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The effects of childhood Autistic Spectrum Disorder on mother's reports of closeness to their sons

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THE EFFECTS OF CHILDHOOD AUTISTIC SPECTRUM DISORDER ON MOTHERS' REPORTS OF CLOSENESS TO THEIR SONS

A Thesis

Presented to the

Faculty of

California State University,

San Bernardino

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

in

Psychology:

Child Development

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ABSTRACT

The present study compared the emotional closeness of 56 mothers of sons with autism to 57 mothers of typically-developing sons. The influence of severity of autism to mothers' emotional closeness was also examined. Questionnaires were administered and mothers of children with autism reported their children to be more demanding and moody than mothers of typically-developing children. However, no significance differences were found between these groups on the Attachment or Reinforces Parent subscales. As predicted, the level of autistic severity was positively related to mothers' emotional closeness. These results highlight how the characteristics of children with autism are related to whether mothers feel emotionally toward their children, which has implications for the developmental outcomes of these children.

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CHAPTER ONE

INTRODUCTION

Throughout history, mothers' emotional attachments to their children have contributed to human survival by keeping mothers near their children, thus providing them with vigilant care (Bowlby, 1988). Researchers suggest that the quality of a mother's emotional attachment to her child contributes to the developmental outcomes for the child, particularly with regard to his/her emotional and personality development, social competence, and self esteem (Ainsworth, Blehar, Waters, & Wall, 1978; Belsky, 1984; Main, 1996). A mother's sensitivity, acceptance, and cooperative behaviors toward her child have been identified as crucial to the establishment of the attachment relationship (Karen, 1998; Main, Kaplan, & Cassidy, 1985).

Several factors have been identified that influence the quality of a mother's emotional attachment. One of the most important factors is the child's characteristics. These developmentally-instigative characteristics include personality and temperament (e.g., easy versus difficult, or responsive versus withdrawn) as well as physical characteristics [e.g., attractive versus unattractive]

(Bronfenbrenner, 1979). Irritable or unresponsive children may not elicit the mothers' full potential of their caregiver relationship, hindering the development of the identified behaviors crucial to the establishment of the attachment relationship (Mash & Johnson, 1983).Thus the child's temperament, even more than the mother's caregiving pattern, seems to affect the mother-child connection (Rosen & Burke, 1999).

If this is the case, young children with disabilities, particularly Autistic Spectrum Disorder [ASD] (American Psychiatric Association, 1994), may well be placed at higher risk for not developing an emotional attachment which would in turn impact their future development. In fact, several researchers have reported a breakdown in the mother-child interactions due to the limited capacity of young children with disabilities to stimulate their mothers (Cox & Lambrenos, 1992; Fraiberg, 1971). The purpose of this study was to examine the relationship of mothers and their children by comparing the emotional closeness of mothers who have children with autism to those mothers with typically developing children.

Autism

Children with ASD have been found to exhibit personal characteristics that discourage responses that lead to reciprocally interactive behaviors such as seeming to exist in his or her own world, having repetitive routines, odd and peculiar behaviors, problems in communication, and a total lack of social awareness or interest in others (Hoppes & Harris, 1990). These rather unusual behaviors and characteristics of children with ASD begin as early as 12 to 36 months of age (Klinger & Dawson, 1996), which is the critical window for the development of the attachment relationship (Ainsworth et al., 1978). It is important to note that ASD is a lifelong disability for those diagnosed.

Autism is often discovered when parents become concerned as to why their child is not yet talking, resists cuddling, and avoids interaction with others. A preschool-age child with "classic" autism is generally withdrawn, aloof, and fails to respond to other people. Many of these children will not even make eye contact. They may also engage in odd or ritualistic behaviors like rocking, hand waving, or an obsessive need to maintain order. Many children with autism do not speak at all.

Those who do may speak in rhyme, have echolalia (repeating a persons words like an echo), refer to themselves as a "he" or "she," or use peculiar language (Klinger & Dawson, 1996).

The severity of autism varies widely, from mild to severe (American Psychiatric Association, 1994). Some children are very bright and do well in school, although they have problems with school adjustment. They may be able to live independently when they grow up. Other children with autism function at a much lower level with mental retardation commonly associated with the disorder. Occasionally, a child with autism may display an extraordinary talent in art, music, or another specific area. However, a lack of social or emotional reciprocity is characteristic of all individuals with ASD (American Psychiatric Association, 1994).

Implications for Parental Interaction

The difficulties mothers face in establishing emotional attachments and providing effective parenting for their atypically developing children have long been an acute concern for clinicians and researchers (Cox & Lambrenos, 1992). In fact, theorists once thought that rigid, unnurturing, and cold parenting by "refrigerator moms" caused autism, but this accusatory myth has long

been dismissed (Donenberg & Baker, 1993). It is now understood that the biological, physical, and psychological characteristics of the child with ASD may position the child to be at risk for disruptive, non-normative interactions leading to poor developmental outcomes (Sontag, 1996). Perhaps even more importantly, the reciprocal nature of the mother-child interaction may be impaired by the specific characteristics of a child with ASD who does not return any warmth, makes no real "meaningful" eye contact, and doesn't respond with or to affectional expressions.

Children with ASD may be notably unresponsive to physical contact or affection, which is a factor that has been found to be crucial for mothers establishing emotional attachments to their children (Ainsworth, 1993; Main, 1996). Mothers have reported that such children become rigid when picked up and that they are "not cuddly"; they also tend to avoid eye contact, averting their gaze rather than looking directly at another person (Gelfand, Jenson, & Drew, 1997). As a result of their condition, they are less able to benefit from social contact, feedback, and informational exchanges about themselves and the world than their developmentally typical counterparts.

Of children with atypical patterns of development, children with autism represent an extreme case. Observations of children with autism indicate that these children rarely initiate behaviors that actively engage others in social interactions. For example, they tend not to express an obvious interest in sharing events or objects with other people (Mundy et al., 1986). When they do look to other people, they tend not to coordinate expressions of pleasure and attention, thereby giving the impression of being less interested in the interaction (Spiker et al., 2002). The child with autism may involve a greater burden for the mother and the mother's efforts are not as readily rewarded by the child's progress. This in turn is likely to result in a mother feeling less emotional closeness toward her child with ASD. In addition, this lack of emotional closeness may produce an additional source of stress and difficulty for these mothers (Hoppes & Harris, 1990).

Implications for Child Effects on Maternal Interaction

A child's personal characteristics can either invite or discourage particular kinds of reactions from their mothers, which in turn may foster or disrupt the development of a strong reciprocal attachment (Sontag,

1996). A developing child has personal attributes that influence his or her own development, with some attributes being more consequential than others (Bronfenbrenner, 1979). These developmentally-instigative characteristics include personality and temperament as well as physical characteristics (Bronfenbrenner, 1979).

Conclusions that mother-child relationships are bidirectional and co-constructed have often been drawn when the focus is on how child characteristics influence parent behavior and the relationship. Pelham et al. (1997) noted the importance of considering the "role of children's behavior in a reciprocal, transactional family system" citing several studies that indicate the "distressing effects that defiant child behavior has on immediate reactions and long term functioning of parents" (p. 414). Parents rated interactions with such children as being significantly unpleasant, resulting in feelings of inadequacy, anxiety, depression, and hostility. In addition, the role of child behavior is shown by the results of Anderson, Lytton, and Romney (1986) suggesting that mothers' behavior was influenced by the child's characteristics.

In an observational study by Dymphna van den Boom (1988), it was found that irritable children were less

responsive to their mothers, and they smiled and made pleasing sounds less frequently than non-irritable children. Their mothers became discouraged and gave up on their children by not responding affectionately and sensitively to their vocalizations and gestures. Her study confirmed what Thomas and Chess (1977) would have expected, i.e., that irritable children did indeed seem to place additional stresses on their parents. In turn, these parents became more rejecting, making it harder to establish a secure relationship between the parent and child (Karen, 1998). In addition, Eheart (1982) found that mothers displayed lower quality interactions with children whose personal characteristics discouraged responses that led to reciprocally interactive behaviors.

Emotional Attachment

Typically Developing Children

Work with typically-developing children has documented how fundamental the process of emotional attachment unfolds in the mother-child relationship (Ainsworth et al., 1978). Given the emotional commitment mothers provide, children may pay attention to, approach, and explore unfamiliar and novel objects which in turn fosters learning (Ainsworth et al., 1978). Mothers express

this emotional commitment in a variety of ways such as keeping a watchful eye on the child even when safety does not seem to demand it, and by responding affectionately, predictability, and sensitively to vocalizations, expressions, and gestures (Ainsworth, 1993). Other factors that have been identified as crucial to the development of a secure emotional attachment for children include time together, face-to-face interactions, eye contact, physical proximity, touch, and other primary sensory experiences such as smell, sound, and taste (Ainsworth, 1993). Bowlby (1988) and Main (1996) believe the most important factor in creating attachment is warm, sensitive, responsive care provided by the caregiver in the small day-to-day interactions with the child, particularly positive physical contact, hugging, holding, and rocking.

Over weeks and months, mothers and their children develop synchronized routines much like a dance in which the partners take turns responding to each other's leads (Karen, 1998). This reactive behavior emphasizes that children play an active role in persuading mothers to love them (Main, 1996). According to Karen (1998), children are seen by their mothers as physically appealing. In addition, children come equipped with a number of reflexes that promote the formation of this reciprocal attachment

relationship (Ainsworth et al., 1978). Children are highly responsive to people and capable of synchronizing their behavior with that of their "dance partner." As mother and child perfect their interactive routines, the mother-child relationship normally blossoms into a strong reciprocal attachment.

Atypically Developing Children

In recent years, some important studies have been conducted on atypical child characteristics and their impact on maternal behavior. Visual contact is believed by some researchers to be the basis of human sociability (Fraiberg, 1971). As a result, visually-impaired children lack eye contact, which may position them for higher risk for impairment in social relationships (Fraiberg, 1971). Studies have reported that mothers of visually impaired children are less responsive vocally (Rogers & Puchalski, 1984), and less responsive in general in interactions with their children (Rowland, 1984) than are mothers of sighted children. Similarly, visually impaired children have been found to be less responsive to their mothers and mothers reporting feeling less attached to their children (Dote-Kwan, 1995; Fraiberg, 1971). Therefore, lack of eye contact and other signal-type behaviors that guide the mothers of sighted children are disturbed in the

interactions of visually-impaired children and their mothers.

Studies have indicated that mothers of craniofacially-deformed children report less frequent face-to-face positions with their children, therefore creating difficulties in establishing feelings of emotional closeness (Barden et al., 1989). Consequently, opportunities for visual interaction are reduced, thus diminishing the interactive routines so crucial to the development of a strong reciprocal attachment between the mother and child (Barden et al., 1989). A related process according to Barden et al. (1989) that is inhibited by the decrease in face-to-face contact is the positive reinforcement the mother gains from her child's smiling responses. Moreover, because craniofacially-deformed children smile less often than do typically developing children, they are less able to reinforce responses from their mothers that lead to reciprocally interactive behaviors. This study reported a discrepancy between mothers' self-reports and actual behavior. It was unclear if this was a result of a normal coping process that dissipates with time or a predictor of subsequent dysfunction requiring intervention. However, it was

determined that the child's characteristics resulted in mothers' feeling a lack of closeness toward their child.

Children with Autism

In the past several years, studies of attachment behavior of young children with autism have appeared in the literature. However, the majority of these studies have examined the attachment quality of the child to the mother. The results of recent investigations have demonstrated that there is evidence of some attachment security in young children with ASD and that the attachment behavior closely resembles that of mentally retarded groups (Spiker, 2002). However, relatively few studies have explored mothers' attachment or emotional closeness to their children with ASD, which would be assumed to be impaired due to the bidirectional nature of the attachment relationship.

Hoppes and Harris (1990) examined the impact of mothers' emotional closeness on their children with ASD by focusing on the child's deficit in social responsiveness. This study compared mothers' emotional closeness to their children with autism to mothers' emotional closeness to their children with Down Syndrome. They found that mothers of children with autism do perceive their children as demonstrating some attachment and affection towards them;

they experience their children to be less responsive and less strongly attached to them than they would hope for them to be. Their findings suggest that the child's deficit in social responsiveness interferes with the child's capacity for reciprocity in the mother-child relationship, and therefore may reduce the mother's experience of reinforcement from the child.

Hoppes and Harris (1990) developed two questionnaires specifically for their study and administered them to 17 mothers of children with autism and 21 mothers of children with Down Syndrome. In addition, open-ended interviews with 10 mothers from each group were conducted. Mothers of children with autism reported their children to be significantly less responsive and expressive of attachment and emotional closeness than did mothers of Down Syndrome children. For both groups of mothers, the experience of feeling reinforced and gratified in their relationship with their children was, in part, related to the extent to which they perceived the children as expressing emotional responsiveness, attachment, and reciprocity toward them. It is interesting to note that these differences in maternal report were borne out in the more intimate and intensive experience of the interview as they had been in the anonymous questionnaires.

Summary and Purpose of Study

The emotional commitment a mother has for her child is considered basic to effective parenting, providing the root for the reciprocal attachment relationship the mother and child will develop (Belsky, 1984). A disability in the child is considered to have a tremendous impact on the mother's behavior (Dote-Kwan, 1995; Fraiberg, 1971; Wasserman & Allen, 1985), making it more difficult to create a securely attached relationship. Additionally, mothers report engaging less often in interactions with their children with disabilities (Pelham et al., 1997; Wasserman & Allen, 1985), which may in turn impair the development of the child, thus attenuating social, emotional, and cognitive development, as well as social competence and self-esteem (Ainsworth, Blehar, Waters, & Wall, 1978; Belsky, 1984; Main, 1996).

To a mother, the child with autism's deficit in social responsiveness and instigative personal characteristics that discourage particular kinds of reactions may be the most disturbing features of the disorder. Clinicians have described a diminished capacity for emotional closeness in children with autism as a result of their deficit in social responsiveness (Hoppes & Harris, 1990), however relatively little research has

explored the impact of this child's instigative personal characteristics and the impact of such on mothers' perceived emotional closeness to this child.

Children with autism place additional stresses and difficulties upon their mothers and families (Hoppes & Harris, 1990; Klinger & Dawson, 1996). Mothers of children with autism may be at increased risk for psychosocial difficulties because the lack research of mothers' reports of their emotional closeness to their children, therefore resulting in the scarcity of professional resources, unrelieved parental responsibilities, parental loneliness and isolation, and their child's minimal or slow progress (Hoppes & Harris, 1990). Personal difficulties reported by mothers of children with autism include increased stress; poor physical health; depression; excessive time demands; parental burnout; and concerns about their child's dependency, effect on family life, and future psychosocial problems (Capps et al., 1994).

The present investigation replicated and extended Hoppes and Harris' comparative study of emotional closeness mothers felt toward their children with autism by making three methodological modifications: first, typically-developing subjects were sought as the comparison group for the purposes of control. Second, a

larger sample size was used. Third, scales measuring mothers' emotional closeness from the literature were administered because of their established reliability and validity.

This present study is important and may instigate future research and assistance to help mothers cope with this specific source of stress that results from the autistic child's instigative personal characteristics which interferes with the child's capacity for reciprocity in the mother-child attachment relationship. Therefore, it was hypothesized that mothers of children with ASD would report less emotional closeness to their children than would mothers of typically-developing children (Hoppes & Harris, 1990). Additionally, it was expected that mothers of children with autism would report an inverse relationship between their emotional closeness to their child and their child's assessed level of childhood autism.

CHAPTER TWO

METHOD

Participants

All participants were mothers who had sons between the ages of 4 and 9 years old. Participants were drawn from two samples: The first sample consisted of families where there was a male child diagnosed with Autistic Spectrum Disorder. These families were enrolled in the University Center for Developmental Disabilities (UCDD) program and were part of the research and evaluation program at the UCDD which was reviewed by the CSUSB IRB (#02055-see attachment 1). The data for mothers at the UCDD were drawn from the larger archival data set available at the Center. The community sample of participants consisted of mothers from the San Bernardino County area. These mothers had at least one male typically developing child whose age was between 4 and 9 years old. These mothers were recruited from a variety of groups: childcare facilities from the California State University (CSUSB), a local church, and community childcare centers. In cases where there was more than one male child within the community sample, the male child closest to age four was the identified child. Male children were sought

because of the greater prevalence of males with autism in the general population (American Psychiatric Association, 1994). This age range was selected to conform with the ages of the populations on which the measures included in the study were standardized. Mothers served as participants because they are the primary caregivers in most families having a child evidencing autism (Spiker et al., 2002). Total sample size was 111, with 54 participants in the UCDD sample and 57 in the community sample.

The UCDD sample consisted of 44 (81%) mothers who were married, two (4%) separated, and two (4%) divorced. The majority (72%) of the 39 mothers were at least 31 years old, eight (15%) were between 44 and 56 years, four (7%) were younger than 30 years, and three (6%) did not report. Overall, this sample consisted of well-educated respondents. Five mothers (9%) reported that they had a graduate degree, and nine (17%) reported having a college degree. Five mothers (9%) had a two year college degree, and 18 mothers (33%) had some college experience, and 10 (19%) had a high school degree; four (7%) of the participants chose not to respond to this item. With regard to annual household income, 26 (48%) of the families had self-reported incomes of at least $60,000,

and two (4%) were between $48,000 and $59,999. Eight (15%) of the mothers reported income in the $36,000 to $47,999 range, and eight (15%) was below $35,999; ten (12%) of the participants chose not to respond to this item. With respect to ethnicity, 25 (46%) of the mothers were Caucasian. Of the remaining participants, 13 (24%) were Hispanic, seven (13%) were African American, three were Asian three (5%), and four (7%) indicated Mixed race; two (4%) of the participants chose not to respond to this item.

The geographical range for the community sample was selected in order to include participants potentially varying in ethnicity, education level, and socioeconomic status. A total of 100 surveys were distributed to the selected preschools and church childcare facility. Of these, 64 were returned, yielding a response rate of 64%. Forty-eight (84%) of the mothers were married, two (3%) separated, two (3%) divorced, and five (10%) single. The majority (54%) of the 57 mothers in the final sample were at least 33 years old, eight (14%) were between 42 and 48 years, and 18 (32%) was younger than 32 years. Overall, this sample consisted of well-educated respondents. Fourteen mothers (25%) reported that they had a graduate degree, and 20 (35%) reported having a college degree.

Four mothers (7%) had a two-year college degree, 17 (30%) had some college experience, and two (4%) had a high school degree. With regard to annual household income, 31 (54%) of the families had self-reported incomes of at least $60,000, and seven (12%) were between $48,000 and $59,999. Three (5%) of the mothers reported income in the $36,000 to $47,999 range, and 13 (23%) was below $35,999; three (5%) of the participants chose not to respond to this item. With respect to ethnicity, With respect to ethnicity, 41 (72%) of the mothers were Caucasian. Of the remaining participants, eight (14%) were Hispanic, two (3%) were African American, three were Asian three (5%), and three (3%) indicated Mixed race.

Procedure

Procedures for the University Center for Developmental Disabilities Research Project

All data collected from families raising a son with autism was obtained from the larger, aforementioned ongoing research project at UCDD. Details of the research program were explained to all participants at the UCDD and consent for their participation was requested. Parents acknowledged that they understood the research procedures and goals, agreeing to participate by marking and signing appropriate spaces on the informed consent document. Those

electing to participate in the research project met individually with a UCDD research staff person to complete parent self-report, sibling assessment, and program evaluation measures. The following is a summary of the measurements employed for the UCDD's research purposes: Parent Stress Index (PSI), Family Environment Scale (FES), Dyadic Adjustment scale (DAS), Coping Scale for adults (CSA), Perceived Adequacy of Resources (PAR), Symptom Assessment-45 (SA-45), Rosenburg Self-Esteem Scale (ROS), Doti & Armstrong Attribution Scale (DAAS), Behavioral Vignettes Test (BVT), Therapy Attitudes Inventory (TAI), Child Behavior Checklist (CBCL), and Parentification Scale (PS). Parents required approximately 1.5 hours completing the assessment packets; however, there were no time constraints. Upon completion, all answer sheets completed by participants were sealed in a plain envelope identified with a predetermined code number used to protect participant anonymity. Note: Only a relatively small subset of data collected, consisting of selected items from the demographics obtained at the Center and four subscales from the Parenting Stress Index (which consists of a total of 14 subscales), were examined for this study.

Procedures for Comparison Group

Mothers in the community sample received survey packets containing the information form, the demographics form, and a consent form (describing the purpose of the study as seeking "to obtain a better understanding of mothers' emotional closeness to their sons"), which were completed and returned to the researcher. In cases where the mother could not fill out the packet and return to the researcher on site, a stamped self-addressed envelope was given for prompt return. Mothers in this group required 5-10 minutes to complete the packet.

Level of autistic functioning was assessed for children with autism in the UCDD sample at the mother's home. During this session, all items were read out loud on the Gilliam Autism Rating Scale [GARS] (Gilliam, 2000a) and mothers' responses recorded. The GARS is a 56-item scale made up of Likert-type and true or false questions. It consists of four subtests: Stereotyped Behaviors, Communication, Socialization, and Developmental Disturbances.

The University's Institutional Review Board (IRB) positively reviewed the UCDD Research Program, including the procedures and instruments employed.

Measures

Parent Stress Index Scales: Child Demandingness, Reinforces Parent, Mood and Attachment.

The following five self-report measures are from the PSI-Third Edition (Abidin, 1995). The PSI was developed on the theory that the total stress a parent experiences is a function of certain salient child characteristics, parent characteristics, and situations that are directly related to the role of being a parent. The PSI identifies dysfunctional parenting and predicts the potential for parental behavior problems and child adjustment difficulties within the family system. There exists a substantial body of published research linking PSI scores to observed parent and child behaviors and to child's attachment style and social skills (Abidin, 1995).

These measures are intended for use with parents of children between the ages of 2 and 12 years. The response format varies among the questions, including a 5-point Likert-type scale ranging from *frequently* (1) to *never* (5), a multiple-choice format with five options, and yes/no questions. A large body of data (e.g., Abidin, 1995) exists with respect to the PSI's reliability and validity. Alpha coefficients for the Child and Parent

Domain subscales of the PSI ranged from .70 to .84 (Abidin, 1995).

Child Demandingness Subscale. The Demandingness subscale is a nine-item scale used to measure how demanding mothers' perceive their children to be (Appendix A). High scores are produced when the parent experiences the child as placing many demands upon him or her. The demands may come from diverse sources, such as crying, physically hanging on the parent, frequently requesting help, or frequency of minor problem behaviors (Abidin, 1995).

Reinforces Parent Subscale. Parents who earn high scores on the seven-item Reinforces Parent subscale (Appendix B) do not experience his or her child as a source of positive reinforcement. The interactions between parent and child fail to produce good feelings by the parent about himself or herself. In fact, the parent may feel rejected by the child. The absence of reinforcement from the child threatens the parent-child bond (Abidin, 1995). Therefore, rapid intervention is called for when high scores are obtained on this subscale.

Mood Subscale. High scores on the four-item Mood subscale (Appendix C) are associated with children whose affective functioning shows evidence of dysfunction. These

children are unhappy and depressed, frequently cry, and do not display signs of happiness. With extreme Mood scores, one should look for impairment in maternal attachment to the child, according to Abidin (1995).

Attachment Subscale. Two possible sources of dysfunction on this scale are the parents' lack of emotional closeness to the child and the parents' inability to read accurately the child's feelings and needs. Items from this 7-item subscale can be found in Appendix D. Mothers responded to each item using a 5-point scale from 1 = strongly agree to 5 = strongly disagree. The scoring on negative items was reversed. A high score on this subscale indicates a lack of emotional closeness and/or a lack of investment in the role of the mother (Abidin, 1995).

Gilliam Autism Rating Scale

The Gilliam Autism Rating Scale [GARS] (Gilliam, 2002a) was designed by use for teachers, parents and professionals to help identify and diagnose autism in individuals ages 3 through 22 and to estimate the severity of autism. The GARS is a norm-referenced test with a 56-item scale made up of Likert-type and true or false questions. It consists of four subtests: Stereotyped

Behaviors, Communication, Socialization and Developmental Disturbances.

The sum of all four subtests provides individual scores and an overall score of the severity of autism. Alpha coefficients for the GARS ranged from .88 to .96 (Gilliam, 2000a). For a copy of this measure contact The University of Developmental Disabilities.

Stereotyped Behaviors. This scale is comprised of items 1 through 14. Items on this subset describe stereotyped behaviors, motility disorders, and other unique and strange behaviors (e.g., "Avoids establishing eye contact;" "Stares at hands, objects, or items in the environment for at least 5 seconds"). A high score on this subscale indicates an increased level of stereotyped behaviors.

Communication. This scale contains items 15 through 28. These items describe verbal and nonverbal behaviors that are symptomatic of autism (e.g., "Responds inappropriately to simple commands;" "Fails to initiate conversations with peers or adults"). A high score on this subscale indicates less or a lack of verbal and nonverbal communication.

Social Interaction. This scale is comprised of items 29 through 42. Items on this subtest evaluate the

subject's ability to relate appropriately to people, events, and objects (e.g., "Avoids eye contact;" "Resists physical contact from others;" "Is unaffectionate; doesn't give affectionate responses"). A high score on this subscale indicates the inability or lower levels of social interaction between the child and mother.

Developmental Disturbances. This scale contains items 43 through 56. This subtest asks key questions about the subject's development during early childhood (e.g., "Did the child smile at parents or siblings when played with;" "Did the child show pleasure when hugged, held, or caressed during the first 36 months"). A high score on this subscale indicates the severity of developmental disturbances.

CHAPTER THREE

RESULTS

A Multivariate Analysis of Variance (MANOVA) was carried out to examine the difference in means of percentile scores obtained for the Community and UCDD samples on the four PSI subscales. The results of this analysis reported in Table 1 indicated no significant differences obtained for these groups for the Attachment or Reinforces Parent subscales. A highly significant difference was obtained on the Demandingness subscale. Thus, the mean for the UCDD sample was 87.9 (SD = 16.6) while the Community mean was 53.91 (SD = 22.4), $F(1, 92) = 65.31$, $p < .001$. Differences on the Mood subscale (UCDD M = 85.9, SD = 15.2); Community (M = 79.4, SD = 18.9) approached statistical significance, $F(1, 92) = 3.15$, $p = .079$ (Table 1).

Correlations obtained between GARS overall, GARS subscales scores and PSI subscale scores for the UCDD sample are shown in Table 2. There were no significant correlations between overall GARS scores and PSI subscale scores. Moreover, there were no significant correlations between GARS subscale scores and the Reinforces Parent, Demandingness, and Mood scores.

Table 1. Parental Stress Index for The University Center for Developmental Disabilities and Community Sample

	Parental Stress Index			
Group	Attach	Reinforces	Demand	Mood
UCDD				
M	45.1	64.7	88.0**	85.9*
SD	31.0	26.7	16.6	15.3
Community				
M	46.2	61.0	53.9**	79.4*
SD	29.9	25.1	22.4	18.9

Note. The values represent mean percentiles of the following subscales: Attachment, Reinforces Parent, Demandingness, and Mood.
*p< .05, **p < .001.

Two GARS subscales were found to be related to UCDD mother's reports of their attachment. As indicated in Table 2, the Developmental Disturbances and Communication subscales were significantly related to mothers' reports of lack of emotional closeness on the PSI Attachment subscale. This positive relationship indicates that as a child's communication problems and developmental disturbances increase mothers' reports of their emotional closeness decreases.

Table 2. Correlations between Gilliam Autism Scale and Parental Stress Index for The University Center for Developmental Disabilities Families

	Parental Stress Index			
Gilliam Autism	Attach	Reinforces	Demand	Mood
Autism Quotient	.22	.13	.16	.08
Stereotyped	.03	-.06	.14	-.08
Communication	.30*	.21	.19	.24
Social	.09	.19	-.02	.14
Developmental	.28*	.24	.16	-.04

Note. Parental Stress Index Subscales are Attachment, Reinforces Parent, Demandingness, and Mood. Gilliam Autism Subscales are Stereotyped Behaviors, Communication, Social Interaction, and Developmental Disturbances.
*$p < .05$.

An additional analysis correlating mothers' reports of their closeness and child's age was carried out. The correlation between these variables approached statistical significance for the Community sample ($r = .25$), $p < .065$), while no relation was indicated for the UCDD sample ($r = .063$). This finding suggests that closeness diminished with child age for the Community group, but there was no relation between child's age and diminished closeness for the UCDD group.

Given the failure to obtain significant differences between the groups in mothers' reports of their closeness to their children additional reliabilities for the Attachment subscale were computed. Whereas the literature (Abidin, 1995) indicates subscale reliabilities of .70 to .84, here the overall alpha was .46 (.53 for the UCDD; .46 for the community sample), suggesting that these items were not measuring a single factor.

CHAPTER FOUR

CONCLUSIONS

One goal of the present study was to replicate and extend the Hoppes and Harris (1990) study by comparing the reports of mother's emotional closeness to sons who were typically-developing to those who had ASD. It was hypothesized, based on the literature (e.g., Hoppes & Harris, 1990) and the theory reviewed (e.g., Bowlby, 1988; Bronfenbrenner, 1979; Ainsworth, 1993) that mothers of boys with ASD would report less emotional closeness to their sons than mothers of typically-developing boys. This expectancy was not confirmed, as no differences between these groups on the attachment scale was obtained. Further, no differences were obtained for these groups on the Reinforces Parent scale, which measures the extent to which a parent experiences their child as a source of positive reinforcement.

Additionally, while mothers of boys with ASD report them to be more moody and more demanding than mothers of typically-developing boys report their sons to be, these perceptions did not seem to adversely influence mothers' reports of closeness with their sons with ASD. Mothers from the UCDD sample indicated that these demands came

from diverse sources, such as crying, physically hanging on mother, frequently requesting help, or a high frequency of minor problem behaviors. These findings provide support for irritable children placing additional stresses on their mothers as indicated in the literature (van den Boom, 1988; Thomas & Chess, 1977).

In addition, these children were experienced by their mothers to be very dependent or to have failed to negotiate the developmental task of individuation (Abidin, 1995). It may be that these children elicit more closeness from their mothers because they require more attention and have greater needs than do typically-developing children. The analysis conducted on child's age and mother's emotional closeness provides support for this finding. Mothers' emotional closeness did not diminish with child's age. This would have been an additional factor working against the main hypothesis of the present study.

The second hypothesis, that children's assessed level of ASD would be inversely related to mothers' closeness to their sons, was partially supported. Higher scores on two subscales of the GARS, Communication and Developmental Disturbances, were found to negatively influence mothers' reports of their closeness to their sons with ASD. The Developmental Disturbances subtest asked key questions

about the child's development during early childhood. These mothers reported that their children did not smile or smiled less at them when played with, which is crucial to the establishment of the attachment relationship (Ainsworth et al.1978; Main, 1996). Mothers also reported that their children showed either no or less pleasure when being hugged, held, or caressed during the first 36 months, which is a critical window for the establishment of a secure emotional attachment (Ainsworth et al., 1978). Time together, physical proximity and touch are factors that have been identified as crucial to the development of a secure emotional attachment.

In addition to the developmental disturbances, lack of communication was related to the UCDD mothers' reports of their closeness to their child. This scale asked mothers to describe their child's verbal and nonverbal behaviors that are symptomatic of autism. Mothers reported that their children responded inappropriately to simple commands and failed to initiate conversations with peers or adults. These mothers also reported that their children avoided eye contact, resisted physical contact from others and were unaffectionate. Eye contact, face-to-face interactions and touch are all crucial to the development

of a secure emotional attachment for children (Bowlby, 1988; Main, 1996; Ainsworth, 1993).

Mothers in the UCDD sample experienced their children as being overly dependent which may also be attributed to lower mental age. Bowlby (1988) posited four developmental phases of the attachment system in early childhood. During the fourth phase, typically at 4-years-old, the attachment relationship qualitatively changes. It is during this stage that the child becomes less dependent on the mother. Marvin (1972) has empirically tested this model of the phase-four partnership and suggested that communication skills provide the vehicle for the qualitative shift of less dependence. Mothers in the UCDD sample reported that their children responded inappropriately to simple commands and failed to initiate conversations with peers or adults.

Although low scores on the parent attachment subscale may represent "good enough" parenting for the development of attachment in autistic and typically-developing children, the secure attachment of children with more severe autism may require a higher level of parental commitment in the form of more emotional warmth and a greater ability to read children's cues. These relationships are consistent with the literature

indicating that problematic developmentally instigative characteristics adversely influence mothers' closeness to their child.

Limitations

One problem with our results is that the attachment scale used may have measured more than emotional closeness. According to Abidin (1995), this subscale assesses a "mother's emotional closeness to her child and her ability to understand her child's needs accurately" (p.11). One focus of this investigation was to compare mothers' reports of emotional closeness to their sons. The attachment subscale assesses this by asking seven questions. However, there are only three questions that ask mothers to report closeness to their children. These questions are as follows: "It takes a long time for parents to develop close, warm feelings for their children;" "I expected to have closer and warmer feelings for my child than I do and this bothers me;" and "My child knows I am his or her parent and wants me more than other people." Three questions ask the mother to report if she understands her child's needs as, "When I was young, I never felt comfortable holding or taking care of children;" "How easy is it for you to understand what your

child wants or needs?" and "Sometimes my child does things that bother me just to be mean." Question number seven "The number of children that I have now is too many" does not appear to fit either category. Thus, we can wonder if a cleaner measure of closeness would yield different results.

There exists a substantial body of published research linking overall PSI scores to observed parent and child behaviors and to child's attachment style and social skills (Abidin, 1995). However, the focus of the present investigation was assessing mothers' emotional closeness to their sons and the items on the attachment subscale may not have measured that single factor which could account for the failure to obtain significant findings between groups.

Additionally, a methodological problem with this research, as with all research dealing with children with ASD and their families, was the nature of the subject pool. Failure to obtain significant differences between the groups in mothers' reports of their closeness to their children could be due to the fact that the UCDD sample was a part of the aforementioned ongoing research project. The subjects had participated in the project for up to two years.

Mothers at UCDD attended a weekly parent support group run by a UCDD counselor. Parent group objectives included increasing parenting skills, obtaining knowledge of effective behavioral techniques, and reducing feelings of isolation that so many parents feel in raising children with autism (Stahmer & Gist, 2001). Many of these mothers may have learned how to cope with aspects of their child's characteristics that might discourage positive emotional responses and reciprocally interactive behaviors. Through early intervention services many mothers can learn to appropriately interact with their young children with ASD and increase maternal sensitivity to their children's cues (Stahmer & Gist, 2001).In addition, the child with ASD received weekly intense one-to-one behavioral intervention, which may have reduced negative behaviors and increased social interactions.

The UCDD sample may not represent the generalized population of mothers with sons with autism. Our inability to find differences between the groups may be due to the effectiveness of this program. In effect, these mothers are being taught to be more sensitive mothers, a factor which could counter the negatives from their autistic children being relatively nonresponsive.

The fact that these mothers are in the program may indicate that they are more committed than average mothers. If the lack of findings is not attributable to effectiveness of the program per se, then cognitive dissonance (Festinger, 1957) may have been a factor. Dissonance occurs most often in situations where an individual must choose between two incompatible beliefs or actions. One corollary of this principle is that "we love those things for which we have suffered" instead of the previously held belief that we suffer for those things we love. Mothers in the program by definition have shown some commitment. It may be that these mothers changed their attitudes towards their children with autism due to the dissonance of committing so much time to them.

There are in effect at least two confounding variables here which may account for our nonsignificant difference in closeness between the two sets of mothers. The UCDD mothers were given more mothering or attachment skills and they had a level of commitment that might not be typical in mothers or mothers of children with autism.

Finally, the chronological ages selected for this study matched the Hoppes and Harris study; however, mental ages were not matched in the present study which may have been attributed to the failure to obtain significant

differences between the groups in mothers' reports of their closeness to their children. Hoppes and Harris selected children with Down Syndrome as a comparison group because they were a more homogeneous group, all of whom had functional speech, although there was a range of expressive and receptive skills. However, Hoppes and Harris did not state the direction of mental age discrepancy. One could presume that children with autism are lower in mental age than their typically-developing counterparts, but this has not been made clear. However, if this is the case, children who have a lower mental age could be seen as harder to relate to due to that factor alone, thus adding a potential third confounding variable."

Recommendations

In light of the present findings that autistic symptomlogy was correlated with lower "closeness" scores and that all of the limits pertain to a "comparsion group," it seems important at this juncture that future studies examine maternal emotional closeness to their children with ASD with a qualitative approach in opened-ended interviews, as in the Hoppes and Harris study, in combination with questionnaires from the

literature. Open-ended interviews allow researchers to ask questions such as, "In what ways does your child demonstrate affection toward you?" Questions of this nature provide subjects with the opportunity to express themselves in ways that are more intimate, therefore providing more detail than on an anonymous questionnaire.

The need for follow-up work with this sample using more established behavioral assessments of closeness is obvious, given the limitation of mothers' self-reports of their emotional closeness to their children. Also, given the age range in our sample, some of the items on the attachment questionnaire may not have been appropriate for assessing attachment behaviors in older children. By age four, typically-developing children and their mothers operate in an interactional fashion to develop and carry out joint goals and plans (Bowlby, 1988). The older child becomes less dependent on the mother (e.g., "You need to stay at Grandma's house; Mommy has to get to work and I will pick you up after lunch").

Additionally, selecting mothers of sons with ASD who are not part of an ongoing research project may provide support for the hypothesis in this present investigation. The UCDD currently has 100 families on a waiting list and selecting from this subject pool would provide useful

data, particularly for the effectiveness of the program at UCDD.

Future research studying this population ideally should use a 2 x 2 factorial design, i.e., mothers of typically-developing sons with no comprehensive treatment program and those with a comprehensive treatment program, then comparing mothers of sons with autism who are enrolled in a comprehensive treatment program to those who are not enrolled in a comprehensive treatment program. Such a design could separate the factors of autism of the child from closeness that comes from programs designed to teach good mothering skills and sensitivity to children.

APPENDIX A

DEMANDINGNESS SUBSCALE

DEMANDINGNESS SUBSCALE

1. Think carefully and count the number of things which your child does that bothers you. For example; dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. Please circle the number which includes the number of things you counted.
   1. 1-3
   2. 4-5
   3. 6-7
   4. 8-9
   5. 10+

2. When my child cries, it usually lasts;
   1. less than 2 minutes
   2. 2-5 minutes
   3. 5-10 minutes
   4. 10-15 minutes
   5. more than 15 minutes

3. There are some things my child does that really bothers me a lot.

4. My child has had more health problems than I expected.

5. As my child has grown older and become more independent, I find myself more worried that my child will get hurt or into trouble.

6. My child seems to be much harder to care for than most.

7. My child is always hanging on me.

8. My child makes more demands on me than most children.

9. My child turned out to be more of a problem than I had expected.

APPENDIX B

REINFORCES PARENT SUBSCALE

REINFORCES PARENT SUBSCALE

1. My child rarely does things for me that make me feel good.

2. Most times I feel that my child likes me and wants to be close to me.

3. Sometimes I feel my child doesn't like me and doesn't want to be close to me.

4. My child smiles at me much less than I expected.

5. When I do things for my child, I get the feeling that my efforts are not appreciated very much.

6. Which statement best describes your child?
   1. almost always likes to play with me.
   2. sometimes likes to play with me.
   3. usually doesn't like to play with me.
   4. almost never likes to play with me.

7. My child cries and fusses:
   1. much less than I had expected.
   2. less than I expected.
   3. about as much as I expected.
   4. much more than I expected.
   5. it seems almost constant.

APPENDIX C

MOOD SUBSCALE

MOOD SUBSCALE

1. My child seems to cry or fuss more often than most children.
2. When playing, my child doesn't often giggle or laugh.
3. My child generally wakes up in a bad mood.
4. I feel that my child is very moody and easily upset.

APPENDIX D

ATTACHMENT SUBSCALE

ATTACHMENT SUBSCALE

1. How easy is it for you to understand what your child wants or needs?
2. It takes a long time for parents to develop close, warm feelings for their children.
3. I expected to have closer and warmer feelings for my child than I do and this bothers me.
4. Sometimes my child does things that bother me just to be mean.
5. When I was young, I never felt comfortable holding or taking care of children.
6. My child knows I am his or her parent and wants me more than other people.
7. The number of children that I have now is too many.

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