of the omitted data points is made by the underlying latent variable scores (Chin, 1998; Tenenhaus et al., 2005). In contrast, cv-redundancy measures the quality of each structural equation and is obtained if prediction is made by those latent variables that predict the block in question and evaluate the structural regression (Chin, 1998; Tenenhaus et al.). “The mean of the cv-communality values can be used to represent the global quality of the measurement model if they are positive for all blocks,
taking into account the measurement model” (Tenenhaus et al, p. 175). Similarly, the mean of the cv-redundancy scores can be used to measure the global quality of the theoretical/structural model if they are positive for all endogenous blocks.

While both cv-communality and cv-redundancy values are reported in Table 14, cv-redundancy values are of particular interest in evaluating the path model. For individual values, Chin (1998) says that cv-redundancy values greater than zero suggest the model has predictive relevance. However, higher cv-redundancy values are better (Tenenhaus et al., 2005). Analogous to the effect size $f^2$ measure, the relative impact of the cv-redundancy values can be assessed by means of the measure $q^2$, with values of .02, .15, and .35 revealing small, medium, or large predictive relevance of a certain endogenous latent variable (Henseler et al., 2009).

Results revealed that all seven endogenous variables had cv-redundancy values greater than zero supporting the model’s predictive relevance (see Table 14). Furthermore, Parent Psychoemotional Distress, Interpersonal Stress, and Child Psychoemotional Distress had $q^2$ values that reveal large predictive relevance, while Empathically Attuned Parenting had a $q^2$ value indicating medium predictive relevance. Maladaptive Parent Personality had a $q^2$ value that suggests small to medium predictive relevance, and both Nurturing Childrearing Beliefs and Attitudes and Instrumental Stress had $q^2$ values that suggest small predictive relevance. The average cv-redundancy value was .23.

The last step in evaluating the inner model is a calculation of the goodness-of-fit discussed by Tenenhaus and colleagues (2005). Unlike SEM-ML, PLS path modeling typically lacks an index of the global validation of the model. However, Tenenhaus et al. propose an operational solution to this problem where a global criterion of goodness-of-fit (GoF) for PLS path modeling is represented the quality of the measurement and structural models, thus the
square root of the geometric means of the average communality and the average $R^2$. This GoF measure serves a diagnostic purpose and not a formal testing one (Wetzels, Odekerken-Schroder, & van Oppen, 2009). Wetzel and colleagues propose the values of .10, .25, and .36 to represent weak, moderate, and substantial GoF values and model fit. These values were determined based on the acceptable communality value of .50 and Cohen’s (1987) description of .02, .13, and .26 $R^2$ values as weak, moderate, and strong. Thus, the square root of the product of these values would be .10, .25, and .36. For the proposed model, a GoF index value of 0.46 was obtained, which is substantial (see Table 15). This means that the proposed model is able to take into account 46% of the achievable fit, supporting the theory behind the model.

**ModelTrimming**

After testing the proposed model using PLS path analysis, modeling trimming is often considered to eliminate pathways that do not significantly contribute to the model in an effort to identify a more parsimonious, descriptive model (e.g., Bronstein, Ginsburg, & Herrera, 2005; Cowan, Cohn, Cowan & Pearson, 1996; Gore-Felton et al., 2006; Hutchinson & Yates, 2008; Isley, O’Neil, Clatfelter, & Parke, 1999); also referred to as a “reduced model”. Model trimming allows for a comparison between the more complex model and a more parsimonious model to determine which one is a better fit for the data.

Researchers using PLS path analysis have used various criteria in determining which pathways to eliminate. For example, Falk and Miller (1992) suggest eliminating pathways that do not account for .015 of the variance explained, while Cowan and colleagues (1996) used a more conservative criterion of eliminating pathways that explain less than .04 of variance. Using SmartPLS 2.0 (M3) Beta (Ringle et al., 2005) to perform PLS path analysis, Hutchinson and Yates (2008) eliminated pathways found to be non-significant through the bootstrapping method.
Considering the current study also used the SmartPLS 2.0 (M3) Beta program, the proposed model was trimmed in a similar fashion.

The proposed model was trimmed until only significant pathways \((p < .05\) for one-tailed \(t\) tests) remained in the model. This was done in a stepwise fashion, eliminating the weakest path (i.e., smallest \(t\) value) and then re-running the PLS estimation to determine the next weakest path to eliminate. The paths were eliminated in the following order (refer to Figure 5): First, the path between SES and Nurturing Childrearing Beliefs and Attitudes was deleted, followed by the path from Interpersonal Stress to Instrumental/Practical Stress. Next, the path from Maladaptive Parent Personality to Empathically Attuned Parenting was eliminated, which resulted in the pathway from Parent Psychoemotional Distress to Empathically Attuned Parenting becoming significant and remaining in the reduced model. The next pathways to be eliminated were from Parent’s Developmental History of Abuse to Nurturing Childrearing Beliefs and Attitudes and then from Challenging Child Characteristics to Empathically Attuned Parenting. Finally, the path from Parent Age to Empathically Attuned Parenting was deleted, followed by the path from SES to Instrumental/Practical Stress. Once the path from SES to Instrumental/Practical Stress was eliminated, SES was no longer a predictor variable for any endogenous variable and unnecessary in the model. Therefore, it was omitted from the model all together. See Figure 6 for final reduced model.

Once the reduced model was determined, it was then evaluated in the same fashion as the proposed model, assessing the outer measurement model followed by the inner structural model. This allows for a comparison between the proposed model discussed previously and the more parsimonious reduced model.
**Evaluation of the Reduced Outer Measurement Model**

Since the measurement models (i.e., the manifest variables that make up the latent constructs) did not change in the reduced model, the evaluation of the measurement models did not differ significantly from the proposed model. That is, the reliability and validity findings for the reduced model were very similar, if not exact, to those found for the proposed model. Since the differences were so slight (i.e., a few values differed by a hundredth or thousandth of a decimal point), the determination of the adequate reliability and validity of the measurement model for the proposed model also applies to the new reduced model. The precise values for the reduced model, however, are presented in Tables 16-17. Correlations between the latent variables in the reduced model are also presented in Table 18.

**Evaluation of the Reduced Inner Structural Model**

With the outer model of the reduced model determined to be reliable and valid, the evaluation of the reduced inner structural model can proceed, including examining the amount of variance explained for endogenous latent variables and the strength of the path coefficients between latent constructs. For the reduced model, total effects (indirect + direct effects) of the latent construct that precede Empathically Attuned Parenting were also evaluated for their total impact on empathic parenting behavior since this was the main focus of the study (Henseler et al., 2009). Finally, the reduced model was evaluated for its predictive relevance and overall goodness of fit.

**Variance Explained and Impact of Predictor Variables in Reduced Model**

There are six endogenous variables in the reduced model: 1) Maladaptive Parent Personality, 2) Parent Psychoemotional Distress, 3) Nurturing Childrearing Beliefs and Attitudes, 4) Interpersonal Stress, 5) Empathically Attuned Parenting, and 6) Child
Psychoemotional Distress. $F$ tests were run to determine the significance of the variance explained (see Table 19). Additional statistics were also run to determine the impact of each predictor. (See Figure 6 and Tables 20 – 25).

For those latent variables where no predictor variable pathways were eliminated (e.g., Maladaptive Parent Personality, Interpersonal Stress, Parent Psychoemotional Distress and Child Psychoemotional Distress), there was little to no change in the results for the reduced model. However, for Nurturing Childrearing Beliefs and Attitudes and Empathically Attuned Parenting, the two latent variables that now had fewer predicting variables due to the model trimming process, significant changes in the results can be seen. While all results are discussed, the reader is encouraged to pay specific attention to the results pertaining to these two latent constructs.

Similar to the proposed model, Maladaptive Parent Personality was modeled to be predicted by one predictor variable, Parent’s Developmental History of Abuse. Results were nearly identical to the proposed model. Specifically, the variance accounted for was moderate and significant, $F (1, 98) = 19.369, p < .05, R^2 = 0.165$. Thus, similar to the proposed model, a parent’s abuse history was a significant predictor ($Beta = .406, t = 4.220, p < .05$) in the expected direction, accounting for 16.6% of the variance in Maladaptive Parent Personality with a moderate effect size (see Table 20).

As in the proposed model, Parent Psychoemotional Distress was modeled to be predicted by five predictor variables: 1) Parent’s Developmental History of Abuse, 2) Maladaptive Parent Personality, 3) Interpersonal Stress, 4) Instrumental/Practical stress, and 5) Challenging Child Characteristics. The total variance accounted for Parent Psychoemotional Distress was significant and strong, $F (5, 94) = 57.935, p < .05, R^2 = 0.755$. 

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The Beta weights, t tests, and effect sizes for each of the five constructs were nearly identical to the statistics reported for the proposed model (see Table 21). Looking at the path coefficients from each of the five predictor variables to Parent Psychoemotional Distress, all were found to be significant and in the expected direction. Specifically, Maladaptive Parent Personality was the most significant predictor, \( (Beta = .563, t = 7.396, p < .05) \), accounting for 62.0% of the explained variance in Parent Psychoemotional Distress with a large effect size. Interpersonal Stress was the second most significant predictor \( (Beta = .243, t = 3.589, p < .05) \) with a large effect size and accounting for 22.5% of the explained variance in Parent Psychoemotional Distress. With a medium effect size, Parent’s Developmental History of Abuse was also a significant predictor \( (Beta = 0.109, t = 1.714, p < .05) \), accounting for 6.4% of the explained variance in Parent Psychoemotional Distress. Similarly, Challenging Child Characteristics was a significant predictor \( (Beta = .114, t = 1.871, p < .05) \) with a medium effect size and accounting for 6.5% of the explained variance of Parent Psychoemotional Distress. Finally, Instrumental Stress was found to be a significant predictor \( (Beta = .102, t = 1.891, p < .05) \), although the effect size was smaller and it accounted for only 2.6% of the explained variance of Parent Psychoemotional Distress.

In the reduced model Nurturing Childrearing Beliefs and Attitudes was modeled to have only one predictor variable - Parent Age. Unlike in the proposed model that included three predictor variables, the variance accounted for by this one predictor variable was significant but weak, \( F (1, 98) = 5.267, p > .05, R^2 = 0.051 \). This means being able to account for 5.1% of the variance is significant when including only one predictor variable. Thus, Parent Age was a significant predictor of Nurturing Childrearing Beliefs and Attitudes in the expected direction \( (Beta = .226, t = 2.384, p < .05) \), although its effect size was small (see Table 22).
As it was in the proposed model, Interpersonal Stress was modeled to be predicted by one predictor variable, Maladaptive Parent Personality, in the reduced model. Therefore, the results are quite similar to those for the proposed model. Specifically, the variance accounted was strong and significant, $F(1, 98) = 103.232, p < .05, R^2 = 0.513$. And, as was the case for the proposed model, this means that Maladaptive Parent Personality was a significant predictor of Interpersonal Stress in the expected direction ($Beta = .716, t = 15.162, p < .05$), accounting for 51.3% of the variance and having a large effect size (see Table 23).

In the reduced model Empathically Attuned Parenting was modeled to be predicted by two (as opposed to five) predictor variables: 1) Parent Psychoemotional Distress and 2) Nurturing Childrearing Beliefs and Attitudes. Despite the reduction of predictors, the total variance accounted for Empathically Attuned Parenting remained significant and strong, $F(2, 97) = 14.569, p < .05, R^2 = 0.231$. Unlike the results for the proposed model where Parent Psychoemotional Distress was not a significant unique predictor of the variance in Empathically Attuned Parenting, the path coefficients from both predictor variables to Empathically Attuned Parenting were significant and in the expected direction in the reduced model (see Table 24). Moreover, Parent Psychoemotional Distress was the more significant predictor ($Beta = -0.324, t = 3.782, p < .05$), accounting for 53.5% of the explained variance of Empathically Attuned Parenting with a medium effects size. Nurturing Childrearing Beliefs and Attitudes remained a significant predictor ($Beta = .298, t = 2.784, p < .05$), explaining 46.5% of the variance accounted for in Empathically Attuned Parenting with a medium effect size.

It is interesting to note that when trimming the original model, the elimination of the pathway from Maladaptive Parent Personality to Empathically Attuned Parenting resulted in the increase of the path coefficient to a significant level between Parent Psychoemotional Distress...
and Empathically Attuned Parenting. This suggests that the impact a parent’s maladaptive personality on empathic parenting is indirect is mediated by the parent’s current level of distress.

As it was in the proposed model, Child Psychoemotional Distress was modeled to be predicted by two predictor variables in the reduced model – Empathically Attuned Parenting and Challenging Child Characteristics. Therefore, the results are almost identical to those of the proposed model. That is, the total variance accounted for Child Psychoemotional Distress was significant and strong, $F(2, 97) = 60.489$, $p < .05$, $R^2 = 0.555$. The path coefficients from both predictor variables to Child Psychoemotional Distress were significant and in the expected direction (see Table 25). Challenging Child Characteristics was the most significant predictor ($Beta = 0.703$, $t = 15.467$, $p < .05$), accounting for 93.4% of the explained variance of Child Psychoemotional Distress with a large effects size. Empathically Attuned Parenting was also a significant predictor ($Beta = -0.113$, $t = 1.760$, $p < .05$), although its effect size was small to medium and it accounted for 6.5% of the explained variance of Child Psychoemotional Distress.

*Total Effects on Empathically Attuned Parenting*

For the reduced model, an additional step of evaluating the total effects of the various determinants on empathic parenting was performed. Henseler et al. (2009) state that examining the sum of the direct effect and all indirect effects of a particular latent variable provides more grounds for conclusions on the inner model. Thus, for all latent constructs that preceded empathically attuned parenting, their total effect (direct + indirect) were calculated and tested for significance using the bootstrapping procedure. All of the preceding variables had significant total effects on empathic parenting (see Table 26). That is, the five parent factors, the two contextual factors, and the one child factor included in the reduced model were found to have
significant total effects on empathically attuned parenting. This supports the direct and indirect relationships drawn to empathic parenting, suggesting mediated relationships.

*Predictive Relevance and Goodness of Fit of the Reduced Model.*

With the endogenous variables evaluated, the next step was to evaluate the model’s predictive relevance (cv-communalities and cv-redundancies) and overall goodness of fit (GoF). Most values were quite similar, if not identical to the proposed model. That is, the cv-redundancy values for the endogenous variables in the trimmed model are all greater than zero, suggesting the model has predictive relevance (Chin, 1998; see Table 27). Moreover, as was found for the proposed model, Parent Psychoemotional Distress, Interpersonal Stress, and Child Psychoemotional Distress had $\eta^2$ values that reveal large predictive relevance, while Empathically Attuned Parenting had a $\eta^2$ value indicating medium predictive relevance. Maladaptive Parent Personality had $\eta^2$ values that suggest small to medium predictive relevance, and Nurturing Childrearing Beliefs and Attitudes had $\eta^2$ values that suggest small predictive relevance.

Represented by the square root of the geometric means of the measurement and structural models, the GoF value for the reduced model is 0.49 (see Table 28), which is substantial and slightly higher than the GoF of the proposed model. This means that the reduced model is able to take into account 49% of the achievable fit.

*Comparison of the Proposed and Reduced Models*  

The GoF values of the complex proposed model and the more parsimonious reduced model were compared to determine which was the stronger model. The proposed model earned a GoF value of .46, while the reduced model had a GoF value of .49. Considering the value of parsimony and eliminating the “noise” (i.e., error) of overfitting a model (Preacher, 2006), the
finding that the reduced model is able to take into account a similar (slightly more) achievable fit supports the acceptance of the reduced model as better.
Parental empathy has long been thought to be critical to a child’s development. Thus, the primary goal of the current study was to broaden the understanding of factors that influence empathic parenting behaviors. Using Belsky’s (1984) process model of the determinants of parenting as a guide, an expanded model was proposed that included multiple parent, child, and contextual factors that impact empathic parenting behaviors and, ultimately, child psychoemotional adjustment. By using PLS path analysis, a variance-based type of structural equation modeling, the current study was able to examine all the domains of influence (parent, child and contextual domains) at once, shedding light on the process and interactive relationships between these determinants of parenting. Considering the importance Belsky (1984, 1990) placed on parent factors, of particular interest was the inclusion of various facets of a parent’s psychological resources that contribute to empathic parenting, such as the parent’s developmental history of abuse, personality, psychological functioning, childrearing beliefs and attitudes, and maturity (represented by age). These parent factors were modeled to influence and interact with each other as well as three types of contextual factors (interpersonal stress, instrumental stress, and SES) and child characteristics in predicting empathic parenting. In addition, the current study focused on empathically attuned parenting behaviors with school-age children, an age group that has been underrepresented in empirical studies of observed parental empathy.
Summary of Findings

Despite some pathways between latent constructs being non-significant and some $R^2$ values being weak, the proposed model achieved a substantial fit with a GoF of .46. However, by trimming the model to include only significant path coefficients, a more parsimonious model with a slightly better GoF was achieved (a GoF of .49) and the unique relationships between factors revealed. Inspection of the pathways in the proposed and reduced model helps explain how various factors impact empathic parenting and ultimately child distress.

Parent Factors and Empathically Attuned Parenting

The five parent factors included in the model were the parent’s developmental history of abuse, personality, psychoemotional functioning, childrearing beliefs and attitudes, and age/maturity. By separating these parent factors and examining their direct and indirect relationships with empathic parenting, the distinct relationship that different systematic taxonomies of parent characteristics have with other influential factors in the parenting system can be explored.

Consistent with Belsky’s model (1984), the parent’s developmental history, specifically his or her childhood abuse history, was expected to predict parenting indirectly by way of its prediction of the parent’s personality, current psychological functioning, and childrearing beliefs and attitudes. The findings support two of these relationships. Specifically, the parent’s abuse history strongly predicted the parent’s personality and current psychoemotional functioning. This means that parents who reported experiencing more abuse in their childhood also reported higher levels of dysfunctional personality characteristics and levels of depression and general and parental distress. Ultimately, the total effect of a parent’s childhood abuse history on
empathically attuned parenting in the reduced model was significant, supporting these indirect pathways in influencing parenting.

In contrast, a parent’s abuse history was found not to be a significant predictor of his or her childrearing beliefs and attitudes. In fact, the path coefficient and correlation between a parents’ abuse history and their current childrearing beliefs and attitudes was not in the expected direction (although non-significant), hinting that parents who experienced more abusive parenting during their childhood actually end up having adaptive, nurturing childrearing beliefs and attitudes. This is inconsistent with the research that supports an intergenerational transmission of childrearing beliefs (see McGillicuddy-De Lisi & Sigel, 1995) that would suggest parents who experienced abusive or neglectful parenting would endorse similar maladaptive childrearing beliefs and attitudes. At the same time, this finding supports the research that most abused children do not grow up to be abusive parents (e.g., Sroufe et al., 1988; Zaidi et al., 1989). In the end, the findings suggest that the effects of a person’s developmental history of abuse on parenting is by way of its relationship with the parent’s personality and psychoemotional functioning.

It is also important to note various reasons why a parent’s abuse history did not predict childrearing beliefs and attitudes in the current study. First, the measure used to assess childhood abuse history (i.e., CTQ) is not specific to abuse by a parent. That is, the history of abuse reported by the parent may have been abuse by another person besides his or her parent. Thus, if the perpetrator of the abuse was not his or her parent or caregiver, the likelihood that the child would grow up to be a parent who endorses childrearing beliefs that perpetuate child abuse would be decreased.
Another reason a parent’s abuse history didn’t predict empathic parenting may be due to a bias in the type of parents who volunteer for research with a focus on parent-child relationships. That is, parents who were drawn to participate in the current research about parent-child relationships may be those individuals who, despite an abusive childhood, are interested and invested in bettering their parenting skills and thus, are more aware of appropriate parenting attitudes and beliefs. In fact, the demographic questionnaire includes questions about participation in parenting class, and 47% of the current sample reported having attending some type of parenting class.

A final possibility for the lack of a relationship between parents’ abuse history and their childrearing beliefs and attitudes is that individuals who acknowledge that they were abused as children are less likely to rate potentially injurious parental disciplinary acts as acceptable (Bower-Russa et al., 2001). Thus, parents who acknowledged abuse in the current study would be less likely to endorse abusive, maladaptive childrearing beliefs and attitudes. In addition, the Childhood Trauma Questionnaire used to assess parent abuse history in the current study includes a Denial/Minimization validity scale. Parents with elevated Denial/Minimization scores were eliminated from the sample; thus, abused parents who cannot or do not acknowledge that history and are at higher risk for perpetuating the cycle may not have been represented in this sample. Ultimately, since a developmental history of abuse was not a significant predictor of parenting beliefs and attitudes, this pathway was removed in the reduced model.

An acknowledged history of abuse and/or neglect in childhood did predict maladaptive personality traits and greater psychoemotional distress among parents. These findings suggest that although the abuse survivors in the current sample maybe hold more nurturing parenting
attitudes, they are not immune from other types of negative impact from their abusive experiences.

A parent’s maladaptive personality traits, which were adequately predicted by his or her developmental history of abuse, was expected to influence empathic parenting directly, as well as indirectly by way of its relationship with the parent’s current psychoemotional distress and the contextual factor of emotional support (as measured by reported interpersonal stress). Results for the proposed model did not support any of these relationships. That is, a parent’s endorsement of maladaptive personality traits did not directly predict empathic parenting, and an indirect impact on parenting was not supported since the parent’s level of psychoemotional distress was not a significant predictor of empathically attuned parenting in the model as it was originally proposed.

These non-significant findings are surprising considering the amount of research and literature on the subject (e.g., Belsky & Barrends, 2002; Kockanska et al., 1997, 2004). One possible explanation is the low rate of disordered personality traits detected in our community sample. What is more surprising, though, is the finding that, despite being predicted rather substantially by its five predictor variables, a parent’s level of psychoemotional distress was not a significant predictor of empathic parenting in the proposed model. A lack of a direct relationship between a parent’s personality and empathic parenting would be more acceptable had the indirect relationship via the parent’s current psychoemotional functioning been supported. However, through the model trimming process, an interesting finding was revealed; specifically, when the direct path from parent personality and empathic parenting was removed, the path from parent psychoemotional distress to empathically attuned parenting became significant. This suggests the relationship between a parent’s personality and empathic parenting
is mediated by the parent’s current psychoemotional functioning. This is consistent with Belsky and colleagues (1995) finding that the relationship between parent personality and parenting is mediated by parent factors such as the parent’s mood and emotional experience. In sum, it appears that the influence of a parent’s personality on empathic parenting is due to its relationships with a parent’s level of psychoemotional distress and the lack of emotional support that, in turn, predicts psychoemotional distress.

The relationships exposed through the model trimming process highlight the pivotal role that a parent’s psychoemotional functioning plays in determining empathically attuned parenting. That is, the findings of the current study suggest that a parent’s psychoemotional distress mediates the relationship between various determinants of parenting, not just the parent’s personality. Similar to parent personality, challenging child characteristics were expected to directly and indirectly predict empathic parenting but the model trimming process again revealed that only the indirect relationship by way of the parent’s psychoemotional distress was important.

In addition, the findings supported the hypothesis that contextual factors such as interpersonal stress and instrumental/practical stress would indirectly predict empathic parenting by way of their relationship with the parent’s psychoemotional functioning. Thus, as was suggested by Belsky (1984), the current findings identified a parent’s psychoemotional functioning (as measured by distress and symptoms of depression) as the primary agent through which child characteristics, some contextual factors, and other parent factors such as the parent’s personality and developmental history of abuse contribute to empathically attuned parenting behaviors.

The inclusion of a parent’s beliefs and attitudes about childrearing was an expansion of Belsky’s discussion of parent factors that determine parenting. Childrearing attitudes and beliefs were modeled to be predicted by a parent’s developmental history (i.e., past abuse history), the
parent’s maturity (age), and the family’s SES. Of these three predictor variables, only parent age was found to be a significant, although weak predictor. In turn, the variance accounted for by the three predictors of childrearing beliefs and attitudes was weak. In fact, when trimming the non-significant pathways from a parent’s abuse history and the family’s SES to a parent’s childrearing beliefs and attitudes, the variance accounted for in childrearing beliefs and attitudes decreased minimally from .065 to .051. Despite the weak variance accounted for, the direct pathway from a parent’s beliefs and attitudes about childrearing to empathic parenting was significant, signifying that parents who held more nurturing childrearing beliefs and attitudes were observed to be more empathic while interacting with their child. This finding suggests that parent self-report of their nurturing childrearing beliefs and attitudes is not so affected by a social desirability bias to be rendered useless. Considering that parent’s childrearing beliefs and attitudes were one of the two significant predictor variables of empathic parenting (along with the parent’s psychoemotional functioning) emphasizes their importance as a determinant of empathic parenting.

Parent maturity and wisdom that comes with age and experience (represented by parent age) was expected to have a direct impact on empathic parenting as well as an indirect effect through its relationship with the parent’s childrearing beliefs and attitudes. Although the direct relationship was not supported in the current study, the indirect pathway was. That is, older parents tended to endorse more nurturing childrearing beliefs and attitudes that, in turn, predicted more empathically attuned parenting behaviors. The lack of a direct prediction, in combination with significant indirect effects discovered through the testing of the total effects of the reduced model, suggests that parent maturity’s impact on parenting is mediated by other factors such as childrearing beliefs. It is reasonable that the passage of time itself (i.e., aging) does not predict
or ‘guarantee’ better parenting, but that those parents who learn about appropriate expectations for children (e.g., the high risk-to-benefit ratio of corporal punishment, etc.) over time are gaining the type of knowledge or wisdom that contributes to more attuned parenting.

**Child Factors and Empathically Attuned Parenting**

Child characteristics were modeled to directly and indirectly impact empathic parenting. While challenging characteristics of the child were found to predict a parent’s level of psychoemotional distress, the child’s general temperament and tendency to be inattentive or hyperactive were not found to have a direct relationship with empathically attuned parenting. Therefore, this direct path to empathic parenting was removed in the reduced model. The significant total effects between challenging child characteristics and empathic parenting in the reduced model suggest a mediated relationship by way of the parent’s psychoemotional distress. That is, the experience of having a ‘difficult’ child in itself does not lead to less empathic parenting, but the negative impact of having a child with challenging characteristics such as hyperactivity and a difficult temperament on a parent’s level of psychoemotional distress does predict less empathic parenting.

The finding that child characteristics only influence empathic parenting behaviors indirectly is contrary to other research (e.g., Kochanska et al., 2004) and adds to the literature. However, there are artifacts of the current research that could explain this unexpected finding. That is, the type of parents who are attracted to research about parent-child relationships are most likely those who are confident in or more invested in improving their parenting skills and have participated in parent training courses, which 47% of the current sample had. Therefore, their child’s difficult behavior may have been better understood, and the parents in the current study may have learned to adapt to their child’s specific needs more so than other parents who are not
interested in volunteering for this type of research. Moreover, since the parents were the ones who reported the child’s difficult characteristics, it may be that parents who are more aware of and acknowledge the challenges their children face take that into consideration when they interact with their child, such as during the PCIA, resulting in the difficult child characteristics not directly predicting empathic parenting as expected.

**Contextual Factors and Empathically Attuned Parenting**

The three contextual factors included in the proposed model were lack of available emotional support (represented by interpersonal stress), instrumental/practical stress, and a family’s socioeconomic status. The contextual factors were expected to have only indirect relationships with empathic parenting, which was different than what Belsky (1984) had proposed. That is, all three contextual factors were modeled to have relationships with parent factors that, in turn, influence empathic parenting.

The emotional support available to a parent was represented by the parent’s report of interpersonal stress. Higher levels of interpersonal stress represented lower emotional support available for the parent. In the proposed model, a lack of emotional support was predicted by only one variable – a parent’s maladaptive personality – which was found to be a significant and strong predictor. Parents who endorsed more maladaptive personality characteristics tended to have more interpersonal problems with family members and other people in their lives who could have potentially provided emotional support. In turn, interpersonal stress was a positive and significant predictor of a parent’s level of psychoemotional distress. Given the relationship between a parent’s psychoemotional distress and empathic parenting, it appears that helping parents to improve their relationships in general may indirectly improve their parent-child relationship.
Based on research that suggests a parent’s ability to maintain positive relationships with others and their community can impact the practical assistance to which he or she has access, a lack of emotional support (i.e., interpersonal stress) was also expected to predict instrumental stress. This relationship was not supported in the current study. That is, interpersonal stress was not a significant predictor of instrumental/practical stress. As a result, this pathway was eliminated in the reduced model. This lack of a relationship may be best explained by the poor measurement of instrumental stress in the current study and will be addressed further during the discussion of instrumental stress to follow.

Instrumental stress, or the lack of practical assistance, was modeled to be predicted by a lack of emotional support (interpersonal stress) and the family’s SES. Neither were significant predictors, and together they accounted for only 3.1% of the variance of instrumental/practical stress. This means that neither the amount of emotional support available to the parent nor the benefits or limits associated with a family’s SES influenced the amount of practical support the parent had in caring for his or her children. However, the lack of prediction of instrumental stress by interpersonal stress and a family’s SES may be best explained by the insufficient number of indicators included to represent instrumental stress. Having only one indicator for instrumental stress (i.e., the ratio of children to caregivers) did not capture all the manifestation or facets of instrumental/practical stress. The inclusion of other indicators of instrumental/practical stress such as measures of the quality of housing, safety of the neighborhood in which the family resides, access to healthcare, access to and affordability of quality childcare/schooling, work flexibility, and access to parent education would have made for a stronger representation of this construct that may have been better predicted by interpersonal stress and a family’s SES. This is a weakness of the outer measurement model of
instrumental/practical stress in the current study. Thus, it is not surprising that neither SES nor interpersonal stress were significant predictors of the instrumental stress in the current study.

Instrumental or practical stress was modeled to indirectly influence empathic parenting by way of its relationship with a parent’s psychoemotional functioning. Despite the weak variance accounted for, instrumental/practical stress (defined by the ratio of children to caregivers) was a significant predictor of a parent’s psychological well-being in the proposed model. This means that a higher ratio of children to caregivers predicted higher levels of distress reported by parents.

In the process of trimming the model, the pathways from interpersonal stress and SES to instrumental stress were eliminated, making instrumental stress an exogenous variable instead of an endogenous variable. With this change, instrumental stress was still found to be a significant predictor of a parent’s psychological well-being, which, in turn influenced empathic parenting. Therefore, the reduced model supports the indirect influence of instrumental or practical stress on empathically attuned parenting by way of its relationship to a parent’s psychoemotional distress. This is not surprising considering the added demands of parenting that would increase stress as the number of children increase and the available adults that care for the child go down.

A family’s socioeconomic status (an aggregate of parents’ income, education, and occupational status) was included as the third contextual factor in the model, and it was modeled to indirectly impact empathic parenting by way of its relationship to instrumental stress and a parent’s childrearing beliefs and attitudes. As mentioned earlier, the family’s SES was not found to be a significant predictor of instrumental/practical stress experienced by the parent or the childrearing beliefs and attitudes a parent may hold. Thus, SES appeared to have no relationship to empathic parenting in the proposed model.
Various speculations for the non-significant role of SES in the model can be made. First, the lack of a significant relationship between SES and instrumental stress is most likely due to the inadequate measurement of instrumental/practical stress, as was discussed above. Therefore, this proposed indirect impact on empathic parenting was not supported. Another possible explanation for this non-significant relationship is that the range of SES in the current sample was limited (skewed in the negative direction) which may have resulted in little variation of instrumental stress to detect a significant relationship. It would be important for future research to obtain a sample with a better representation of the range of family SES levels.

The lack of a relationship between SES and the parent’s childrearing beliefs and attitudes held also may be due to the negatively skewed distribution of SES of the current sample. Thus, with less of a normal range of SES levels, the proposed relationship between SES and childrearing beliefs and attitudes may not have been revealed. Another explanation for the lack of prediction of the parent’s childrearing beliefs and attitudes by the family’s SES may be due to the fact that the current study took place in a geographical area where more conservative religious beliefs are prevalent, such that parents from all SES levels endorse similar parenting beliefs and attitudes about the use of corporal punishment, what should be expected of children, and the need for a parent to be empathic aware of children’s needs. It is also likely that the categories of occupations identified in the Four Factor Index of Social Status (Hollingshead, 1975) do not reflect a graduated scale of the work characteristics to which the research connecting SES and parenting beliefs and attitudes is referring. That is, some occupations included in 9th category of Hollingshead’s (1975) index have work characteristics that value conformity and emphasize obedience (e.g., upper level military personnel) while other occupations in the same category may promote collaboration and cooperation (e.g.,
psychologist). Thus, the research that supports different childrearing beliefs and attitudes for parents from divergent social class based on work values of varying classes of occupations may not be reflected in the current research due to the measure used for SES. To tap into this relationship it may be better to assess work values in various occupations (e.g., Finkel, Andel, Gatz, & Pedersen, 2009; Satterwhite, Fleenor, Braddy, Feldman, & Hoopes, 2009).

Because a family’s SES did not have significant predictive relationships to any of its proposed dependent variables, it was eliminated from the model during the trimming process. While this was done to test the reduced model in the current study, it seems premature to eliminate SES from future research examining the determinants of parenting considering the significant amount of research justifying the inclusion of SES in this model. Therefore, it is recommended that future researchers keep a measure of SES in the model but include a sample with a wider range of SES to better assess how SES plays out in the model.

While various indirect relationships with empathic parenting were proposed, empathically attuned parenting was ultimately expected to be directly predicted by a parent’s psychoemotional functioning, personality, childrearing beliefs and attitudes, parent age, and child characteristics. With these five predictors in the proposed model, 25.6% of the variance of empathic parenting behavior was accounted for, which is a substantial amount in psychological research. Interestingly, only a parent’s beliefs and attitudes about childrearing was found to be a significant predictor of empathic parenting in the proposed model, accounting for 41% of the variance. Thus, while the remaining predictors collectively accounted for the remaining 59% of variance explained, a parent’s maladaptive personality traits, age, psychoemotional distress, and difficult child characteristics were not found to have a direct effect on empathic parenting.
The model trimming process revealed that, along with the parent’s nurturing childrearing beliefs and attitudes, the parent’s level of psychoemotional distress was also a significant predictor of empathic parenting. Moreover, they both appear to act as mediators for other determinants in the model, which has been discussed in more detail above. With these two predictors, 23.1% of the variance of empathically attuned parenting was accounted for, which is strong.

Considering most of the predictors of empathically attuned parenting were measured in the negative direction (e.g., maladaptive personality, difficult child characteristics, parent distress), there is possibility that variance of empathic parenting could have been better captured by the assessment of more of the positive aspects of the included constructs. For example, including measures of the Big Five model of personality or other non-pathological measures of personality such as the 16 Personality Factors (Cattell, Cattell, & Cattell, 1993) to represent parent personality and including measures of life satisfaction, enjoyment of parenting, and relaxation to represent the parent’s psychoemotional functioning, may result in a better prediction of empathic parenting.

Child Adjustment

While the factors that impact empathic parenting were the primary focus of the current study, Belsky’s (1984) model was ultimately concerned about parenting’s relationship with child adjustment. Thus, the proposed model included a final leg of the model with the child’s psychoemotional functioning being predicted by empathically attuned parenting and child characteristics. The results reveal that while empathic parenting is a significant predictor of a child’s level of psychoemotional distress, it is the child’s challenging characteristics or temperament that was the primary predictor of child outcome. This suggest that the innate
characteristics of the child are more important predictors of a child’s psychoemotional functioning than parenting, or nature is more critical than nurture, if you will.

A big caveat to that interpretation, however, is related to the fact that the parent was the sole reporter of the characteristics of the child and the child’s psychoemotional functioning, which can cause a bias called common method variance. This bias arises when the covariance caused by the measurement approach rather than the measured trait causes relationships between two constructs to either inflate or attenuate compared to the true value (Williams & Brown, 1994). Thus, the strong prediction of the challenging child characteristics of the child’s psychoemotional distress may be due to the parent being the single rater for both constructs which can inflate the covariance of these constructs.

Implications of Findings

Theoretical Implications

The current study contributes to the literature on empathic parenting in multiple ways. First, the current study expanded the determinants of parenting model proposed by Belsky (1984) to include multiple parent, child, and contextual factors. Second, the use of a variance-based SEM procedure such as partial least squares path analysis allowed these multiple determinants of parenting to be examined simultaneously and modeled to have both direct and indirect relationships with empathic parenting. The results of this approach revealed some interesting findings.

By examining various parent factors as separate constructs in the same model, unique relationships between the determinants of empathic parenting were revealed. Of particular interest was the discovery that rather than having a significant direct impact, a parent’s maladaptive personality traits predicted empathic parenting mainly by way of its relationship
with the parent’s psychoemotional functioning, supporting a mediated relationship.

Furthermore, the inclusion of a parent’s childrearing beliefs and attitudes in the model, a parent factor to which Belsky did not refer in his discussions, highlighted its importance as a critical parent predictor of empathically attuned parenting.

The findings also emphasize the importance of a parent’s psychoemotional functioning as a mediator between several other determinants of parenting and empathic parenting. Specifically, challenging child characteristics were not direct predictors of empathic parenting but significantly influenced empathic parenting indirectly by way of the parent’s psychoemotional functioning. Similarly, although contextual factors such as interpersonal and instrumental stressors were not modeled to have direct effects on empathic parenting, their indirect effects (by way of their relationship with the parent’s psychoemotional distress) were significant.

In sum, the current study validates Belsky’s (1984) model of the determinants of parenting while uncovering unique, indirect relationships between the determinants and parenting. That is, the parent’s childhood abuse history predicted aspects of the parent’s current psychological functioning (e.g., personality, psychoemotional distress) that, in turn, predicted empathic parenting. Furthermore, the impact of contextual and child factors on empathic parenting depended on their relationship with parent factors (i.e., psychoemotional distress). However, while Belsky identified the parent’s psychological resources as the most important buffers or determinants of parenting, the current findings specifically identify the parents’ psychoemotional functioning and childrearing beliefs and attitudes (vs. their developmental abuse history, personality, or age) as the most important direct determinants of competent parenting.
Clinical Implications

The clinical implications of the findings are many. First, the findings confirm that there are many factors at play in the prediction of empathic, competent parenting that may moderate or mediate the transgenerational transmission of abuse. Thus, there are multiple appropriate targets for intervention. For example, the current study highlights the importance of assessing a parent’s childrearing beliefs and attitudes and level of distress when a family comes in for therapy, a parent seeks parenting assistance, or a child is referred because of internalizing or externalizing symptoms. From there, interventions can focus on modifying the parent’s childrearing beliefs and attitudes or distress level to improve the parent-child relationship and ultimately the child’s psychoemotional functioning. Specifically, finding ways to increase emotional and instrumental/practical support may be helpful. However, taking into consideration the powerful role that the parent’s personality plays in influencing his or her psychoemotional well-being, interventions that include assessing and addressing the parent’s personality issues would be critical. And lastly, helping the parent to better understand and cope with the needs of his or her child so that challenging characteristics do not cause more psychoemotional stress for the parent is important.

Along those same lines, when families present for therapy to help with concerning child behaviors or the child’s psychoemotional functioning, the findings underscore the importance of assessing child characteristics as well as a parent’s ability to be empathically attuned to their child’s needs. So, while addressing challenging characteristics or behaviors of the child would still be the most important focus in therapy to improve a child’s psychoemotional well-being, the current findings suggest that it would also be critical to address how successful the parent is at interacting empathically with the child. Children with difficult temperaments and/or
psychoemotional problems present more parenting challenges that could decrease empathically attuned parenting. Thus, considering the significant role a parent’s psychoemotional functioning plays in predicting empathic parenting, helping the parent not to take the child’s challenging characteristics or behaviors to represent a reflection of him/her as a parent or as a personal affront that could cause distress or lowered self-esteem may help the parent to react more empathically towards a more challenging child.

Methodological Limitations

Measurement Limitations

Since the study used archival data, there were limitations in what measures were used as manifest variables for latent constructs. Specifically, the Instrumental/Practical Stress construct was inadequately represented by having only one indicator, which most likely resulted in non-significant findings that involved this construct. Should this study be replicated, it is recommended that additional measures of instrumental stress be included such as information about safety of the family’s neighborhood, neighborhood resources available.

Similarly, the measurement of available emotional support in the current study was limited. While interpersonal stress should translate to inadequate emotional support, there are better ways to measure or represent available emotional support. Thus, should the current study be replicated, including measures that directly tap into the parent’s perceptions of support from friends, relatives, and one’s spouse/partner is recommended. Moreover, since there is a substantial amount of research that identifies spousal support of both the emotional and instrumental variety to be related to empathic parenting (e.g., DeVito & Hopkins, 2001; Hipke, 2002), including a measure of marital quality or relationship satisfaction to better represent available emotional support would improve the current study.
**External Validity and Generalizability**

The findings of this study are subject to several limitations which are common in this type of research. First, since the participants included in this study were gathered on a volunteer-basis, it is likely that this research attracted parent-child dyads with characteristics that are not representative of the general population. That is, people who are interested, willing, and able to volunteer four to five hours of their time to participate in research about parent-child relationships may have characteristics that are not representative of the general population. For example, 47% of the parents reported having attended some type of parenting class, 52% had attended counseling, 23% of the children had attended counseling, 45% had earned degrees from a 4-year college or had professional/advanced degrees, and over 40% had a household income of $60,000 or more. These descriptive statistics highlight that the current sample represented a more specific population that has higher education, more resources, and a particular interest in improving themselves and better understanding their child and their role as a parent.

There are other factors inherent in this kind of research that limit its generalizability. Specifically, more mothers than fathers volunteered for the study, thus it is possible that the current findings are more reflective of mothers and less generalizable to fathers. Moreover, the current sample included predominately Caucasian parent-child dyads, which limits the findings applicability to all racial and cultural backgrounds. Finally, the majority of the parents in this study were in two-parent vs. single parent households, which might have skewed the data. That is, since two-parent households are more likely to have increase resources such as potentially higher family SES and more sources of instrumental and emotional support, the current data may not reflect how the determinants play out for single-parent households.

**Future Directions**
Results of the current study highlight areas for future research. As mentioned in the literature review, little research has examined how a parent’s personality traits influence parenting behaviors. The current findings identify the relationship between parent personality and the parent’s psychoemotional functioning as critical to empathically attuned parenting. Therefore, research that further examines the relationship between the parent’s psychological functioning and taxonomies of both personality disorders and more general personality traits (e.g., Big-Five Model, etc.) would add to the parenting literature. It might also be interesting to include a pathway from parent personality to childrearing beliefs and attitudes to see if the relationship between a parent’s developmental history of abuse and his/her childrearing beliefs is mediated by a parent’s personality traits.

While the current study found no relationship between a family’s SES and the determinants of parenting, there is much research to support keeping SES in the model. Therefore, research that continues to study the impact of SES on empathic parenting would be important. It might also be interesting to examine how a parent’s personality affects the family’s SES since people with difficult personalities might gravitate to certain lines of work and may have a harder time keeping a job or developing leadership or management skills that would most likely lead to promotions that would improve their SES (e.g., Kanfer, Wolf, Kantrowitz, & Ackerman, 2010; MacLane & Walmsley, 2010; Satterwhite et al., 2009).

Another important part of the equation that is addressed by Belsky (1990) but not included in the current study is the importance of the parent’s internal working models of their own relationship histories (Main et al., 1985). That is, an important aspect of parents’ developmental histories is their attachment history to their own caregivers. Thus, future research
that can include measures of a parent’s attachment history in the model would be very interesting.

As mentioned above, it also would be important for future research to improve the measurement of the available emotional support and instrumental/practical stress constructs. Specifically, including measures that directly ask about support networks and marital/relationship quality would better represent an emotional support construct. Similarly, including additional measures that assess quality of housing, access to healthcare, access to and affordability of quality childcare/schooling, access to parent education, and work flexibility would greatly improve the measurement of the instrumental/practical stress construct.

And lastly, examining the role that participating in therapy and/or parenting education classes has on the model would be interesting. Specifically, comparing the model fit for those who have participated in therapy or parenting education and those who have not might further highlight how parents with a developmental history of abuse recover from this experience and go on to develop nurturing, empathically attuned parenting behaviors.

In summary, there were many theoretical and clinical implications stemming from this research. By using a structural equation modeling approach, this study expanded theories of empathic parenting by examining the process by which various variables predict empathic parenting and, ultimately, one form of child outcome. New relationships between constructs were illuminated that prompt further research, and foci of interventions to improve parenting behaviors and promote optimal child development were identified.
Table 1

Descriptive Statistics for the Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating parent’s age in years</td>
<td>37.56</td>
<td>6.66</td>
<td>24 – 58</td>
</tr>
<tr>
<td>Participating child’s age in years</td>
<td>7.57</td>
<td>1.47</td>
<td>5 – 10</td>
</tr>
<tr>
<td>Number of other children in the household</td>
<td>1.10</td>
<td>0.96</td>
<td>0 - 6+</td>
</tr>
<tr>
<td>Number of other adults caring for children</td>
<td>1.33</td>
<td>0.92</td>
<td>0 - 4+</td>
</tr>
<tr>
<td>Social status&lt;sup&gt;a&lt;/sup&gt;</td>
<td>43.47</td>
<td>13.85</td>
<td>9 – 66</td>
</tr>
</tbody>
</table>

<sup>a</sup> Using Hollingshead four factor index of social status (1975) coding system.
Table 2  
*Descriptive Frequencies for the Sample*  

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
</tr>
</thead>
<tbody>
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<td><strong>Child gender</strong></td>
<td></td>
</tr>
<tr>
<td>Boy</td>
<td>54</td>
</tr>
<tr>
<td>Girl</td>
<td>46</td>
</tr>
<tr>
<td><strong>Participating parent’s gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>18</td>
</tr>
<tr>
<td>Female</td>
<td>82</td>
</tr>
<tr>
<td><strong>Participating parent’s ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Asian American</td>
<td>4</td>
</tr>
<tr>
<td>African American</td>
<td>4</td>
</tr>
<tr>
<td>Caucasian</td>
<td>84</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4</td>
</tr>
<tr>
<td>Biracial</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td><strong>Parent marital status</strong></td>
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<tr>
<td>Never married</td>
<td>5</td>
</tr>
<tr>
<td>Married</td>
<td>71</td>
</tr>
<tr>
<td>Separated</td>
<td>3</td>
</tr>
<tr>
<td>Divorced</td>
<td>14</td>
</tr>
<tr>
<td>Widowed</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
<tr>
<td><strong>Household income</strong></td>
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</tr>
<tr>
<td>&lt; $10,000</td>
<td>4</td>
</tr>
<tr>
<td>$10,000 - $20,000</td>
<td>8</td>
</tr>
<tr>
<td>$20,000 - $30,000</td>
<td>14</td>
</tr>
<tr>
<td>$30,000 - $40,000</td>
<td>13</td>
</tr>
<tr>
<td>$40,000 - $50,000</td>
<td>7</td>
</tr>
<tr>
<td>$50,000 - $60,000</td>
<td>10</td>
</tr>
<tr>
<td>$60,000 - $70,000</td>
<td>13</td>
</tr>
<tr>
<td>$70,000 - $100,000</td>
<td>19</td>
</tr>
<tr>
<td>&gt; $100,000</td>
<td>12</td>
</tr>
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</table>

*(table continues)*
Table 2 (continued).

<table>
<thead>
<tr>
<th>Variable</th>
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</thead>
<tbody>
<tr>
<td>Participating parent education level(^a)</td>
<td></td>
</tr>
<tr>
<td>Less than 7(^{th}) grade</td>
<td>0</td>
</tr>
<tr>
<td>7(^{th}) – 9(^{th}) grade</td>
<td>1</td>
</tr>
<tr>
<td>10(^{th}) – 11(^{th}) grade</td>
<td>0</td>
</tr>
<tr>
<td>High School Diploma</td>
<td>25</td>
</tr>
<tr>
<td>1 – 3 years of college or trade school</td>
<td>29</td>
</tr>
<tr>
<td>4-year college graduate</td>
<td>30</td>
</tr>
<tr>
<td>Professional/Advanced degree</td>
<td>15</td>
</tr>
<tr>
<td>Other parent’s education level(^a)</td>
<td></td>
</tr>
<tr>
<td>Less than 7(^{th}) grade</td>
<td>0</td>
</tr>
<tr>
<td>7(^{th}) – 9(^{th}) grade</td>
<td>1</td>
</tr>
<tr>
<td>10(^{th}) – 11(^{th}) grade</td>
<td>2</td>
</tr>
<tr>
<td>High School Diploma</td>
<td>24</td>
</tr>
<tr>
<td>1 – 3 years of college or trade school</td>
<td>20</td>
</tr>
<tr>
<td>4-year college graduate</td>
<td>29</td>
</tr>
<tr>
<td>Professional/Advanced degree</td>
<td>14</td>
</tr>
<tr>
<td>Participating parent’s occupational code(^a)</td>
<td></td>
</tr>
<tr>
<td>0 (Unemployed)</td>
<td>35</td>
</tr>
<tr>
<td>1 (e.g., Farm laborers, menial service workers)</td>
<td>0</td>
</tr>
<tr>
<td>2 (e.g., Unskilled workers)</td>
<td>3</td>
</tr>
<tr>
<td>3 (e.g., Machine operators, semi-skilled workers)</td>
<td>4</td>
</tr>
<tr>
<td>4 (e.g., Skilled manual workers, craftsmen, tenant farmers owning machinery)</td>
<td>5</td>
</tr>
<tr>
<td>5 (e.g., Clerical workers, sales workers, misc.)</td>
<td>17</td>
</tr>
<tr>
<td>6 (e.g., Technicians, semi-professionals, smaller business owner)</td>
<td>15</td>
</tr>
<tr>
<td>7 (e.g., Small business owners, farm owners, managers, minor professionals, entertainers/artists)</td>
<td>13</td>
</tr>
<tr>
<td>8 (e.g., Administrators, proprietors of medium-sized businesses or farms, lesser professionals)</td>
<td>5</td>
</tr>
<tr>
<td>9 (e.g., Higher executives, proprietors of large businesses and major professionals)</td>
<td>3</td>
</tr>
</tbody>
</table>

*(table continues)*
Table 2 (continued).

<table>
<thead>
<tr>
<th>Variable</th>
<th>$n$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-participating parent’s occupational code$^a$</td>
<td></td>
</tr>
<tr>
<td>0 (Unemployed)</td>
<td>12</td>
</tr>
<tr>
<td>1 (e.g., Farm laborers, menial service workers)</td>
<td>0</td>
</tr>
<tr>
<td>2 (e.g., Unskilled workers)</td>
<td>4</td>
</tr>
<tr>
<td>3 (e.g., Machine operators, semi-skilled workers)</td>
<td>4</td>
</tr>
<tr>
<td>4 (e.g., Skilled manual workers, craftsmen, tenant farmers owning machinery)</td>
<td>9</td>
</tr>
<tr>
<td>5 (e.g., Clerical workers, sales workers, misc.)</td>
<td>15</td>
</tr>
<tr>
<td>6 (e.g., Technicians, semi-professionals, smaller business owner)</td>
<td>11</td>
</tr>
<tr>
<td>7 (e.g., Small business owners, farm owners, managers, minor professionals, entertainers/artists)</td>
<td>9</td>
</tr>
<tr>
<td>8 (e.g., Administrators, proprietors of medium-sized businesses or farms, lesser professionals)</td>
<td>16</td>
</tr>
<tr>
<td>9 (e.g., Higher executives, proprietors of large businesses and major professionals)</td>
<td>9</td>
</tr>
</tbody>
</table>

$^a$ Using Hollingshead four factor index of social status (1975) coding system.
### Table 3

*Reliability of the Reflective Measurement Models (PLS Estimation)*

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Reliability of the Indicator</th>
<th>Internal Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factor Loadings&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Composite Reliability&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Parent’s developmental history of abuse</td>
<td></td>
<td>0.88</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>Emotional abuse</td>
<td>.92</td>
<td></td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>.36</td>
<td></td>
</tr>
<tr>
<td>Physical neglect</td>
<td>.78</td>
<td></td>
</tr>
<tr>
<td>Emotional neglect</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td></td>
<td>0.89</td>
</tr>
<tr>
<td>Antisocial</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>Avoidant</td>
<td>.71</td>
<td></td>
</tr>
<tr>
<td>Borderline</td>
<td>.86</td>
<td></td>
</tr>
<tr>
<td>Dependent</td>
<td>.71</td>
<td></td>
</tr>
<tr>
<td>Paranoid</td>
<td>.73</td>
<td></td>
</tr>
<tr>
<td>Schizoid</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td>Schizophrenic</td>
<td>.78</td>
<td></td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td></td>
<td>0.77</td>
</tr>
<tr>
<td>Empathy</td>
<td>.56</td>
<td></td>
</tr>
<tr>
<td>Expectations</td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td>Punishment</td>
<td>.82</td>
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</tr>
</tbody>
</table>

*(table continues)*
Table 3 *(continued).*

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Factor Loadings&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Reliability of the Indicator</th>
<th>Internal Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent psychoemotional distress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>.87</td>
<td></td>
<td>.90</td>
</tr>
<tr>
<td>General distress</td>
<td>.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent distress</td>
<td>.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent age&lt;sup&gt;c&lt;/sup&gt;</td>
<td>--</td>
<td></td>
<td>--</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems with family</td>
<td>.69</td>
<td>.80</td>
<td>.80</td>
</tr>
<tr>
<td>Problems from others</td>
<td>.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrumental/practical stress&lt;sup&gt;c&lt;/sup&gt;</td>
<td>--</td>
<td></td>
<td>--</td>
</tr>
<tr>
<td>Socioeconomic status (SES)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social class</td>
<td>.97</td>
<td></td>
<td>.93</td>
</tr>
<tr>
<td>Income</td>
<td>.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathically attuned parenting</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Physical attunement</td>
<td>.66</td>
<td></td>
<td>.87</td>
</tr>
<tr>
<td>Verbal attunement</td>
<td>.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional attunement</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promotes of initiative</td>
<td>.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Challenging child characteristics</td>
<td></td>
<td>.90</td>
<td></td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inattentiveness</td>
<td>.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General difficulty</td>
<td>.84</td>
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</table>

*(table continues)*
<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Reliability of the Indicator</th>
<th>Internal Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factor Loadings&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Composite Reliability&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Child psychoemotional distress</td>
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<td>.87</td>
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<tr>
<td>Internalizing disorders</td>
<td>.84</td>
<td></td>
</tr>
<tr>
<td>Externalizing disorders</td>
<td>.92</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Factor loading $\geq .55$ is adequate.  
<sup>b</sup> Composite reliability and Cronbach’s alpha $\geq .70$ is adequate.  
<sup>c</sup> Single indicator construct.
Table 4

*Validity of the Reflective Measurement Models (PLS Estimation)*

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Convergent validity</th>
<th>Discriminant Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AVE(^a)</td>
<td>Fornell-Larcker(^b)</td>
</tr>
<tr>
<td>Parent’s developmental history of abuse</td>
<td>.61</td>
<td>.61 &gt; .20</td>
</tr>
<tr>
<td>Physical abuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional abuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual abuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical neglect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional neglect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td>.53</td>
<td>.53 &lt; .69</td>
</tr>
<tr>
<td>Antisocial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borderline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependent</td>
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<td></td>
</tr>
<tr>
<td>Paranoid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizoid</td>
<td></td>
<td></td>
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<tr>
<td>Schizotypal</td>
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<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td>.54</td>
<td>.54 &gt; .13</td>
</tr>
<tr>
<td>Empathy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expectations</td>
<td></td>
<td></td>
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<tr>
<td>Punishment</td>
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</table>

*(table continues)*
Table 4 (continued).

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Convergent validity</th>
<th>Discriminant validity</th>
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<tr>
<td></td>
<td>AVE&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Fornell-Larcker&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td>.76</td>
<td>.76 &gt; .69</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General distress</td>
<td>.69</td>
<td></td>
</tr>
<tr>
<td>Parent distress</td>
<td>.83</td>
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</tr>
<tr>
<td>Parent age&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.00</td>
<td>--</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td>.67</td>
<td>.67 &gt; .52</td>
</tr>
<tr>
<td>Problems with family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems from others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrumental/practical stress&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.00</td>
<td>--</td>
</tr>
<tr>
<td>Socioeconomic status (SES)</td>
<td>.86</td>
<td>.86 &gt; .15</td>
</tr>
<tr>
<td>Social class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathically attuned parenting</td>
<td>.63</td>
<td>.63 &gt; .26</td>
</tr>
<tr>
<td>Physical attunement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbal attunement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional attunement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promotes of initiative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Challenging child characteristics</td>
<td>.75</td>
<td>.75 &gt; .55</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inattentiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General difficulty</td>
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<thead>
<tr>
<th>Construct/Indicator</th>
<th>Convergent validity</th>
<th>Discriminant validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AVE(^a)</td>
<td>Fornell-Larcker(^b)</td>
</tr>
<tr>
<td>Child psychoemotional distress</td>
<td>.78</td>
<td>.78 &gt; .55</td>
</tr>
<tr>
<td>Internalizing disorders</td>
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<td>.54</td>
</tr>
<tr>
<td>Externalizing disorders</td>
<td></td>
<td>.74</td>
</tr>
</tbody>
</table>

\(^a\) AVE = Average variance extracted = Average of the individual indicator communalities of the construct = % of the variance of the indicators/manifest variables explained by the Latent Construct. AVE > .50 is adequate.  
\(^b\) Corr = highest correlation between the model constructs. AVE > Corr\(^2\) is adequate.  
\(^c\) Highest cross loading < loading on own construct is adequate.  
\(^d\) Single indicator construct.
### Table 5

*Latent Variable Correlations of the Proposed Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Parent’s developmental history of abuse</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Maladaptive parent personality</td>
<td></td>
<td>.41</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Nurturing childrearing beliefs/attitudes</td>
<td></td>
<td></td>
<td></td>
<td>.12</td>
<td>-.29</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Parent age*</td>
<td></td>
<td>.01</td>
<td></td>
<td>-.20</td>
<td></td>
<td>.23</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Parent psychoemotional distress</td>
<td></td>
<td></td>
<td>.44</td>
<td>.83</td>
<td>-.19</td>
<td>-.08</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Interpersonal stress</td>
<td></td>
<td></td>
<td></td>
<td>.33</td>
<td>.72</td>
<td>-.24</td>
<td>-.19</td>
<td>.73</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Instrumental/practical stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.04</td>
<td></td>
<td>.12</td>
<td></td>
<td>.05</td>
<td>.19</td>
<td>.129</td>
</tr>
<tr>
<td>8. Empathically attuned parenting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.12</td>
<td>-.38</td>
<td>.36</td>
<td>-.01</td>
<td>-.38</td>
<td>-.505</td>
</tr>
<tr>
<td>9. Challenging child characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.22</td>
<td>.40</td>
<td>-.26</td>
<td>-.04</td>
</tr>
<tr>
<td>10. Child psychoemotional distress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.43</td>
<td>.344</td>
<td>-.11</td>
</tr>
<tr>
<td>11. SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.18</td>
</tr>
</tbody>
</table>

Note: SES = Socioeconomic Status.
Table 6

*R*² and *F* Test Values for Endogenous Constructs

<table>
<thead>
<tr>
<th>Construct</th>
<th><em>R</em>²</th>
<th><em>F</em> (df)³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maladaptive parent personality</td>
<td>.17</td>
<td>19.37*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1, 98)</td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td>.07</td>
<td>2.23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3, 96)</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td>.75</td>
<td>57.31*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5, 94)</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td>.52</td>
<td>104.06*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1, 98)</td>
</tr>
<tr>
<td>Instrumental/practical stress</td>
<td>.03</td>
<td>1.55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2, 97)</td>
</tr>
<tr>
<td>Empathically attuned parenting</td>
<td>.26</td>
<td>6.47*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5, 94)</td>
</tr>
<tr>
<td>Child psychoemotional distress</td>
<td>.56</td>
<td>60.73*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2, 97)</td>
</tr>
</tbody>
</table>

³*F* distribution values = (*N* − *p* − 1)*R*²/*p*(1 − *R*²), df = *p*, *N* − *p* − 1, where *N* = Number of cases and *p* = number of predictors. * *p* < 0.05.
### Table 7

**The Explanation of Maladaptive Parent Personality $R^2$ in the Proposed Model**

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^1$</th>
<th>95% CI$^{a}$</th>
<th>Contribution to $R^2$ (% Variance)</th>
<th>Effect Size$^{b}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s developmental history of abuse</td>
<td>.41</td>
<td>3.94*</td>
<td>.24</td>
<td>.57</td>
<td>.17 (100%)</td>
</tr>
</tbody>
</table>

$^a$ $t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}})/ (1 - R^2_{\text{included}})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 8

The Explanation of Parent Psychoemotional Distress $R^2$ in the Proposed Model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^1$</th>
<th>95% CI$^a$</th>
<th>Contribution to $R^2$ (Variance)</th>
<th>Effect Size$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s developmental history of abuse</td>
<td>.11</td>
<td>1.83*</td>
<td>.01 .21</td>
<td>.05 (6.4%)</td>
<td>0.20</td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td>.56</td>
<td>7.56*</td>
<td>.44 .69</td>
<td>.47 (62.4%)</td>
<td>1.90</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td>.23</td>
<td>3.56*</td>
<td>.12 .34</td>
<td>.17 (22.4%)</td>
<td>0.68</td>
</tr>
<tr>
<td>Instrumental/practical stress</td>
<td>.10</td>
<td>1.87*</td>
<td>.01 .19</td>
<td>.02 (2.6%)</td>
<td>0.08</td>
</tr>
<tr>
<td>Challenging child characteristics</td>
<td>.11</td>
<td>1.92*</td>
<td>.02 .21</td>
<td>.05 (6.5%)</td>
<td>0.20</td>
</tr>
</tbody>
</table>

$^a$ $t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{included} - R^2_{excluded})/(1 - R^2_{included})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 9

The Explanation of Nurturing Childrearing Beliefs and Attitudes $R^2$ in the Proposed Model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t$</th>
<th>95% CI$^a$</th>
<th>Contribution to $R^2$ (%) Variance</th>
<th>Effect Size$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s developmental history of abuse</td>
<td>.11</td>
<td>0.95</td>
<td>.09 .33</td>
<td>.01 (22.8%)</td>
<td>0.02</td>
</tr>
<tr>
<td>Parent age</td>
<td>.22</td>
<td>2.44*</td>
<td>.07 .38</td>
<td>.05 (76.9%)</td>
<td>0.05</td>
</tr>
<tr>
<td>SES</td>
<td>-.01</td>
<td>0.06</td>
<td>-.21 .20</td>
<td>.00 (00.0%)</td>
<td>0.00</td>
</tr>
</tbody>
</table>

$^a$ $t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}})/(1 - R^2_{\text{included}})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 10
The Explanation of Interpersonal Stress $R^2$ in the Proposed Model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^1$</th>
<th>95% CI</th>
<th>Contribution to $R^2$</th>
<th>Effect Size $^{b}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maladaptive parent personality</td>
<td>.72</td>
<td>14.85*</td>
<td>.64</td>
<td>.80</td>
<td>.52 (100%)</td>
</tr>
</tbody>
</table>

* $t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^{b}$ Effect Size: $f^2 = (R^2_{ included} - R^2_{ excluded}) / (1 - R^2_{ included})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 11

*The Explanation of Instrumental/Practical Stress $R^2$ in the Proposed Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^1$</th>
<th>95% CI$^a$</th>
<th>Contribution to $R^2$ (%) Variance</th>
<th>Effect Size$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal stress</td>
<td>.10</td>
<td>0.78</td>
<td>.11 .31</td>
<td>.01 (41.1%)</td>
<td>0.01</td>
</tr>
<tr>
<td>SES</td>
<td>-.12</td>
<td>1.14</td>
<td>.14 .05</td>
<td>.02 (58.7%)</td>
<td>0.02</td>
</tr>
</tbody>
</table>

$^a$ $t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}}) / (1 - R^2_{\text{included}})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.
Table 12

*The Explanation of Empathically Attuned Parenting $R^2$ in the Proposed Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^1$</th>
<th>95% CI $^a$</th>
<th>Contribution to $R^2$ (%)</th>
<th>Effect Size $^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maladaptive parent personality</td>
<td>-.13</td>
<td>0.83</td>
<td>-.38-.12</td>
<td>.05 (19.0%)</td>
<td>0.07</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td>-.29</td>
<td>1.28</td>
<td>-.43-.05</td>
<td>.11 (27.8%)</td>
<td>0.10</td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td>.29</td>
<td>2.60*</td>
<td>.11-.47</td>
<td>.11 (41.0%)</td>
<td>0.14</td>
</tr>
<tr>
<td>Parent age</td>
<td>-.12</td>
<td>1.19</td>
<td>-.28-.05</td>
<td>.00 (00.3%)</td>
<td>0.00</td>
</tr>
<tr>
<td>Challenging child characteristics</td>
<td>-.10</td>
<td>1.03</td>
<td>-.26-.06</td>
<td>.03 (11.6%)</td>
<td>0.04</td>
</tr>
</tbody>
</table>

$^a t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}}) / (1 - R^2_{\text{included}})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 13

*The Explanation of Child Psychoemotional Distress $R^2$ in the Proposed Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^1$</th>
<th>95% CI$^a$</th>
<th>Contribution to $R^2$ (%) Variance</th>
<th>Effect Size$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empathically attuned parenting</td>
<td>-.11</td>
<td>1.69*</td>
<td>-.22 .00</td>
<td>.04 (06.6%)</td>
<td>0.08</td>
</tr>
<tr>
<td>Challenging child characteristics</td>
<td>.70</td>
<td>14.31*</td>
<td>.62 .78</td>
<td>.52 (93.4%)</td>
<td>1.17</td>
</tr>
</tbody>
</table>

$^a$ $t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}}) / (1 - R^2_{\text{included}})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 14

*Predictive Relevance of the Proposed Model Using Blindfolding Procedure*

<table>
<thead>
<tr>
<th>Construct</th>
<th>CV(^a)-Communality</th>
<th>CV(^a)-Redundancy(^b)</th>
<th>(q^2)(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s developmental history of abuse(^d)</td>
<td>.61</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td>.53</td>
<td>.09</td>
<td>0.10</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td>.76</td>
<td>.56</td>
<td>1.28</td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td>.54</td>
<td>.04</td>
<td>0.04</td>
</tr>
<tr>
<td>Parent age(^de)</td>
<td>1.00</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td>.67</td>
<td>.31</td>
<td>.46</td>
</tr>
<tr>
<td>Instrumental/practical stress(^e)</td>
<td>1.00</td>
<td>.03</td>
<td>.03</td>
</tr>
<tr>
<td>Socioeconomic status (SES)(^d)</td>
<td>.86</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Challenging child characteristics(^d)</td>
<td>.75</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Empathically attuned parenting</td>
<td>.63</td>
<td>.16</td>
<td>.19</td>
</tr>
<tr>
<td>Child psychoemotional distress</td>
<td>.78</td>
<td>.42</td>
<td>.74</td>
</tr>
<tr>
<td>Average</td>
<td>.68</td>
<td>.23</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)CV = Cross Validated. \(^b\)Omission Distance = 11. \(^c\)\(q^2\) values of .02, .15, or .35 represent a small, medium, or large predictive relevance. \(^d\)Exogenous variable. \(^e\)Construct defined by only one indicator.
Table 15
*Goodness of Fit (GoF) Calculation for the Proposed Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>$R^2$</th>
<th>$\sum$ indicator communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s developmental history of abuse$^a$</td>
<td>--</td>
<td>3.03</td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td>.17</td>
<td>3.71</td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td>.07</td>
<td>1.61</td>
</tr>
<tr>
<td>Parent age$^{ab}$</td>
<td>--</td>
<td>1.00</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td>.75</td>
<td>2.27</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td>.52</td>
<td>1.34</td>
</tr>
<tr>
<td>Instrumental stress$^b$</td>
<td>.03</td>
<td>1.00</td>
</tr>
<tr>
<td>Socioeconomic status (SES)$^b$</td>
<td>--</td>
<td>1.72</td>
</tr>
<tr>
<td>Empathically attuned parenting</td>
<td>.26</td>
<td>2.54</td>
</tr>
<tr>
<td>Challenging child characteristics$^a$</td>
<td>--</td>
<td>2.24</td>
</tr>
<tr>
<td>Child psychoemotional distress</td>
<td>.56</td>
<td>1.55</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>.33</td>
<td>.65$^c$</td>
</tr>
</tbody>
</table>

GoF Index [$\sqrt[2]{(\text{Average communalities} \times \text{Average } R^2)}$] $\sqrt[2]{(0.65 \times .33)} = 0.46$

$^a$ Exogenous variable.  $^b$ Construct defined by only one indicator. $^c$ Average = sum of all communalities (not including communalities of constructs with one indicator) divided by total number of indicators (not including the indicators for single indicator constructs; 31).
Table 16

Reliability of the Reflective Measurement Models for Reduced Model

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Reliability of the Indicator</th>
<th>Internal Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factor Loadings(^a)</td>
<td>Composite Reliability(^b)</td>
</tr>
<tr>
<td>Parent’s developmental history of abuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical abuse</td>
<td>.85</td>
<td>.88</td>
</tr>
<tr>
<td>Emotional abuse</td>
<td>.92</td>
<td></td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>.35</td>
<td></td>
</tr>
<tr>
<td>Physical neglect</td>
<td>.78</td>
<td></td>
</tr>
<tr>
<td>Emotional neglect</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td></td>
<td>.89</td>
</tr>
<tr>
<td>Antisocial</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>Avoidant</td>
<td>.72</td>
<td></td>
</tr>
<tr>
<td>Borderline</td>
<td>.86</td>
<td></td>
</tr>
<tr>
<td>Dependent</td>
<td>.71</td>
<td></td>
</tr>
<tr>
<td>Paranoid</td>
<td>.73</td>
<td></td>
</tr>
<tr>
<td>Schizoid</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td>Schizotypal</td>
<td>.78</td>
<td></td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td></td>
<td>.77</td>
</tr>
<tr>
<td>Empathy</td>
<td>.59</td>
<td></td>
</tr>
<tr>
<td>Expectations</td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td>Punishment</td>
<td>.82</td>
<td></td>
</tr>
</tbody>
</table>

*(table continues)*
Table 16 (continued).

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Reliability of the Indicator</th>
<th>Internal Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Factor Loadings</td>
<td>Composite Reliability</td>
</tr>
<tr>
<td></td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td></td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>Depression</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>General distress</td>
<td>.91</td>
</tr>
<tr>
<td></td>
<td>Parent distress</td>
<td>.83</td>
</tr>
<tr>
<td>Parent age</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td></td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td>Problems with family</td>
<td>.68</td>
</tr>
<tr>
<td></td>
<td>Problems from others</td>
<td>.93</td>
</tr>
<tr>
<td>Instrumental/practical stress</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Empathically attuned parenting</td>
<td></td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>Physical attuement</td>
<td>.66</td>
</tr>
<tr>
<td></td>
<td>Verbal attuement</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>Emotional attuement</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td>Promotes of initiative</td>
<td>.74</td>
</tr>
<tr>
<td>Challenging child characteristics</td>
<td></td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>Hyperactivity</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td>Inattentiveness</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>General difficulty</td>
<td>.84</td>
</tr>
<tr>
<td>Child psychoemotional distress</td>
<td></td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>Internalizing disorders</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>Externalizing disorders</td>
<td>.92</td>
</tr>
</tbody>
</table>

* Factor loading ≥ .55 is adequate.  
* Composite reliability and Cronbach’s alpha ≥ .70 is adequate.  
* Single indicator construct.
Table 17  
**Validity of the Reflective Measurement Models of the Reduced Model**

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Convergent validity</th>
<th>Discriminant Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AVE&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Fornell-Larcker&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Parent’s developmental history of abuse</td>
<td>.61</td>
<td>.61 &gt; .20</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>.38</td>
<td></td>
</tr>
<tr>
<td>Emotional abuse</td>
<td>.44</td>
<td></td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>.22</td>
<td></td>
</tr>
<tr>
<td>Physical neglect</td>
<td>.27</td>
<td></td>
</tr>
<tr>
<td>Emotional neglect</td>
<td>.41</td>
<td></td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td>.53</td>
<td>.53 &gt; .69</td>
</tr>
<tr>
<td>Antisocial</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>Avoidant</td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>Borderline</td>
<td>.76</td>
<td></td>
</tr>
<tr>
<td>Dependent</td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>Paranoid</td>
<td>.61</td>
<td></td>
</tr>
<tr>
<td>Schizoid</td>
<td>.54</td>
<td></td>
</tr>
<tr>
<td>Schizotypal</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td>.54</td>
<td>.54 &gt; .13</td>
</tr>
<tr>
<td>Empathy</td>
<td>-.33</td>
<td></td>
</tr>
<tr>
<td>Expectations</td>
<td>.29</td>
<td></td>
</tr>
<tr>
<td>Punishment</td>
<td>.29</td>
<td></td>
</tr>
</tbody>
</table>

*(table continues)*
Table 17 (continued).

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Convergent validity</th>
<th>Discriminant validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AVE&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Fornell-Larcker&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td>.76</td>
<td>.76 &gt; .69</td>
</tr>
<tr>
<td></td>
<td>Depression</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General distress</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>Parent distress</td>
<td>.63</td>
</tr>
<tr>
<td>Parent age&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.00</td>
<td>--</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td>.67</td>
<td>.67 &gt; .53</td>
</tr>
<tr>
<td></td>
<td>Problems with family</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Problems from others</td>
<td>.74</td>
</tr>
<tr>
<td>Instrumental/practical stress&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1.00</td>
<td>--</td>
</tr>
<tr>
<td>Empathically attuned parenting</td>
<td>.63</td>
<td>.63 &gt; .26</td>
</tr>
<tr>
<td></td>
<td>Physical attunement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Verbal attunement</td>
<td>-.42</td>
</tr>
<tr>
<td></td>
<td>Emotional attunement</td>
<td>-.44</td>
</tr>
<tr>
<td></td>
<td>Promotes of initiative</td>
<td></td>
</tr>
<tr>
<td>Challenging child characteristics</td>
<td>.75</td>
<td>.75 &gt; .54</td>
</tr>
<tr>
<td></td>
<td>Hyperactivity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inattentiveness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General difficulty</td>
<td></td>
</tr>
</tbody>
</table>

*(table continues)*
Table 17 (continued).

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Convergent validity</th>
<th>Discriminant validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AVE&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Fornell-Larcker&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Child psychoemotional distress</td>
<td>.78</td>
<td>.78 &gt; .54</td>
</tr>
<tr>
<td>Internalizing disorders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Externalizing disorders</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> AVE = Average variance extracted = Average of the individual indicator communalities of the construct = % of the variance of the indicators/manifest variables explained by the Latent Construct. AVE > .50 is adequate.  
<sup>b</sup> Corr = highest correlation between the model constructs. AVE > Corr<sup>2</sup> is adequate.  
<sup>c</sup> Highest cross loading < loading on own construct is adequate.  
<sup>d</sup> Single indicator construct.
Table 18

*Latent Variable Correlations of the Reduced Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Parent’s developmental history of abuse</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Maladaptive parent personality</td>
<td>.41</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Nurturing childrearing beliefs/attitudes</td>
<td>.12</td>
<td>-.29</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Parent age*</td>
<td>.01</td>
<td>-.20</td>
<td>.23</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Parent psychoemotional distress</td>
<td>.44</td>
<td>.83</td>
<td>-.19</td>
<td>-.08</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Interpersonal stress</td>
<td>.33</td>
<td>.72</td>
<td>-.24</td>
<td>-.19</td>
<td>.73</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Instrumental/practical stress</td>
<td>.04</td>
<td>.12</td>
<td>-.14</td>
<td>.05</td>
<td>.19</td>
<td>.13</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Empathically attuned parenting</td>
<td>-.12</td>
<td>-.38</td>
<td>.36</td>
<td>-.01</td>
<td>-.38</td>
<td>-.51</td>
<td>-.15</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Challenging child characteristics</td>
<td>.22</td>
<td>.40</td>
<td>-.26</td>
<td>-.04</td>
<td>.43</td>
<td>.34</td>
<td>-.11</td>
<td>-.30</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>10. Child psychoemotional distress</td>
<td>.27</td>
<td>.52</td>
<td>-.27</td>
<td>-.08</td>
<td>.50</td>
<td>.43</td>
<td>-.06</td>
<td>-.32</td>
<td>.74</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Table 19

$R^2$ and F Tests Values for Endogenous Constructs of the Reduced Model

<table>
<thead>
<tr>
<th>Construct</th>
<th>$R^2$</th>
<th>$F$ (df)$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maladaptive parent personality</td>
<td>.17</td>
<td>19.37*</td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td>.05</td>
<td>5.27*</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td>.76</td>
<td>57.94*</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td>.51</td>
<td>103.23*</td>
</tr>
<tr>
<td>Empathically attuned parenting</td>
<td>.23</td>
<td>14.57*</td>
</tr>
<tr>
<td>Child psychoemotional distress</td>
<td>.56</td>
<td>60.49*</td>
</tr>
</tbody>
</table>

$^a$ F distribution values = $(N - p - 1)/R^2/p(1 - R^2)$, df = $p, N - p - 1$, where $N$ = Number of cases and $p$ = number of predictors. $^* p < 0.05.$
Table 20

*The Explanation of Maladaptive Parent Personality $R^2$ in the Reduced Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t$</th>
<th>95% CI</th>
<th>Contribution to $R^2$ (%)</th>
<th>Effect Size $f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s developmental history of abuse</td>
<td>.41</td>
<td>4.22*</td>
<td>.25</td>
<td>.56</td>
<td>.17 (100%)</td>
</tr>
</tbody>
</table>

$^a$ $t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = \frac{R^2_{\text{included}} - R^2_{\text{excluded}}}{1 - R^2_{\text{included}}}$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 21

*The Explanation of Parent Psychoemotional Distress $R^2$ in the Reduced Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^1$</th>
<th>95% CI$^a$</th>
<th>Contribution to $R^2$ (% Variance)</th>
<th>Effect Size$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s developmental history of abuse</td>
<td>.11</td>
<td>1.71*</td>
<td>.01 .21</td>
<td>.05 (6.4%)</td>
<td>0.20</td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td>.56</td>
<td>7.40*</td>
<td>.44 .69</td>
<td>.47 (62.0%)</td>
<td>1.91</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td>.23</td>
<td>3.59*</td>
<td>.13 .34</td>
<td>.17 (22.5%)</td>
<td>0.69</td>
</tr>
<tr>
<td>Instrumental/practical stress</td>
<td>.10</td>
<td>1.89*</td>
<td>.01 .19</td>
<td>.02 (2.6%)</td>
<td>0.08</td>
</tr>
<tr>
<td>Challenging child characteristics</td>
<td>.11</td>
<td>1.87*</td>
<td>.01 .21</td>
<td>.05 (6.5%)</td>
<td>0.20</td>
</tr>
</tbody>
</table>

$^a$ t values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{included} - R^2_{excluded})/(1 - R^2_{included})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 22

*The Explanation of Nurturing Childrearing Beliefs and Attitudes $R^2$ in the Reduced Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^1$</th>
<th>95% CI$^a$</th>
<th>Contribution to $R^2$ (% Variance)</th>
<th>Effect Size$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent age</td>
<td>.23</td>
<td>2.38*</td>
<td>.07 .38</td>
<td>.05 (100%)</td>
<td>0.05</td>
</tr>
</tbody>
</table>

$^a t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}}) / (1 - R^2_{\text{included}})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 23

The Explanation of Interpersonal Stress $R^2$ in the Reduced Model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^1$</th>
<th>95% CI$^a$</th>
<th>Contribution to $R^2$ (%) Variance</th>
<th>Effect Size$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maladaptive parent personality</td>
<td>.72</td>
<td>15.16*</td>
<td>.64 .79</td>
<td>.51 (100%)</td>
<td>1.05</td>
</tr>
</tbody>
</table>

$^a$ $t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}})/1 - R^2_{\text{included}}$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 24  
*The Explanation of Empathically Attuned Parenting $R^2$ in the Reduced Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^1$</th>
<th>95% CI$^a$</th>
<th>Contribution to $R^2$ (% Variance)</th>
<th>Effect Size$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent psychoemotional distress</td>
<td>-.32</td>
<td>3.78*</td>
<td>-.47</td>
<td>-.18</td>
<td>.12 (53.5%)</td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td>.30</td>
<td>2.78*</td>
<td>.12</td>
<td>.47</td>
<td>.11 (46.5%)</td>
</tr>
</tbody>
</table>

$^a$ $t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{included} - R^2_{excluded})/(1 - R^2_{included})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

*p < .05, one-tailed.
Table 25

The Explanation of Child Psychoemotional Distress $R^2$ in the Reduced Model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Beta</th>
<th>$t^*$</th>
<th>95% CI</th>
<th>Contribution to $R^2$ (% Variance)</th>
<th>Effect Size $^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empathically attuned parenting</td>
<td>-.11</td>
<td>1.76*</td>
<td>-.22</td>
<td>.04 (6.5%)</td>
<td>.08</td>
</tr>
<tr>
<td>Challenging child characteristics</td>
<td>.70</td>
<td>15.47*</td>
<td>.63</td>
<td>.52 (93.4%)</td>
<td>1.17</td>
</tr>
</tbody>
</table>

$^a t$ values and confidence intervals were calculated through bootstrapping procedure with a resampling of 1000.

$^b$ Effect Size: $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}})/(1 - R^2_{\text{included}})$; values of 0.02, 0.15, and 0.35 reflect small, medium, or large effect size.

* $p < .05$, one-tailed.
Table 26

Total Effects for Empathically Attuned Parenting in the Reduced Model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Original Sample</th>
<th>t&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s developmental history of abuse</td>
<td>-.13</td>
<td>2.48*</td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td>-.24</td>
<td>3.57*</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td>-.32</td>
<td>3.78*</td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td>.30</td>
<td>2.78*</td>
</tr>
<tr>
<td>Parent age</td>
<td>.07</td>
<td>1.96*</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td>-.08</td>
<td>2.38*</td>
</tr>
<tr>
<td>Instrumental/practical stress</td>
<td>-.03</td>
<td>1.68*</td>
</tr>
<tr>
<td>Challenging child characteristics</td>
<td>-.04</td>
<td>1.66*</td>
</tr>
</tbody>
</table>

<sup>a</sup> t values were calculated through bootstrapping procedure with a resampling of 1000.
* p < .05, one-tailed.
Table 27

Predictive Relevance of the Reduced Model Using Blindfolding Procedure

<table>
<thead>
<tr>
<th>Construct</th>
<th>CV$^a$-Communality</th>
<th>CV$^a$ Redundancy$^b$</th>
<th>$q^2c$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s developmental history of abuse$^d$</td>
<td>.61</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td>.53</td>
<td>.09</td>
<td>0.10</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td>.76</td>
<td>.56</td>
<td>1.26</td>
</tr>
<tr>
<td>Nurturing childrearing beliefs/attitudes</td>
<td>.54</td>
<td>.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Parent age$^{de}$</td>
<td>1.00</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Interpersonal stress</td>
<td>.67</td>
<td>.33</td>
<td>0.48</td>
</tr>
<tr>
<td>Instrumental/practical stress$^e$</td>
<td>1.00</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Challenging child characteristics$^d$</td>
<td>.75</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Empathically attuned parenting</td>
<td>.63</td>
<td>.14</td>
<td>0.17</td>
</tr>
<tr>
<td>Child psychoemotional distress</td>
<td>.78</td>
<td>.42</td>
<td>0.72</td>
</tr>
<tr>
<td>Average</td>
<td>.66</td>
<td>.26</td>
<td></td>
</tr>
</tbody>
</table>

$^a$CV = Cross Validated.  $^b$Omission Distance = 11.  $^c$ $q^2$ values of .02, .15, or .35 represent a small, medium, or large predictive relevance.  $^d$ Exogenous variable.  $^e$ Construct defined by only one indicator.
Table 28

*Goodness of Fit (GoF) Calculation for the Reduced Model*

<table>
<thead>
<tr>
<th>Construct</th>
<th>$R^2$</th>
<th>$\Sigma$ indicator communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent’s developmental history of abuse$^a$</td>
<td>--</td>
<td>3.03</td>
</tr>
<tr>
<td>Maladaptive parent personality</td>
<td>.17</td>
<td>3.72</td>
</tr>
<tr>
<td>Nurturing Childrearing beliefs/attitudes</td>
<td>.05</td>
<td>1.61</td>
</tr>
<tr>
<td>Parent age$^{ab}$</td>
<td>--</td>
<td>1.00</td>
</tr>
<tr>
<td>Parent psychoemotional distress</td>
<td>.76</td>
<td>2.67</td>
</tr>
<tr>
<td>Interpersonal/practical stress</td>
<td>.51</td>
<td>1.34</td>
</tr>
<tr>
<td>Instrumental stress$^b$</td>
<td>--</td>
<td>1.00</td>
</tr>
<tr>
<td>Empathically attuned parenting</td>
<td>.23</td>
<td>2.54</td>
</tr>
<tr>
<td>Challenging child characteristics$^a$</td>
<td>--</td>
<td>2.24</td>
</tr>
<tr>
<td>Child psychoemotional distress</td>
<td>.56</td>
<td>1.55</td>
</tr>
<tr>
<td>Average$^c$</td>
<td>.38</td>
<td>0.63$^c$</td>
</tr>
</tbody>
</table>

GoF Index [$\sqrt{(Average\text{ communalities} \times Average\text{ }R^2)}$] = $\sqrt{(0.63 \times 0.38)} = 0.49$

$^a$ Exogenous variable.  $^b$ Construct defined by only one indicator.  $^c$ Average = sum of all communalities (not including communalities of constructs with one indicator) divided by total number of indicators (not including the indicators for single indicator constructs)
Figure 1. Belsky’s process model of the determinants of parenting (from Belsky, 1984).
Figure 2. Proposed model without indicators
Figure 3. Proposed model with indicators
Figure 4. Proposed model with $R^2$ values and path coefficients.
* $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .0005$, one-tailed.
Figure 5. Order pathways were eliminated in the model trimming process
Figure 6. Reduced model with $R^2$ values and path coefficients.

* $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .0005$, one-tailed.
APPENDIX A

SAMPLE FLYER
A research team at the University of North Texas needs parents and kids to help with a study of parent-child interaction.

All parents with children ages 7 to 10 are needed. We especially need children who have been diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD or ADD).

Your participation is for a good cause, to help develop more effective treatments for children with attention problems.

For your time and participation, you will be paid $10/hour. If you don't need the money, you can donate it back to our project or use it for a special treat for your child. Scheduling, childcare, and other obstacles can be worked out.

Please call (940) 369-8993 or Metro (817) 267-3731 ext. 8993 or e-mail Shelly (mac0021@unt.edu) for more information or to set up an appointment at one of our Metroplex locations.

Thank you!!!
APPENDIX B

INFORMED CONSENT
Subject Name:_______________________________________  Date: _________________

Title of Study: Parent-Child Relationships and Social Functioning in Children with and without ADHD
Principal Investigator: Patricia Kaminski, Ph.D.
Co-Investigators: Sarah L. Durrant, M.S., Shelly Warren, M.S., & Corinne Smith, M.S.

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the proposed procedures. It describes the procedures, benefits, risks, and discomforts of the study. It also describes the alternative treatments that are available to you and your right to withdraw from the study at any time. It is important for you to understand that no guarantees or assurances can be made as to the results of the study.

PURPOSE OF THE STUDY AND HOW LONG IT WILL LAST:
The purpose of this study is to observe parent-child interactions and how children function socially. Each parent’s involvement will consist of 3 hours. Each child’s involvement will be about 2 hours.

DESCRIPTION OF THE STUDY INCLUDING THE PROCEDURES TO BE USED:
Parents and children will come to the UNT campus for the study. Each parent-child pair will be videotaped while they play together with a specific set of toys. A research assistant will interrupt the play frequently and suggest a new storyline. After 30 minutes of play, each person will watch a few minutes of the videotape and be asked some questions about it. Then, each parent will answer a set of written questionnaires related to parenting behaviors, attitudes, stressors, parent’s and child’s psychological symptoms (for example: worrying, hyperactivity, depression, etc.), and the demographics and brief medical history of their family [for example, level of education, marital status, number of children, and current medications (child only)]. While the parent is completing the questionnaires, the child will go to a separate room with a graduate student to complete 3 questionnaires that ask about parent behaviors (for example: “[My mother] tries to help me when I am scared or upset.”), and how they feel about themselves in relation to their physical, academic, and social functioning (for example: “Do you have lots of friends at school?”). The graduate student will read each question to the child, and the child will mark his/her responses on the questionnaires. The child will be given play and snack breaks as needed. If the child finishes his/her questionnaires before their parent is done, a research assistant will be available to supervise (and play with) the child. In addition, each parent may choose to complete a letter addressed to the child’s teacher asking their help in completing two measures regarding the child’s social behavior at school (we will have the 2 surveys available for the parent to review before deciding whether or not to have the child’s teacher involved).

Because a primary purpose of this study is the comparison of children with and without attention deficits, children who have ADHD cannot be on their stimulant medication during the videotaped play. During the phone contact that set up the appointment, parents were asked to make sure that their child has not taken their latest dose of stimulant medication (e.g., Ritalin, Adderall). Furthermore, parents were asked to bring their child’s stimulant medication with them so that the child can take the medication immediately before the videotaped play. Since the medication is not effective for about 30 minutes, we can get the data we need and minimize the time the child needs to be off his/her medication.

Researchers will study the videotapes of over 100 different parent-child pairs. The long-term goal is to better understand the relationship between parents and children and how it relates to children’s functioning in school, family, and peer relationships.
DESCRIPTION OF PROCEDURES/ELEMENTS THAT MAY RESULT IN DISCOMFORT OR INCONVENIENCE:

There is a chance that some parent-child pairs will feel uncomfortable during the play exercise when the research assistant suggests a storyline that presents a problem that needs to be solved. An example of this would be: “{Child’s Name} wants to look at the tigers and {Mom} wants to look at the hippos. Play out what happens together.” Although certain tasks may suggest a disagreement, a researcher will be present at all times to minimize any discomfort that arises. Additionally, at the end of the play exercise, you and your child will have time to talk about your experiences. Any questions that might arise during the play exercise or questionnaire section of the study will be answered by the researcher.

DESCRIPTION OF THE PROCEDURES/ELEMENTS THAT ARE ASSOCIATED WITH FORESEEABLE RISKS:

Only minimal risk of psychological discomfort is associated with participation in this study.

BENEFITS TO THE SUBJECTS OR OTHERS:

By participating in this study, you and your child can benefit by learning more about one another. Also, you will be indirectly benefiting other parents and children because the information gathered by the researchers will help us learn about what makes parents and children get along the best or what can lead to difficulties in the relationship. Further, the results of this study will contribute to the understanding of how parent-child relationships are related to children’s functioning at home and school, especially for children with attention deficits. Once we understand these issues, professionals can provide more appropriate services to children with ADHD and those experiencing relationship problems with their parents and their friends. In addition, we will pay you a small amount as a way of thanking you for your time. That amount is $10 per hour (approximately $30 total). Finally, we also offer referral information to you when you complete the study in case you or your child would like to speak to a mental health professional about your relationship (or other matters).

CONFIDENTIALITY OF RESEARCH RECORDS:

Your identity and all of your information will be kept private (confidential). Researchers will not mention your last name while the videocamera is recording. All records (questionnaires, videotapes, and our copy of this form) will be kept in a securely locked file cabinet in a locked room in Terrill Hall at UNT. Once all of the measures are completed, your name will not be associated with the videotape or any information you provide. We will assign a random number to all of your records, and that number will be the only identifier. There will only be one list that matches the name and number, and only the primary researchers will have access to that confidential list, which will be kept in a locked file cabinet in a locked room.

REVIEW FOR PROTECTION OF PARTICIPANTS:

This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940.
Subject Name: ___________________________________________ Date: ________________

Title of Study: Parent-Child Relationships and Social Functioning in Children with and without ADHD
Principal Investigator: Patricia Kaminski, Ph.D.
Co-Investigators: Sarah L. Durrant, M.S., Shelly Warren, M.S., & Corinne Smith, M.S.

**RESEARCH SUBJECTS’ RIGHTS:**
I have read or have had read to me all of the above.
This study has been explained to me via this form and/or via other communication with the investigators. I have been told the risks or discomforts and possible benefits of the study. I have been told of other choices of treatment available to me.

I understand that I do not have to take part in this study, and my refusal to participate will involve no penalty or loss of rights to which I am entitled. I may withdraw at any time without penalty or loss of benefits to which I am entitled. The study personnel can stop my participation at any time if it appears to be harmful to me, if I fail to follow directions for participation in the study, if it is discovered that I do not meet the study requirements, or if the study is canceled.

In case there are problems or questions, I have been told I can call Patricia Kaminski, Ph.D., Sarah L. Durrant, M.S., Shelly Warren, M.S., or Corinne Smith, M.S. at telephone number (940) 565-2671.

I understand my rights as a research subject, and I voluntarily consent to participate in this study. I understand what the study is about and how and why it is being done. I will receive a signed copy of this consent form.

__________________________________________ Date
Subject’s Signature

__________________________________________ Date
Signature of Witness

**Informed Consent for Videotaping (Choose & initial one statement below):**

_______ I give my permission for my child and I to be videotaped and for that videotape to be shown in professional settings.

_______ I give my permission for my child and I to be videotaped, but I do not agree to have that videotape shown to anyone who is not directly involved with Dr. Kaminski’s research.

**For the Investigator or Designee:**
I certify that I have reviewed the contents of this form with the person signing above, who, in my opinion, understood the explanation. I have explained the known benefits and risks of the research.

__________________________________________ Date
Principal Investigator’s or Designee’s Signature
UNIVERSITY OF NORTH TEXAS
COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS
RESEARCH CONSENT FORM
Page 4 of 4

Subject Name: ___________________________________  Date: _________________

Title of Study: Parent-Child Relationships and Social Functioning in Children with and without ADHD
Principal Investigator: Patricia Kaminski, Ph.D.
Co-Investigators: Sarah L. Durrant, M.S., Shelly Warren, M.S., & Corinne Smith, M.S.

CHILD ASSENT:
If the parent chooses to sign the Informed Consent, they may read the following to their child or have the
researcher do so. “[I/Your Mom/Dad] have/has just agreed to help today, but [they/we] need your help,
too. You can decide whether or not you want to help. What [they/we] need you to do is play with certain
toys with [me/your mom/dad] while [they/we] make a movie of [us/you]. [Researcher’s name/I] will play
with [us/you and your Mom/Dad] and give ideas about what is happening. When we’re done making the
movie [Researcher’s Name/I will show you some of it and ask you some questions about it.
[Researcher’s name/I] will help you answer some questions on paper. Would you like to do that?”

Wait for the child response.

If the child verbalizes assent or signals assent by nodding their head, point to the appropriate spot below and
say, “OK, thank you. To show that you said ‘yes’ I need you to write your first name or put an ‘X’ in
this space here.”

YES________________________________________

If the child does no verbalize or signal assent or communicates dissent, point to the appropriate spot on below
and say, “OK, thank you. To show that you said ‘no’ I need you to write your first name or put an ‘X’
here.”

NO________________________________________

For the Investigator or Designee:
I have read or observed the reading of the appropriate passages above to the child participant and interpreted
his/her wishes to the best of my ability.

___________________________________________  __________________
Investigator’s or Designee’s Signature    Date
APPENDIX C

PROCEDURES FOR ADMINISTRATION OF CHILD QUESTIONNAIRE
1. During PCIA set-up, the Child Packet should be placed in Room #127, including the following materials:
   ♦ Adapted Child-Parental Acceptance Rejection/Control Questionnaire (Adapted Child-PARQ/Control) – Be sure the appropriate version is included to match the participating parent (Mother/Father)
   ♦ Administrator Version of the Adapted Child-Parental Acceptance Rejection/Control Questionnaire (Administrator Version - Adapted Child-PARQ/Control)
   ♦ Loneliness and Social Dissatisfaction Questionnaires (LSDQ)
   ♦ Self Description Questionnaires (SDQ-I)
   ♦ 1 “Child Administration Data” sheet
   ♦ 2 Markers/Pens/Crayons
   ♦ 1 Egg Timer (Kitchen Timer)
   ♦ 1 Stopwatch
   ♦ 1 Laminated Sheet of Blue Paper

2. The number on the outside of the Child Packet is the dyad’s assigned number, which should match the numbers on one of each questionnaire and the “Child Administration Data” sheet in the packet and the numbers on the Parent Packet and videotapes. The researcher assigned to complete PCIA set-up should verify that these numbers match.

3. Following completion of the child inquiry phase of the PCIA, the researcher administering the PCIA will bring the child to Room #181, where the snacks and drinks are set up.

4. If the researcher administering the PCIA is a graduate student, she will complete the parent inquiry phase of the PCIA and then return to Room #181. If the researcher administering the PCIA is an undergraduate student, the graduate researcher (GRA) will be waiting in Room #181 for the child to arrive.

5. The researcher who greets the child in Room #181 will offer him/her a snack and restroom break. The break should last no more than 10 minutes, or the amount of time for the parent inquiry phase of the PCIA. If the child has not finished his/her snack during that time, the child will be reassured that he/she will have time to finish the snack later.

6. Following the break, the GRA will then say to the child, “Now it’s time for me to help you answer some questions on paper. We’re going to another room down the hall.”

7. The GRA will escort the child to Room #127 and leave the door open at all times.

8. The GRA will direct the child to sit next to her at the table. Then, the GRA will say to the child, “I’m going to read you some questions on three different forms. I will help you mark your answers on the forms. There are no ‘right’ or ‘wrong’ answers to these questions; you should just try to tell me which answer is most like you or your [mom/dad]. I am going to
read each question two times. Some questions might be confusing, so it’s okay to ask questions.”

9. The GRA will write the current time in the first space next to “Admin Time” on the “Child Administration Data” sheet.

10. The GRA will administer the Adapted Child-PARQ/Control, LSDQ, and SDQ-I in the order specified on the “Child Administration Data” sheet.

11. For each questionnaire administration, the GRA will give one copy of the questionnaire to the child and keep one copy for himself/herself.

12. The GRA will begin each questionnaire administration by reading aloud the directions on the questionnaire and making sure the child understands them before moving on to the questions. If the child does not understand the directions, the GRA will explain them further and ascertain whether the child understood.

13. During the administration of the LSDQ and the SDQ-I, the GRA will read the questions aloud twice, and the child may read along with his/her copy of the questionnaire. On the Adapted Child-PARQ/Control, some items have standard rewordings and will be noted on the Administrator Version of the Adapted Child-PARQ/Control. If a standard rewording was developed, then the GRA will first read the original item. Then they will make a statement that says, “This means…” and will read the standard rewording. For the items that require no rewording, each item will be read twice for emphasis. For all questionnaires, the GRA will make sure to have the child’s attention before reading the questions.

14. The GRA will help the child follow along with the questions by using the blue laminated sheet of paper to cover up unanswered questions and moving the paper down to reveal each new question as it is read aloud. If the child says he/she can complete the questionnaire without the blue paper to help them follow along, the GRA will say, “The paper helps me to know where we are.”

15. During each questionnaire administration, on the first four questions, the GRA will ask, “Do you understand what that means?” before obtaining a response. During the remainder of the administration, the GRA will periodically ask the child if he/she understood the questions.

16. The GRA will request an answer from the child as specified by the directions on the particular questionnaire.

17. On the Adapted Child-PARQ/Control, the child may mark his/her response on the questionnaire, or the GRA may mark the child’s verbal responses, depending on the child’s preference. On the SDQ-I and the LSDQ, the GRA will mark the child’s responses on the questionnaire according to the rating scale at the top of the page. The GRA will make sure the responses are written clearly and recorded on the questionnaire with the dyad’s number on it.
18. If the child chooses to mark his/her responses, the GRA will make sure the child marks the answer space that corresponds with the question.

19. If the child does not understand the question, the GRA will explain the question further, ascertain whether the child understands the question, reread the question, and request a response. Explanations should help define the items in a neutral way, without implying that any particular answer is more right or “better.” If the child appears anxious or is looking for approval for a particular answer, remind him/her that there are no “right” answers.

20. The GRA will record the number of the question(s) that the child does not understand and child’s verbalizations about his/her difficulty understanding the particular question(s) on the “Child Administration Data” sheet.

21. If the child does not respond to a question following further explanation, the GRA will circle the item and reread the question after the administration of remaining items. If the child still does not respond appropriately, the GRA will ask whether he/she understands the question. If the child does not understand the question, the GRA will further clarify the question and request a response. Make sure such difficulty with an item is recorded on the “Child Administration Data” sheet.

22. The GRA will make sure not to reinforce or make evaluative comments on any responses verbally or nonverbally. However, the GRA will provide encouragement for the child’s hard work and attentiveness.

23. If the child comments on the similarity between questions on the various questionnaires (e.g., “I already answered that question.”), the GRA will state, **“Some questions ask about the same kinds of things. Just answer the best you can.”**

24. If at any time during administration the child requests a restroom break, the GRA will stop administration and escort him/her to the restroom.

25. If at any time during administration, the child becomes fidgety or requests a break, the GRA will allow the child to take a break for no more than 5 minutes. The GRA will write the time in the space next to “Break Time” on the “Child Administration Data” sheet for each time the child takes a break. The GRA will set the egg timer for five minutes so that the child can see the time limit.

26. Twenty minutes after the first “Admin Time” or the end of the last break (whichever is later), the GRA will say to the child, **“Now it’s time to take a break for 5 minutes. When this timer goes off, it will be time to finish the questions.”** The GRA will write the time in the space next to “Break Time” on the “Child Administration Data” sheet, and set the egg timer for five minutes so that the child can see the time limit.

27. During the break, the GRA will offer the child a restroom break and then offer the child 2 play options: Tic Tac Toe or a velcro lacrosse game. When the timer rings after 5 minutes, the GRA will say to the child, **“Now it’s time to finish the questions. We can play more later.”**
28. Administration will resume according to directions specified above. The break sequence will be repeated every 20 minutes, until the questionnaires are completed. All break times should be noted on the “Child Administration Data” sheet. Children requesting more frequent breaks should be encouraged to stay on task longer, and the GRA can use the egg timer so the child will know when it is time for their next break.

29. Once all questionnaires are completed, the GRA will write the time in the last space next to “Admin Time” on the “Child Administration Data” sheet, and place all materials in the Child Packet.

30. The GRA will say to the child, “Thank you for working so hard today. Your answers will help us to help kids who are having different kinds of problems.” The GRA will give the child the option of having 5 more minutes of play in Room #127 or going directly to the playroom in Room #180.

31. The GRA will escort the child to Room #180, where the toys are set up. The GRA or another researcher will play with the child until his/her mother completes the Parent Packet. The GRA should be sure to have at least 5 more minutes of play with the child, since that was promised.

32. After the debriefing form has been reviewed and the dyad has been escorted to the exit, the GRA will place the Child Packet with the Parent Packet in the “PCIA-Day Data to be Entered” file in the 2nd file drawer in Room #252.
Child Administration Data

**Order of Administration:**
- _______ SDQ-I
- _______ LSDQ
- _______ Child-PARQ

**Administration Times:**
- Admin Time _______ to _______
- Break 1 Time _______ to _______
- Break 2 Time _______ to _______
- Break 3 Time _______ to _______
- Admin Time _______ to _______

*The child should take a 5-minute break every 20 minutes. Other breaks should be noted in the spaces as necessary.*

**Child Comments/Questions:**
Please write all of the child’s comments and questions. Be sure to include the name of the questionnaire and numbers of the questions on which the child experiences difficulty.

Dear Mr./Ms. _____________________,

(Teacher’s Name)

My son/daughter, __________________________, and I, ________________________, have participated in a research project at the University of North Texas looking at parent-child relationships and social functioning.* Your help is greatly needed. Please complete the following two forms (ADHD-IV-Rating Scale: School Version and the Teacher Rating Scale) with regard to my child. It will only take 10 to 20 minutes of your time. As you’ll see on the top of each form, my child’s anonymity is protected in that a code number has been assigned; please do not write his/her name on the forms.

Please return the forms to the researcher as soon as possible, using the enclosed stamped envelope. Upon receipt of the forms, the researchers will send you $5 as compensation for your time and effort.

Thank you so much for your help.

Sincerely,

__________________________________________
Parent’s signature          Date

* This study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects 940-565-3940.
APPENDIX E

PROCEDURE FOR TEACHER LETTER
Procedure for Teacher Letter

1. Explain to the parent about the teacher letter, saying something like: “We would like to have [child’s] teacher fill out two forms to help us better understand her/him and what he/she is like at school.”

2. Show the parent the two questionnaires (Teacher-Rating Scale & ADHD Rating Scale-IV: School Version). Tell them: “These are the two forms we would like [child’s] teacher to complete. You may look over the forms if you like. Each form asks questions about [child’s] behavior at school.”

3. Say: “Do we have your permission to send these forms to [child’s] teacher?”

4. If parent says yes: Show them the form letter that begins Dear Mr./Mrs. ______. Say something like, “O.K., please read this letter and sign it at the bottom.”

5. If parent says no: Say something like, “Thank you, please let us know if you change your mind later.”

Contents of envelope to teacher (make sure letter to teacher is “on top”):

1. Letter to teacher, with parent’s signature.
2. SASE (self addressed stamped envelope) – with Trish’s UNT address on it
3. Teacher’s request for payment slip.
4. Teacher-Rating Scale with child’s Dyad ID number on it.
5. ADHD Rating Scale-IV: School Version with child’s Dyad ID number on it.
APPENDIX F

DEBRIEFING STATEMENT
Dear Research Participant:

Thank you for your participation in our study! Our aim is to learn more about how different parents and children interact, especially when they are in situations with the potential for disagreement. Your participation today will be very beneficial in many research projects. Our results should have uses in many areas, including parenting programs and studying behavior disorders of childhood (such as ADHD).

We hope that making the zoo and solving the “conflicts” was not too stressful for you or your child. Sometimes, however, a certain play story might bring out tension or confusion in real life. You may want to talk with your child about their experiences today. If you or your child have any concerns or would like to talk to someone about today’s activities, your parenting stress, or your child’s behavior, please let the researcher know right now. We can help you get an appointment with a mental health professional. If you have questions after you leave today or would like help with a referral at a later date, call Dr. Trish Kaminski at (940-565-2671).

There are many other places for parents, children, and families to get help in the Metroplex that you can contact on your own. In addition to talking to your child’s school counselor or physician, you can check your local Yellow Pages under “Psychotherapists” or “Psychologists.” For your convenience, the following is a list of the names and phone numbers of several agencies that offer counseling and other services to families. (These agencies are all listed in the Denton County Community Services Directory; for additional information about these or other agencies, call the United Way’s Information & Referral Helpline at 940-566-2688).

Child & Family Resource Clinic (UNT, Denton) - offers play therapy and family therapy with fees set according to income level [940-565-2066].

Family Guidance Center (Dallas & Lewisville) - offers couples counseling and family therapy with fees set according to income level [214-351-3490].

Family Resource Center (Denton) - offers a resource library, parenting classes, & support groups [940-566-1800].

Friends of the Family (Denton) - provides shelter and counseling following family violence [800-572-4031].

Marriage & Family Clinic (TWU, Denton) - individual, marital & family counseling for all ages with fees set according to income level, but no one is refused service if unable to pay [940-898-2600].

Psychology Clinic (UNT, Denton) - individual, marital, group & child assessment & therapy for all ages with fees set according to income level [940-565-2631].

Youth & Family Counseling (Flower Mound) - offers counseling programs for youth and their parents with fees set according to income level [972-724-2005].

The results of our study will be available to you in the future. If you would like a copy of our results, please give us your address now or contact us at a later date. You may keep this sheet for your records.

Sincerely,
Dr. Trish Kaminski
APPENDIX G

DEMOGRAPHIC INFORMATION AND HISTORY FORM
DEMographic Information AND HISTORY FORM

1. The parent (or guardian) who is filling out this questionnaire and participating with a child is the child’s (please check one box):
   (1) ☐ mother       (2) ☐ father       (3) ☐ stepmother       (4) ☐ stepfather
   (5) ☐ foster mother (6) ☐ foster father (7) ☐ grandmother
   (8) ☐ grandfather   (9) ☐ other please specify: ________________________

2. Other guardians who live with you and this child are (check “yes” or “no” for each person):
   (1)Yes (2)No (1)Yes (2)No
   a. mother       ☐ ☐       b. father       ☐ ☐
   c. stepmother   ☐ ☐       d. stepfather   ☐ ☐
   e. foster mother ☐ ☐       f. foster father ☐ ☐
   g. grandmother  ☐ ☐       h. grandfather ☐ ☐
   i. other (please specify): ______________________________

3. Other parents who see this child every month or more but DO NOT live with you are (check “yes” or “no” for each person):
   (1)Yes (2)No (1)Yes (2)No
   a. mother       ☐ ☐       b. father       ☐ ☐
   c. stepmother   ☐ ☐       d. stepfather   ☐ ☐
   e. other (please specify): ______________________________

4. How many other children live in your household? (circle one)
   0 1 2 3 4 5 6 7 8 9 10 or more

5. How many adults besides yourself regularly help you care for the child(ren)? [Do not include paid baby-sitters or daycare workers] (circle one)
   0 1 2 3 4 or more

6. The participating child is a:   (1) ☐ girl       (2) ☐ boy
7. Have there been any months in this child’s life when you did not live in the same house?
   (1) ☐ Yes    (2) ☐ No

   If yes, please list age of child at separation from you, length of separation, amount of contact you did have with the child (if any) and the reason for separation:

<table>
<thead>
<tr>
<th>Age of Child</th>
<th>Length of Separation</th>
<th>Contact?</th>
<th>Reason for Separation</th>
</tr>
</thead>
</table>

8. Currently, about how many hours per day do you spend with this child (do not count time when child is asleep at night, but do count child’s naptime if you are home with them). If it changes from day to day, figure an average:

   (1) ☐ 1-2 hours  (2) ☐ 3–4 hours  (3) ☐ 5–6 hours  (4) ☐ 7–8 hours
   (5) ☐ 9-10 hours  (6) ☐ 11 or more hours


11. Your age today: ________________  12. Your child’s age today: ________________

13. Your child’s grade in school (if completing during the summer, choose the grade that your child will enter next Fall):

   (1) ☐ Not in school  (2) ☐ pre-school  (3) ☐ kindergarten
   (4) ☐ 1st grade  (5) ☐ 2nd grade  (6) ☐ 3rd grade  (7) ☐ 4th grade  (8) ☐ 5th grade
   (9) ☐ Other (please explain): ____________________________________________

14. How would you describe your ethnic-racial background?

   (1) ☐ Asian-American  (2) ☐ Black (African-American)  (3) ☐ Caucasian (White)
   (4) ☐ Hispanic  (5) ☐ Middle Eastern (Arab)  (6) ☐ Native American Indian
   (7) ☐ Biracial (please specify____________________________________)
   (8) ☐ Other (please specify____________________________________________)
15. Is English your first language? (1) ☐ Yes (2) ☑ No (please specify__________)

16. How would you describe your child’s ethnic-racial background?
   (1) ☐ Asian-American (2) ☐ Black (African-American) (3) ☐ Caucasian (White)
   (4) ☐ Hispanic (5) ☐ Middle Eastern (Arab) (6) ☐ Native American Indian
   (7) ☐ Biracial (please specify___________________________________________)
   (8) ☐ Other (please specify____________________________________________)  

17. Is English your child’s first language? (1) ☐ Yes (2) ☑ No (specify__________)  

18. List the country in which the following people were born. (If they have moved from their birth country to the US, how many years have they lived in this country?)

<table>
<thead>
<tr>
<th>Country of Birth</th>
<th>Number of Years in USA</th>
</tr>
</thead>
</table>
a. Child          | _______________________ |
b. Child’s Mother | _______________________ |
c. Child’s Father | _______________________ |
d. Child’s Maternal Grandmother (Mother’s Mother) | _______________________ |
e. Child’s Maternal Grandfather (Mother’s Father) | _______________________ |
f. Child’s Paternal Grandmother (Father’s Mother) | _______________________ |
g. Child’s Paternal Grandfather (Father’s Father) | _______________________ |

19. Which category best describes your current marital status?
   (1) ☐ never married (2) ☐ married (3) ☐ separated
   (4) ☐ divorced (5) ☐ widowed (6) ☐ separated
   (7) ☐ other (explain____________________________________________________)
20. Which category best describes your current relationship status?

(1) ☐ single, not dating       (2) ☐ single, but dating casually
(3) ☐ single, but dating seriously       (4) ☐ living together/engaged
(5) ☐ married       (6) ☐ separated
(7) ☐ other (please explain ____________________________ )

21. How long have you been in your current relationship?

(1) ☐ I’m not in a relationship   (2) ☐ 3 months or less   (3) ☐ 3-9 months
(4) ☐ about 1 year   (5) ☐ about 2 years   (6) ☐ 3-4 years
(7) ☐ 5 years of more

22. What is the highest degree you’ve earned or the last grade in school you completed?

(1) ☐ 8th grade   (2) ☐ 9th grade   (3) ☐ 10th grade   (4) ☐ 11th grade
(5) ☐ 12th grade (H.S. diploma or GED)   (6) ☐ technical/trade school diploma
(7) ☐ community college degree   (8) ☐ university degree, specify ____________
(9) ☐ advanced degree, specify ______________
(10) ☐ other, please specify ________________________

23. Are you currently a student? (1) ☐ Yes, part-time   (2) ☐ Yes, full-time   (3) ☐ No

24. Are you currently employed? (1) ☐ Yes, part-time   (2) ☐ Yes, full-time   (3) ☐ No

25. If yes, what is your job? ____________________________________________
IN THIS SECTION, PLEASE ANSWER FOR THE CHILD’S OTHER PRIMARY PARENT (OR GUARDIAN), IF THEY HAVE ONE. Choose the person with whom the child lives at least some of the time (for example, your significant other or, if you are divorced, the child’s other biological parent). [If there is more than one person in this category, choose the one with whom the child spends the most time.] If there is no other parent/guardian, skip to #30.

26. What is the highest degree this parent/guardian has earned or the last grade in school they completed?
   (1) □ 8th grade     (2) □ 9th grade     (3) □ 10th grade     (4) □ 11th grade
   (5) □ 12th grade (H.S. diploma or GED)     (6) □ technical/trade school diploma
   (7) □ community college degree     (8) □ university degree, specify _______________
   (9) □ advanced degree, specify _______________
   (10) □ other, please specify _______________

27. Are they currently a student? (1) □ Yes, part-time   (2) □ Yes, full-time     (3) □ No

28. Are they currently employed? (1) □ Yes, part-time   (2) □ Yes, full-time     (3) □ No

29. If yes, what is their job? ___________________________________________________________________

30. What is your approximate yearly household income before taxes (include child support received, if that applies to you)?
   (1) □ less than 10,000     (2) □ 10,000 – 20,000     (3) □ 20,000 – 30,000
   (4) □ 30,000 – 40,000     (5) □ 40,000 – 50,000     (6) □ 50,000 – 60,000
   (7) □ 60,000 – 70,000     (8) □ 70,000 – 100,000    (9) □ over 100,000

31. Have you ever taken parenting classes? (1) □ Yes     (2) □ No

If yes, please describe the type of classes you had and for how long:
Description of Parenting Classes                     Number of Classes (or time span)
32. Have you ever attended counseling? (1) ☐ Yes (2) ☐ No

If yes, please describe the type of counseling you had and for how long:

<table>
<thead>
<tr>
<th>Description of Counseling</th>
<th>Number of Sessions (or time span)</th>
</tr>
</thead>
</table>

33. Has the child who is participating in this study ever attended counseling?
(1) ☐ Yes (2) ☐ No

If yes, please describe the type of counseling he or she had and for how long:

<table>
<thead>
<tr>
<th>Description of Counseling</th>
<th>Number of Sessions (or time span)</th>
</tr>
</thead>
</table>

34. Has this child ever repeated a grade? (1) ☐ Yes (2) ☐ No

35. If yes, which grade? ___________________

36. Has this child ever skipped a grade? (1) ☐ Yes (2) ☐ No

37. If yes, which grade? ___________________

38. Does your child receive special education services at school? (1) ☐ Yes (2) ☐ No

If yes, what is your child’s eligibility? (Check all that apply)

<table>
<thead>
<tr>
<th>Eligibility</th>
<th>(1) Yes</th>
<th>(2) No</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Orthopedically Impaired</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Other Health Impaired</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Auditory Impaired</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Visually Impaired</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Deaf-Blind</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Mentally Retarded</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Emotionally Disturbed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Learning Disabled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. Speech Impaired</td>
<td></td>
<td></td>
</tr>
<tr>
<td>k. Autistic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>l. Traumatic Brain Injury</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
39. If yes, grade your child began receiving special education services _______

40. Is this child currently taking any medication?  (1) □ Yes  (2) □ No

41. If yes, please list the name of the medication(s) and dosage(s).
____________________________________________________________________
____________________________________________________________________

42. Has your child ever been diagnosed with any of the following: (Check all that apply)
   (1) Yes  (2) No  (3) Never diagnosed, but I suspect this child has this disorder

   a. Attention-Deficit/Hyperactivity Disorder (ADHD) □ □ □
   b. Oppositional Defiant Disorder □ □ □
   c. Conduct Disorder □ □ □
   d. Tourette’s Disorder □ □ □
   e. Separation Anxiety Disorder □ □ □
   f. Generalized Anxiety Disorder □ □ □
   g. Major Depressive Disorder □ □ □
   h. Dysthymic Disorder □ □ □
   i. Bipolar Disorder □ □ □
   j. Other (please specify ______________________) □ □ □

43. If you answered “yes” to any disorder listed in Question #42, how old was your child when first diagnosed? ______________________

44. If you answered “yes” to any disorder listed in Question #42, who was your child first diagnosed by?

   School counselor/psychologist (LSSP, Ph.D.) (1) □
   Other counselor/psychologist (M.S., Ph.D., Psy.D.) (2) □
   Psychiatrist (M.D.) (3) □
   Family physician/general practitioner (M.D.) (4) □
   Other (please specify ______________________) (5) □

45. Is your child currently receiving counseling for the disorder(s) checked in #42?

   (1) □ Yes  (2) □ No, never  (3) □ In the past only  (4) □ Does not apply (no disorder)
46. Which category best describes your religious preference?

- Agnostic (1)
- Atheist (2)
- Buddhism (3)
- Catholicism (4)
- Hindu (5)
- Judaism (6)
- Muslim (7)
- Protestant (8)
- Other (9)

Specify Denomination __________________

47. How often do you attend religious services?

- More than once per week (1)
- About once per week (2)
- About once per month (3)
- About once or twice per year (4)
- Seldom (less than once per year) (5)
- Never (6)

48. Have you ever been diagnosed with any of the following: (Check all that apply)

- Attention-Deficit/Hyperactivity Disorder (ADHD) (1) Yes (2) No (3) Never diagnosed, but I suspect I have this disorder
- Personality Disorder (1) Yes (2) No (3) Never diagnosed, but I suspect I have this disorder
- Substance Abuse or Dependence (1) Yes (2) No (3) Never diagnosed, but I suspect I have this disorder
- Generalized Anxiety Disorder (1) Yes (2) No (3) Never diagnosed, but I suspect I have this disorder
- Major Depressive Disorder (1) Yes (2) No (3) Never diagnosed, but I suspect I have this disorder
- Dysthymic Disorder (1) Yes (2) No (3) Never diagnosed, but I suspect I have this disorder
- Bipolar Disorder (1) Yes (2) No (3) Never diagnosed, but I suspect I have this disorder
- Other (please specify _______________________

49. If you answered “yes” to any disorder listed in Question #48, are you currently taking mediation(s) for the disorders?

- Yes (specify _________________________) (1)
- No (3) Does not apply (no disorder) (2)
50. Has the participating child’s other **biological** parent ever been diagnosed with any of the following: (Check all that apply)

(1) Yes (2) No (3) He/she has (4) I don’t know never been diagnosed, but I suspect they have this disorder

| (a) Attention-Deficit/Hyperactivity Disorder (ADHD) | ☐ | ☐ | ☐ | ☐ |
| (b) Personality Disorder | ☐ | ☐ | ☐ | ☐ |
| (c) Substance Abuse or Dependence | ☐ | ☐ | ☐ | ☐ |
| (d) Generalized Anxiety Disorder | ☐ | ☐ | ☐ | ☐ |
| (e) Major Depressive Disorder | ☐ | ☐ | ☐ | ☐ |
| (f) Dysthymic Disorder | ☐ | ☐ | ☐ | ☐ |
| (g) Bipolar Disorder | ☐ | ☐ | ☐ | ☐ |
| (h) Other (please specify ________________) | ☐ | ☐ | ☐ | ☐ |
APPENDIX H

MCMI-III SCALES
MCMI-III Scales

Modifying Indices:
- Validity Index (Scale V)
- Disclosure (Scale X)
- Desirability (Scale Y)
- Depbasement (Scale Z)

Clinical Personality Patterns:
- Schizoid (Scale 1)
- Avoidant (Scale 2A)
- Depressive (Scale 2B)
- Dependent (Scale 3)
- Histrionic (Scale 4)
- Narcissistic (Scale 5)
- Antisocial (Scale 6A)
- Sadistic (aggressive) (Scale 6B)
- Compulsive (Scale 7)
- Negativistic (passive-aggressive) (Scale 8A)
- Masochistic (self-defeating) (Scale 8B)

Severe Personality Pathology:
- Schizotypal (Scale S)
- Borderline (Scale C)
- Paranoid (Scale P)

Clinical Syndromes:
- Anxiety disorder (Scale A)
- Somatoform disorder (Scale H)
- Bipolar: manic disorder (Scale N)
- Dysthymia disorder (Scale D)
- Alcohol dependence (Scale B)
- Drug dependence (Scale T)
- Posttraumatic stress disorder (Scale R)

Severe Clinical Syndromes:
- Thought disorder (Scale SS)
- Major depression (Scale CC)
- Delusional disorder (Scale PP)
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