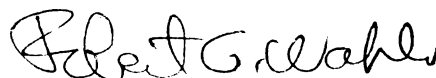


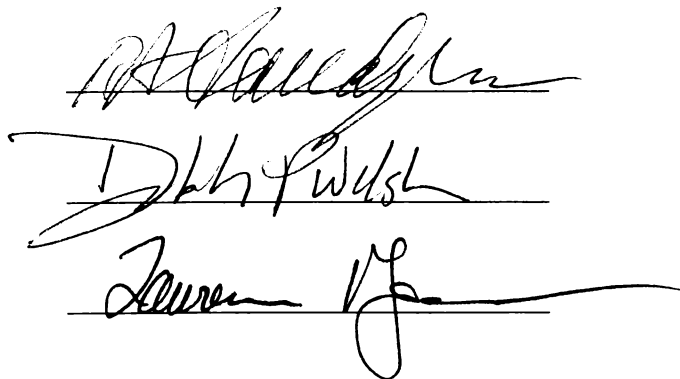
To the Graduate Council:

I am submitting herewith a dissertation written by Brian John Adams entitled "Personality Characteristics of Responsive Parents: The Relationship to Symptomatology in Children." I have examined the final paper copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.



Robert G. Wahler, Major Professor

We have read this dissertation
and recommend its acceptance:



Accepted for the Council:



Vice Provost and Dean of
Graduate Studies

PERSONALITY CHARACTERISTICS OF RESPONSIVE PARENTS:
THE RELATIONSHIP TO SYMPTOMATOLOGY IN CHILDREN

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Brian J. Adams

December 2002

DEDICATION

Thesis
2002b
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This dissertation is dedicated to Ethan. I hope that all that I have learned about children serves me well with the most important one in my life.

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Most importantly, I would like to thank my family. I thank my parents for all of their support through my years of education, and I thank my wife, Michelle, who has always believed in me, and supported me when I needed it the most.

ABSTRACT

The purpose of this study was to further define the relationship between parental responsiveness and symptomatology in children and to help elucidate qualities that might lead a parent to behave in a responsive manner toward their child. Of particular interest was the parental personality characteristic conscientiousness. The 28 Participant families were from two samples, a clinical sample taken from the University of Tennessee Psychological Clinic and a non-clinical sample taken from a local elementary school.

Parents completed an assessment measure of their child's symptomatology and questionnaires designed to measure conscientiousness. Families were then observed interacting for one hour to assess for parental responsivity and child negativity, using an observational coding system. This study did not show a clear link between the personality characteristic conscientiousness and parental responsiveness. However, results did demonstrate that parental responsiveness was indeed predictive of overall symptomatology as well as both internalizing and externalizing problems in children. Additionally, it appeared that parental responsiveness was a better predictor of symptomatology than observed child negativity. This study also demonstrated that clinical and non-clinical groups differed in their level of responsivity, with parents from the clinical sample presenting as significantly less responsive.

Findings are discussed in the context of the responsiveness literature. Limitations to the current study, and recommendations for further research are presented.

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CHAPTER 1

INTRODUCTION

Parental responsiveness has become an important concept in child development. It is defined as parents' sensitivity to changes in their children's behavior and the provision of appropriate responses as soon as the changes occur. As a result, responsive parents are able to orchestrate an interactional synchrony with their children, characterized by high proportions of well-timed and appropriate reactions (Wahler, 1997). The roots of the concept "parental responsiveness" extend back to early developmental theories, such as object relations (Winnicott, 1965) and attachment theory (Ainsworth, Blehar, Waters & Wall, 1971; Bowlby, 1969).

However, parental responsiveness as an empirical construct is still relatively young in its development. Scientific interest in this construct was born out of research on prosocial behavior and compliance and was likely due, in part, to the lack of success of some of the clinical interventions and parent training based strictly on behavior modification theories (Ferber, Keeley & Schemberg, 1974; Johnson & Christensen, 1975; Kent & O'Leary, 1976; Patterson, 1982; Roberts, 1985; Wahler, 1980). Compliance researchers, Pappalardo and Maccoby (1985) coined the term "responsiveness" and were the first to scientifically study it. It has since been discussed as an important concept in the parenting literature, most notably in Baumrind's research of parenting styles. Responsiveness is now thought of as one of the two most important facets of the authoritative parent, which has spurred additional investigation into the construct.

By the early 1990's, parental responsiveness began receiving significant attention and has now been studied in relation to a number of concepts with the strongest and most consistent relationship appearing to be between parental responsiveness and child pro-social behavior and compliance (Kochanska, 1997; Lay, Waters & Park, 1989; Lawrence, 1984; Westerman, 1990). However, responsiveness has also been found to be negatively correlated with risk-taking behavior, violence-related behavior, substance abuse, and even homelessness.

The evidence of a negative correlation between the aforementioned externalizing problems and parental responsivity makes logical sense in that pro-social behavior and compliance in children are inherently inversely related to externalization. Therefore, there is consistency in the notion that parental responsivity should also be predictive of lessened behavior problems. Further, research also demonstrates that secure attachment in infants is associated with lower levels of childhood difficulties (Belsky and Nezworski, 1987), and is also positively correlated with responsiveness (Ainsworth, Bell, & Stayton, 1974; Isabella, 1993; Isabella, Belsky & Von Eye, 1989). Additionally, there exists a strong connection between responsiveness and authoritative parenting (which has been shown to foster positive qualities in children). Taking all of this into consideration, a strong argument can be made that instilling pro-social behavior through responsivity should lead to a decrease in behavioral pathology, and potentially a lower incidence of childhood symptomatology as a whole. Continued research in this area is merited and should provide more clarity on the issues described above.

The potential impact of responsiveness raises another important question. What drives or guides parents to respond to their children in an appropriate and timely manner?

Is this something they learned as they first became parents? Is this merely a replication of the way their parents responded to them as children? Could it be something as basic and engrained as a personality trait? The idea that our personality effects our behavior is not a novel one. Yet somehow, this facet seems to be overlooked in the parenting research. A review of the literature provides a conceptual link between responsiveness and one of the big five personality traits, "conscientiousness." The relationship between conscientiousness and parental responsiveness, and in turn childhood symptomatology will be examined in greater detail. Prior to this, a review of theoretical foundations and empirical research with regard to parental responsiveness seems prudent.

Early Theoretical Roots of Parental Responsiveness

The concept, responsiveness, was explicated in both object relations theory and attachment theory. Pediatrician Donald W. Winnicott, a dynamic object relations theorist, in his extensive study of the mother infant relationship, hypothesized that there was no such thing as "just a baby," but insisted that in the beginning there is only the "mother-infant unit". He further argued that the infant needed to experience relatedness with the mother. Winnicott believed it was essential to the development of a healthy personality for the child to be provided with the "average expectable environment" of which a central element is the "good enough mother." He described the "good enough mother" as highly sensitive to the needs and gestures of the infant, responding to the infant in a way that allows him or her to experience "existing in the world" or "just being," rather than "reacting to the world." Winnicott felt this was essential to the healthy

development of the person. This early object relations theory is akin to Wahler's (1997) description of responsive parents as those parents able to orchestrate an interactional synchrony with their children. However, unlike contemporary researchers, Winnicott did not believe that attunement to the infant need persist into childhood (Winnicott, 1965). The importance of parental responsiveness, in childhood, was furthered by the work of attachment theorists, John Bowlby and more prominently, Mary Ainsworth.

Responsiveness is most closely tied to attachment theory through the work of Mary Ainsworth (Ainsworth, Blehar Waters & Wall, 1978; Ainsworth 1967, Ainsworth, 1963). Ainsworth thought of the attachment figure, typically the child's mother, as a secure base from which the child could explore the world. Whenever the child needed to, he or she could return to base (the mother) where there would be a sense of safety and security. Ainsworth further developed the idea that there was something important about a mother's sensitivity or lack thereof, to signals from her child. From this she hypothesized that this maternal sensitivity, which once acted on appropriately can be thought of as responsiveness, played a role in the later development of infant-mother attachment patterns. Ainsworth, influenced by the work of John Bowlby (1969), believed, and later empirically tested, that differences in maternal sensitivity in infancy would lead to differences in attachment patterns in childhood. She identified three different patterns of attachment in childhood: the secure attachment, the insecure ambivalent attachment and the insecure avoidant attachment. Ainsworth found that mothers who displayed high levels of maternal sensitivity with regard to their child's behavior had a greater likelihood of having children who had developed secure attachments (Ainsworth 1967; Ainsworth, 1963). Subsequent research has demonstrated

that children who do not develop secure attachments are a greater risk for experiencing difficulties in childhood (Belsky & Nezworski, 1988). Overall, attachment theory and research seems to point toward the importance of the concept of responsiveness.

However, parental responsiveness as an independent construct did not become formalized until researchers began to look at different ways to approach the attainment of pro-social behavior and compliance in children.

Molecular to Molar – Empirical Roots of Responsiveness

The empirical roots of responsiveness lie primarily in the progression of research in the area of pro-social behavior and compliance in children. There are writings on fostering compliance in children stretching back into the 19th century. Two of the theoretical viewpoints that influenced compliance research are not surprisingly quite similar to those that are at the foundation of parental responsiveness, namely psychodynamic theory and attachment theory. However, it was behavioral theory that initially garnered the majority of the attention of developmental researchers formulating hypotheses aimed at better understanding the socialization of children. Based on behavioral theory, researchers proposed that the children's compliance would follow the tenets of operant conditioning. This type of strict conditioning model suggests that children will, in essence, comply with requests based on the existence of reward and punishment for certain behaviors. This molecular model looks at each instance of compliance as primarily independent from all others and states that reinforcement at that time will result in the desired behavior from the child. Some have found initial success

with treatment programs based on this model (Forehand & Atkeson, 1977; Herbert & Iwaniec, 1981; Patterson, 1974; Pied, Roberts & Forehand, 1977). Some have even found this success to be maintained at follow up (Forehand & McMahon, 1981; Patterson & Fleischman, 1979). While others who discovered immediate benefit, upon follow up reported that treatment gains were not maintained (Forehand & Atkeson, 1977; Kent & O'Leary, 1976; Patterson, 1974; Roberts, 1985; Wahler, 1980). Still other researchers have reported a complete lack of significant therapeutic effects for contingency-based treatment (Ferber, Keeley & Schemberg, 1974; Johnson & Christensen, 1975).

Additionally, it has been demonstrated that parent-child interaction in normal families is not characterized by a significant relationship between prosocial behavior and compliance, and contingency management techniques (Griest, Forehand, Wells and McMahon, 1989, Lytton, 1979). Researchers have further found that positive reinforcement practices rarely affect the behavior of conduct problem children (Wahler & Bellamy, 1997). Divergent thinking, as well as the mixed long term success of contingency-based parent training in effecting change in children's behavior, prompted researchers to explore other avenues that might better account for compliance in children. Researchers began shifting their thinking with regard to the attainment of prosocial behavior and compliance in children away from molecular models that only tend to view behavior in isolation, to more molar models that take the broader picture into consideration. Years of investigation appear to have led to the development of newer, progressively more molar, empirical formulations beginning with social learning theory, and continuing with others such as attribution theory, exchange theory, and systemic theory, which encompasses reciprocity and responsiveness. Theory with regard to

parenting style has also been influential in the movement toward more molar explanations as well. These theories take into consideration additional elements such as the cognition, the systemic functioning of the parent /child relationship, and the historical background of the dyad. By investigating such elements, researchers have arrived at a better understanding of the development of prosocial behavior and compliance in children.

Social Learning Theory and Research

With regard to prosocial behavior and compliance, the first challenge to behavioral theory was social learning theory. Social learning theory is also based on conditioning theories developed by Thorndike, Hull, and Skinner. However, social learning theorists, unlike their predecessors, realized that reinforcement and punishment are at times not necessary or sufficient for learning to occur. Concerning sufficiency, they challenge behavior theory by stressing the importance of the perception of the child in connecting certain behaviors to certain consequences and in assessing the probability of a consequence occurring. First, the parent may assume clarity in the child's perception when it is not the case. The child may not connect the reinforcement or punishment with the behavior for which it was intended. Additionally, flawless consistency on the part of parents is likely unattainable across time and thus an estimate of the probability of consequence may be calculated by the child, particularly as they mature and become more sophisticated. For example, a child who is punished for acting out in the grocery store by being removed may have figured out that the probability of punishment is not 100 percent. It is likely that the child sometimes goes to the grocery

store with just one parent and in these instances is not usually removed due to the inconvenience placed upon the parent. Instead he is assuaged in some way so that shopping can be completed. Does he perceive the subtle difference that in one instance results in consequence and in the other reward -- maybe. Does he know he doesn't always get punished -- definitely. If learning has any lasting effect, the child comes to know over time that removal is not necessarily imminent on every occasion.

Additionally, social learning theorists give consideration to the sensitivity of the mother in being able to assess what will be reinforcing to the child at any particular moment in time, some caregivers may not realize that their child views removal from the grocery store as rewarding rather than punishing. These mothers are more likely to instill manipulation in their children than pro-social behavior. The issue of perception on the part of both mother and child, as well as probability, add dimensions to behavioral theory that demonstrate that it may not be sufficient to explain compliance.

Further, there is evidence from studies of observational learning (Bandura, 1969, 1971) that direct reward or punishment is not necessary for learning to take place. The child does not need to be an active participant to learn whether behavior is acceptable or unacceptable. He may instead learn vicariously through watching another person being rewarded or punished for certain behaviors or through modeling, seeing influential people in the child's life behave in certain ways and then imitating their behavior. Other issues raised by social learning researchers that challenged classic behavior theory are those of adaptation (Stevenson, 1965) and reduction of internal motivation (Lepper & Greene, 1978). Stevenson (1965) found that the more praise used by parents, the less effective praise becomes as a reinforcer. Maccoby and Martin (1985) have interpreted

this to mean that unless used on an infrequent basis, children develop tolerance levels for praise and require higher doses to get the same effect over time, forcing escalation of praise on the part of parents to induce the same level of compliance in their children. They apply this same logic to the use of rewards. Children in essence become adapted to the behavior of their parents and require greater and greater rewards as their children's adaptation levels increase. Research has also shown that children who are rewarded for engaging in activities that they were initially interested in without any outside influence, become less interested once externally rewarded for the activity. Tolerance building, coupled with possible negative emotional effects of reinforcement, leads one to wonder whether this is the best way to induce compliance on the part of children. In the worst case scenario following a conditioning paradigm, we could reduce a child's initiative and make them more dependent on higher and higher reward levels. In the end, it seems challenges to conditioning theory posed by proponents of social learning may raise more questions than answers, but the implications of their work has definitely supplemented our knowledge base and sparked the movement toward more molar explanations of behavior.

Attribution Theory and Research

Continuing the trend toward a more contextualized understanding, research based on the ideas of attribution theory adds further grist to the mill. Attribution theory, when applied to the child socialization process, takes into consideration the attributions children make with regard to the source of their behavior compliance (reviewed in Lepper 1982, and Maccoby & Martin 1985). Provided children do indeed comply in a

situation, they can either cite their own internal values or external reward or punishment from caregivers. While compliance based on contingencies is often viewed positively, attribution theorists would state that it does not lead our children to generalize the consequences of their actions beyond the scope of the parent child interaction, nor does it foster the internalization of right and wrong. If our goal is to achieve internalization and generalization, research shows that with smaller, as opposed to larger rewards, there is much greater likelihood for the internalization of compliant acts. Similarly, with mild, as opposed to severe, threat of punishment there is a much greater likelihood of continued refrain from prohibited behaviors in the absence of supervision. Further, while severe pressure to conform appears to produce higher initial compliance, the children who comply under a mild pressure condition are much more likely to continue to comply across time, and when pressure is not present. Additionally, excessive pressure to comply has been shown to lead to a devaluation of the behavior that is being sought (see review in Maccoby & Martin, 1983). Maximum internalization seems to occur, according to the “minimal sufficiency principle”, when pressure is just sufficient to bring about compliance and when the child feels they have complied willingly (Lepper, 1982). In light of this information, behaviors of parents aimed to achieve maximum internalization of compliance appear much more complex than simply rewarding or punishing behavior. This is congruent with Hoffman’s (1982) assertion that a key to internal acceptance of parental messages, particularly messages that children find initially contrary, is for children to forget that their parents were the source of influence. When the messages are retrieved from memory, they are then more likely seem like the child’s own conclusion rather than one that was imposed upon them. He states that messages

that are heavily power-laden keep children aware that the source of the communication came from outside themselves blocking the internalization process.

Systemic Theories

Systemic theories are even more molar in the sense that they each examine the family system or parent child dyad as a whole. This whole may have individual parts, however, systemic theorists believe that to understand the system it must be measured as it is functioning interdependently. Looking at the individual characteristics is thought by some to be less relevant. I will briefly touch on the ideas of several different systemic theories that have sparked new thinking and research over time including interaction theory, exchange theory, communal exchange theory, and parenting styles research, which lead up to reciprocity theory and responsivity.

Interaction Theory

Interactionists give credence to the idea that children are participants in the process of socialization. They do not view behavior as happening in isolation, and as a result see most actions as reactions to previous behavior on the part of both the parent and the child in the dyad. They state that parents and children actively influence each other's behavior, much like partners in a dance. One partner's step influences the other's next step and steps out of rhythm solicit changes by each partner to account for them. Using this analogy, interactionists would further postulate that by analyzing a small section of the dance it may be hard to obtain good understanding of the overall process that is occurring. One dance could even be mistaken for another if only observing one or

two isolated steps. So rather than studying individual events, researchers from this perspective are more interested in circular processes and sequential analyses. For a review of interaction theory see Maccoby & Martin (1983).

Exchange Theories

Exchange and communal exchange theories are two more examples of systemic, molar approaches to understanding the nature of the parent child relationship that results in the development of well-socialized children. Exchange theorists, based their ideas on matching law and have suggested that relationships, including family relationships, operate in terms of payment of reciprocal favors which creates a “You scratch my back. I’ll scratch yours” arrangement. Although this agreement is typically not formally discussed, it is thought that each time a favor is done for another family member it obligates that member to return it in some way. Thus parents and children, brothers and sisters etc. ultimately seek a balancing of the scales that could be considered a relational homeostasis. Interestingly, in this system the benefits one receives in a dyad are directly limited or expanded by the benefits they bestow upon the other. Empirical evidence for exchange theory has been scant and has found little to no support in other areas of study such as the area of marital relationships (Gottman, 1979). Further, exchange theory had been criticized because the exchange of resources and favors between parents and children is asymmetrical, since parents give more than they receive. Additionally, it has been argued that families seem to operate more communally assuming that their needs will be eventually met, but not relying on immediate reciprocation. A variation of exchange theory proposed by Clark and Mills (1979) has influenced the direction of

study in relation to prosocial behavior. They propose that in relationships people do not attempt to maintain a balance between giving and receiving. Rather they have mutual goals such that meeting the goals of each partner will benefit both as a whole. Aldous (1977) found support for this notion in her review of family interaction patterns, in that families that function well tended to be communal in nature rather than operating on a more contingent exchange basis. Exchange theories led, in part, to what is now known as reciprocity theory, and the concept of responsiveness.

Parenting Styles Research

Another area of research that is closely connected to pro-social behavior and compliance and has influenced the development and furthering of the study of responsiveness is the research on parenting styles. According to Baumrind, parents fall into one of three broad categories of parenting style: permissive, authoritarian and authoritative (Baumrind, 1973). It is only the latter that is characterized as effective. Her research suggests that children of authoritative parents are more competent, self-controlled, independent, assertive and inquiring (Baumrind, 1991). Further, it would seem that the parenting behaviors of the authoritative parent are most consistent with maximal child compliance. Characteristics of the authoritative parent include attentive responsiveness to children's needs as well as demands for prosocial behavior. The authoritative parent need be understanding, but also firm in setting guidelines and limitations. An authoritative parent openly discusses the rules, explaining or reasoning them through with their children, is open to negotiation within the realm of desired behaviors and is firm and consistent with regard to application of the rules, so that the

child feels more in control of the outcome. Permissive parents, on the other hand, are less likely to be firm enough in their bids for compliance to meet the minimal sufficiency requirements to obtain compliance and authoritarian parents are more likely to provide stronger pressure leading children to attribute compliance externally. Authoritative parenting was conceptualized to have two main factors, a responsiveness component and a demandingness component. The conceptualization of responsiveness within the framework of the authoritative parenting style appears to have been influential in the formulation of responsiveness as a construct and has led to some of the recent research on parental responsiveness.

Reciprocity and Responsiveness

Reciprocity theory, formalized by Maccoby and Martin (1983), states that parents who accept and respond to a child's attempt to exert influence will in turn experience an increased readiness on the part of the child to willingly accept parental influence. This results in a mutual cooperation, providing the sense that by working together everyone benefits. Thus, the parent can facilitate compliant behavior by attending to the child's bids for attention and allowing them to drive certain interactions through timely and appropriate response. This notion is consistent with previous research demonstrating the positive relationship between complying with a child's request, and then thereafter attaining their compliance (Cox, 1977; Lytton, 1977). Maccoby was initially influenced by Sears (1951) who thought that compliance, rather than being a unidirectional experience, where the parent gives an instruction, and the child reacts based on contingency, was in essence bi-directional, where both participants mutually influence

each other. From this idea developed an emphasis on reciprocity that focuses on the relationship over the individual. This emphasis is the origin of what is now known as responsiveness.

Research in the area of responsiveness as it relates to compliance also began with the work of Maccoby. Responsiveness came to be defined as a parent's sensitivity to changes in their children's behavior and the provision of appropriate responses as soon as the changes occur. However, these responses were not just consequences, rather they spanned the range of human interaction, demonstrating an interest in the child that goes beyond a maintenance of appropriate behavior. A responsive parent is akin to an actor in a play, directed by the child, in which the parent always knows the next line.

Theoretically, responsiveness creates a bond that leads to healthy development and a secure attachment between caregiver and child. This idea is given further credence by research that demonstrates a positive correlation between maternal responsiveness and the development of secure attachments in infants (Ainsworth, Bell, & Stayton, 1974; Isabella, 1993; Isabella, Belsky, & Von Eye, 1989). Logically, it follows that children of responsive parents will be less likely to engage in behavior that would threaten the relationship with a caregiver, for whom they have developed a strong bond or attachment. The nature of the development of children experiencing responsiveness thus seems to more readily take into account the quality of the parent-child relationship than do strict behavioral models.

Responsiveness Research

The following seeks to provide a comprehensive review of the literature with respect to parental responsiveness and reciprocity as Maccoby and Martin (1985) describe it in their influential paper on socialization in the context of the family. I will begin by reviewing research in the area of compliance and prosocial behavior and then move into research that has made an impact in a related field, the study of conduct disordered and behavior problem children. Additionally, research demonstrating a negative correlation between responsivity and other externalizing problems such as violence-related behavior and substance abuse will be presented. Finally, efforts that have been made to incorporate responsivity into treatment regimens will be discussed.

Compliance and Prosocial Behavior

Achieving compliance and instilling prosocial behavior in children has been a topic of interest for developmental psychologists for decades. Research in this area has moved in a direction that led to the development of responsiveness, a construct that looks beyond the immediate contingencies to a broader range of dyadic interaction. This development has sparked research that has demonstrated consistent findings that have shed new light on this age-old problem. The work of Eleanor Maccoby and her colleagues have led researchers to examine more closely the process that leads to compliance or noncompliance in children. How do parents socialize children to comply with parental demands? What leads to compliance? What can be done to change the

behavior of noncompliant children? These are all questions that responsiveness research has helped elucidate.

In addition to originating the concept of responsiveness as it applies to prosocial behavior and compliance (Maccoby & Martin, 1983), she and Mary Parpal were the first to empirically examine its influence (Parpal & Maccoby 1985). This initial study may have garnered significant attention, not only because of the innovation of the construct, but due to the fact that the researchers utilized an experimental design in contrast to the correlational studies typical of this phenomenon. In their study of pre-school age children and their mothers, Parpal and Maccoby found that not only was parental responsiveness related to compliance, but also that systematic application of responsive parenting techniques led to an increase in children's compliant behaviors above and beyond a non-interaction group and a control group. Further, the responsive parenting manipulation did not involve any reinforcing of child compliance or punishing of non-compliance so the effects cannot be attributed to reinforcement. While this study did not directly pit responsive parenting techniques against behavioral techniques, the fact that the responsiveness condition resulted in the highest level of compliance (significantly higher than the other two conditions) points to the idea that a process completely different from contingency management can lead to, and in this case was responsible for, increased compliance levels. This seminal work garnered attention of researchers from varying perspectives and initiated others in the scientific community to examine the construct themselves.

Subsequent empirical studies have shown a consistent positive relationship between reciprocity based constructs, which encompass interactional synchrony, and child compliance/prosocial behavior (Harrist, Pettit, Dodge, & Bates, 1994; Kochanska, 1997; Lay, Waters & Park, 1989; Lawrence, 1984; Rocissano, Slade, & Lynch, 1987; Wahler & Meginnis, 1997; Westerman, 1990). These studies on the construct concentrated primarily on children in the same age range as the Parpal and Maccoby (1985) study, preschool age children. Two studies utilized experimental design, and one was longitudinal in nature allowing for a greater inference with regard to directionality. Lay, Waters and Park (1989) used the same observational measures of responsivity as Parpal and Maccoby and a similar experimental design, as they were interested in replicating the findings, as well as looking further into the contribution that mood induction might make in relation to compliance. In the original study, Parpal and Maccoby hypothesized that responsiveness may lead to a positive mood induction, which could have an effect on cooperative behavior. This hypothesis was based on previous research demonstrating the effects of positive mood induction. Based on this, the new two-part study sought to replicate and further determine whether positive mood induction might act as a mediator in the responsiveness/compliance relationship. The replication provided strong support for parental responsiveness resulting in increased levels of compliance. However, the study also found that positive mood induction by itself led to an increase in compliance. The authors suggest that mood may mediate the relationship between responsiveness and compliance or responsiveness may make individual contributions both inducing positive mood and increasing child compliance. However, to

untangle the relationship, a study incorporating both into a single experimental design would have to be cleverly designed and carried out.

The only study looking directly at the effects of responsiveness on compliance in latency aged children is an experimental design done with 1st through 3rd graders and their mothers (Wahler & Meginnis, 1997). Positive parenting practices in the form of mirroring (group 1) and praise (group 2) were taught to mothers. The researchers presumed that these techniques would have an effect on parental responsiveness, and in turn compliance. Mirroring and praise groups were significantly higher in the degree of both responsiveness and subsequent compliance than the control group. Further, these researchers found that responsiveness when examined as an independent variable had more influence in predicting compliance than either mirroring or praise, accounting for 28 percent of the variance above and beyond mirroring and praise and removing the significance of both in the overall model. Responsiveness also shined as the best predictor of both parent and child satisfaction with the interaction in which they engaged. On the basis of the findings, the authors suggest that specifically rewarding cooperative actions may have little value serving as reinforcement outside a social context.

While not focusing directly on responsiveness as delineated by Parpal and Maccoby, a study in 1990 (Westerman, 1990) investigated moment to moment behavior in eight compliance problem mother-child dyads and eight healthy dyads. This study also used observation techniques to measure coordination between the mother and her child, and found that maternal coordination as well as compliance were significantly higher in the healthy group than in the compliance problem group. Similarly, another study focusing on the relationship between dyadic synchrony and child compliance with

toddlers, using moment to moment sequential analyses, demonstrated that children were more likely to comply with a synchronous caregiver's instructions than with an asynchronous caregiver's instructions. They further found that mothers who failed to accept and respond to their child's attempts to exert influence were least likely to willingly accept parental influence by carrying out parental instructions (Rocissano et. al.).

The following two studies speak more directly to the relationship between prosocial behavior and reciprocal or synchronous mother-child dyads than they do to compliance per se. The first examined the longitudinal effects of responsiveness and then forayed into effects of responsiveness that may go beyond the mother-child dyad by investigating the internalization of maternal values and goals, and the second looks at the negative relationship between responsivity and the flipside of prosocial behavior, aggressiveness. The second study also extended the potential effects of responsive relationships beyond the home, by examining the effects of synchrony in the dyad on peer relationships at school.

Kochanska (1997) reported findings from a longitudinal study looking at the dyadic relationship through what they termed "mother-child mutually responsive orientation," which again is akin to responsivity, where interactions are observed and coded for interactional synchrony. Dyadic interactions were coded when the children were two to three years of age and then dependent measures were gathered one year later. Dyads characterized by a high degree of mutually responsive orientation at time one showed a lower use of power by mothers at time two, as well as more internalization by children with regard to maternal rules and prohibitions. Additionally, the children from

these dyads were more reluctant to violate rules of conduct. This study provides strong implications for the lasting effects of responsive parenting and its role in the transmission and internalization of maternal goals and values that will presumably benefit these children in their relationship with others throughout their childhood. The idea that children carry with them, through internalization, that which is obtained through a synchronous relationship with the mother into other arenas is furthered by Harrist et. al. (1994) who looked at kindergartners and their mothers and observationally examined the dyads for positive synchrony, nonsynchrony and negative synchrony in mother-child interactions. Positive synchrony was defined quite similarly to responsivity, negative synchrony was defined according to coercion theory (Patterson, 1982) where the parent and child are trapped in a reciprocally aversive pattern of interchange, and nonsynchrony was defined as interaction low in reciprocal connectedness. High levels of positive synchrony were associated with children's socially competent behavior with peers. Interaction style also predicted school adjustment, teacher rated competence, disengaged play and both teacher and peer-rated aggression. Interestingly, the strongest relationships found in this study were for teacher-rated aggression. Positive synchrony was highly negatively correlated aggression measures, while nonsynchrony was highly positively correlated with them. This alludes to the next area of research that has been influenced by reciprocity theory and the responsiveness construct, children with externalizing problems.

Behavior Problems

With research demonstrating the positive relationship between responsiveness and compliance/prosocial behavior, it make sense that psychologists with an interest in clinical work would begin to examine the inverse relationship between responsiveness and externalizing problems in children including aggression, behavior disorders, violence and antisocial behavior, and substance abuse. In studies of clinical populations and studies of parent training for families with oppositional aggressive children, it was demonstrated that indiscriminate parenting, parenting that is inconsistent and marked by an absence of interactional synchrony, was related to defiant behavior in children as well as other aversive behaviors (Dumas, 1984a; Dumas & Wahler, 1985; Wahler & Dumas, 1986; Wahler, Williams, & Cerezo, 1991). Findings also show that when looking at brief interchanges, indiscriminate responding on the part of the mother is highly likely to be followed by aversive child behavior (Wahler, Williams, & Cerezo, 1991). Additionally, upon follow-up after the completion of parenting training, it was found that when the dyads were divided based on their degree of success with the treatment program, the unsuccessful group was much more likely than the successful group to engage in indiscriminate responding (Dumas, 1984b).

Results demonstrating the relationship between indiscriminate responding and aversive behavior were followed by more direct assessments of the responsiveness construct as it applies to behavior problems. These studies, however, examine responsiveness primarily in infancy in relation to behavior problems in middle childhood. A longitudinal study of low-income, high risk families with children who were observed at 12, 24, and 42 months demonstrated negative correlations between maternal

responsiveness at 12 months and externalizing problems at 12 and 24 months of age. However, the correlation was only found for boys in this sample (Shaw, Winslow, Owens, Vondra, Cohn & Bell, 1998). This finding is concurrent with other studies examining maternal responsiveness in infancy, in relationship to later problems with behavior (Martin, 1981; Shaw, 1984). These studies suggest that perhaps maternal unresponsiveness affects girls in other maladaptive ways that are not being captured by the measurements being used or that perhaps boys are just more susceptible to problems resulting from a lack of maternal responsiveness.

Another group of researchers also explored the role of responsiveness in infancy to the development of behavior problems in middle childhood (Wakschlag & Hans, 1999). This study, examining a high-risk urban population, found that early maternal responsiveness was strongly negatively associated with both disruptive behavior symptoms and disruptive behavior disorder in middle childhood and was the only significant predictor in the overall model which consisted of several other risk factors. Additionally, early encouragement/guidance was found to be insignificant in the prediction of later behavior problems. This again points to the potential importance of not just encouragement and positives from parents, but sensitivity to the child's needs and an ability to respond in a timely and appropriate manner.

Other studies of responsiveness have stemmed from the research on parenting styles, which has articulated that responsiveness is a critical feature of the authoritative parent. The authoritative parenting style is considered to be the style that yields the best results with regard to children's adjustment (Baumrind, 1991). This branch of responsiveness research looks at the construct through the use of self-report

questionnaires. This must be taken into consideration when attempting to consolidate responsiveness research, because the drastic change in measurement can effect the outcome of the research and may result in findings that are inconsistent in some ways from the rest of the literature. This point is well demonstrated in research by Kochanska (1997), which obtained different results for observed and self-reported responsiveness. He found that while observations of responsivity predicted both observed and self reported outcome, reported responsivity only predicted self-reported outcome.

Keeping this in mind, a review of research using qualitatively different methodology will be included in further discussion. A study of preschool age children and their parents in Russia is an example of this methodology. Parental self-report measures of responsiveness were used to predict two different types of aggression reported by teachers, relational, which is based more on interpersonally harmful behaviors, and overt, which is based more on actual physically harmful behaviors. Interestingly, while the outcome with regard to overt aggression showed significance for both paternal and maternal responsiveness, the outcome with regard to relational aggression showed significance for paternal responsiveness only (Hart, Nelson, Robinson, Frost & McNeilly-Choque, 1998). Moreover, a longitudinal study of elementary school children also used questionnaires to measure firm-responsive parenting in relation to parent, teacher and self-rated adjustment and found that firm-responsiveness in the 3rd grade was associated with both parent rated behavior problems and child reported misconduct in the 5th grade (Shumow, Vandell, & Posner, 1998). While methodology limits interpretation of these studies they still show some support for the influence of responsiveness on subsequent behavioral problems.

Related Conduct & Adjustment Problems

Not only are children with parents low in responsiveness more likely to display behavior problems, it has been found that these children are much more likely to be victimized by their peers as they enter into the school system (Ladd & Ladd, 1998). Research on kindergartners has shown that behaviorally assessed parental responsiveness is significantly inversely associated with child self-report of experiencing harassment and aggression by peers in school. This relationship was particularly strong for girls and was found to be significant whether or not the children displayed aggressive behaviors themselves.

Moreover, the difficulties for children with unresponsive parents may continue, and become more serious and more grave, as they reach adolescence. For parental responsiveness has also been negatively correlated with antisocial acts in adolescence, such as violence-related behaviors (Jackson & Foshee, 1998), substance abuse (Jackson, Henrickson & Dickenson, 1999; Bogenschnieder, Wu, Rafaelli & Tsay, 1998) and running away, leading to homelessness (Tavecchio & Thomeer, 1999). In a study of over 1200 students in the 9th and 10th grade, responsiveness and demandingness, the other primary facet of authoritative parenting, were both highly negatively associated with violence related behaviors. As responsiveness and demandingness decreased, the proportions of adolescents who had beat up a peer, carried a weapon to school, or threatened a peer increased. These results were even stronger and more pronounced when examining female adolescents. Further with regard to substance use, Jackson et. al. (1999) found that responsiveness was predictive of adolescent alcohol use only when considered along with demandingness, and that when examined separately was non-

significant. Bogenschnieder et. al. (1998) also found some relationship between maternal responsiveness and adolescent alcohol use. However, this relationship was mediated by the degree of relative peer orientation. Relative peer orientation was determined through questioning adolescents with regard to whom they would rely on if they had a personal problem. Based on their responses, adolescents were then classified as high, moderate, or low in peer orientation. Therefore, responsiveness was predictive of relative peer orientation, which was in turn predictive of alcohol use. Finally, a link between responsiveness and homelessness has also been found. When compared to control groups, homeless adolescents historically report far less parental responsiveness. While this association was significant, it relies on retrospective reporting, which is susceptible to distortion based on the adolescent's current situation. Overall, these findings are not particularly strong. However, one should keep in mind that they all utilized self-report measures to assess parental responsivity and do so at a developmentally later stage in the child's life. These factors fundamentally change the responsiveness construct and only really allow for a conceptual comparison, as opposed to direct comparison with behaviorally assessed responsivity in younger children.

Treatment Interventions

The detrimental effects of a lack of responsivity in the parent child dyad points clinical researchers toward the question of whether or not responsiveness can be taught and used as an effective treatment intervention, with behaviorally disordered children and their families. Research suggests that responsivity, at least to a certain degree, can be taught (Parpal & Maccoby, 1983, Lay, Waters & Wall, 1989; Wahler & Meginnis, 1997)

and there is also evidence that it can be effective in treating conduct problem children (Wahler & Bellamy, 1997). This small sample study demonstrated the effectiveness of including responsiveness training in an overall treatment regimen for behaviorally disordered children and suggested that responsiveness may serve to enhance and maintain the prosocial behavior that is initially induced through behavioral intervention. Additionally, research has demonstrated the utility of responsivity training in treating attachment insecurity in children (van Ijzendoorn, Juffer, & Duyvesteyn, 1995), which in turn has been shown to affect socialization behavior and adjustment problems (Belsky & Nezworski, 1988).

These interventions designed to increase interactional synchrony in the dyad focus primarily on working with the parent to help them become responsive. Some would argue that if it is a systemic problem, then the solution should also be systemic, and not focus on, or lay the responsibility on, one individual within the system. While this point is well taken and there is some evidence to suggest that temperament of the child and child characteristics in general effect the system (Crockenberg, 1986; Kochanska, 1995; Lytton, 1990), it is by no means consensually agreed upon that child factors are of greater importance (Dodge, 1990; Wahler, 1990). Science has had a difficult time teasing apart the influence of “nature vs. nurture”, and to what degree early environment impacts the development of child traits (Dodge, 1990). Although, it is not disputed that children’s behavior can influence parent behavior, it logically makes sense that changing the behavior of one member in a system effects the rest of the system. Further, researchers have recognized that parents and children do not contribute equally in coordinating the interaction between them, and that parents take on the majority of the

responsibility for providing the scaffolding for interaction (Hodapp, Goldfried, & Boyatzis, 1984; Kaye & Charney, 1980; Maccoby 1992; Westerman, 1990).

Additionally, conduct problem children do not usually refer themselves for treatment to learn how to get along better with their parents and the rest of society, therefore it makes sense to continue to gear intervention efforts toward parents.

Further, more extensive, study of treatment interventions based on responsive parenting should be done. These studies should seek to differentiate the effectiveness of reciprocity based interventions with more behaviorally based interventions. One possible explanation for the lack of studies utilizing reciprocity-based treatment is the difficulty posed in teaching responsiveness to others. The idea of teaching parents how to be sensitive to their children's actions and respond in an appropriate and timely manner, creating interactional synchrony, is more complex and difficult to convey than contingency management. Further, it can be argued that parental personality characteristics that have become engrained over time predispose some parents to be better able to engage their children in a responsive manner than others. If this is indeed the case, then teaching responsiveness becomes perhaps a more daunting task. However, information as to personality characteristics that may play an important role in responsiveness may enhance clinical researchers chances of developing a treatment protocol that will lead to an increase in parental responsivity and in turn help families with behaviorally disturbed children.

Personality Traits as Predictors of Responsiveness

Researchers, through careful factor analysis, have identified five core personality traits, commonly known today as the "Big Five" (Costa & McCrae, 1988). The NEO-PI-R, the personality test based on the five factor model, was originally developed through an analysis of another personality test, the Sixteen Personality Factor Questionnaire, 16PF (Cattell, 1970). Since its development, Costa and McCrae have demonstrated the presence of the five factor model in the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1964), the Jackson Personality Research Form (PRF; Jackson 1974), The Myers Briggs Type Indicator (MBTI; Myers and McCauley, 1985) and the California Q-Set (Block 1961) and the presence of all but one of the factors in the Minnesota Multiphasic Personality Inventory (MMPI; McKinley, 1951) (Digman, 1990). Therefore, the "Big Five" demonstrate as a fairly good taxonomy of what researchers know about personality today. Since our personalities influence how we behave and how we interact with others, it seems prudent to examine the contribution personality might play in relation to responsive parenting.

It has long been known that our personality influences our behavior. For example, extremely introverted people behave quite differently from extremely extroverted people. With this in mind, it makes sense to consider the possibility that personality characteristics might make a significant contribution to responsive parenting. This makes even more sense when the concept of parental responsiveness bears such striking similarity to the personality trait known as "conscientiousness." Conscience, the root of conscientiousness, is defined as the sense of moral goodness or blameworthiness

of one's own conduct, intentions, or character, together with a feeling of obligation to do right or to be good. However, researchers have defined conscientiousness slightly differently. It is an embodiment of competence, order, dutifulness, achievement motivation, self-discipline and deliberation, which comprise the subscales of the conscientiousness factor on the NEO-PI-R (Costa & McCrae, 1988).

Other researchers studying the NEO-PI-R have found that conscientiousness is comprised of seven well-defined bipolar facets that are indeed quite similar to the original subscales: organized-unorganized, ambitious-unambitious, cautious-reckless, reliable-unreliable, consistent-inconsistent, perfectionistic-haphazard and conventional-unconventional (Hofstee, de Raad & Goldberg, 1992). It is easy to envision that someone who is organized, ambitious, cautious, reliable and consistent, and perhaps conventional, would be adept at orchestrating high proportions of well-timed and appropriate reactions. It is also easy to envision that someone who is warm, caring and well intentioned, while lacking some of the aforementioned qualities, may have some distinct difficulties providing a responsive environment for his or her child. It follows that conscientiousness may be an important personality trait for the responsive parent.

Support for the idea that personality characteristics may play a role in relation to responsiveness was articulated by Martin (1989), when he illustrated the importance of interpersonal sensitivity as an individual characteristic that may be of importance in enabling a mother to be responsive and there is agreement among researchers that this may be an important characteristic for mothers to have if they are to be successful in being responsive (Ainsworth et. al., 1974; 1978, Bornstein, 1989; Isabella & Belsky, 1990; Kochanska, 1997; Martin, 1989). This, however, only seems to incorporate one

half of what is necessary for parental responsiveness. While responsiveness requires a parent to have the capacity to be sensitive to their child's needs and actions, it also requires a parent to respond in an appropriate and timely manner. Being able to act in this way would seem to be clearly enhanced in someone who is naturally organized, reliable, consistent feels an obligation to do what is right.

Research in the area of parenting styles also lends some support to this notion. Early work by Baumrind also classified parents into one of three categories: authoritarian, permissive, and authoritative. According to Baumrind, authoritative parenting is the ideal. Research has suggested that children of authoritative parents are more competent, self-controlled, independent, assertive and inquiring as well as less likely to become problematic drug users (Baumrind, 1991). A description of the authoritative parent includes attentive responsiveness to children's needs, as well as demands for prosocial behavior. The authoritative parent is described as understanding, but also firm in setting guidelines and limitations. When examining the qualities which describe the personality trait conscientiousness, it would seem that these qualities would be important, if not essential for an authoritative parent. The authoritative parent, like the responsive parent, is likely not only to be available for the child on a consistent and reliable basis, but helps to organize the child's environment in such a way that expectations and limitations are clear and consistent.

Further, this review has cited research demonstrating a connection between responsiveness and behavioral problems in children. There is also research suggesting that parental conscientiousness is linked to behavior problems such as oppositional defiant disorder and conduct disorder (Nigg & Hinshaw, 1998). However, this

relationship was not found to be exceptionally strong. Perhaps this is because responsiveness acts as a mediator in this relationship, with conscientiousness being more directly related to responsivity, and responsivity in turn being predictive of behavioral problems.

Overall, examining the role personality traits play, specifically the role of conscientiousness in relation to parenting, seems warranted. Through further investigation we should be able to begin building a theory that better explains characteristics that comprise responsive parents, parents who over time have been shown to rear children who exhibit significantly more prosocial behavior and less problematic behavior (Bogenschneider et. al., 1998; Dumas, 1984a; Dumas & Wahler 1985; Hart et. al., 1998; Harrist, et. al., 1994; Jackson & Foshee, 1998; Jackson, et. al, 1999; Kochanska, 1997; Lawrence, 1984; Martin, 1981; Rocissano, et. al., 1987; Shaw, 1984; Shaw, et. al., 1998; Shumow et. al., 1998; Tavecchio & Thomeer, 1999; Wakschlag & Hans, 1999; Wahler & Dumas, 1986; Wahler, et. al., 1991, Westerman, 1990). Not only may this prove quite valuable in further understanding the basic nature of the optimal parent, but understanding such characteristics may also help clinical researchers develop successful treatment regimens for the families of behaviorally disordered children.

The current study investigated the relationship between the parental personality trait conscientiousness, as measured by the NEO-PI-R (Costa & McCrae, 1985) as well as the Conditional Reasoning Test (CRT; James, 1988), parental responsiveness, as measured by the Standard Observation Codes – Revised (SOC-R; Cerezo, 1988), and externalizing problems in children as measured by the Child Behavior Checklist (CBCL; Achenbach, 1981). The hypothesis set forth was that conscientiousness would be

significantly related to parental responsiveness and in turn responsiveness would be predictive in relationship to overall symptomatology, as well as externalizing problems in children. The CRT was included in the study because it was thought that conscientiousness may be a difficult trait to measure through self-report due to the social desirability that is associated with this personality trait. Therefore, it was proposed that this projective measure developed by James (CRT; 1997) would provide a stronger correlation with the behavioral measure of responsiveness than the more typically used self report measure, which in this case is the self-report questionnaire that was adapted from the NEO-PI-R (Costa & McRae, 1985). Specifically, analyses regarding the four following predictions were run: (1) Conscientiousness will be significantly related to parental responsiveness, perhaps to a greater degree when using a projective measure, (2) Responsiveness (measured behaviorally) and symptomatology, particularly externalizing problems, (as reported on a questionnaire) will be significantly negatively correlated (3) Responsiveness will contribute unique variance to child symptomatology scores above and beyond what is predicted by child negativity, and (4) clinical and non-clinical groups will differ not only in degree of symptomatology, but in responsiveness and conscientiousness.

CHAPTER 2

METHOD

Participants

The participants were 28 parent-child pairs. They were recruited either from West Hills Elementary School in Knoxville, TN or from the University of Tennessee Psychological Clinic. The two participant pools provided an opportunity to examine both clinical and non-clinical groups. These data could then be analyzed separately for the purpose of group comparison, or together, allowing for a population that would represent a spectrum of adjustment in children. Overall, the children ranged in age from 5 to 11 with a mean age of 8.46 years. In the clinical subset the children ranged in age from 5 to 11 with a mean age of 7.57 and in the non-clinical subset they ranged in age from 6 to 11 with a mean age of 8.76. The participating parents were all mothers except for one father in the non-clinical group. Exclusion of this data point did not substantially effect the data or any of the comparisons made, therefore it was included in all analyses.

Measures

The measures used in this study consisted of a packet of questionnaires completed by the parent and a direct observation that was coded using the Standard Observation Codes – Revised (SOC-R; Cerezo, 1988) coding system, to behaviorally measure responsiveness in both the parent and the child. The questionnaire packet consisted of

the Child Behavior Checklist (CBCL, Achenbach, 1991), the conscientiousness factor adapted from the NEO-PI-R (Costa and McCrae, 1985), the Conditional Reasoning Test (CRT, James, 1997) and the Reasoning by Inference VI-R (James, 1997). The CBCL is a paper and pencil parental report measure frequently used in both research and practice to assess symptomatology in children. The 48 item multiple choice questionnaire was adapted from the NEO-PI-R which is frequently used in the social psychology literature to measure personality. It has been demonstrated to be both reliable and valid (Costa and McCrae, 1985), The CRT and Reasoning by Inference VI-R are newer measures developed by James (1997). They have also demonstrated reliability and validity. However, these measures were designed by industrial organizational psychologists for use in an occupational setting. This is the first study to use these measures in a developmental research setting with clinical and non-clinical populations.

Procedures

After volunteering to participate in the study, participants were contacted, and a date was arranged for a direct observation of the family. A consent form and questionnaire packet were mailed to parents prior to the observation. Parents were instructed to read the consent form and sign it before beginning work on any of the questionnaires. They were further instructed to complete the questionnaires without assistance from others, and that if there were any questions regarding the questionnaires or regarding participation in the study they should call the research team. Consent forms and questionnaire packets were collected from the parents on the date of observation. An

assent form was then read to the child by the observer. Subsequently, the child was asked if they had any questions about participating. If so, these questions were answered appropriately, and the child was then asked to sign the assent form, agreeing to participation.

Direct observations were one hour in length and took place in the family's home. The observation was done, in accordance with previous research, to capture the parent-child dyad in their natural environment, maximizing external validity. Observations were usually conducted by two observers to maximize safety and to help guarantee adherence to the protocol. The observations were performed according to the SOC-R manual. Each parent-child dyad was simply instructed to interact as they normally would. They were asked to remain in one room to allow for maximal observation of the dyad and to either not answer the phone or quickly take a message. The only limitations set on the family were that they refrain from playing video games or watching television. Other family members were allowed to interact with the dyad during the observation provided that this represented their typical environment. This was again done to achieve maximal external validity. However, in all cases coding was limited to the target parent-child dyad. Procedures and instructions for both the questionnaires and observation were identical for all subjects across subject pools.

Coding and Scoring

Coding was also performed in adherence with the SOC-R coding system and commenced after a period of SOC-R training had been completed by the observers and

the inter-observer agreement reached 80 percent. Throughout the duration of the study, twenty-five percent of the observations were coded by two observers, simultaneously, but independently to ensure reliability. The SOC-R system has been used in numerous studies and has demonstrated both reliability and validity (Cerezo, 1988). Coding is performed in 15-second intervals which serves to structure the observation and allows for both sequential analysis between parent and child as well as time oriented analyses.

Codes analyzed in this study included:

Parental Positive Approach: Mother or Father positive approaches (coded MA+ or FA+) were defined as any positive physical or verbal expression toward the child initiated by the parent.

Child Positive Approach: Coded A+, were defined as any positive physical or verbal expression toward the parent initiated by the child.

Parental Negative Approach: Mother or Father negative approaches (coded MA- or FA-) were defined as any negative physical or verbal expression toward the child initiated by the parent including complaints demands or disruptive commentary or behavior.

Child Negative Approach: Coded A- were defined as any negative physical or verbal expression toward the parent initiated by the child, including complaints demands or disruptive commentary or behavior.

Parental Neutral Approach: Mother or Father neutral approaches (coded MA or FA) were defined as social overtures by the parent toward the child that carried neither positive or negative emotional valence.

Child Neutral Approach: Coded A were defined as social overtures by the child toward the parent that carried neither positive or negative emotional valence.

Parental Instruction: Coded MI, MI+, or MI- for mother or FI, FI+, or FI- for father depending on emotional valence, were commands or requests for child compliance by the parent.

Child Instruction: Coded I, I+, or I- depending on emotional valence, were commands or requests for parental compliance by the child.

Parental Compliance: Coded MC or MC+, for mother or FC, FC+, for father depending on emotional valence, acts of compliance by the parent in response to positive or neutral child instruction.

Child Compliance: Coded C+ or C, acts of compliance by the child in response to positive or neutral parent instruction.

Child Opposition: Coded O or O-, child refuses to comply with parental instruction.

Rule Violation: Coded RV, child clearly violates rules previously set up by the parent.

Note: MC-, FC-, and C- are not scored as compliant due to the aversive emotional nature of the response.

From sequential analysis of the codes listed above, scores were obtained for parental responsiveness, child responsiveness and child negativity. The Parental Responsiveness (PR) construct was a reflection of the adult, both responding to and joining in, the child's positive or neutral approaches, and adult compliance with positive or neutral instructions by the child. Also, negative approaches by the child that are followed immediately by instruction by the parent were included in the PR construct, as this constitutes an appropriate and timely response to negative behavior. Further, in an effort to avoid artificial inflation of responsiveness scores by highly active children that require more responding to in general, appropriate parental reactions are then divided by the sum of both appropriate and inappropriate reactions to arrive at a proportional score for Parental Responsiveness (PR), which indicates the degree of parental responsivity. Child Responsiveness (CR) was measured in the same manner with the previously described roles reversed. Child Negativity (CN) was also measured in order to take into account the overall level of oppositional or negative behaviors displayed by the child. This includes physical or verbal expressions of disapproval, including demanding and

complaining, opposition to instructions, and rule violations. This is calculated by simply adding up the number of negative/oppositional responses and then dividing by the number of observation intervals, which again served to create a proportional variable reflecting the percentage of disagreeable behavior in relation to all other child behaviors displayed.

Analyses

Correlational analyses were performed to examine the relationship between conscientiousness and responsiveness. The relationship between responsiveness and symptomatology, and the relationship between child negativity and symptomatology, were also examined using correlation. Regression analysis aimed at determining the unique contribution of responsiveness to child symptomatology scores, above and beyond what is predicted by child negativity, could not be performed, however, due to statistical problems with multicollinearity. This issue is further explicated in the results section. Post hoc analyses testing for significant differences between correlation coefficients were then performed to determine whether the relationship between responsiveness and symptomatology was significantly stronger than the relationship between child negativity and symptomatology. Finally, comparison of clinical and non-clinical groups on measures of conscientiousness, responsiveness, and symptomatology were performed using the Mann-Whitney U test for significant between group differences.

CHAPTER 3

RESULTS

Demographic Information

Twenty-eight families with children in middle childhood participated in this study. The age parameter set for participation was 5-11 years of age. This age group, commensurate with what is known as middle childhood, was consistent with numerous previous studies of responsiveness (Bryant & Crockenberg, 1980; Harrist et. al, 1994; Ladd & Ladd, 1988; Shumow et. al, 1998; Wahler & Bellamy; 1998; Wahler & Meginnis, 1997). The current study included children from two different participant pools. Again, the clinical sample consisted of families receiving services at the University of Tennessee Psychological Clinic and the non-clinical sample was taken from a local elementary school. The clinical group consisted of 5 males and 2 females with a mean age of 7.57 years. The non-clinical group consisted of 15 males and 6 females with a mean age of 8.76 years. The combined overall group under investigation was then comprised of twenty male children and eight female children. The age range of all children participating in the study was 5-11 with a mean age of 8.46 years. The caregivers in the study were 27 mothers and 1 father. See Tables A-1 and A-2 for frequency data on the overall group as well as clinical and non-clinical groups separately.

Reliability Analyses

Observer agreement with respect to the SOC-R coding system was computed through the use of both the intraclass correlation coefficient, and coefficient alpha. Since the aggregates parental responsiveness (PRSP) and child negativity were the substantive data for the analyses, statistical comparison between observers on these items was performed. The intraclass correlation for parental responsiveness was .86 and the alpha = .92. The intraclass correlation for child negativity was .98 and the alpha = .99.

Reliability analyses were also performed on the conscientiousness subscale of the NEO-PI-R and the CRT. Both questionnaires have previously been found to have good internal consistency. However, in assessing the current sample, the internal consistency of the CRT was found to be suspect with this population (alpha = .37) removing one item from the scale resulted in improvement in this regard (alpha = .52), but was still indicative of questionable internal consistency. The result of this reliability analysis is likely to adversely effect correlational analyses using the CRT scale. The conscientiousness scale on the NEO-PI-R demonstrated good internal consistency with the current population (alpha = .86).

Descriptive Statistics

Means and standard deviations for all variables incorporated in the analyses are reported in Table A-2. Generally, for the overall population, responsiveness scores were quite high ($M = .9387$; $sd = .11$). This cluster of scores at the top of the range potentially

restricted the likelihood of discovering significant findings using this variable. Overall symptomatology measured by the CBCL fell into the average range ($M = 51.5$; $sd = 15.15$) and demonstrated more variability and conscientiousness scores also appeared to demonstrate adequate variability ($M = 176.8$; $sd = 22.3$).

Normality

It should be noted that scores on the parental responsiveness measure were not normally distributed. This was evident when looking at responsiveness scores plotted on a histogram (see Figure A-1). Additionally, the Shapiro-Wilk test of normality was significant ($p = .01$), indicating that the distribution of scores on the responsiveness measure was significantly different from a normal distribution for all samples. Due to this non-normal distribution on the parental responsiveness measure, all correlational analyses in the current study were completed using the non-parametric correlation statistic, Spearman's rho.

Correlational Findings for Individual Samples

Hypotheses regarding the direction of correlations, and expectations regarding group differences, allowed for one-tailed testing of the data. One-tailed testing also provided more power to detect significant relationships within this small sample, and was therefore used in all analyses. Before combining samples to assess the hypotheses under investigation, correlational analyses were completed for clinical and non-clinical samples

separately to determine if the relationships between important variables under investigation in each sample were similar, lending justification for joining the two samples to form an overall sample. Analysis of the clinical sample demonstrated relationships between responsiveness and symptomatology measures in the predicted direction (See Table A-4). However, the number of participants in the clinical sample ($N = 7$) was far too small to produce significant results. In the non-clinical population, the relationships between responsiveness and overall symptomatology ($\rho = -.463$, $p = .017$), responsiveness and internalizing problems ($\rho = -.378$, $p = .046$), and responsiveness and externalizing problems ($\rho = -.382$, $p = .044$), were also in the predicted direction, each reaching significance and lending support to the combining of samples.

In addition to the above described similarity within each of the samples, another compelling reason to combine samples was that clinical and non-clinical groups differed significantly on the dependent measures, of overall symptomatology ($Z = -3.69$, $p < .001$), internalizing problems ($Z = -3.804$, $p < .001$), and externalizing problems ($Z = -3.54$, $p < .001$) when tested using the Mann-Whitney U. These significant differences elucidate the importance of combining samples so as not to truncate the dependent variable and allow for analysis of the full linear range of symptomatology. Failing to combine clinical and non-clinical samples may have actually resulted in missing true relationships by restricting the range of dependent measures.

Correlational Findings for Combined Sample

To assess the first two hypotheses set forth, the clinical and non-clinical samples were joined together to form a combined sample. This made sense because it allowed for maximum variability on the constructs under investigation. However, even when the clinical and non-clinical samples were combined, there was still a ceiling effect on the responsiveness measure, which was likely to effect any correlation, which included this variable. A scatter plot of responsiveness by overall symptomatology reveals the ceiling effect on the responsiveness measure.

The first hypothesis stated that conscientiousness would be positively correlated with parental responsiveness. Additionally, it was thought that a projective measure of conscientiousness might circumvent issues of social desirability inherent in self-report measures of conscientiousness, and in turn, demonstrate a stronger relationship than a traditional self-report measure. This was not supported. Neither measure of conscientiousness demonstrated a statistically significant relationship with any of the other variables under investigation. Given the lack of internal consistency on the CRT with the current sample, this was expected. The conscientiousness scale of NEO-PI-R did show a relationship to parental responsiveness in the predicted direction. However, this correlation was not significant ($\rho = .216, p = .140$). This could be due to the aforementioned difficulties with social desirability in self-report measures of conscientiousness, or it could be related to the ceiling effect on the responsiveness measure.

It was also hypothesized that parental responsiveness would be significantly negatively correlated with symptomatology in children, particularly externalizing problems. This relationship could also have been diminished by a ceiling effect on the responsiveness measure that restricted variability. However, despite this ceiling effect, a negative correlation between parental responsiveness and symptomatology in children was found ($\rho = -.505$, $p = .003$). A significant negative correlation also existed between responsiveness and externalizing problems ($\rho = -.513$, $p = .003$) and responsiveness and internalizing problems ($\rho = -.361$, $p = .029$).

However, upon reexamination of the scatter plot, one is led to the conclusion that responsiveness scores are likely not flatly predictive of symptomatology. This is evident because there were parents who scored high on responsivity, yet reported having children with higher levels of symptomatology. However, it is also noteworthy that there were no children whose parents demonstrated lower levels of responsiveness that appeared asymptomatic. In fact, the regression line when responsiveness is below .9 appears to be a nearly perfect negative relationship. A tentative explanation for this pattern could be that parental responsiveness is a necessary but not sufficient element in relation to symptomatology. That is, higher levels of responsiveness may be required in order to produce relatively symptom free children. However, responsiveness by itself appears insufficient as a predictor of symptoms. There are likely many other factors that could contribute to higher levels of symptomatology in children, despite the presence of a highly responsive primary caregiver.

The third hypothesis stated that responsiveness would be uniquely predictive of child symptomatology, above and beyond child negativity. This hypothesis was unable

to be tested due to the high correlation that existed between parental responsiveness and child negativity ($\rho = -.803, p < .001$), producing statistical problems with multicollinearity and disallowing regression analysis to be performed. The non-normal distribution of scores in this small sample was also a contraindication for regression. However, when reexamining individual correlations it can be seen that the relationship between both responsiveness and overall symptomatology ($\rho = -.505, p = .003$) and responsiveness and internalizing problems ($\rho = -.361, p = .029$) were significant, while the relationship between child negativity and overall symptomatology ($\rho = .300, p = .061$) and child negativity and internalizing problems ($\rho = .154, p = .218$) did not reach significance. Also, there was a stronger correlation between responsiveness and externalizing problems on the CBCL than for child negativity in relationship to the same variable (see Table A-6). While it cannot be stated definitively that parental responsiveness is predictive of child symptomatology above and beyond child negativity factors, there is evidence to suggest that parental responsiveness may be a better predictor of symptomatology than child negativity.

Post hoc analyses were performed to perhaps further elucidate this issue. To determine if these previous stronger correlations between responsiveness and measures of symptomatology were indeed significantly stronger, tests for significant differences between correlation coefficients were performed. It was found that the correlation coefficient for the relationship between responsiveness and overall symptomatology was significantly different from, and stronger than, the correlation coefficient for the relationship between child negativity and overall symptomatology ($t = 1.93, p = .03$).

For internalizing problems the correlation with responsiveness was again significantly different from and stronger than, the correlation with child negativity ($t = 1.82$, $p = .04$). For externalizing problems, there were no significant differences were found ($t = 1.04$, $p = .15$).

Group Comparisons

The fourth hypothesis that clinical and non-clinical groups would differ not only in degree of symptomatology, but in responsiveness and conscientiousness was partially supported. Means and standard deviations for the clinical and non-clinical groups separately are presented in Table A-7 and Table A-8, respectively.

Between groups differences on individual variables were tested for using the non-parametric Mann-Whitney U test. As expected, there were significant differences between the clinical and non-clinical groups on the domains of overall symptomatology, externalizing behavior, internalizing behavior and responsiveness. While it is not surprising that a clinical sample would report a higher degree of symptoms than a non-clinical one, it is noteworthy that the clinical sample displayed a lower level of parental responsiveness than the non-clinical sample ($p = .045$). There were no significant differences between groups on dimensions of conscientiousness or on child negativity. Although, the NEO-PI-R measure of conscientiousness was approaching significance ($p = .065$) and may well reach significance with a larger sample.

CHAPTER 4

DISCUSSION

Implications of Results

The personality characteristic, conscientiousness, describes someone who is naturally organized, reliable, consistent, and who feels an obligation to do what is right. It makes sense that someone who embodies these qualities would be a responsive parent, one who is able to orchestrate an interactional synchrony with his or her children that is characterized by high proportions of well-timed appropriate reactions (Wahler, 1997). The current study examined the relationship between conscientiousness and parental responsiveness, but did not find a significant relationship between the two constructs. This leaves the question as to why this hypothesis, which made theoretical sense, was not empirically supported.

One possible explanation is that there is a relationship, but it was not strong enough to be detected with the small sample size. Another explanation is that perhaps conscientiousness is only part of the picture. It was stated in the introduction that it is easy to envision a sensitive, warm, caring, and well-intentioned person, who is not organized, reliable or consistent, having a difficult time providing a responsive environment. What may have been overlooked in the current study is the idea that there may be conscientious people who are not particularly sensitive, warm or caring. While it was thought that conscientious people would also likely be interpersonally sensitive, this

may not actually be the case. Given this new perspective, It may be that the combination of both personality qualities is paramount in the prediction of responsiveness.

Interpersonal sensitivity is not clearly defined as a personality trait in the Five Factor Approach (FFA) to personality, and does not fall clearly into any of the five factors.

However, the agreeableness factor may be close to capturing the interpersonal sensitivity, warmth and caring that has been described by responsiveness researchers as an important element in parental responsiveness. Agreeableness is purported to assess the degree to which a person is oriented toward helping others and is sympathetic to the concerns of others. Individuals scoring high on agreeableness are likely to be more altruistic, team-oriented, cooperative, modest, unselfish, trusting, accepting and non-judgmental in their dealings with other people (Costa & McRae, 1992). Additionally, interpersonal sensitivity has been found to correlate positively with the agreeableness factor on the NEO-PI (Furnham, Crump, & Whelan, 1997), suggesting that there may be a commonality between these two constructs. There is also support for the positive interactive effect of conscientiousness and agreeableness in relationship to job performance requiring interpersonal interchange or teamwork (Neuman & Wright, 1999, Witt, Burke, Barrick & Mount, 2002). While parenting is not exactly akin to job performance, it is definitely a job that requires interpersonal interchange and some degree of teamwork.

The current study did demonstrate a significant relationship between parental responsiveness and child symptomatology. It also sought to shed further light on the nature of this relationship by factoring into the equation child negativity to test for unique variance attributable to parental responsiveness in accounting for symptomatology in

children. Regression analysis could not be performed, however, due to problems with multicollinearity. Therefore the hypothesis could not be definitively tested. Yet, when comparing the correlations between parental responsiveness and symptomatology, to the correlations between child negativity and symptomatology, some potential tentative conclusions emerge. All in all, these results suggested that both parental responsiveness and child negativity play some role in the prediction of childhood symptomatology, and that interventions that focus on changing the behavior of either member of the dyad or the system as a whole could likely be worthwhile. This being said, parental responsiveness appeared to have a stronger relationship to all three measures of symptomatology and was significant in relation to overall symptomatology, while child negativity was not. This suggests that these two measures are indeed different variables and that parental responsiveness is perhaps a better predictor of child symptomatology than observed child negativity.

There are multiple possible explanations for the relationship between responsiveness and symptomatology. One potential explanation is that responsive parenting leads to children who are more compliant, less behavior disordered, and less symptomatic overall. Another explanation is that children who are of certain temperaments, and engage in negative behaviors, elicit more negativity and more unresponsive behavior from their parents. A third explanation is that reciprocity exists between parent and child with each partner in the dyad influencing the other. Support for all of these viewpoints exists in the literature, and has been addressed previously in this paper. There continues to be scientific debate on the issue that has yet to be resolved (Dodge, 1990; Lytton, 1990; Wahler, 1990).

The results of this study do not clearly support any one of these theories over another. However, the results do give further credence to the idea that parental responsiveness and child symptomatology are related. Additionally, previous researchers have found responsive parenting to increase compliance in toddlers (Parpal and Maccoby, 1985), to enhance and maintain prosocial behavior in clinic referred children with externalizing problems (Wahler & Bellamy, 1997), and to treat attachment insecurity in children (van Ijzendoorn et al, 1995). It has also been demonstrated that indiscriminate responding on the part of the mother is highly likely to be followed by aversive child behavior (Wahler, et. al., 1991), and many researchers have recognized that parents take on greater responsibility and make a greater contribution to coordinating the interaction between themselves and their children (Hodapp, Goldfried, & Boyatzis, 1984; Kaye & Charney, 1980; Maccoby 1992; Westerman, 1990). Given these factors, it makes sense that significant changes in a parent's level of responsivity might indeed have a subsequent effect on their children's symptom patterns. This then lends further support to the notion that treatment regimens that include responsivity training may produce added benefit in the treatment of emotionally disturbed children and their families.

However, responsivity training should not be viewed as a panacea, which will be effective in treating all child symptomatology. The scatter plot for responsiveness by overall symptomatology suggested that the relationship between these two measures might not have been as straight forward as it initially appeared in the correlation and further suggested a more qualified effect for responsive parenting. As reported in the results section, there were points on the plot that represented both parents high in responsiveness and children high in symptomatology. These results suggest that perhaps

a lack of responsive parenting does indeed predict higher symptomatology, but that high parental responsiveness does not necessarily safeguard children from experiencing symptomatology altogether.

This conjecture makes perfect sense. There are plenty of events in the life of a child that could lead to the experience of mental health symptoms. Trauma, death or loss of a friend, relative or pet, divorce of parents, or even being bullied at school are all likely good examples of such experiences. It stands to reason that a child who experiences a traumatic or painful event may experience symptoms, on at least a temporary basis, even if a parent has been 100 percent responsive every day of their child's life.

Limitations

The current study was potentially limited by the non-normal distribution of parental responsiveness scores producing a ceiling effect on this measure, limiting variability, and in turn allowing only the detection of very strong relationships incorporating this variable. The ceiling effect conceivably was due to the majority of the sample being from a non-clinical population high in responsiveness. This may have effected the relationship between conscientiousness as measured by the NEO-PI-R and responsiveness, as this relationship appeared to be approaching significance. Another limitation was the multicollinearity in the relationship between parental responsiveness and child negativity that made it impossible to determine through regression whether

parental responsiveness contributed unique variance in relationship to symptomatology above and beyond the child negativity factor.

Additionally, correlational studies inherently produce limitations, in that researchers are unable to determine causation or directionality from the results. It cannot be concluded from this study that higher levels of parental responsiveness cause lower levels of symptomatology or that lower levels of parental responsiveness result in higher levels of symptomatology. It is merely asserted that there is a significant relationship between the two variables that merits further investigation.

Areas for Future Research

Future studies would benefit from a larger clinical sample so as to increase the chance of a more normal distribution of parental responsiveness scores, in turn increasing variability on this measure and permitting the use of parametric statistics. Also, larger sample sizes may permit more sophisticated statistical analyses, such as path analysis, which would allow researchers to better determine the directionality of the relationships under investigation, and lead to a more definitive understanding of the correlation between parental responsiveness and symptomatology. A replication of the current findings with regard to the relationship between parental responsiveness and child symptomatology and an extension of these findings determining parent to child directionality or reciprocity would mount further evidence for the potential efficacy of responsiveness based treatment interventions for emotionally disturbed children and their families.

Future studies should also seek to administer the NEO-PI-R in its entirety to allow for examination of other personality factors that may contribute to responsiveness. Specifically, it would be valuable to determine the importance of the agreeableness factor in relation to responsiveness and whether parents high in both conscientiousness and agreeableness demonstrate significantly higher responsiveness scores. If this was indeed the case, research would be one step closer in determining important characteristics that responsive parents possess. This would in turn allow for more individualized treatment, by addressing parents personality issues that may contribute to deficits in parental responsiveness and incorporating this into the overall treatment regimen.

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APPENDIX

Table A-1

Frequency Table for Age for Clinical, Non-clinical and Combined Groups

	Age	Frequency	Percent	Cumulative Percent
Clinical	6.00	1	14.3	42.9
	8.00	2	28.6	71.4
	10.00	1	14.3	85.7
	11.00	1	14.3	100.0
TOTAL		7	100.0	
Non-Clinical	7.00	4	19.0	19.0
	7.00	4	19.0	19.0
	8.00	6	28.6	47.
	9.00	5	23.8	71.4
	10.00	3	14.3	85.7
	11.00	3	14.3	100.0
TOTAL		21	100.0	
Combined	5.00	2	7.1	7.1
	5.00	2	7.1	7.1
	6.00	1	3.6	10.7
	6.00	1	3.6	10.7
	7.00	4	14.3	25.0
	7.00	4	14.3	25.0
	8.00	8	28.6	53.6
	8.00	8	28.6	53.6
	9.00	5	17.9	71.4
	9.00	5	17.9	71.4
	10.00	4	14.3	85.7
	10.00	4	14.3	85.7
	11.00	4	14.3	100.0
	11.00	4	14.3	100.0
TOTAL		28	100.0	

Table A-2

Frequency Table for Gender Clinical, Non-Clinical and Combined Groups

	Gender	Frequency	Percent	Cummulative Percent
Clinical	Male	5	71.4	71.4
	Female	2	28.6	100.0
	TOTAL	7	100.0	
Non-Clinical	Male	15	71.4	71.4
	Female	6	28.6	100.0
	TOTAL	21	100.0	
Combined	Male	20	71.4	71.4
	Female	8	28.6	100.0
	TOTAL	28	100.0	100.0

Table A-3

Descriptive Statistics for the Primary Variables Under Investigation

Measures	N	Mean	SD	Minimum	Maximum
NEO	27	176.85	22.30	139.00	218.00
CRT	25	19.80	2.24	15.00	24.00
PRSP	28	.94	.11	.48	1.00
C-NEG	28	16.88	33.11	.00	143.00
CBCL-E	28	49.04	14.74	30.00	80.00
CBCL-I	28	55.32	12.52	34.00	83.00
CBCL-O	28	51.50	15.15	26.00	80.00

NEO = NEO-PI-R measure of conscientiousness

CBCL-E = Externalizing Problems

CRT = Conditional reasoning measure of conscientiousness

CBCL-I = Internalizing Problems

PRSP = Parental Responsiveness

CBCL-O = Overall Symptomatology

C-NEG = Child Negativity

Table A-4

Spearman's Rho Correlation Coefficients Between Conscientiousness, Responsiveness, Child Negativity and Symptomatology Variables for the Clinical Sample

		NEO	CRT	PRSP	C-NEG	CBCL-E	CBCL-I	CBCL-O
NEO	Correlation	1.000	-.134	.638	-.696	.116	-.058	.232
	Sig.	.	.400	.087	.063	.414	.457	.329
	N	6	6	6	6	6	6	6
CRT	Correlation	-.134	1.000	-.177	.353	.265	.706	.618
	Sig.	.400	.	.369	.246	.306	.059	.100
	N	6	6	6	6	6	6	6
PRSP	Correlation	.638	-.177	1.000	-.964**	-.429	-.286	-.321
	Sig.	.087	.369	.	.000	.169	.268	.241
	N	6	6	7	7	7	7	7
C-NEG	Correlation	-.696	.353	-.964**	1.000	.464	.321	.429
	Sig.	.063	.246	.000	.	.147	.241	.169
	N	6	6	7	7	7	7	7
CBCL-E	Correlation	.116	.265	-.429	.464	1.000	.357	.821*
	Sig.	.414	.306	.169	.147	.	.216	.012
	N	6	6	7	7	7	7	7
CBCL-I	Correlation	-.058	.706	-.286	.321	.357	1.000	.750*
	Sig.	.457	.059	.268	.241	.216	.	.026
	N	6	6	7	7	7	7	7
CBCL-O	Correlation	.232	.618	-.321	.429	.821*	.750*	1.000
	Sig.	.329	.100	.241	.169	.012	.026	.
	N	6	6	7	7	7	7	7

NEO = NEO-PI-R measure of conscientiousness

CRT = Conditional reasoning measure of conscientiousness

PRSP = Parental Responsiveness

C-NEG = Child Negativity

CBCL-E = Externalizing Problems

CBCL-I = Internalizing Problems

CBCL-O = Overall Symptomatology

* Correlation is significant at the .05 level (1-tailed).

** Correlation is significant at the .01 level (1-tailed).

Table A-5

Spearman's Rho Correlation Coefficients Between Conscientiousness, Responsiveness, Child Negativity and Symptomatology Variables for the Non-clinical Sample

		NEO	CRT	PRSP	C-NEG	CBCL-E	CBCL-I	CBCL-O
NEO	Correlation	1.000	.265	.025	.016	-.216	-.026	-.140
	Sig.		.137	.457	.473	.174	.456	.272
	N		19	21	21	21	21	21
CRT	Correlation	.265	1.000	.093	-.030	.061	.050	.023
	Sig.	.137	.	.353	.451	.402	.420	.463
	N	19	19	19	19	19	19	19
PRSP	Correlation	.025	.093	1.000	-.734**	-.382*	-.378*	-.463*
	Sig.	.457	.353	.	.000	.044	.046	.018
	N	21	19	21	21	21	21	21
C-NEG	Correlation	.016	-.030	-.734**	1.000	.266	-.019	.130
	Sig.	.473	.456	.000	.	.122	.467	.288
	N	21	19		21	21	21	21
CBCL-E	Correlation	-.216	.061	-.382*	.266	1.000	.649**	.810**
	Sig.	.174	.402	.044	.122	.	.001	.000
	N	21	19	21	21	21	21	21
CBCL-I	Correlation	-.026	.050	-.378*	-.019	.649**	1.000	.930**
	Sig.	.456	.420	.046	.467	.001		.000
	N	21	19	21	21	21	21	21
CBCL-O	Correlation	-.140	.023	-.463*	.130	.810**	.930**	1.000
	Sig.	.272	.463	.018	.288	.000	.000	.
	N	21	19	21	21	21	21	21

NEO = NEO-PI-R measure of conscientiousness

CRT = Conditional reasoning measure of conscientiousness

PRSP = Parental Responsiveness

C-NEG = Child Negativity

CBCL-E = Externalizing Problems

CBCL-I = Internalizing Problems

CBCL-O = Overall Symptomatology

* Correlation is significant at the .05 level (1-tailed).

** Correlation is significant at the .01 level (1-tailed).

Table A-6

Spearman's Rho Correlation Coefficients Between Conscientiousness, Responsiveness, Child Negativity and Symptomatology Variables for the Combined Sample

		NEO	CRT	PRSP	C-NEG	CBCL-E	CBCL-I	CBCL-O
NEO	Correlation	1.000	.147	.216	-.135	-.286	-.163	-.247
	Sig.	.	.242	.140	.251	.074	.209	.108
	N	27	25	27	27	27	27	27
CRT	Correlation	.147	1.000	.094	.023	-.090	.051	-.061
	Sig.	.242	.	.327	.456	.334	.404	.386
	N	25	25	25	25	25	25	25
PRSP	Correlation	.216	.094	1.000	-.803**	-.513**	-.361*	-.505**
	Sig.	.140	.327	.	.000	.003	.029	.003
	N	27	25	28	28	28	28	28
C-NEG	Correlation	-.135	-.023	-.803**	1.000	.401*	.154	.300
	Sig.	.251	.456	.000	.	.018	.218	.061
	N	27	25	28	28	28	28	28
CBCL-E	Correlation	-.286	-.090	-.513**	.401*	1.000	.737**	.903**
	Sig.	.074	.334	.003	.018	.	.000	.000
	N	27	25	28	28	28	28	28
CBCL-I	Correlation	-.163	.051	-.361*	.154	.737**	1.000	.914**
	Sig.	.209	.404	.029	.218	.000	.	.000
	N	27	25	28	28	28	28	28
CBCL-O	Correlation	-.247	-.061	-.505**	.300	.903**	.914**	1.000
	Sig.	.108	.386	.003	.061	.000	.000	.
	N	27	25	28	28	28	28	28

NEO = NEO-PI-R measure of conscientiousness

CRT = Conditional reasoning measure of conscientiousness

PRSP = Parental Responsiveness

C-NEG = Child Negativity

CBCL-E = Externalizing Problems

CBCL-I = Internalizing Problems

CBCL-O = Overall Symptomatology

* Correlation is significant at the .05 level (1-tailed).

** Correlation is significant at the .01 level (1-tailed).

Table A-7

Descriptive Statistics for the Primary Variables under Investigation: Clinical Sample

Measures	N	Mean	SD	Minimum	Maximum
NEO	6	165.83	27.40	139.00	211.00
CRT	6	19.17	2.32	17.00	23.00
PRSP	7	.85	.20	.48	1.00
C-NEG	7	42.08	58.68	.00	143.00
CBCL-E	7	67.71	10.47	50.00	80.00
CBCL-I	7	69.14	12.07	46.00	83.00
CBCL-O	7	71.00	8.52	58.00	80.00

NEO = NEO-PI-R measure of conscientiousness

CBCL-E = Externalizing Problems

CRT = Conditional reasoning measure of conscientiousness

CBCL-I = Internalizing Problems

PRSP = Parental Responsiveness

CBCL-O = Overall Symptomatology

C-NEG = Child Negativity

Table A-8

*Descriptive Statistics for the Primary Variables under Investigation:**Non-clinical Sample*

Measures	N	Mean	SD	Minimum	Maximum
NEO	21	180.00	20.30	142.00	218.00
CRT	19	20.00	2.23	15.00	24.00
PRSP	21	.97	.05	.78	1.00
C-NEG	21	8.48	12.27	.00	53.00
CBCL-E	21	42.81	9.89	30.00	62.00
CBCL-I	21	50.71	8.88	34.00	66.00
CBCL-O	21	45.00	10.53	26.00	70.00

NEO = NEO-PI-R measure of conscientiousness

CBCL-E = Externalizing Problems

CRT = Conditional reasoning measure of conscientiousness

CBCL-I = Internalizing Problems

PRSP = Parental Responsiveness

CBCL-O = Overall Symptomatology

C-NEG = Child Negativity

Table A-9

Between Group Differences in Key Variables under Investigation

	NEO	CRT	PRSP	C-NEG	CBCL-E	CBCL-I	CBCL-O
Mann-Whitney U	37.000	43.500	41.000	50.500	4.000	15.500	7.000
Z-Score	-1.517	-.871	-1.729	-1.231	-3.689	-3.084	-3.536
Significance	.065	.192	.045*	.109	.000**	.001**	.000***

NEO = NEO-PI-R measure of conscientiousness

CBCL-E = Externalizing Problems

CRT = Conditional reasoning measure of conscientiousness

CBCL-I = Internalizing Problems

PRSP = Parental Responsiveness

CBCL-O = Overall Symptomatology

C-NEG = Child Negativity

* significant at the .05 level (1-tailed).

** significant at the .01 level (1-tailed).

0.50 0.56 0.63 0.69 0.75 0.81 0.88 0.94 1.00
Parental Responsiveness

Figure A-1

Histogram of the Distribution of Responsiveness Scores

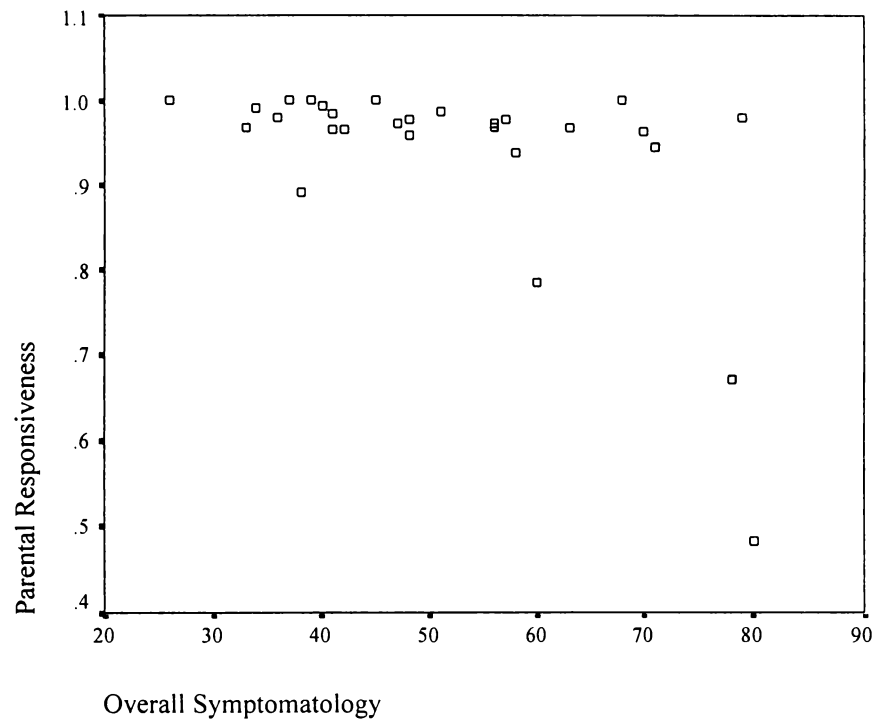


Figure A-2

Scatterplot of Parental Responsiveness X Child Symptomatology

VITA

Brian John Adams was born in Meridian, Mississippi on February 8th 1972. He was raised in Washington State and graduated from Kelso High School in 1990. From there, he attended the University of Washington, earning a Bachelor of Science with Honors Distinction in Psychology in 1994. He then worked in Oregon as a mental health specialist at a psychiatric treatment facility for emotionally disturbed children and adolescents.

In 1997, Brian moved to Tennessee and began graduate study in Clinical Psychology. He completed his internship at the Portland Veterans Administration Medical Center, in August of 2002, and earned his Ph.D. in Psychology from The University of Tennessee, Knoxville in the fall of 2002.