MICHELLE ELIZABETH POUNDS
The Relationship Between Teacher Characteristics, Child Temperament, and Center Quality, and Secure Teacher-Toddler Attachment in Child Care Centers
(Under the Direction of HUI-CHIN HSU, PH. D.)

Children benefit cognitively, socially, and emotionally from secure relationships with early childhood teachers. This study identifies specific qualities of early childhood teachers, specifically personal (e.g., marital status), professional (e.g., level of education) and psychological (e.g., emotional expressivity) characteristics, center quality and child temperament that are associated with secure teacher-toddler attachments. Sixty-eight children, their parents, and 37 teachers from 15 child care centers participated in this study. Children ranged in age from 14 to 37 months, with 38 female and 28 male children. This cross-sectional study employed questionnaires and behavioral observations to assess the quality of the teacher-toddler attachment, level of caregiver education and training, child temperament, level of caregiver emotional expressivity and adaptability, and quality of the child care center. Correlational analyses and independent-samples T-Tests were used to show the association between the characteristics of the caregiver, child, child care center, and the quality of the caregiver-child attachment. No correlations were found at the significance level of .05. Results suggest a complex, indirect relationship between teacher characteristics and attachment security.

INDEX WORDS: Child care, Teacher characteristics, Child care quality, Attachment, Temperament, Toddlers

THE RELATIONSHIP BETWEEN TEACHER CHARACTERISTICS, CHILD TEMPERAMENT, AND CENTER QUALITY, AND SECURE TEACHER-TODDLER ATTACHMENT IN CHILD CARE SETTINGS

by

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CHAPTER 1

INTRODUCTION

An increasing number of parents are employed full-time in the United States. In 1999, statistics from the U. S. Department of Labor indicated that 61% of mothers with children under the age of 3 years were in the workforce (Bureau of Labor Statistics, 1999). In 64% of two-parent households with children under the age of 18, both parents were employed. Many of these children receive care outside the home, often in child care centers. In 1994, 29.4% of preschoolers were cared for in child care centers (Casper, 1997). Children enrolled in full-time child care programs may spend in excess of forty hours a week in the care of adults other than their parents. Due to this trend, the influence of non-parental child care on child development has been an important topic in child development research during the 1980s and 1990s and continues to be an important topic today.

In the past decade, a surge of research has been devoted to investigating the impact of child care experiences on children's social, emotional, and cognitive development. Early research concluded that child care experiences are detrimental for child development (Belsky, 1989; Schwartz, 1983). However, more recent studies have shown that child care experiences may actually enhance a child's development (e.g., Clarke-Stewart, 1989; Howes & Hamilton, 1992b; Howes, Rodning, Galluzzo, & Myers, 1990). The impact of child care experiences on child development is complex and includes several factors, such as the quality of the child care center and the teacher-child

relationship. Studies have shown that high quality child care centers and secure teacher-child attachment can have a positive impact on children's social, emotional, and cognitive development (Howes & Smith, 1995a; Kontos, Hsu, & Dunn, 1994). However, previous research on the association between center quality and teacher-child attachment have focused on global aspects of center quality (e.g., Howes, Rodning, Galluzzo, & Myers, 1990). Specific aspects of center quality, such as teacher:child ratios (Howes, Rodning, Galluzzo, & Myers, 1990) and teacher-child interactions (Howes & Smith, 1995b), have been studied, but further research is necessary to understand how other specific aspects of quality (e.g., program structure, room arrangements) are related to the teacher-child relationship.

Despite the increase in research on the effects of child care on child development, we know very little about the specific characteristics of teachers associated with a secure teacher-child attachment. Previous studies examining the factors associated with teacher-child attachment security have focused on a few related teacher characteristics such as education (e.g., Berk, 1985; Howes, 1983; Howes, Whitebook, & Phillips, 1992; Peters & Kostelnik, 1981) and sensitivity (e.g., Busch-Rossnagel & Worman, 1985; De Wolff & van IJzendoorn, 1997; Howes & Hamilton, 1992a; Goossens & van IJzendoorn, 1990), neglecting to examine a number of relevant personal and psychological characteristics. In addition, the role of child temperament in the formulation of the teacher-child relationship is often overlooked in the teacher-child attachment research. The relationship between the teacher and child is bi-directional and is affected by the characteristics of both the teacher and the child. Therefore, studies of teacher-child attachment should include child temperament.

Purpose of Study

The purpose of the current study is to examine the characteristics of child care providers, children, and child care centers that are associated with the security of teacher-toddler attachments. Following a brief overview of attachment theory, the importance of a secure teacher-toddler attachment is established. Personal (e.g., marital status, income), professional (e.g., education), and psychological characteristics (e.g., emotional expressivity, ego-resiliency) of the teacher are then discussed, followed by a discussion of the affects of child temperament on teacher-child attachment.

This study adds to the existing body of knowledge concerning toddler attachment to non-parental caregivers – specifically early childhood teachers. The information obtained from this study may aid administrators and directors of child care programs in staff selection, staff maintenance, and staff development. Through further research in this area, a profile of the "ideal" child care provider may be compiled and/or enhanced and teacher training improved.

CHAPTER 2

LITERATURE REVIEW

Attachment Theory

Attachment is defined as a close emotional bond between an infant and caregiver (Santrock, 1997). Conceptualizing from a transactional perspective, it is not an innate trait of the child, but a relationship that develops between the child and the caregiver over time. Attachment theory proposes that a responsive, accessible caregiver creates a secure base for the child. This relationship, or lack thereof, is then internalized and serves as a mental working model on which future relationships (friendships, romantic relationships, etc.) are built (Hazan & Shaver, 1994).

Ainsworth (Ainsworth et al., 1978) distinguished among three types of attachment: secure, avoidant, and anxious-ambivalent. Secure attachments are characterized by child playfulness, sociability, and exploration of the environment. The attachment figure serves as a secure base for the child. When distressed, securely attached children are easily comforted by their attachment figures. Children who have anxious-ambivalent attachments to their caregivers are upset when the caregivers are absent, but are not easily comforted by the caregivers when they return. They may even react negatively to their caregivers upon their return (e.g., hitting them, having a tantrum). Children who have avoidant attachments do not appear to be affected by their attachment figures' presence or absence. These children do not appear to be upset by

their caregivers' departure, and avoid the caregivers when they are available (Shaver & Hazan, 1994).

Shaver and Hazan (1994) discussed three important propositions of attachment theory. First, if the child is confident that an attachment figure will be available when needed, the child will be less likely to experience fear and anxiety. The availability of the attachment figure will promote self-confidence in the child. Second, one's confidence in attachment figures' availability is developed during childhood and remains relatively constant throughout the lifecycle. The quality of early attachments affects personality, social, and psychological development. Third, one's expectations about attachment figures' accessibility and responsiveness reflect actual experiences. The individual develops an internal working model of attachment relationships and uses that model to construct future relationships. Past attachment experiences will have an impact on current and future relationships. The individual will expect the person with whom they have a relationship to behave similarly to others with whom they have had similar relationships in the past.

Importance of Secure Attachment Between Child and Teacher

Studies have shown that secure teacher-child attachments can have an impact on the child's social, emotional and cognitive development (Howes, Rodning, Galluzzo, & Myers, 1990; Howes, 1997; van IJzendoorn, Sagi, & Lambermon, 1992). Howes and her colleagues (1997; Howes, Rodning, Galluzzo, & Myers, 1990) found that children's cognitive functioning is related to the quality of the teacher-toddler attachment relationship. Cognitive activity in infants and toddlers, which was measured by the type of object manipulation (ranging from passive holding to exploitation of object for

creative or unusual use), was found to be positively correlated with secure teacher-child attachment. Children who were more securely attached to their child care caregiver were more likely to engage in more complex play and interaction with both peers and adult caregivers (Howes & Smith, 1995a).

Secure attachments to both parents and early childhood teachers are also associated with children's levels of involvement with both teachers and peers in child care. Children rated as insecurely attached to their mothers interacted less with their caregiver, regardless of their levels of attachment to the caregivers. Children securely attached to their mothers and insecurely attached to their early childhood teachers displayed better social competence than did those insecurely attached to both adults. However, secure attachment to the teacher was associated more strongly with children's peer interactions than was secure attachment to the mother. This suggests a compensatory effect of secure attachment to either the parent or caregiver when the other attachment was insecure (Howes, Rodning, Galluzzo, & Myers, 1990).

The quality of the child's relationship with his or her first caregiver also has been shown to predict later teacher-child and peer relationship quality. Children who were more securely attached to their nonparental caregivers as toddlers were more positive about their teachers as 9-year-olds. Perceptions of friendship quality at age 9 were also predicted by the security of the toddler's relationship with a nonparental caregiver (Howes, Hamilton, & Philipsen, 1998). Therefore, the teacher-child relationship is important in understanding children's social development and future relationships with both peers and adults.

Despite the positive concurrent and predictive relations of teacher-child attachment relationship to child social and cognition functioning, concerns arose regarding possible negative effects of child care on children's emotional development and the parent-child relationship. Belsky (1989) concluded that low-quality care could have a negative impact during the first year of life, such as insecure attachment to the parent. This insecure attachment could result in socioemotional problems in later development. Schwartz (1983) also found that infants in full-time child care prior to 9 months of age are more likely to exhibit avoidant behaviors toward their mothers.

However, more recent studies have shown that children enrolled in child care were not less securely attached to their parents (Howes, Rodning, Galluzzo, & Myers, 1990) nor did they exhibit more anxiety, insecurity, or emotional disturbance (Clarke-Stewart, 1989). In fact, many children enrolled in child care full-time showed positive attachments to their mothers (Howes & Hamilton, 1992b). This conflict in the research may be attributed to the less refined methodology used in earlier studies as well as the exclusive use of university-based centers. Later studies employed methodology with higher predictive validity as well as the use of subjects from various types of community-based child care centers (Belsky, 1988).

The relationship between toddlers and their teachers has been the topic of several studies (e.g., Howes & Hamilton, 1992a; Howes & Hamilton, 1992b; Goossens & van IJzendoorn, 1990). Teacher changes were found to be associated with changes in relationship quality, which suggests that children construct a new representation for each new teacher (Howes & Hamilton, 1992a). For this reason, toddlers are more likely to form attachment relationships to their teachers based on the unique characteristics of the

teacher, and not based on internal working models resulting from relationships with other caregivers.

Center Quality and Teacher-Child Attachment

The quality of the child care center is an important factor when considering the impact of child care on children's development. Center quality is determined by adult-child ratios, organization of center space, interactions between staff and children, activities, scheduling, and provisions for staff and parents (Harms, Cryer, & Clifford, 1990). High-quality centers are associated with children's cognitive and social competence (Howes & Smith, 1995a; Kontos, Hsu, & Dunn, 1994). Infants and toddlers in classrooms with higher scores on the Infant/Toddler Environment Rating Scale (ITERS) engaged in more creative play activities (e.g., play with blocks and open-ended art) and engaged in more positive social interactions with teachers. The increased interactions with teachers were associated with more secure teacher-toddler attachments, suggesting an indirect association between center quality and attachment security (Howes & Smith, 1995a). Low adult:child ratios were also found to be related to secure teacher-child attachment (Howes, Rodning, Galluzzo, & Myers, 1990). Although a few specific aspects of center quality (e.g., teacher-child ratios and teacher-child interactions) have been associated with teacher-child attachment, many studies focus on the global aspects of center quality. There is a lack of research on how other specific aspects of center quality, such as structural aspects (e.g., activities and scheduling, room organization, and furnishing), are related to teacher-child attachment.

Teacher Characteristics and Secure Teacher-Child Attachment

Little or no concordance exists between attachments to early childhood teachers and parents (Hamilton & Howes, 1992; Howes & Hamilton, 1992b). Children with insecure parental attachments were able to form secure attachments to their early childhood teachers (Goossens & van IJzendoorn, 1990). Zimmerman and McDonald (1995) found the relationship between the child and their early childhood teacher to be unique and dependent on the qualities and characteristics of both the teacher and the child. The following section will review three aspects of teacher characteristics: personal, professional, and psychological.

Personal Characteristics

Personal characteristics of early childhood teachers, such as age, marital status, and number of children, are indirectly associated with the teacher-child relationship. Because stability is an important factor in the formation of an attachment relationship, it is important to consider the personal characteristics of child care professionals that may be associated with staff turnover and instability. Staff turnover, as well as staff burnout, is a problem that many child care centers face. Personal characteristics such as marital status, number of own children, income, and age have been associated with staff burnout and subsequent turnover (Deery-Schmitt & Todd, 1995; Todd & Deery-Schmitt, 1996). For example, many studies show a disproportionate number of females (95-97%) in the role of child care professional, many of whom are in their childbearing years with children of their own (87%) (Howes, Whitebook, & Phillips, 1992; Peters & Kostelnik, 1981; Todd & Deery-Schmitt, 1996). The presence of the caregiver's own children was associated with higher levels of stress, which is related to increased rates of turnover

(Todd & Deery-Schmitt, 1996). Although turnover and burnout are outside the scope of this research, it is important to consider the impact of personal characteristics related to both turnover and burnout on the teacher-child relationship. The current study examines the direct impact of teachers' personal characteristics on the security of the teacher-toddler relationship.

Professional Characteristics

The level of education and training received by child care providers is directly associated with the quality of care they provide. Formal education is associated with more positive caregiving behaviors (Peters & Kostelnik, 1981) and is a better predictor of teacher behavior than years of experience or specialized training (Howes, Whitebook, & Phillips, 1992). Caregivers who received formal education (i.e., college) were less restrictive (Berk, 1985; Howes, 1983), showed less harshness (e.g., punitive, critical, and threatens children) and detachment (e.g., low levels of supervision, interaction, and interest), and were more sensitive (e.g., warm, attentive, and engaged) (Howes, Whitebook, & Phillips, 1992).

Teacher training is also positively associated with children's complex cognitive and social play. Teachers with more specialized training (e.g., workshops, conferences, related courses) provided higher levels of appropriate caregiving, which was positively related to children's cognitive and social play (Kontos, Hsu, & Dunn, 1994). Furthermore, Arnett (1989) found a positive correlation between amount of training and the number of positive interactions between early childhood teachers and their children. Child care providers with more training and education had less authoritarian childrearing attitudes, and were less punitive and detached. Intensive practicum experiences were also

related to changes in teacher's beliefs, behaviors and preferences (Cohen, Peters, & Willis, 1976).

Taken together, previous research suggests that training, education, and years of work experience (i.e. number of years in early childhood field, and number of years at center) facilitate teachers' positive interaction with children, which in turn could lead to secure attachments between children and their early childhood teachers. However, no study to date has examined the direct impact of teachers' professional characteristics on the security of the teacher-toddler relationship.

Psychological Characteristics

Few studies have examined the association between individual psychological characteristics and secure attachment between caregiver and child. Several studies have focused on such characteristics as maternal and teacher sensitivity (e.g., De Wolff & van IJzendoorn, 1997; Busch-Rossnagel & Worman, 1985) and childrearing attitudes (e.g., Arnett, 1989; Berk, 1985) as it relates to attachment security, but have found only a moderate relationship. The present study explores two core characteristics, namely, emotional expressivity and ego-resilience, found in parent-child attachment literature and their relationship to teacher-child attachment.

Emotional expressivity. Emotional expressivity is "the behavioral (e.g., facial postures) changes that typically accompany emotion, such as smiling, frowning, crying, or storming out of the room" (Gross & John, 1998, p. 171). Although these emotions are common to all people, they are expressed in different ways based on the individual. Some individuals may be very expressive with positive emotions (e.g., smiling or laughing often, openly expressing appreciation or affection) while others may be more

subdued. The manner in which individuals express their emotions is directly related to how they interact with others (Gross & John, 1998). This includes interactions between adults and interactions between adults and children. The manner in which a parent or teacher expresses his or her emotions has a direct impact on the quality of his or her interaction with the child and the development of the parent-child and/or teacher-child relationship. Therefore, emotional expressivity would seem to play an integral role in the development of the attachment relationship.

Research findings in mother-child attachment document that maternal expressivity has been associated with quality of mother-child attachment. Mothers who expressed more positive affect were found to be more warm and supportive of their infants (Mangelsdorf, Gunnar, Kestenbaum, Lang, & Andreas, 1990). Izard, Haynes, Chisholm, and Baak (1991) found a positive correlation between maternal emotional expressiveness of both positive and negative emotions and secure infant attachment. There have been similar findings in the teacher-child attachment literature. Intense, personal teacher-child interaction in which teachers express affection by hugging or holding the child or engaging in interactive play with the child (Howes & Smith, 1995a) and teacher sensitivity (Goossens & van IJzendoorn, 1990; Howes & Hamilton, 1992a) were related to secure attachment behaviors. Expressions of positive emotions by teachers, such as smiling, have also been shown to elicit more positive responses from the children in their care (Zanolli, Saudargas, & Twardosz, 1990).

The ability to express emotions in an appropriate manner has also been linked to competency in early childhood teachers as well as enhanced social and cognitive development in children. Clarke-Stewart (1989) stated that children's social competence

is enhanced when their teachers are responsive, nurturing, and positive. The positivity of adult-child interactions (e.g., proximity, warmth, and verbal interactions with children) was also shown to have an affect on children's cognitive and social competence (Kontos, Hsu, & Dunn, 1994). When asked to identify the most important qualities of competent teachers in child care centers, child care providers highly ranked expression of warmth and affection (Busch-Rossnagel & Worman, 1985). However, to date, no study has directly examined the relationship between emotional expressivity in early childhood teachers and the teacher-child attachment relationship.

Ego-Resiliency. Parenting literature has shown that parents who are flexible and respond to external demands efficiently prior to the birth of their child are more likely to respond to the changing needs of the infant in an efficient manner (Heinicke, Diskin, Ramsey-Klee, & Oates, 1986). Because secure attachment is dependent on the caregiver's response to the needs of the child, this indicates a link between flexibility and adaptability of the caregiver and the quality of the attachment relationship.

Block and Block (1980) defined ego-resiliency as resourceful adaptation to changing circumstances and environmental contingencies, analysis of "goodness-of-fit" between situational demands and behavioral possibility, and flexible invocation of the available repertoire of problem-solving strategies in social and personal domains as well as the cognitive domains. Individuals who are ego-resilient are flexible in their responses and able to adapt to various circumstances and situations, especially those that are stressful, while maintaining their personality. They are less likely to experience anxiety and are more open to experiences (Block & Kremen, 1996). Although ego-resiliency is often thought to be synonymous with other concepts, such as competence, it is unique.

For example, ego-resiliency differs from competence in that it refers to an ability to modify behavior regardless of the context, whereas competence is more context-specific (Block & Block, 1980). Adults who care for children, whether they are parents or teachers, are often faced with a plethora of situations which may vary day by day.

The child care classroom is an ever-changing environment. Because children in child care centers rarely stay in one classroom for more than six to twelve months, teachers must be able to adapt to a constantly changing group of children. From a caregiver's perspective, this means adapting frequently to different children with different needs and temperaments. Ego-resilient teachers would be better equipped to deal with and adapt to such variations. Therefore, teachers who are more flexible and able to adapt to the varying needs of a diverse group of children will foster more secure attachments. This element of flexibility (i.e. ego-resilience) in responding to the child's needs can be linked to the attachment relationship in that secure attachment is dependent on the caregiver's response to the needs of the child, indicating a link between ego-resiliency of the caregiver and the quality of the attachment relationship.

Ego-resilience is also related to the level of emotional expressivity. Individuals who scored high on the positive expressivity scale scored high on the ego-resiliency scale, suggesting that these individuals express positive emotions in psychologically adaptive ways. Ego-resiliency was also positively correlated with expressive confidence, which suggests that individuals who are confident in expressing their emotions are also flexible and socially adept. Ego-resiliency was negatively correlated with masking and unrelated to negative expressivity (Gross & John, 1998). Therefore, the "ideal" toddler teacher would be one who is emotionally expressive, flexible, and adaptive. Yet, little

research has focused on the contribution of flexibility and adaptability in child care providers and their direct association with attachment.

Children's Characteristics

Temperament

Temperament is the biologically based, inborn disposition of an individual, "a term most often applied to behavioral qualities of emotion, attention, and activity" (Bates, 1989, p. 4). Temperament is a behavioral style exhibited consistently across situations, relatively stable over time (Rothbart & Bates, 1998). The construct of temperament consists of multiple components: negative emotionality, difficultness, adaptability, reactivity, activity, attention regulation, and sociability (Bates, 1989). Three different types of temperament have been distinguished in earlier studies: easy, difficult, and slow-to-warm-up. A child with an easy temperament has a positive mood, regular routines, and adapts to new experiences and situations easily. A difficult child often reacts negatively, cries frequently, does not establish a regular routine and is upset by new experiences. The slow-to-warm-up child is somewhat negative, low on activity and adaptability levels, and displays low mood intensity (Santrock, 1997).

Temperament and attachment are often linked in the literature. Although there is disagreement over the role of temperament in the attachment relationship, there is some support for the theory that child temperament has an effect on the parent-child attachment relationship. Infants rated difficult (e.g., cry more, more demanding, express anger) (Izard et al., 1991; Seifer, Schiller, Sameroff, Resnick, & Riordan, 1996) or low in social responsiveness (Bates, Maslin, & Frankel, 1985) were more likely to be insecurely attached to their mothers.

Temperament can also have an indirect effect on attachment, especially during the first year of life, by influencing maternal behavior and the nature of the parent-child interaction, an important factor in the development of attachment patterns (Seifer & Schiller, 1995). Although there is little agreement regarding the direction of the relationship between temperament and attachment, studies have shown an association between infant temperament and maternal behavior. For example, Mangelsdorf and her colleagues (Mangelsdorf et al., 1990) found that infants' proneness-to-distress was predicted by lower maternal scores on measures of positive affectivity, and warmth and support. Infant temperament is also correlated with maternal aspects of emotional availability (Aviezer, Sagi, Joels, & Ziv, 1999), maternal supportiveness (Mangelsdorf et al., 1990), and maternal adaptability (Weber et al., 1986). Maternal behavior was also found to be associated with secure parent-child attachment even when the child had a difficult temperament (van den Boom, 1994).

The relationship between children and their parents, or other caregivers, is not unidirectional but a function of characteristics of both the child and the adult. Secure attachment relationships are most likely to occur when there is a “goodness of fit” between the personalities, needs, and temperaments of the child and their caregiver. Seifer and Schiller (1995) stated that a “goodness of fit” between child and parent might result from a parent adapting to the child, or the child's resiliency to less than optimal conditions. The same could be said for children and their child care providers. Teachers in child care often have children with varying temperaments and must adjust their behavior according to each child's needs. Teachers who are able to adapt to the needs of children with various temperaments are more likely to foster secure attachments with a

larger number of the children in their care. Because the role of temperament is intertwined with maternal behavior, it may also be intertwined with the behavior of alternate caregivers, such as child care providers.

Hypotheses

The purpose of this study is to examine the associations of the characteristics of child care environment, early childhood teachers of toddlers, and toddlers with the security of teacher-toddler attachment relationship. This study examines specifically the relationship between secure teacher-toddler attachment and three aspects of teacher characteristics including: (1) personal characteristics of age, marital status and number of children, (2) professional characteristics of educational level and amount of training, and (3) psychological characteristics of emotional expressivity and adaptability/flexibility. It is hypothesized that:

(1) The quality of child care environment is associated with the security of teacher-toddler attachment;

(2) The teacher's personal characteristics of age, marital status, and parental status are associated with the security of teacher-toddler attachment;

(3) There is an association between the teacher's professional characteristics of level of education, amount of work experience and the security of teacher-toddler attachment;

(4) The teacher's psychological characteristics of emotional expressivity and ego-resiliency are related to the security of teacher-toddler attachment;

(5) Toddler temperament is related to the security of teacher-child attachment.

CHAPTER 3

METHOD

Participants

Sixty-eight children, their parents, and 37 teachers participated in this study. Children ranged in age from 14 to 37 months, with 38 female and 28 male children (2 unspecified). No data on children's race were obtained. All participating teachers were female with a mean age of 29 years (range, 17 - 60; SD = 10.6). Seventy-three percent of teachers were Caucasian, 21% were African-American, 3% were Latino, and 3% were Liberian. Forty-six percent were married and 49% were parents (see Table 1). Teachers had worked a mean of 4.5 years in the child care field and 2 years in their current center (see Table 2).

Of the 68 children and parents, 62 completed all aspects of the study. Children who failed to complete the study either moved into another classroom or left the center before all data could be collected. Of the 37 teachers, 29 completed all aspects of the study. Teachers who failed to complete the study either moved into a different classroom, left the center, or chose to discontinue their participation in the study.

Research participants were recruited from 15 established child care centers in northeast Georgia. Selection criteria required children to be 18 to 36 months old, in the care of the teacher for at least two months, and to attend the center more than 20 hours a week. A list of children from each classroom who met these criteria was obtained from the director. Qualified children were randomly selected from this list and paired

Table 1

Demographic Characteristics of Teacher Participants (N = 37)

Characteristics	n	%
Race		
African-American	7	19
Caucasian	24	65
Latino	1	3
Other	1	3
Missing Data	4	10
Marital Status		
Single	13	35
Married	17	46
Separated	1	3
Other	3	8
Missing Data	3	8
Parental Status		
Yes	18	49
No	16	43
Missing Data	3	8

(Table 1 continues)

(Table 1 continued)

Characteristics	n	%
Level of Education		
Some High School	2	6
High School Diploma/GED	12	32
Vocational Training/CDA	4	11
Some College	11	29
Associates Degree	2	6
College Graduate (BS or BA)	3	8
Missing Data	3	8
Household Income		
Less than 10,000	4	11
10,000 – 15,000	4	11
15,000 – 20,000	1	3
20,000 – 25,000	2	5
25,000 – 30,000	4	11
35,000 – 40,000	4	11
40,000 – 50,000	4	11
55,000 – 80,000	2	5
85,000 – 100,000	2	5
Missing Data	10	27

Table 2

Means and Standard Deviations for Teachers' Professional Characteristics (N = 37)

Characteristics	M	SD
Number of Centers Worked At	1.91	.90
Number of Job Changes	2.72	2.40
Length of Time in Center (months)	23.97	25.9
Length of Time in Field (months)	54.67	62.0

with a participating teacher in the child's classroom. Each teacher was randomly paired with two children.

Teachers were required to work at least 30 hours a week in the center and to have been in the classroom for at least two months. Teachers who met this requirement and consented to participate were randomly assigned two eligible children. Each child was observed with only one teacher, and each teacher was observed with a maximum of two children. No more than two teachers were elected from each classroom.

Procedure

Center directors from a total of 75 child care centers located in Athens, Commerce, Gainesville, Loganville, Snellville, Watkinsville, and Winder, Georgia, were initially contacted by telephone. Those expressing an interest in participating in the study were sent a letter describing the purpose and the procedures of the study and the measures to be used (see Appendix A). Permission was obtained in writing from 20 directors who agreed to participate (see Appendix A). Of those 20 directors, 15 actually participated in the study. Of the 15 centers participating in our study, 2 were accredited by the National Association for the Education of Young Children (NAEYC). Before beginning data collection, investigators met with the center directors individually to discuss the details of the study, select participants, and tour the center.

Researchers then obtain informed consent from the early childhood teachers (see Appendix B). The teachers were informed about the nature of the study, the measures being used, and the amount of time that participation would require. Teachers were given the option to decline participation. Informed consent was also obtained from the parents of the children being observed (see Appendix C).

Teachers were asked to fill out a demographic information sheet and two additional questionnaires described in the Measures section. Parents were asked to complete a demographic information sheet (see Appendix D), and a questionnaire regarding the child's temperament as described in the Measures section. Teachers and parents were asked to return the completed questionnaires to the director of their center.

Upon completion of all data collection, parents were given $10 and teachers were given $25. In addition, two free 1.5-hour Department of Human Resources (DHR) approved workshops were provided to all participating teachers and center directors.

Observations for the Q-sort and the ITERS were done separately. However, the same research assistant completing the ITERS may have also completed a Q-sort for that classroom. Observations for the Q-sort lasted a minimum of two hours per participating child. Each teacher was instructed to carry out her normal duties in the classroom. Observers were instructed not to interact with the children or the teacher during the observations. Teacher's interactions with the children in her care were observed from a position in the classroom that would not interrupt the classroom activities. A 2-hour observation took place for each of the participating children during the morning and afternoon hours when they were engaged in free play activities, either inside or outside. However, when necessary, observations were completed in 2 1-hour sessions, either within the same day or in 2 consecutive days. This occurred when the observer was unable to complete the observation due to the teacher or child leaving the center or the child's naptime occurring during the observation period. Observers took notes of their observations. After completing the observations, the Q-sort was completed in an area

outside the center to evaluate the level of security of the attachment between the teacher and the children.

Observations to complete the Infant Toddler Environment Rating Scale (ITERS; see Measures section) took a minimum of one hour per classroom. In classrooms with more than one participating teacher, only one ITERS was completed. Observers were instructed to rate the items in an order most efficient for them. For example, items regarding furnishings, which could be easily observed, were rated first. Following the observations, teachers were asked to provide additional information for any items that were not observed (e.g., the use of car safety restraints). Each ITERS was completed before the observer left the center.

Measures

Assessment of the Characteristics of Child Care Settings

The Infant/Toddler Environment Rating Scale. The Infant/Toddler Environment Rating Scale (ITERS; Harms, Cryer, & Clifford, 1990) was used to assess the quality of center-based care for children up to 30 months of age. This scale consists of 35 items using a 7-point scale in which "1" is inadequate, "3" is minimal, "5" is good and "7" is excellent.

This rating scale measures the quality of seven areas within the child care center, including: (a) furnishings and display for children, (b) personal care routines, (c) listening and talking, (d) learning activities, (e) interaction, (f) program structure, and (g) adult needs. The subscale Furnishings and Display for Children evaluates furnishings (e.g., tables, cots/cribs, floor covering), room arrangement and the presence of pictures and/or mobiles that can easily be seen by the children. The subscale Personal Care

Routines evaluates the interaction between parents and teachers (e.g., greeting, departure), meal and snack time routines, naptime routine, diapering/toileting procedures, personal grooming and health and safety issues. The subscale Listening and Talking evaluates language development, including verbal interactions between the child and the teacher, and the availability and use of books, pictures, and puppets in the classroom. The subscale Learning Activities evaluates the various centers within the classroom, such as blocks, art, music and movement. Centers are rated according to availability and variety of materials in each center. The subscale Interaction evaluates peer interactions, adult-child interactions, and means of discipline. The subscale Program Structure focuses on the scheduling and supervision of daily activities. Finally, the subscale Adult Needs evaluates the availability of adult areas, such as separate restrooms, lounge areas and offices, as well as the opportunities for professional growth and development.

Harms, Cryer, and Clifford (1990) reported an interrater reliability coefficient of .84, with subscale coefficients ranging from .58 to .89. The Spearman's correlations coefficient for test-retest reliability was .79 for the overall scale, and individual subscales ranged from .58 to .76. Cronbach's Alpha was .83 for the overall scale. For the current data, reliability coefficients ranged from .64 to .83 for the seven subscales and .93 for the overall scale.

Assessment of Teacher-Child Relationship

The Attachment Q-Set. The Attachment Q-Set (Waters, 1987) was used to assess the attachment security of the teacher-child relationship (see Appendix E). Based on John Bowlby and Mary Ainsworth' sattachment theory, Waters developed a set of standardized 90-item descriptors to evaluate a child's style of attachment to a primary

caregiver. Although the scale was designed to assess parent-child attachment, Howes and associates used it to assess childcare teacher-child attachment (Howes & Hamilton, 1992a; Howes & Hamilton, 1992b; Howes & Smith, 1995a; Howes & Smith, 1995b; Howes, 1997; Howes, Hamilton, & Philipsen, 1998).

Observers sort items evenly into 9 categories according to their relevance to the behavior exhibited by the child being assessed. Items that are more characteristic of the child's behavior are placed in categories 7-9. Items that are not characteristic of the child's behavior are placed in categories 1-3. Items that are neither characteristic nor uncharacteristic and/or not observed are placed in categories 4-6.

Research assistants were thoroughly trained to use the Attachment Q-sort by the supervising researchers. Research assistants were required to read chapters on attachment theory, become familiar with the 90 Q-sort items and their meanings, watch 2 commercial and at least 2 training videos, and do at least 2 training sorts with the supervising researchers. Research assistants were also trained in observational techniques. A written training protocol was given to each research assistant (see Appendix F).

After the completion of the sorting task, security scores for each child were obtained by correlating raw scores from the Q-sort with the criterion scores for security provided by Waters (1987). The correlation coefficients, which range from -1.0 to 1.0, are the security score for each child. Attachment security is assessed on a continuum rather than categorically with higher scores indicating greater security. Examples of items rated high on the security criterion include Item 21,"Child keeps track of [teacher's] location when he plays around the house. Calls to her now and then; notices

her go from room to room. Notices if she changes activities" and Item 71, "If held in [teacher's] arms, child stops crying and quickly recovers after being frightened or upset."

Studies on teacher-child relationship reported that the observer reliability for the Q-sort is within acceptable range. Kappa coefficients ranged from .79 to .95 (Howes & Hamilton, 1992a; Howes & Hamilton, 1992b; Howes & Smith, 1995b; Howes, 1997; Howes, Hamilton & Philipsen, 1998) for observations that took place in child care centers. In this study, inter-rater reliability ranged from .68 to .82 with a mean of .74.

Concurrent validity of this measurement has been established with the Ainsworth Strange Situation. Vaughn and Waters (1990) reported that Strange Situation reunion behaviors with the mother significantly predicted Q-sort attachment security assessments. Infants (12-18 months of age) who were classified as secure in the Strange Situation also received higher Q-sort security scores.

In the present study, two individual children were paired with each participating teacher. A Q-sort was done for both children separately, and their mean score was assigned as the overall attachment score for the teacher. Each teacher received one mean attachment score as the indicator of the level of attachment for children under their care.

Assessment of Teacher Characteristics

Personal Characteristics

Personal characteristics of teachers were obtained through the completion of a demographic questionnaire. The questionnaire included questions regarding the teachers' age, race, gender, marital status and family structure (see Appendix G).

Professional Characteristics

Professional information was also obtained from the demographic questionnaire. The questionnaire included questions regarding years of experience in child care field, number of years with current employer, level of education, and number of hours worked per week (see Appendix G).

Psychological Characteristics

Two aspects of the psychological characteristics of teachers were assessed in this study: (a) emotional expressiveness, and (b) flexibility and adaptability. Teachers were requested to fill out the following two questionnaires.

Five Expressivity Facet Scale. The Five Expressivity Facet Scale (Gross & John, 1998) is designed to assess the extent to which the individuals express their emotions (see Appendix H). The scale consists of 62 items, using a 7-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree). The five facets measured by this scale are Expressive Confidence, Positive Expressivity, Negative Expressivity, Impulse Intensity, and Masking. For the purpose of this study, only the subscales of Positive Expressivity, Negative Expressivity, and Impulse Intensity were used because of their relevance to the teacher-toddler relationship. The Positive Expressivity scale measures the extent to which a person expresses positive emotions (e.g., “I laugh a lot”; “I get overly enthusiastic.”). The Negative Expressivity scale measures the extent to which a person expresses negative emotions (e.g., “If I was disgusted by something, my face would show it.”). The Impulse Intensity scale measures the intensity with which one experiences their emotions (e.g., “When I worry, it is so mild that I hardly notice it”; “I have strong emotions.”).

Gross and John (1998) reported reliability scores ranging from .71 to .86 for the five subscales. In the current study, reliabilities for the three subscales were .89 for Positive Expressivity, .83 for Negative Expressivity, and .67 for Impulse Intensity.

Ego-Resilience Scale. The Ego-Resilience Scale (ER89; Block & Kremen, 1996) is a 14-item scale designed to measure adaptability and resilience (see Appendix I). Participants respond to the items using a 4-point rating scale ranging from 1 (does not apply at all) to 4 (applies very strongly). Items include statements such as "I enjoy dealing with new and unusual situations" and "I get over my anger with someone reasonably quickly."

The ER89 is positively correlated with ego-resiliency prototype scores from the California Adult Q-sort (CAQ), a 100-item measurement used to assess personality, cognitive, and social characteristics in adults. Individuals who scored higher on the ER89 were found to be more socially adaptive, better able to manage stress, comfortable with self and others, and better able to express emotions in appropriate ways as measured by the CAQ. Although the ER89 is a self-report and the California Adult Q-sort is based on observed data, the correlations between the two scores were .50 (.69 when adjusted for attenuation) for women and .61 (.84 when adjusted for attenuation) for men. Cronbach's Alpha of .76 was obtained for participants ages 18-23 (Block & Kremen, 1996). Although participants in the current study were older (17-60 years), a Cronbach's Alpha of .79 was obtained.

Assessment of Child Temperament

The Toddler Behavior Assessment Questionnaire. Mothers were asked to fill out the Toddler Behavior Assessment Questionnaire (TBAQ; Goldsmith, 1994), which is an

111-item scale designed to assess the temperament and behavior of toddlers (see Appendix J). Items are rated on a 7-point rating scale ranging from 1 (never) to 7 (always).

The TBAQ assesses toddlers' temperament in 5 areas: (a) activity level, (b) anger proneness, (c) social fear, (d) pleasure, and (e) interest/persistence. The Activity Level scale measures movement during daily activities (e.g., “When playing on a movable toy, how often did your child attempt to go as fast as they could?”). The Anger Proneness scale measures the child’s expression on anger in situations involving conflict (e.g., “When you removed something your child should not have been playing with, how often did s/he try to grab the object back?). The Social Fear scale measures shyness or distress in unfamiliar or strange situations (e.g., “When your child was being approached by an unfamiliar adult while shopping or out walking, how often did your child show distress or cry?”). The Pleasure scale measures positive expressions by the child, such as laughing or smiling, when the child is involved in a non-threatening activity (e.g., “When in the bathtub, how often did your child babble or talk happily?”). Finally, the Interest/Persistence scale measures the length of time the child engages in solitary play (e.g., “How often did your child play alone with her/his favorite toy for 30 minutes or longer?”) (Goldsmith & Rothbart, 1991).

In the current study, the internal consistency for each scale ranged from .70 to .85. Alpha coefficients for individual scales were .71 for activity level, .79 for pleasure, .84 for social fearfulness, .73 for anger proneness, and .85 for interest/persistence.

CHAPTER 4

RESULTS

For the following analyses, the mean attachment score for each teacher was used. Additional analyses were also performed separately for individual attachment scores with children randomly assigned to one of the groups. Because the pattern of findings was similar, only mean attachment scores are presented in this section.

Quality of Child Care Environment and Attachment

Hypothesis one predicted an association between the quality of the child care environment and the security of the teacher-child attachment. Correlational analyses were performed to test the associations of the overall ITERS score and each of the 7 subscales of the ITERS with the mean attachment scores for teachers. No correlations were found at the significance level of .05 (see Table 3). Therefore, hypothesis one was not supported by the data, suggesting no significant direct association between center quality and teacher-toddler attachment.

Additional correlational analyses were performed to yield a correlational matrix on of the 7 ITERS subscales. The 7 subscales were highly correlated, suggesting that the subscales were not distinct from each other (see Table 4).

Teachers' Personal Characteristics and Attachment

Hypothesis two predicted an association between personal characteristics of the teacher, specifically age, marital status and parental status, and the security of the

Table 3

Means, Standard Deviations, and Correlations of Infant/Toddler Environment Rating Scale Subscales with Mean Attachment Scores (N = 29)

Subscales	M	SD	Measure (r) Mean Attachment Score
Furnishings	5.76	.97	-.181
Personal Care Routines	5.84	.97	-.118
Listening and Talking	5.68	1.56	.099
Learning Activities	5.36	1.02	-.249
Interaction	6.10	1.30	.152
Program Structure	6.35	.96	-.075
Adult Needs	5.05	1.29	-.225
Total Mean Score	5.68	.87	-.220

Table 4

Correlations for Subscales of Infant/Toddler Environment Rating Scale

Subscales	1	2	3	4	5	6	7	8
1. Furnishings	--							
2. Personal Care Routines	.59**	--						
3. Listening & Talking	.36*	.86**	--					
4. Learning Activities	.53**	.49**	.37*	--				
5. Interaction	.36*	.57**	.80**	.27	--			
6. Program Structure	.36*	.59**	.76**	.47**	.68**	--		
7. Adult Needs	.48**	.43*	.46**	.64**	.56**	.50**	--	
8. Total Score	.69**	.53**	.50**	.57**	.57**	.60**	.90**	--

Note: * $p < .05$. ** $p < .01$.

teacher-toddler attachment. A Pearson correlation was calculated to determine the relationship between teachers' age and attachment scores (see Table 5). No correlation was found at the significance level of .05, suggesting no significant relationship between the age of the teacher and the security of the teacher-toddler attachment. An independent-samples T-Test was performed to determine the association between marital status and security of attachment. Teachers were divided into two groups, married and unmarried. No significant difference was found between the two groups' mean score of attachment at the significance level of .05 (see Table 6). This suggests there is no significant relationship between teacher marital status and teacher-toddler attachment. An independent-samples T-Test was also done to determine the association between parental status of teacher and security of the teacher-toddler attachment. Teachers were divided into two groups, parent and not parent. No difference was found between the two groups at the significance level of .05 (see Table 7). The hypothesis was not supported by the data, suggesting no direct relationship between the personal characteristics of the teacher and the security of the teacher-toddler attachment.

Additional T-Tests were done to determine the relationship between teachers' marital and parental status and their age. Teachers' age was positively associated with their marital status (see Table 6). This suggests that teachers who are older are more likely to be married. Teachers' age was also positively associated with their parental status (see Table 7). This suggests that teachers who are older are more likely to have children of their own. Although these findings are not directly associated with the hypothesis, they are useful in better understanding the sample used for this study.

Table 5

Means, Standard Deviations, and Correlations of Teachers' Age with Mean Attachment Scores (N = 30)

Characteristics	M	SD	Measure (r) Mean Attachment Score
Age	29.26	10.58	-.101

Table 6

Group Differences for Attachment and Age Between Married Teachers and Unmarried Teachers

	Married (n = 17)		Unmarried (n = 14)			
	M	SD	M	SD	df	t
Attachment	.31	.13	.22	.17	25	-1.66
Age	31	8.6	24	6.6	28	-2.33*

Note: * p < .05.

Table 7

Group Differences for Attachment and Age Between Teachers Who Are Parents and Teachers Who Are Not Parents

	Parents (n = 15)		Not Parents (n = 15)			
	M	SD	M	SD	df	t
Attachment	.28	.14	.24	.16	28	-.787
Age	34.5	11.2	23.4	5.8	32	3.56**

Note: ** $p < .01$.

Teachers' Professional Characteristics and Attachment

Hypothesis three predicted an association between the professional characteristics of the teacher, specifically level of education and work experience, with the security of attachment. Pearson correlations were calculated to determine the association between years of experience in the child care field and years employed at the current center and teacher-child attachment (see Table 8). No correlations were found at the significance level of .05. An independent-samples T-Test was done to determine the difference between groups based on level of education for the security of the teacher-toddler attachment (see Table 9). Teachers were divided into two groups based on their level of education. The Child Development Associate (CDA), a credential awarded to child care providers who successfully complete the CDA assessment process, was used to divide the groups. Those with an education level above that of a CDA, including all undergraduate and graduate degrees, were classified as CDA Plus. Those with an education level below that of a CDA, which includes technical training other than child development, were classified as Below CDA. No difference was found between the two groups at the significance level of .05. The data did not support the hypothesis, suggesting no significant direct relationship between the professional characteristics of the teacher and the security of the teacher-toddler attachment.

Additional analyses were done to determine the association between teachers' work experience and level of education. No correlations were found at the significance level of .05 (see Table 9). The length of time teachers had spent in the child care field, including their current center, was not significantly related to their educational level.

Table 8

Means, Standard Deviations, and Correlations of Experience with Attachment Scores (N = 30)

			Measure (r) Mean
Subscales	M	SD	Attachment Score
Experience in Field (months)	54.67	62.03	-.209
Experience in Center (months)	23.97	25.90	-.134

Table 9

Group Differences for Attachment, Experience in Field, and Experience in Center Between Teachers With CDA Plus and Teachers With Below CDA

	CDA Plus (n = 17)		Below CDA (n = 13)			
	M	SD	M	SD	df	t
Attachment	.27	.13	.25	.18	28	-.279
Experience in Field (months)	48	56	61	69	31	.580
Experience in Center (months)	22	18	26	33	32	.478

Teachers' Psychological Characteristics and Attachment

Hypothesis four predicted an association between the psychological characteristics of the teacher, specifically emotional expressivity and ego-resiliency, and the security of the teacher-toddler attachment. Pearson correlations were calculated for the three subscales of the FEFS and the security of the teacher-toddler attachment (see Table 10). No correlations were found at the significance level of .05. Pearson correlations were also calculated for ego-resiliency and the attachment score (see Table 11). No correlations were found at the significance level of .05. The data do not support the hypothesis, suggesting no significant relationship between the emotional expressivity and ego resilience of the teacher and the security of the teacher-toddler relationship.

An additional correlational analysis was done to determine the association between the three subscales of the FEFS and the ER89. Significant correlations were found between the three subscales of the FEFS (see Table 12). Positive correlations were found between Impulse Intensity and both Positive Expressivity and Negative Expressivity. This suggests that teachers who were more expressive of their positive and negative emotions also felt their feelings more intensely. However, no correlations were found between the ER89 and the three subscales of the FEFS at the significance level of .05 (see Table 12). This suggests that emotional expressivity is not significantly correlated with ego resiliency. The findings suggest that teachers' self perception of their flexibility is not associated with their emotional expressivity.

Table 10

Means, Standard Deviations, and Correlations of Five Expressivity Facet Scale with Attachment Scores (N = 30)

Subscales	M	SD	Measure (r) Mean Attachment Score
Positive Expressivity	33.65	13.93	-.047
Negative Expressivity	49.15	11.77	.061
Impulse Intensity	35.59	9.28	.215

Table 11

Means, Standard Deviations, and Correlations of Ego-Resiliency with Attachment Scores (N = 30)

Measure	M	SD	Measure (r) Mean Attachment Score
Ego Resilience	45.38	5.06	.102

Table 12

Correlations for Subscales of Five Expressivity Facet Scale and Ego-Resiliency

Subscales	1	2	3	4
1. Ego Resiliency	--			
2. Positive Expressivity	-.067	--		
3. Negative Expressivity	-.002	.098	--	
4. Impulse Intensity	-.097	.731**	.392*	--

Note: * $p < .05$. ** $p < .01$.

Child Temperament and Attachment

Hypothesis five predicted a relationship between toddler temperament and the security of the teacher-toddler attachment. On the basis of individual children's scores, Pearson correlations were calculated between attachment and each of the 5 subscales of the temperament measure, including activity level, pleasure, social fear, interest, and anger (see Table 13). No correlations were found at the significance level of .05. The data did not support the hypothesis, suggesting no significant relationship between toddler temperament and the security of the teacher-toddler relationship.

To ensure the five subscales were relatively independent aspects of toddler temperament, an additional analysis was done to determine the correlations among the five subscales of the TBAQ. Activity level was found to be significantly correlated with both pleasure and anger. Pleasure was significantly correlated with interest and social fear was positively correlated with anger (see Table 14). Therefore, the correlational patterns suggested that the five temperament subscales tapped into relatively separate aspects of temperament.

Table 13

Means, Standard Deviations, and Correlations of Toddler Behavior Assessment Questionnaire Subscales with Attachment Scores (N = 62)

			Measure (r) Mean
Subscales	M	SD	Attachment Score
Activity	4.14	.64	-.075
Pleasure	5.51	.70	.165
Social Fear	3.89	.92	.088
Interest	4.13	.92	.177
Anger	3.71	.73	-.137

Table 14

Correlations for Subscales of Toddler Behavior Assessment Questionnaire

Subscales	1	2	3	4	5
1. Activity	--				
2. Pleasure	.305*	--			
3. Social Fear	.177	-.107	--		
4. Interest	-.137	.449**	-.222	--	
5. Anger	.503**	.198	.302*	.126	--

Note: * $p < .05$. ** $p < .01$.

CHAPTER 5

DISCUSSION

The goal of this study was to examine the characteristics of early childhood teachers associated with a secure teacher-toddler relationship. Five hypotheses were tested: (1) The quality of child care environment is associated with the security of teacher-toddler attachment, (2) the teacher's personal characteristics of age, marital status, and parental status are associated with the security of teacher-toddler attachment, (3) there is an association between the teacher's professional characteristics of level of education, amount of work experience and the security of teacher-toddler attachment, (4) teacher's psychological characteristics of emotional expressivity and ego-resiliency are related to the security of teacher-toddler attachment, and (5) toddler temperament is related to the security of teacher-child attachment. None of the five hypotheses formed in this study were supported by the data. This section will consider the design, sampling, methodological, and conceptual issues raised by the results from the current study.

Attachment

Attachment scores for this study were derived using the Attachment Q-Set (Waters, 1987). Attachment scores for teachers and toddlers obtained from the current sample were comparable to those found in other studies. Howes and Hamilton (1992a) reported a mean attachment security score of .30 with a sample of 403 children ranging in age from 10 to 56 months. This is comparable to the mean attachment security score of .25 found in our study.

The percentage of children in the current study who were classified as securely attached was also comparable to other studies. Using a security score of .30 to determine secure attachment, Howes and Hamilton (1992b) found 60% of children 24-month of age to be securely attached to their teacher, which is comparable to the 52% of secure attachments found in the current study. Therefore, it can be concluded that observers in this study were properly trained and the Q-sorts were carried out appropriately. The possibility that the lack of support for the hypotheses is due to unreliable and invalid observations and classification of teacher-child attachment should be ruled out.

Quality of Child Care Environment

Center quality can be determined by various factors. For example, the National Association for the Education of Young Children (NAEYC) considers such factors as adult:child ratios, high levels of teacher training, and the safety of the building and playground when making decisions regarding accreditation.

The present study predicted a relationship between center quality and teacher-toddler attachment. Although previous studies have shown that aspects of center quality, such as low teacher-child ratios, are associated with the security of the teacher-toddler attachment (Howes, Rodning, Galluzzo, & Myers, 1990), this hypothesis was not supported by the seven areas of center quality indicated by the ITERS rating scale.

The ITERS scores for this study were higher than those found in studies with comparable populations. For example, Howes and Smith (1995b) reported a mean ITERS score of 3.93. In their study, centers who receive a rating of 3 often meet only the basic custodial and developmental needs of the children. The centers in this study had a mean ITERS score of 5.68, with 87.5% scoring 5 or above, indicating a higher level of

positive interactions, more personalized care, and an increased amount of appropriate materials (Harms, Cryer, & Clifford, 1990).

One explanation for the high levels of center quality may be that centers with lower quality chose not to participate in the study. The lack of participation from lower quality centers resulted in a homogeneous sample of child care centers. Recruiting lower quality centers is often difficult because many directors may be fearful of being reported to the Department of Human Resources for violations of the rules and regulations for child care centers. Future researchers should go to great lengths to assure center directors of their anonymity and of issues regarding confidentiality. Lower quality centers may also be more interested in participating if there are greater incentives, such as funds and technical assistance for center improvement or staff training.

In previous studies reporting a relationship between center quality and attachment security, the behavior of the teacher, such as teacher-child interactions and involvement, was included in the assessment of center quality (e.g., Anderson, Nagle, Roberts, & Smith, 1981; Arnett, 1989; Howes & Smith, 1995b; Kontos, Hsu, & Dunn, 1994). Although the ITERS does include a subscale rating for teacher interactions, it is global and not extensive. Only 2 of the 35 items pertain to teacher interactions specifically. Future studies may employ other measures for determining the quality of teacher-child interactions in greater depth.

Other studies have used a variety of observational strategies to determine the quality of teacher-child interactions. For example, Anderson and her colleagues (1981) assessed teacher-child interactions by observing eight 5-minute intervals of free play on 2 days. Teachers were then rated on their proximity to the child during the interaction and

whether the interaction was considered positive or negative, with more positive interactions at close range indicating high levels of involvement. Howes and Smith (1995b) also employed a time-sample method to rate teachers' intensity of involvement (1 = ignoring the child to 6 = intense caregiving, including hugging, holding and comforting) and caregiving behaviors (e.g., smiling, positive response to social bids). Arnett (1989) developed the 26-item Caregiver Interaction Scale, a direct-observation scale developed to rate interactions between teachers and children on 4 factors (positive interaction, punitiveness, permissiveness, and detachment). The teachers are observed in two separate 45-minute observations by different observers and rated on a 4-point scale. This type of assessment may provide a more comprehensive evaluation of the teacher's interactions with the children and be useful in determining the relationship between teacher-child interactions and attachment.

Future studies should investigate the differences in attachment scores between high quality centers, such as those accredited by NAEYC, and those who barely meet or fail to meet minimum requirements set by the Department of Human Resources. Future studies may include other aspects of center quality, such as how the center meets the needs of the families and the continuity between the home environment and the child care environment, and their relationship to teacher-toddler attachment.

Teacher Characteristics

The relationship between teachers and the children in their care is distinct and dependent on characteristics of both the child and the teacher (Zimmerman & McDonald, 1995). The current study focused on three aspects of teacher characteristics: personal, professional, and psychological.

Teachers' personal characteristics. It was predicted that the personal characteristics of age, marital status, and parental status would be directly associated with secure teacher-toddler attachment. However, the data did not support this hypothesis. In the current sample, 49 % of teachers were parents, 46% were married, 63% were Caucasian, and 82% were in their childbearing years (19 and 40 years of age). This is comparable to other samples of early childhood teachers used in previous studies (e.g. Howes, 1983; Howes, Whitebook, & Phillips, 1992; Kontos, Hsu, & Dunn, 1994). Therefore, the teachers participating in the present study were a typical sample.

Teachers' professional characteristics. It was hypothesized that teacher-toddler attachment would be directly associated with the professional characteristics of the teacher. The findings from the current study did not support this direct association hypothesis. However, there may be an indirect association not addressed in this study. Studies have shown that teacher education and training can impact the attitudes and interaction style of the teacher (e.g., Arnett, 1989; Howes, Whitebook, & Phillips, 1992). Studies have also found a relationship between teacher interactions and attachment security (e.g., Anderson, Nagle, Roberts, & Smith, 1981; Howes & Hamilton, 1992a; Howes & Smith, 1995b). Therefore, the relationship between the professional characteristics of the teacher and the security of the teacher-toddler attachment may be mediated by the behavior of the teacher. Future studies should consider the mediating factors such as teacher behavior and caregiving attitudes in linking teachers' professional characteristics to teacher-toddler attachment.

Teachers' psychological characteristics. Two psychological characteristics of teachers were examined in this study. The hypothesis that the psychological

characteristics of emotional expressivity and ego-resilience would be correlated with the security of the teacher-child attachment was not confirmed by the findings.

Previous studies found a correlation between maternal expression of positive affect and positive caregiving behaviors (Mangeldorf, Gunnar, Kestenbaum, Lang, & Andreas, 1990). Also, in studies of mother-infant attachment, a correlation was found between maternal expressivity and security of attachment (Izard, Haynes, Chisholm, & Baak, 1991). Similar findings in the teacher-child attachment literature suggested that positive caregiver behaviors, such as hugging the child, were also related to attachment security (e.g, Howes & Smith, 1995a). The missing link between emotional expressivity and security of attachment appears to be in the assessment of the teacher's caregiving behaviors and interactions with the child. Future studies focusing on the impact of emotional expressivity on specific caregiving behavior may provide a clearer picture of how they are related to the security of the teacher-toddler attachment relationship.

Parenting literature has shown that parental flexibility is associated with attachment security (Heinicke, Diskin, Ramsey-Klee, & Oats, 1986), therefore this study predicted teacher flexibility would also be associated with attachment security. The data did not support this hypothesis. As stated earlier in this discussion, behavioral flexibility was not assessed directly by objective methods in this study. Because teachers were asked to complete a questionnaire, the possibility of teachers self-report may be biased by perceived social desirability. Therefore, an observational assessment of teacher behaviors of adaptation would provide more information on the flexibility and adaptability of the teacher. Also, the ER89 did not assess flexibility specific to the child care setting. Future research may need to employ a multi-method approach, including

both observational and self-reported data to determine teacher's adaptive behaviors in the classroom and their relationship with secure teacher-toddler attachment. In this study, the detection of significant correlations was limited to linear models. It is plausible that the relationship between emotional expressivity and attachment security is non-linear. Non-linear effects may need to be considered in detecting the link between teachers' emotional expressivity and the teacher-child attachment relationship.

Although no direct association was found between teachers' psychological characteristics and security of attachment, an interesting pattern emerged in further exploratory analyses. The educational level of the teacher moderated the relationship between the psychological characteristics of the teacher and attachment. A positive correlation was found between all three subscales of the emotional expressivity scale and the ego-resiliency scale and teacher-toddler attachment when teachers had training above the CDA level. However, this pattern was not observed in teachers with lower levels of education. For teachers with an educational level below a CDA, correlations between attachment and psychological characteristics were negative for all three subscales of the emotional expressivity scale and the ego-resiliency scale. Although there was no statistically significant difference between the two groups, there was a clear pattern. This suggests that teachers with higher levels of education are better able to express their emotions in an appropriate manner, resulting in more positive interactions with the children in their care. These positive interactions may result in more secure teacher-toddler attachment relationships.

Toddler Temperament

The importance of child temperament in the formation of a secure attachment has been debated in many articles (e.g., Bates, Maslin, & Frankel, 1985; Seifer & Schiller, 1995; van den Boom, 1994). The current study found no relationship between the temperament of the child and the security of the teacher-toddler attachment, suggesting that the role of temperament may not have a direct impact on the formation of a secure attachment between teachers and toddlers.

However, studies have found an association between child temperament and maternal behaviors (Aviezer, Sagi, Joels, & Ziv, 1999; Mangelsdorf et al., 1990; Weber et al., 1986), suggesting again that the behavior of the caregiver is a crucial factor in the formation of a secure attachment. The current findings suggest a need to further explore the "goodness of fit" between teachers' personal, professional, and psychological characteristics and the temperaments of the children in their care. Future studies may also investigate the relationship between other child qualities, such as IQ, attractiveness of physical appearance, and language ability, and the security of teacher-child attachment.

Implications

The current study provides further evidence of the complexity of the teacher-toddler relationship. No one aspect of the teacher's personal, professional, or psychological profile can solely predict their ability to foster secure attachments with the children in their care.

For administrators of early childhood programs, this may impact the way staff are recruited and trained. Teachers who are able to foster secure attachments with the

children in their care provide those children with social, cognitive and emotional benefits. Therefore, administrators should strive to recruit and maintain staff that possess qualities and characteristics related to secure teacher-toddler attachment. In order to do this, administrators must look beyond the mere professional characteristics of potential teachers. Education and experience are often used by child care administrators to predict the teacher's ability to form positive relationships with children. While education and experience are important factors that cannot be disregarded, they alone cannot predict the security of the teacher-toddler relationship. These findings should prompt administrators of children's programs to incorporate additional components into the hiring process, such as observing the prospective teacher in the classroom and evaluating the teacher-child interactions.

Although it was not the focus of this study, previous findings indicate that the nature of the teacher-child interaction is fundamental to the development of a secure teacher-toddler attachment. Therefore, specific training in positive, age appropriate interactions may facilitate more positive interactions and in turn foster secure teacher-toddler attachment relationships. It is in this one-on-one context that professional, personal, and psychological characteristics of the teacher may become important. Teachers who possess certain qualities, such as flexibility and emotional expressivity, may be more proficient in adapting more appropriate interaction styles.

In conclusion, the relationship between children and their caregivers is contingent upon a plethora of factors. The findings of this study, suggest future research is needed, which may help to determine the critical factors associated with the teacher-toddler

relationship. By doing so, we would effectively improve child care experiences for infants and toddlers.

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APPENDIX A

DIRECTOR LETTER AND INFORMED CONSENT

Dear Director,

This letter invites you to participate in the project "The Effects of Teacher-Toddler Relationships in Child Care." The study is being conducted by Hui-Chin Hsu, Ph.D., supervising professor, and Michelle Pounds and Tania Smith, graduate students, of the department of Child and Family Development at the University of Georgia. In this study, we are interested in understanding the development of relationships between toddlers and their early childhood teachers as well as understanding how the toddlers' family experiences affect their child care experiences. Hopefully, the information we discover will be useful in informing child care administrators about staff selection and development. We also hope to discover information that will inform child care teachers about their importance in the home-to-school development of toddlers.

We would like to request permission to conduct this research in the toddler classrooms, those with children between 18 and 36 months, in your child care facility. Your facility's participation would involve classroom observation and the answering of questionnaires by teachers and parents. During classroom observation, two researchers would take notes on teacher-toddler interactions as well as classroom environment. Primary teachers would complete questionnaires about their own personal, professional, and psychological characteristics as well as behavioral questionnaires about the participating toddlers in their care. Parents would complete questionnaires about their family relationships and their toddler's personal characteristics. Researchers will be completing observations in the toddler classrooms, but will not be interacting with the teachers or the children.

In exchange for your participation, we would offer to teach an hour-long workshop at your facility for your child care teachers. We would also offer to reimburse teachers and parents for their time spent in answering questionnaires. Results of this study will be made available to you once the project is completed.

All participation would be completely voluntary and confidential. Participants may withdraw at any time and may request that their information be removed from research records. Identification numbers will be used on all research documents and the information linking any names to the numbers will be stored separately and in a locked drawer, accessible only by the primary researchers.

Our research will begin January 2001 and will be completed by August 2001. Should you consent to participate, we will contact you to schedule a time to complete the procedures for this research project. If you would like any further information about this research project, please to feel free to contact us at the numbers listed below.

Hui-Chin Hsu, Ph.D
(706) 542-2636
McPhaul Center
University of Georgia
Athens, GA 30602-3622

Michelle Pounds and Tania Smith
(706) 583-0031
McPhaul Center
University of Georgia
Athens, GA 30602-3622

Please sign at the bottom of this page to agree to the terms of the research project and return it in the stamped, addressed envelope included. We look forward to hearing from you and to visiting your child care center.

Thank you for your interest and prompt response.

Sincerely,

Hui-Chin Hsu, Ph.D
Supervising Professor

Michelle Pounds
Graduate Student

Tania Smith
Graduate Student

I, _____, director of _____Child Care Center in _____, Georgia, agree to allow Hui-Chin Hsu, Ph.D and her researchers to conduct the research project "The Effects of Teacher-Toddler Relationships in Child Care" in the _____ Child Care Center. I understand the project concerns the development of relationships between toddlers and their early childhood teachers and how the toddlers' family experiences affect their child care experiences. I understand that if teachers and parents in my facility participate, I will be offered a free workshop for teacher development and participants will receive financial compensation for their time.

Signed,

_____ _____
Director Signature Date

APPENDIX B

TEACHER LETTER AND INFORMED CONSENT

Dear Teacher,

This letter invites you to participate in the project, "The Toddler's Child Care Experience." This study is being conducted by Hui-Chin Hsu, Ph. D., supervising professor, and Michelle Pounds and Tania Smith, graduate students, of the Child and Family Development Department, University of Georgia. The purposes of the study are 1) to understand the development of relationships between toddlers and their teachers in the early childhood classroom and 2) to understand how the toddlers' family experiences affect their child care experiences.

You are invited to participate in our study by filling out questionnaires about your professional background and personality and about the behavior of children in your care. Generally, it should not take more than forty-five minutes to complete all of these questionnaires. Participation in the study will also include allowing one of the trained investigators to complete a four to six - hour observation of your classroom. During this observation, the researcher will be recording the behaviors of the participating child as he/she is in your care. Each parent and teacher who participates in the study will be paid. Information provided by you is strictly confidential. Your name will not be identified on the questionnaires.

Your informed consent for participation is voluntary and does not obligate you to participate in the study in any way. You can withdraw from this study at any time without any negative consequences. You also have the right to request any information to be removed from the research records. Your participation would contribute to our understanding of the teacher-toddler relationship's role in the early childhood classroom. If you have any further questions or if you want to learn more about this research, please do not hesitate to contact the principal investigators or their supervisor. Thank you for your consideration of participating in this project.

Sincerely yours,

Hui-Chin Hsu, Ph.D
(706) 542-2636
McPhaul Center
University of Georgia
Athens, GA 30602-3622

Michelle Pounds and Tania Smith
(706) 583-0031
McPhaul Center
University of Georgia
Athens, GA 30602-3622

Purpose of the Investigation:

This study is designed for the researchers to (1) identify specific qualities of child care teachers that are associated with different types of teacher-toddler relationships, and (2) explore how children's family environments affect their child care experiences.

Research Procedures:

(1) Observation: Interactions between you and two or three of the children assigned to your care will be observed in the classroom. The researchers will be taking notes during these observations and recording the child's behaviors while in your care. They will not be interacting with you or the children.

(2) Behavioral Assessment: You will be asked to complete a behavioral assessment for each of the two or three children that are participating.

(3) Questionnaires: You will be asked to complete questionnaires about your education, your experience and about the way that you deal with the everyday things in life.

Benefits of Participation:

The researchers will pay teachers and parents for their participation. In addition, the information obtained from this research will help administrators and directors of child care programs in staff selection, staff maintenance, and staff development. It will also add to to our knowledge of how a child's family environment influences their child care experiences.

Protection of Your and Your Children's Privacy:

At no time will information obtained from you be made to unauthorized persons. The questionnaires will remain in the possession of the principal investigators, except when they are being analyzed by research assistants. Neither your name nor the children's names will be shown on the questionnaire. Identification numbers will be used instead. If you want to stop participating at any time during the study, it is your right to do so without any justifications or negative consequences. No discomforts or stresses are foreseen for any participants.

Your participation in this study is strictly voluntary and will in no way be used for anything other than research purposes. If you have any concerns or require any assistance we will be happy to provide you with additional information. If you have any questions, you may contact the principal investigators:

Hui-Chin Hsu, Ph.D. (706) 542-2636

Michelle Pounds and Tania Smith (706) 583-0031

Teacher's Consent Form

I, _____, agree to participate in the research project "The Effects of Teacher Toddler Relationships in Child Care", which is being conducted by Michelle Pounds and Tania Smith, and supervised by Dr. Hui-Chin Hsu, of the Department of Child and Family Development, University of Georgia. I understand that my participation is entirely voluntary; I can withdraw my consent at any time without any penalty and have the results of the participation, to the extent that it can be identified as mine, returned to me, removed from the research records, or destroyed.

The following points have been explained to me:

1. The reason for the research is to understand better a) the factors that affect toddler-teacher relationships in child care and b) how the child's family life affects their experience of child care.
2. I will conduct behavioral assessments of children whose parents give consent and fill out questionnaires about myself. I will also allow trained researchers to observe in my classroom. I will be compensated for my help.
3. No discomforts or stresses are foreseen.
4. No risks are foreseen, however, if I need any assistance, I can call the McPhaul Clinic at the University of Goergia at (706) 543-4486.
5. The results of this study will be confidential and will not be released in any individual identifiable form without my prior consent, unless otherwise required by law. All questionnaires are identified by ID numbers and stored in locked filing cabinets. Only the members of the research team, Michelle Pounds, Tania Smith, Dr. Hsu, and their research assistants, will have access to this information.
6. The researchers will answer any further questions about the research, now or during the course of the project. They can be reached at the numbers listed below.

Hui-Chin Hsu, Ph. D.
(706) 542-2636
McPhaul Center
University of Georgia
Athens, GA 30602-3622

Michelle Pounds and Tania Smith
(706) 583-0031
McPhaul Center
University of Georgia
Athens, GA 30602-3622

_____ _____

Teacher Signature Date

Please sign both copies of this form. Keep one and return the other to the investigator.

Research at the University of Georgia that involves participants is overseen by the Institutional Review Board. Questions or problems regarding your rights as a participant should be addressed to Julia D. Alexander, M. A., Institutional Review Board, Office of the Vice President for Research, University of Georgia, 606 A Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-6514; E-Mail Address JDA@ovpr.uga.edu.

APPENDIX C

PARENT LETTER AND INFORMED CONSENT

Recruitment Letter, Participant Information and Consent Form - Parents

Dear Parents,

We would like to invite you to participate in the project, "The Toddler's Child Care Experience." This study is being conducted by Hui-Chin Hsu, Ph. D., supervising professor, and Michelle Pounds and Tania Smith, graduate students, of the Child and Family Development Department, University of Georgia. We would like to 1) understand the development of relationships between toddlers and their teachers in the early childhood classroom and 2) to understand how the toddlers' family experiences affect their child care experiences.

You will be asked to complete questionnaires about your family. We will ask some personal questions (such as age, education, and marital status), as well as more general questions about how people interact in your family (such as working together, playing together, and communicating with each other). You will also be asked to complete a questionnaire about your child's temperament. Your child's teacher will be asked to answer some questions about your child's behavior in the classroom. Your participation will also include allowing one of the trained investigators to complete a four-hour observation of your child's classroom. During the observations, the researchers will collect information about your child's behavior while in the care of his/her teacher as well as general information on the classroom environment. There will be no direct interaction with your child.

This study should not take more than one and one-half hours of your time. Information provided by you will be kept strictly confidential by the researchers. Your name will not be shown on the questionnaires. Only ID numbers will be used. Your participation in this study would help us to better understand the things that affect a toddler's experience in the early childhood classroom. It would also help us to understand the child care teacher's role in your child's experience. If you have any further questions, or if you want to learn more about this research, please do not hesitate to contact the principal investigators or their supervisor. Thank you for your consideration of participating in this project.

Sincerely yours,

Hui-Chin Hsu, Ph.D
(706) 542-2636
McPhaul Center
University of Georgia
Athens, GA 30602-3622

Michelle Pounds and Tania Smith
(706) 583-0031
McPhaul Center
University of Georgia
Athens, GA 30602-3622

Purpose of the Investigation:

This study is designed for the researchers to (1) identify specific qualities of child care teachers that are associated with positive teacher-toddler relationships, and (2) explore how children's family environments affect their child care experiences.

Procedures to Be Followed:

Procedures Your Child Will Be Involved In:

(1) Observation: Your child will be observed in the classroom while interacting with his/her teacher. The researchers will be taking notes during these observations and recording the behaviors that indicate what the teacher-toddler relationship is really like.

Procedures You Will Be Involved In:

(1) Questionnaire about Your Child: You will be asked to answer questions about your child's behavior at home. These questions will help the researchers to understand your child's temperament.

(2) Questionnaires about Your Family: You will be asked to answer questions about daily happenings in your family. These questions will help the researchers to understand each child's family environment.

Researchers will contact you in order to make an appointment at your child's child care center at a time that is convenient to you. You will be asked to complete both of these questionnaires during that time. The appointment should take no more than one hour.

Procedures Your Child's Teacher Will Be Involved In:

Your child's teacher will be asked to fill out questionnaires about your child's behavior at school. The teacher will also be asked to complete questionnaires about him/herself in order to determine his/her educational level, how he/she expresses his/her emotions, and how adaptable and flexible he/she is.

Procedures Your Child's Child Care Center Will Be Involved In:

Your child's classroom will be evaluated for its overall ability to provide quality care for toddlers.

Parent's Initials: _____

Further information about this investigation:

The information we learn from you will be for research purposes only. Each child will be assigned a number and all information pertaining to that child will be identified by the number assigned to him or her. Individual information will be kept strictly confidential. However, we are required by law to report any evidence of illegal activity such as child abuse or neglect The list with the child's actual name will be kept in a locked and secure place, accessible only to the researchers.

Your participation, your child's participation, and your child's teacher's participation are completely voluntary. You may withdraw your child from the study at any time and all information gained at that point would be erased. If you have any questions regarding this study, please do not hesitate to contact the principal investigators:

Hui-Chin Hsu, Ph. D.
(706) 542-2636
McPhaul Center
University of Georgia
Athens, GA 30602-3622

Michelle Pounds and Tania Smith
(706) 583-0031
McPhaul Center
University of Georgia
Athens, GA 30602-3622

Parent's Initials: _____

Parent's Consent Form

Parent's Consent:

I, _____, understand that my participation in the research study "The Effects of Teacher-Toddler Relationships in Child Care" is completely voluntary. I fully understand the purpose and procedures of the study. I will keep my right to withdraw from this study at any time or refuse to participate in this study if I feel it is stressful or harmful to my child, my family, or myself. I also understand that I will receive a copy of this consent form for my personal records.

_____ _____

Parent's Signature Date

Consent for Child's Participation:

I voluntarily agree to have my child, _____, participate in this study. I will keep my right to withdraw my child from this study at any time.

_____ _____

Parent's Signature Date

Please sign both copies of this form. Keep one for yourself and return the other to the investigator.

Research at the University of Georgia that involves participants is overseen by the Institutional Review Board. Questions or problems regarding your rights as a participant should be addressed to Julia D. Alexander, M. A., Institutional Review Board, Office of the Vice President for Research, University of Georgia, 606 A Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-6514; E-Mail Address JDA@ovpr.uga.edu.

APPENDIX D

DEMOGRAPHIC QUESTIONNAIRE – PARENT

First, please answer some general information questions about your family. Remember that your name will not be on this questionnaire and that all of your answers from this packet are completely confidential. Please be as honest as possible.

1) What is the age of the child participating in this study?

_____ Months

2) What is the gender of the child participating in this study?

( ) Female ( ) Male

3) What is your age in years?

_____Years

4) Who else lives in your home? Please list each person's age and their relationship to you.

Relationship to you Age

Adults_____

_____

_____

_____

_____

Children_____

_____

_____

_____

5) What is your currently completed level of education? (check one)

____(1) Some High School
____(2) High School Diploma/GED
____(3) Vocational Training
____(4) Some College

____(5) CDA (Child Development Associate)
____(6) Associate's Degree (AA or AS)
____(7) College Degree (BS or BA)
____(8) Graduate Degree (MA/MS or Ph.D.)

6) What is your current yearly household income? (check one)

( ) Less than $10,000	( ) $10,000-15,000	( ) $15,000-20,000
( ) $20,000-25,000	( ) $25,000-30,000	( ) $35,000-40,000
( ) $40,000-45,000	( ) $45,000-50,000	( ) $50,000-55,000
( ) $55,000-60,000	( ) $60,000-65,000	( ) $65,000-70,000
( ) $70,000-75,000	( ) $75,000-80,000	( ) $80,000-85,000
( ) $85,000-90,000	( ) $90,000-95,000	( ) $95,000-100,000
( ) Over $100,000		

7) What is your current marital status? (check one)

( ) single ( ) married ( ) divorced ( ) separated ( ) other

If you are married, how long have you been married?_____Years_____Months

8) You and the father of the toddler are: (check one)

( ) together ( ) married ( ) separated ( ) divorced

If divorced or separated, how long have you been apart?_____Years_____Months

APPENDIX E

ATTACHMENT Q-SORT ITEMS (Waters, 1987)

1. Child readily shares with mother or lets her hold things if she asks to.

Low: Refuses.

2. When child returns to mother after playing, he is sometimes fussy for no clear reason.

Low: Child is happy or affectionate when he returns to mother between or after play times.

3. When he is upset or injured, child will accept comforting from adults other than mother.

Low: Mother is the only one he allows to comfort him.

4. Child is careful and gentle with toys and pets.

5. Child is more interested in people than in things.

Low: More interested in things than people.

6. When child is near mother and sees something he wants to play with, he fusses or tries to drag mother over to it.

Low: Goes to what he wants without fussing or dragging mother along.

7. Child laughs and smiles easily with a lot of different people.

Low: Mother can get him to smile or laugh more

8. When child cries, he cries hard.

Low: Weeps, sobs, doesn't cry hard, or hard crying never lasts very long.

9. Child is lighthearted and playful most of the time.

Low: Child tends to be serious, sad, or annoyed a good deal of the time.

10. Child often cries or resists when mother takes him to bed for naps or at night.

11. Child often hugs or cuddles against mother, without her asking or inviting him to do so.

Low: Child doesn't hug or cuddle much, unless mother hugs him first or asks him to give her a hug.

12. Child quickly gets used to people or things that initially made him shy or frightened him.

Middle if never shy or afraid.

13. When the child is upset by mother's leaving, he continues to cry or even gets angry after she is gone.

Middle if not upset by mom leaving.

Low: Cry stops right after mom leaves.

14. When child finds something new to play with, he carries it to mother or shows it to her from across the room.

Low: Plays with the new object quietly or goes where he won't be interrupted.

15. Child is willing to talk to new people, show them toys, or show them what he can do, if mother asks him to.

16. Child prefers toys that are modeled after living things (e.g. dolls, stuffed animals).

Low: Prefers balls, blocks, pots and pans, etc.

17. Child quickly loses interest in new adults if they do anything that annoys him.

18. Child follows mother's suggestions readily, even when they are clearly suggestions rather than orders.

Low: Ignores or refuses unless ordered.

19. When mother tells child to bring or give her something, he obeys. (Do not count refusals that are playful or part of a game unless they are clearly disobedient.)

Low: Mother has to take the object or raise her voice to get it away from him.

20. Child ignores most bumps, falls, or startles.

Low: Cries after minor bumps, falls, or startles.

21. Child keeps track of mother's location when he plays around the house.

Calls to her now and then Notices her go from room to room

Notices if she changes activities

Middle if child isn't allowed or doesn't have room , to play away from mom.

Low: Doesn't keep track.

22. Child acts like an affectionate parent toward dolls, pets, or infants.

Middle if child doesn't play with or have access to dolls, pets, or infants.

Low: Plays with them in other ways.

23. When mother sits with other family members, or is affectionate with them, child tries to get mom's affection for himself.

Low: Lets her be affectionate with others. May join in but not in a jealous way.

24. When mother speaks firmly or raises her voice at him, child becomes upset, sorry, or ashamed about displeasing her. (Do not score high if child is simply upset by the raised voice or afraid of getting punished.)

25. Child is easy for mother to lose track of when he is playing out of her sight.

Middle if never plays out of sight.

Low: Talks and calls when out of sight. Easy to find; easy to keep track of what he is doing

26. Child cries when mother leaves him at home with baby-sitter, father, or grandparent.

Low: Doesn't cry with any of these.

27 Child laughs when mother teases him.

Middle If mother never teases child during play or conversations.

Low: Annoyed when mother teases him.

28. Child enjoys relaxing in mother's lap.

Middle If child never sits still.

Low: Prefers to relax on the floor or on furniture.

29. At times, child attends so deeply to something that he doesn't seem to hear when people speak to him.

Low: Even when deeply Involved in play, child notices when people speak to him.

30. Child easily becomes angry with toys.

31. Child wants to be the center of mother's attention If mom is busy or talking to someone, he interrupts.

Low: Doesn't notice or doesn't mind not being the center of mother's attention.

32. When mother says "No" or punishes him, child stops misbehaving (at least at that time) Doesn't have to be told twice.

33. Child sometimes signals mother (or gives the impression) that he wants to be put down, and then fusses or wants to be picked right back up.

Low: Always ready to go play by the time he signals mother to put him down.

34. When child is upset about mother leaving him, he sits right where he is and cries Doesn't go after her.

Middle: If never upset by her leaving

Low: Actively goes after her if he is upset or crying.

35. Child is independent with mother. Prefers to play on his own; leaves mother easily when he wants to play.

Middle: Not allowed or not enough room to play away from mother.

Low: Prefers playing with or near mother

36. Child clearly shows a pattern of using mother as a base from which to explore. Moves out to play; Returns or plays near her; Moves out to play again, etc.

Low: Always away unless retrieved, or always stays near.

37. Child is very active. Always moving around. Prefers active games to quiet ones.

38. Child is demanding and impatient with mother. Fusses and persists unless she does what he wants right away.

39. Child is often serious and businesslike when playing away from mother or alone with his toys.

Low: Often silly or laughing when playing away from mother or alone with his toys.

40. Child examines new objects or toys in great detail. Tries to use them in different ways or to take them apart.

Low: First look at new objects or toys is usually brief (May return to them later however.)

41. When mother says to follow her, child does so. (Do not count refusals or delays that are playful or part of a game unless they clearly become disobedient.)

42. Child recognizes when mother is upset. Becomes quiet or upset himself . Tries to comfort her Asks what is wrong, etc.

Low: Doesn't recognize; continues play; behaves toward her as if she were OK.

43. Child stays closer to mother or returns to her more often than the simple task of keeping track of her requires.

Low: Doesn't keep close track of mother's location or activities.

44. Child asks for and enjoys having mother hold, hug, and cuddle him.

Low: Not especially eager for this. Tolerates It but doesn't seek it; or wiggles to be put down.

45. Child enjoys dancing or singing along with music.

Low: Neither likes nor dislikes music.

46. Child walks and runs around without bumping, dropping, or stumbling.

Low: Bumps, drops, or stumbles happen throughout the day (even If no Injuries result).

47. Child will accept and enjoy loud sounds or being bounced around in play, if mother smiles and shows that it is supposed to be fun.

Low: Child gets upset, even if mother indicates the sound or activity is safe or fun.

48. Child readily lets new adults hold or share things he has, if they ask to.

49. Runs to mother with a shy smile when new people visit the home.

Middle If child doesn't run to mother at all when visitors arrive.

Low: Even if he eventually warms up to visitors, child initially runs to mother with a fret or a cry.

50. Child's initial reaction when people visit the home is to ignore or avoid them, even if he eventually warms up to them.

51. Child enjoys climbing all over visitors when he plays with them.

Middle it he won't play with visitors.

Low: Doesn't seek close contact with visitors when he plays with them.

52. Child has trouble handling small objects or putting small things together.

Low: Very skillful with small objects, pencils, etc.

53. Child puts his arms around mother or puts his hand on her shoulder when she picks him up.

Low: Accepts being picked up but doesn't especially help or hold on.

54. Child acts like he expects mother to interfere with his activities when she is simply trying to help him with something.

Low: Accepts mother's help readily, unless she Is In fact Interfering

55. Child copies a number of behaviors or way of doing things from watching mother's behavior.

Low: Doesn't noticeably copy mother's behavior.

56. Child becomes shy or loses interest when an activity looks like it might be difficult.

Low: Thinks he can do difficult tasks.

57. Child is fearless.

Low: Child is cautious or fearful.

58. Child largely ignores adults who visit the home Finds his own activities more interesting.

Low: Finds visitors quite interesting, even if he is a bit shy at first.

59. When child finishes with an activity or toy, he generally finds something else to do without returning to mother between activities. Low: When finished with an activity or toy, he returns to mother for play, affection or help finding more to do.

60. If mother reassures him by saying "It's OK' or "It won't hurt you", child will approach or play
with things that initially made him cautious or afraid.

Middle if never cautious or afraid

61. Plays roughly with mother. Bumps, scratches, or bites during active play. (Does not necessarily mean to hurt mom)

Middle if play is never very active

Low: Plays active games without injuring mother.

62. When child is in a happy mood, he is likely to stay that way all day.

Low : Happy moods are very changeable.

63. Even before trying things himself, child tries to get someone to help him.

64. Child enjoys climbing all over mother when they play.

Low: Doesn't especially want a lot of close contact when they play.

65. Child is easily upset when mother makes him change from one activity to another. (Even if the new activity is something child often enjoys.)

66. Child easily grows fond of adults who visit his home and are friendly to him.

Low: Doesn't grow fond of new people very easily.

67. When the family has visitors, child wants them to pay a lot of attention to him.

68. On the average, child is a more active type person than mother

Low: On the average, child is less active type person than mother.

69. Rarely asks mother for help. Middle if child is too young to ask.

Low: Often asks mother for help.

70. Child quickly greets his mother with a big smile when she enters the room. (Shows her a toy, gestures, or says "Hi, Mommy")

Low: Doesn't greet mother unless she greets him first.

71. If held in mother's arms, child stops crying and quickly recovers after being frightened or upset.

Low: Not easily comforted

72. If visitors laugh at or approve of something the child does, he repeats it again and again.

Low: Visitors' reactions don't influence child this

73. Child has a cuddly toy or security blanket that he carries around, takes to bed, or holds when upset. (Do not include bottle or pacifier if child is under two years old.)

Low: Can take such things or leave them, or has none at all.

74. When mother doesn't do what child wants right away, he behaves as if mom were not going to do it at all. (Fusses, gets angry, walks off to other activities, etc.)

Low: Waits a reasonable time, as O he expects mother will shortly do what he asked.

75. At home, child gets upset or cries when mother walks out of the room. (May or may not follow her.)

Low: Notices her leaving; may follow but doesn't get, upset.

76. When given a choice, child would rather play with toys than with adults.

Low: Would rather play with adults than toys.

77. When mother asks child to do something, he readily understands what she wants (May or may not obey.)

Middle if too young to understand.

Low: Sometimes puzzled or slow to understand what mother wants.

78. Child enjoys being hugged or held by people other than his parents and/or grandparents.

79. Child easily becomes angry at mother.

Low. Doesn't become angry et mother unless she Is very intrusive or he is very tired.

80. Child uses mother's facial expressions as good source of information when something looks

risky or threatening.

Low: Makes up his own mind without checking mother's expressions first.

81. Child cries as a way of getting mother to what he wants.

Low: Mainly cries because of genuine discomfort (tired, sad, afraid, etc.,).

82. Child spends most of his play time with just a few favorite toys or activities.

83. When child is bored, he goes to mother looking for something to do.

Low: Wanders around or just does nothing for a while, until something comes up.

84. Child makes at least some effort to be clean and tidy around the house.

Low: Spills and smears things on himself and on floors all the time.

85. Child is strongly attracted to new activities and new toys.

Low: New things do not attract him away from familiar toys or activities.

86. Child tries to get mother to imitate him, or quickly notices and enjoys it when mom imitates him on her own.

87. If mother laughs at or approves of something the child has done, he repeats again and again.

Low: Child is not particularly influenced this way.

88. When something upsets the child, he stays where he is and cries.

Low: Goes to mother when he cries. Doesn't wait for mom to come to him.

89. Child's facial expressions are strong and clear when he is playing with something.

90. If mother moves very far, child follows along and continues his play in the area she has moved to. (Doesn't have to be called or carried along; doesn't stop play or get upset.)

Middle if child isn't allowed or doesn't have room to move very far away.

APPENDIX F

RESEARCH ASSISTANT TRAINING PROTOCOL

AQS Training Protocol

1) Chapters or articles about the construct of attachment will be distributed to each researcher. Each researcher shall receive a copy of the AQS items and read them until each item is familiar. All researchers will be assigned a movie to watch with a toddler-aged child in it, paying special attention to attachment behaviors apparent in the movie. (All completed before meeting 1)

2) An overview of attachment will be presented to the group. As a group, we will discuss and question what each AQS item means, in order to come to a generally agreed understanding of each item. This will help to ensure interrater reliability of scores. We will discuss items in the context of the first movie viewed, using clips to ensure clarity. (Meeting 1)

3) Each researcher will be assigned a second movie with a toddler-aged child in it to watch at home and complete a first sort. It is okay at this time to watch the movie several times and to rewind to look for specific behaviors, if necessary. Our scores will be compared as a group and the items will be discussed until there is a collective understanding of the meaning of each item. Researchers will observe in the three-year old classroom, taking notes about the attachment relationship between one child and one teacher. (Meeting 2)

4) Each researcher will then view the training videos. There will be four different two-hour segments of toddler-aged children to complete practice sorts on. You must view two videos and complete two different sorts. This can be done at home. Definitions of Q-Sort items will be discussed and questioned. (Distribute at Meeting 2, discuss meeting 3)

5) Each researcher will next select one other training video and complete a Q-sort for the toddler at home. These sorts will be scored and compared. (Distribute at meeting 3, discuss meeting 4)

6) Each researcher will complete a training observation and sort side-by-side and independently of a lead researcher. After completion, the two sorts will be compared to establish interrater reliability. If the scores aren't satisfactory, then another training sort will be scheduled. The researcher will view two other training videos and complete sorts at home. The scores achieved on these sorts will be returned to lead researchers and reviewed in an individual meeting before the second training sort occurs. Please remember that all training sorts will be taking place at McPhaul so we will need to schedule around naptime. (Make appointments at meeting 4)

Research Observation Protocol **UGA Child Care Project**

This is a brief outline of the procedure researchers need to follow for completing the Attachment Q-Sort Observations.

- As you enter the classroom, be sure you are wearing your nametag and re-introduce yourself and the project to the teachers. Remind them that you will be observing for approximately four 30min blocks. Make certain that the teacher of interest will be in the classroom while you are observing. Remind them that you will be watching a particular child for behaviors, and that you would appreciate it if the teachers ignored your presence. Explain to them that you need an out-of-the way spot to sit and watch, and ask which place would cause the least interference for their regular activities. Also explain that it is okay for them to tell the children that you are there to see the children playing and to tell the children your name.

- At least two different researchers will be observing each teacher. They will each observe a different child under that teacher's care. No single researcher shall complete more than one toddler observation for each teacher. In other words, nobody does both of the observations for a teacher.

- During the 30-minute blocks of observation time, you will take running notes of the attachment behaviors performed by the toddler. There will be Toddler Observation Forms for you to use and they will be reviewed by supervising researchers.

- Do not interact with the children in the classroom, as much as is possible. Position yourself in an uninteresting corner of the room or behind a safety gate, in order to keep interference in the daily activities at a minimum. Respond to the children but do not intentionally interact. If they want you to play, explain that you need to stay where you are in order to finish your writing.

- Observations will last two to three hours. During the observation, researchers will keep running notes on behaviors addressed by the attachment Q-Sort. The observations will be during a part of the day when the child is awake and the teacher of interest is in the classroom for the majority of the time.

- Observations will be broken into four 30min segments. In between you may take 5-10 minute breaks, whatever you feel you need. These breaks are to help you concentrate when you return to observing. Be sure to explain to the teachers that you are only taking a break, that you'll be right back.

- Do not discuss the observation with fellow researchers until you have completed the Q-sort. Discussion may change your perception of what you saw.

- The Q-Sorts will be completed immediately after observations. If there is a place at the center to complete it, do it there. Otherwise, go straight to the office or to your home and complete the sort. Do not discuss the child with fellow researchers or watch TV until

after you have completed the sort. Schedule your observations so that you have plenty of time to complete the sort before work or class. Any lapse in time between observations and sorting allows for more mistakes and forgotten behaviors.

- Please complete the sort in a distraction-free setting, where you can concentrate and give a reliable score.

- After you have competed the sort, immediately record your scoring on the AQS Sort Form. Keep the Sort Form and Observation Form together in your project notebook. Return the completed AQS Score Sheet and Observation Form to the office for data entry as soon as possible. If anything unusual happened during the observation that may threaten the validity of the data, please make a note of it on the AQS Sort Form and notify Michelle or Tania.

- Remember that anything you see is confidential. You are, however, required by law to report any illegal activities that you observe (like physical abuse). Please report anything that may fall into the illegal category to Michelle, Tania, or Dr. Hsu immediately.

APPENDIX G

DEMOGRAPHIC QUESTIONNAIRE – TEACHER

Age _____

1. Race:
   (1) ___American Indian or Alaskan native (2) ___Asian or Pacific Islander
   (3) ___African American (4) ___European American (5) ___Latino
   (6) Other (please specify) _____

2. Gender: (1) ___ Male (2) ___ Female

3. Marital Status:
   (1) ___single (2) ___married (3) ___divorced (4) ___separated
   (5) ___other

If you are married, how long have you been married? _____Years _____ Months

5. Are you a parent? (1) ___yes (2) ___no
   If yes, what are your children's ages? _____ _____ _____ _____ _____

6. How many years/months have you been employed with this child care center?
   ____ years _____ months
   Total number of centers you have worked for - _____
   Number of job changes - _____

7. How many years/months have you worked in the child care field?
   ____ years _____ months

8. What is your highest level of education? (*check one*)

(1)____Some High School
(2)____High School Diploma/GED
(3)____Vocational Training
(4)____CDA (Child Development Associate)

(5)____Some College

(6)____Associates Degree

(7)____College Degree (BS or BA)

(8)____Graduate Degree (MA/MS or PhD)

If you received a degree, what area was it in (i.e. child development, psychology, biology, etc.)? _____

8. How many hours of training have you completed in the past 12 months?
   _____ hours

10. How many hours a week do you work in the child care center? _____
    What is your hourly wage? _____ per hour
    Do you have a second job? (1) ___ yes (2) ___no

11. What is your current yearly household income?
    ( ) Less than $10,000 ( ) $10,000-15,000 ( ) $15,000-20,000
    ( ) $20,000-25,000 ( ) $25,000-30,000 ( ) $35,000-40,000
    ( ) $40,000-45,000 ( ) $45,000-50,000 ( ) $50,000-55,000
    ( ) $55,000-60,000 ( ) $60,000-65,000 ( ) $65,000-70,000
    ( ) $70,000-75,000 ( ) $75,000-80,000 ( ) $80,000-85,000
    ( ) $85,000-90,000 ( ) $90,000-95,000 ( ) $95,000-100,000
    ( ) Over $100,000

APPENDIX H

FIVE EXPRESSIVITY FACET SCALE (GROSS & JOHN, 1998)

Five Expressivity Facet Scale

Please respond to each statement using the following scale:

1 = Strongly Agree-------|-------|-------|-------|-------|-------7 = Strongly Disagree
2 3 4 5 6

Positive Expressivity

____When I'm happy, my feelings show.
____I laugh a lot.
____When I'm happy I feel like I'm bursting with joy.
____When I'm feeling well it's easy for me to go from being in a good mood to being really joyful.
____When I'm feeling happy I feel very energetic.
____I laugh out loud w hen someone tells me a joke that I think is funny.
____I often laugh so hard that my eyes water or my sides ache.
____My happy moods are so strong that I feel like I'm "in heaven."
____I get overly enthusiastic.
____Watching television or reading a book can make me laugh out loud.
____Looking at beautiful scenery really doesn't affect me much.
____When I am alone, I can make myself laugh by remembering something from the past.
____My laugh is soft and subdued.

Negative Expressivity

____Whenever I feel negative emotions, people can easily see exactly what I am feeling.
____When I am angry people around me usually know.
____I always express disappointment when things don't go as I'd like them to.
____People often do not know what I am feeling.
____It is difficult for me to hide my fear.
____People can tell from my facial expressions how I am feeling.
____I get upset easily.
____If someone makes me angry in a public place, I will "cause a scene."
____What I'm feeling is written all over my face.
____When a person in a wheelchair can't get through a door I have strong feelings of pity.
____If I was disgusted by something, my face would show it.

Impulse Intensity

____I experience my emotions very strongly.
____When I worry, it is so mild that I hardly notice it.
____I usually have a neutral facial expression.
____There have been times when I have not been able to stop crying even though I tried to stop.
____I have strong emotions.
____When something bad happens, others tend to be more unhappy than I.
____I often tell people that I love them.
____I can easily express emotion over the telephone.
____Seeing a picture of some violent car accident in a newspaper makes me feel sick to my stomach.
____I sometimes cry during sad movies.
____When I succeed at something, my reaction is calm contentment.

APPENDIX I

EGO-RESILIENCY SCALE (ER89; BLOCK & KREMEN, 1996)

Ego-Resiliency Scale

Please respond to the following statements using the following scale:

1 = does not apply at all
2 = applies slightly, if at all
3 = applies somewhat
4 = applies very strongly

____I am generous with my friends.
____I quickly get over and recover from being startled.
____I enjoy dealing with new and unusual situations.
____I usually succeed in making a favorable impression on people.
____I enjoy trying new foods I have never tasted before.
____I am regarded as a very energetic person.
____I like to take different paths to familiar places.
____I am more curious than most people.
____Most of the people I meet are likeable.
____I usually think carefully about something before acting.
____I like to do new and different things.
____My daily life is full of things that keep me interested.
____I would be willing to describe myself as a pretty “strong” personality.
____I get over my anger at someone reasonably quickly.

APPENDIX J

TODDLER BEHAVIOR ASSESSMENT QUESTIONNAIRE

(TBAQ; GOLDSMITH, 1987)

INSTRUCTIONS: **Please read carefully before starting.**

As you read each description of the child's behavior below, please indicate how often the child did this during the last month by circling one of the numbers in the left column. These numbers indicate how often you observed the behavior described during the last month.

(1) Never
(2) Very Rarely
(3) Less than half the time
(4) About half the time
(5) More than half the time
(6) Almost always
(7) Always
(NA) Does not apply

The "Not Applicable" column (NA) is used when you did not see the child in the situation described during the last month. For example, if the situation mentions the child going to the doctor and there was no time during the last month when the child went to the doctor, circle the (NA) column. "Does Not Apply" (NA) is different from "Never" (1). "Never" is used when you saw the child in the situation but the child never engaged in the behavior mentioned during the last month. Please be sure to circle a number or NA for every item.

FIRST ARE SOME QUESTIONS CONCERNING YOUR CHILD'S BEHAVIOR WHILE PLAYING.

When playing inside the house (for example, because of bad weather) how often did your child:

1 2 3 4 5 6 7 NA (1) run through the house?

1 2 3 4 5 6 7 NA (2) climb over furniture?

When playing on a movable toy, such as a tricycle, how often did your child:

1 2 3 4 5 6 7 NA (3) attempt to go as fast as she/he could?

When she/he saw other children while in the park or playground, how often did your child:

1 2 3 4 5 6 7 NA (4) approach and immediately join in play?

1 2 3 4 5 6 7 NA (5) join in the laughing and giggling?

While playing alone in a sandbox (for example, digging in sand to fill up toys), how often did your child:

1 2 3 4 5 6 7 NA (6) remain interested for 30 minutes or longer?

1 2 3 4 5 6 7 NA (7) remain interested for 10 minutes or longer?

1 2 3 4 5 6 7 NA (8) remain interested for less than 10 minutes?

When you removed something your child should not have been playing with, how often did she/he:

1 2 3 4 5 6 7 NA (9) scream?

1 2 3 4 5 6 7 NA (10) try to grab the object back?

1 2 3 4 5 6 7 NA (11) follow your request without signs of anger?

When making a discovery (such as fitting two Lego pieces together, learning to stack blocks, or learning to turn a light switch on and off), how often did your child:

1 2 3 4 5 6 7 NA (12) smile?

1 2 3 4 5 6 7 NA (13) seem pleased?

When your child was asked to share her/his toys, how often did she/he:

1 2 3 4 5 6 7 NA (14) protest in a whining tone of voice?

1 2 3 4 5 6 7 NA (15) follow the request without signs of anger?

While coloring by her/himself, how often did your child:

1 2 3 4 5 6 7 NA (16) continue to color alone for 20 minutes or more?

1 2 3 4 5 6 7 NA (17) continue to color alone for 10-20 minutes?

When in a shopping mall or store, how often did your child:

1 2 3 4 5 6 7 NA (18) seem eager to explore the store?

When another child took away a favorite toy that your child was playing with, how often did she/he:

1 2 3 4 5 6 7 NA (19) object?

1 2 3 4 5 6 7 NA (20) find something else to play with?

1 2 3 4 5 6 7 NA (21) try to hit, kick or bite the other child?

When playing quietly with one of her/his favorite toys, how often did your child:

1 2 3 4 5 6 7 NA (22) smile?

1 2 3 4 5 6 7 NA (23) make happy noises?

When your child wanted to play outside but you said “no”, how often did she/he:

1 2 3 4 5 6 7 NA (24) protest by crying loudly?

1 2 3 4 5 6 7 NA (25) protest in a whining tone of voice?

1 2 3 4 5 6 7 NA (26) pout or frown?

When looking at picture books by herself/himself, how often did you child?

1 2 3 4 5 6 7 NA (27) continue to look through two or more books by herself/himself?

1 2 3 4 5 6 7 NA (28) look at only part of one book before losing interest?

When your child joined in an active game with other children, (for example, one that involved running or jumping), how often did she/he:

1 2 3 4 5 6 7 NA (29) keep up with the most energetic and active children?

How often did your child play alone with her/his favorite toy for:

1 2 3 4 5 6 7 NA (30) 30 minutes or longer?

1 2 3 4 5 6 7 NA (31) 10 minutes or longer?

1 2 3 4 5 6 7 NA (32) less than 10 minutes?

While being tossed about playfully or wrestled with, how often did your child:

1 2 3 4 5 6 7 NA (33) smile?

1 2 3 4 5 6 7 NA (34) laugh?

1 2 3 4 5 6 7 NA (35) ask for more?

When you told your child that she/he would have to play alone for a short time, how often did:

1 2 3 4 5 6 7 NA (36) s/he require constant encouragement to remain constructively occupied

1 2 3 4 5 6 7 NA (37) just one activity or object keep her/him occupied?

How often during the past month did your child:

1 2 3 4 5 6 7 NA (38) play games which involved running around, banging, or dumping out toys?

1 2 3 4 5 6 7 NA (39) play quiet games that did not involve moving, such as looking at books or arranging toys?

While playing with a detailed or complicated toy (such as a big doll house or toy garage), how often did your child:

1 2 3 4 5 6 7 NA (40) explore the toy thoroughly?

1 2 3 4 5 6 7 NA (41) become easily bored or restless?

1 2 3 4 5 6 7 NA (42) only give the toy a quick try?

NOW, PLEASE ANSWER SOME QUESTIONS ABOUT EATING, DRESSING, BATHING, AND GOING TO BED.

When you child was given something to eat or drink that she/he did not like, how often did she/he:

1 2 3 4 5 6 7 NA (43) cry?

1 2 3 4 5 6 7 NA (44) accept the food or drink without sign of anger or protest?

1 2 3 4 5 6 7 NA (45) push the plate away?

When your child wanted dessert before dinner was finished but did not get it, how often did she/he:

1 2 3 4 5 6 7 NA (46) protest by crying loudly?

1 2 3 4 5 6 7 NA (47) push the plate away and refuse to eat?

When in the bathtub, how often did your child:

1 2 3 4 5 6 7 NA (48) laugh?

1 2 3 4 5 6 7 NA (49) babble or talk happily?

1 2 3 4 5 6 7 NA (50) sit quietly?

1 2 3 4 5 6 7 NA (51) splash or kick?

1 2 3 4 5 6 7 NA (52) play with toys with a lot of energy? (If the child never has toys in the bath, mark "NA")

When being dressed or undressed, how often did your child:

1 2 3 4 5 6 7 NA (53) squirm or try to get away?

1 2 3 4 5 6 7 NA (54) lie or sit quietly long enough for you to get her/him ready?

When your child was having her/his hair brushed or face washed, how often did she/he:
1 2 3 4 5 6 7 NA (55) act playfully?

When being gently rocked or hugged, how often did your child:

1 2 3 4 5 6 7 NA (56) smile?

1 2 3 4 5 6 7 NA (57) giggle?

When it was time for bed or a nap and your child did not want to go, how often did she/he:

1 2 3 4 5 6 7 NA (58) protest by crying loudly?

1 2 3 4 5 6 7 NA (59) physically resist or struggle?

NEXT ARE SOME QUESTIONS ABOUT MANY DIFFERENT ASPECTS OR YOUR CHILD'S BEHAVOIR.

When your child was involved in a game or activity by her/himself and you interrupted the game because it was mealtime or time for an outing, how often did your child?

1 2 3 4 5 6 7 NA (60) shift attention rapidly to the new activity?

When given a wrapped package or a new toy in a bag, how often did your child?

1 2 3 4 5 6 7 NA (61) remain neutral (for example, not smile)?

1 2 3 4 5 6 7 NA (62) squeal with joy?

1 2 3 4 5 6 7 NA (63) laugh?

While reading a story of average length to your child, how often did she/he:

1 2 3 4 5 6 7 NA (64) remain attentive during the entire story?

1 2 3 4 5 6 7 NA (65) become restless after the first few pages

When at the doctor's office, how often did your child:

1 2 3 4 5 6 7 NA (66) cling to the parent?

1 2 3 4 5 6 7 NA (67) seem unconcerned and comfortable?

1 2 3 4 5 6 7 NA (68) cry or struggle when the doctor tried to touch her/him?

When the child needed to sit still, as in church, a waiting room, or a restaurant, how often did she/he:

1 2 3 4 5 6 7 NA (69) try to climb out of the chair?

1 2 3 4 5 6 7 NA (70) play quietly with 1 or 2 toys?

1 2 3 4 5 6 7 NA (71) try to climb all over other chairs?

1 2 3 4 5 6 7 NA (72) remain still and calm even though other children started to giggle or laugh?

When first meeting a stranger coming to visit in the home, how often did your child:

1 2 3 4 5 6 7 NA (73) allow her/himself to be picked up without protest?

1 2 3 4 5 6 7 NA (74) abandon the parent to go to the stranger?

1 2 3 4 5 6 7 NA (75) "warm up" to the stranger within 10 minutes?

While watching a favorite children's television program such as Sesame Street, how often did your child:

1 2 3 4 5 6 7 NA (76) remain attentive for the entire show?

1 2 3 4 5 6 7 NA (77) watch only the first few minutes of the show before showing signs of restlessness?

When placed in a car seat or stroller, how often did your child:

1 2 3 4 5 6 7 NA (78) kick?

1 2 3 4 5 6 7 NA (79) squirm?

1 2 3 4 5 6 7 NA (80) sit still?

When the child knew the parents were about to leave her/him at home, how often did your child:

1 2 3 4 5 6 7 NA (81) cry?

1 2 3 4 5 6 7 NA (82) cling to the parent?

1 2 3 4 5 6 7 NA (83) show no evidence of distress?

When one of the parent's friends who does not have daily contact with your child visited the home, how often did your child:

1 2 3 4 5 6 7 NA (84) check with parent for assurance?

1 2 3 4 5 6 7 NA (85) talk much less than usual?

1 2 3 4 5 6 7 NA (86) enthusiastically greet them?

1 2 3 4 5 6 7 NA (87) squeal with joy?

1 2 3 4 5 6 7 NA (88) smile?

1 2 3 4 5 6 7 NA (89) babble or talk happily?

While shopping, if you did not agree to buy your child a toy that she/he wanted, how often did she/he:

1 2 3 4 5 6 7 NA (90) protest in a whining tone of voice?

1 2 3 4 5 6 7 NA (91) physically struggle when you tried to separate her/him form the toy?

When you were going out and your child did not want to stay with the regular sitter, how often did she/he:

1 2 3 4 5 6 7 NA (92) pout or frown?

1 2 3 4 5 6 7 NA (93) show no signs of anger?

How often did interesting outdoor sights (such as water sprinklers, or windsocks hanging outside) hold your child's attention for:

1 2 3 4 5 6 7 NA (94) 5 minutes or longer?

1 2 3 4 5 6 7 NA (95) less than 5 minutes?

When you did not allow your child to do something for her/himself (for example, dressing, or getting into the car seat), how often did your child:

1 2 3 4 5 6 7 NA (96) show signs of anger because she/he wanted to do it her/himself?

1 2 3 4 5 6 7 NA (97) try to push you away?

If you were not able to give immediate attention to your child because you were busy (for example, you were cooking dinner or talking on the phone), how often did your child:

1 2 3 4 5 6 7 NA (98) cry loudly?

1 2 3 4 5 6 7 NA (99) find something else to do until you were free?

While a story was being read to your child, how often did she/he:

1 2 3 4 5 6 7 NA (100) sit quietly?

1 2 3 4 5 6 7 NA (101) get restless?

When first visiting a babysitting co-op, daycare center, or church nursery, how often did your child:

1 2 3 4 5 6 7 NA (102) cry when not being held by the parent and resist being put down?

1 2 3 4 5 6 7 NA (103) feel at ease within 10 minutes?

1 2 3 4 5 6 7 NA (104) immediately begin to explore?

When your child was being approached by an unfamiliar adult while shopping or out walking, how often did your child:

1 2 3 4 5 6 7 NA (105) babble or talk?

1 2 3 4 5 6 7 NA (106) show distress or cry?

1 2 3 4 5 6 7 NA (107) avoid possible danger by looking to parent for assurance?

When you turned off the television set (because it was bedtime, dinnertime, or time to leave), how often did your child:

1 2 3 4 5 6 7 NA (108) throw a tantrum?

When it was time to leave a friend's house and your child did not want to go, how often did she/he:

1 2 3 4 5 6 7 NA (109) follow you without sings of anger?

When your child was playing alone and a friend or relative (not in the immediate family) came into the room, how often did she/he:

1 2 3 4 5 6 7 NA (110) temporarily ignore the visitor and continue playing?

When you or another person were visibly upset, how often did your child:

1 2 3 4 5 6 7 NA (111) smile or laugh?