A Mediation/Moderation Model of the Effects of Attachment on Emotion Regulation in Preschoolers

Senior Thesis

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Ellen J Wright, PhD, Advisor

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Alana Pellerito

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Abstract

Attachment relationships are important facets to a child’s healthy developmental trajectory. In part, these attachment relationships affect the emerging emotion regulation abilities of children. This research aimed to examine the interrelationships between temperament, attachment, emerging new relationships in a young child’s life, and his or her emerging emotion regulation strategies. A sample of 19 children (10 females and 9 males, Age: M=44.16 months, SD=14.95) was recruited from a daycare center to participate in the study, along with each child’s primary caregiver and the two head teachers in each classroom. Primary caregivers completed tasks reflecting their child’s temperament and attachment style; teachers completed a relationship assessment for each child in their class participating in the study; children completed two emotion regulation tasks and a task indicating their peer sociability. Results indicated that higher levels of both attachment security and dependency predicted more negative emotional tone during an emotion regulation task, and difficult temperament was found to moderate the relationship between attachment dependency and emotional tone. These results suggest that high levels of dependency, particularly in combination with difficult temperament, can adversely affect emotion regulation abilities. It may be beneficial to educate parents and teachers about the importance of developing certain attachment relationships with their children and students.
A MEDIATION/MODERATION MODEL OF THE EFFECTS OF ATTACHMENT ON EMOTION REGULATION IN PRESCHOOLERS

It has become standard teaching that a child’s first few years of life are crucial to their development and that those years have an immeasurable impact on a child’s future (Miljkovitch, Pierrehumbert, & Halfon, 2007; Parritz & Troy, 2011; Smith, Calkins, & Keane, 2006). John Bowlby, British psychologist, psychiatrist, and psychoanalyst, established the well-known theory of attachment (Miljkovitch et al., 2007). Bowlby believed that children are born with an attachment system, which exists to promote an attachment to their caregiver (Miljkovitch et al., 2007). As children start experiencing life apart from their primary caregiver and attend childcare or education programs, they form relationships with other figures in their lives including teachers and peers. Emotion regulation is highly related to these relationships. It is a crucial function of the attachment system, and children who have secure attachments to their caregiver use that relationship to effectively regulate their emotions (Contreras, Kerns, Weimer, Gentzler, & Tomich, 2000). The purpose of this study was to gain a better understanding of early attachment and temperament in preschool-aged children, and then to uncover how this might be related to subsequent relationships between children and their peers and their teachers, as well as emotion regulation.

Psychologists presume that attachments formed in early childhood greatly affect children in their future emotion regulation abilities, thus emotion regulation is of high importance in this study (Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996; Parritz & Troy, 2011; Smith et al., 2006). Later attachment relationships, such as teacher attachment and peer sociability, have also been found to be associated with emotion regulation. Consistent with this notion, Gottman and Mettetal (1986) note that emotion regulation abilities have been linked to socially appropriate
behavior amongst peers. Howes, Hamilton, and Matheson (1994) have found that secure teacher relationships relate to future peer sociability, positively predicting play habits in children with their peers.

Temperament has also been noted as a significant component of a child’s development of attachment relationships. Temperament is understood as innate, biologically based differences in infants that predispose them towards experiencing and expressing certain emotions (Cole, Martin, & Dennis, 2004). Temperament is typically conceptualized using a ‘temperament-by-environment’ model, which emphasizes the ways in which attachment and temperament mutually influence each other (McElwain, Holland, Engle, & Wong, 2012).

Attachment relationships are central to early personality development as they influence the emergence of emotion regulation (Parritz & Troy, 2011, p. 86). Emotion regulation is defined as “ongoing, dynamic processes by which emotions influence other psychological processes (e.g., attention) and by which emotional experience and expression is modulated in relation to situational demands and perceived social standards” (Cole et al., 1996, p. 518). Smith et al. (2006) define emotion regulation as processes that are associated in the modulation of emotional responsiveness in order to attain certain goals (Smith et al., 2006, p. 22). Emotion regulation skills are used in everyday life, and the ability to manage one’s emotions is a crucial aspect of the healthy, developmental trajectory (Cole et al., 1996; Sanson, Hemphill, & Smart, 2004). Many psychologists have found links between caregiver characteristics and a child’s emotional development. Smith et al. (2006) note that while harsh and controlling behaviors may compromise emotional growth, sensitive caregiving behaviors help to promote optimal and acceptable degrees of emotion expression and emotion regulation. The present study will
examine children’s emotion regulation abilities, using two emotion regulation tasks, in connection with various relationships in their lives.

These relationships have been analyzed separately and in conjunction to understand their various effects on emotion regulation in preschoolers using a mediation/moderation model. Early attachment work, specifically research from psychologists John Bowlby and Mary Ainsworth, has demonstrated the importance of an infants’ early attachment to a primary caregiver. The aims of this study include: (1) to see if a relationship exists between early attachment patterns and emotion regulation abilities; and (2) to see if other relationships in a child’s life may serve as mediating or moderating factors, ultimately affecting the expression of emotion regulation.

**Attachment**

Bowlby argued that the attachment an infant forms with her/his primary caregiver is crucial to the infant’s subsequent wellbeing (Miljkovitch et al., 2007). Innate mechanisms motivate the infant and their primary caregiver to form a secure attachment together. A secure attachment is characterized by the ability for the infant to separate from the parent for exploration, the infant seeking comfort from the parent, greeting a parent’s return with positive emotions, and an acceptance of strangers with a clear preference for the parent (Miljkovitch et al., 2007; Oppenheim, 1997). Children with secure attachment relationships use their attachment figure as a base to return to while exploring the world and adapting to changes (Oppenheim, 1997).

Ainsworth, elaborating on Bowlby’s theories about attachment, posited two main categories of attachment: secure and insecure, with two specific types of insecure attachments: anxious-resistant insecure attachment and anxious-avoidant insecure attachment (Ainsworth, M.D., & Ainsworth, L.H., 1958). Caregivers that respond to their child’s distress consistently,
sensitively and appropriately promote secure attachments (Panfile & Laible, 2012). This attachment security, arises from a child’s trust that a caregiver will be there in a time of distress (Panfile & Laible, 2012). This trust is derived from the caregiver’s past history of responding to the child’s distress (Panfile & Laible, 2012).

Children form other attachments and relationships early in life as well, as they begin experiencing moments of separation from their parents by attending nursery school or preschool programs (Howes et al., 1994). Relationships formed with peers and with classroom teachers are thought of to be important links to social adjustment later in life (Howes et al., 1994). It is theorized that the type of attachment children form with their primary caregiver, whether secure or insecure, affects the ways in which they orient towards other relationships in their life (Contreras et al. 2000; Cugmas, 2011; Howes et al., 1994). The combination of looking at both peer sociability and teacher attachments in the preschool setting, and subsequently measuring emotion regulation abilities in the same preschool setting, should give a well-rounded idea of the relationship between sociability amongst peers, teacher attachments, primary caregiver attachment, and emotion regulation.

**Temperament**

Temperament is fairly stable across an individual’s life, marking “constitutionally based individual differences” in behavioral styles (Sanson et al., 2004). Increasing empirical evidence focuses on the power of ‘temperament-by-environment’ interactions and the ways these interactions function as moderating factors of the socialization process (McElwain et al., 2012). The theory supporting temperament-by-environment interactions suggests that a child’s biologically based temperament and the attachment relationships a child forms in their life may have a reciprocal affect on one another. Yagmurlu and Altan (2010) note that a child’s
temperamental characteristics play a role in how they react to parenting behaviors; thus children reared in the same home may develop differently due to their temperamental disposition.

Two models, the differential susceptibility hypothesis and the dual-risk model, hypothesize that functioning abilities in stressful environments will be greatly affected by biologically based characteristics (McElwain et al., 2012). The results of McElwain et al. indicated that the level to which attachment security related to a child’s behavior was dependent on the behavior and the child’s temperament. A child’s temperament also evokes unique responses from others, particularly caregivers (Laible, Panfile, & Makariev, 2008). The potential responses that temperament evokes could greatly affect the primary caregivers’ desire and ability to form secure attachments with their children.

A study conducted by Russell, Hart, Robinson, and Olsen (2003) found that temperament was a significant predictor of child behavior, specifically physical and relational aggression. The study also found that authoritative, maternal parenting positively interacted with temperament to predict sociability and prosocial behaviors for children high on the activity level of dimension (Russell et al., 2003, p. 80). Thus, the more authoritative a parent was and the more temperamentally active a child was, the more positive, prosocial behaviors the child exhibited (Russell et al., 2003). These results suggest that temperament plays a role in child social development and child sociability, indicating that temperament may play a role in peer sociability.

Temperament is an important factor in the transition to new places such as the school environment, as characteristics can influence the level of ease with which children experience these changes (Sanson et al., 2004). Walker, Berthelsen, and Irving (2001) looked at temperament in relationship to peer acceptance. They found that children rated as rejected or
negative had more negative mood and were less adaptableness at school as compared with popular children. These findings suggest that negative temperaments may predict less accepted peer popularity and poor peer sociability.

Cole, Dennis, Smith-Simon, and Cohen (2009) highlight the potential reciprocal relationship between temperament and regulatory strategies. While children that are more emotionally reactive can learn more about regulating their emotions, these same reactive children may have a harder time learning about their experiences because of their difficulty comprehending these experiences (Cole et al., 2009). They note efforts by previous studies that show how children use innate, behavioral strategies in emotion regulation. More recently, Yagmurlu and Altan (2010) conducted a study that looked at predictors of emotion regulation in children, specifically temperament and maternal socialization. They found an interaction between withdrawn temperament and high levels of positive parenting, in which children who exhibited withdrawn temperament had significantly better emotion regulation abilities if they also received positive parenting.

Many sub-dimensions and broader categories exist within the concept of child temperament. The present study focused on a level of temperamental difficulty subscale, adapted from an “easy-difficult” categorization system (Goldsmith, 1996; Sanson et al., 2004). Difficult children are those who typically withdraw, have difficulties adapting, have negative moods, and are “highly intense and arrhythmic” (Sanson et al., 2004, p. 143). Associations have been found between children with more “difficult” temperaments and negative peer sociometric status (Walker et al., 2001). Children who were rejected by their peers demonstrated more difficult temperaments than popularly rated children, with their teachers rating them as higher on dimensions of activity level and distractibility and lower in persistence (Walker et al., 2001).
Relationships in the Classroom: Child Relationships to Teachers and Peer Sociability

Howes et al. (1994) notes that children with a history of secure attachments to a caregiver are more inclined to see themselves as worthy of love and subsequently more likely to approach their peers positively. In contrast, children who are insecurely attached, where their needs for security often were not met, may act towards peers in anticipation of similar rejection and insensitivity (Howes et al., 1994). A study conducted by Howes et al. (1994) looked at children’s relationships with their teachers and children’s social competence longitudinally. The study found that secure relationships with a teacher were positively associated with complex peer play and negatively associated with hostile aggression. These results provide support for the notion that attachments to a teacher may be telling of future relationships with peers. Findings from this study suggest that teachers have the capacity to hold three distinct roles in a child’s life: security, dependence, and socialization. In the present study, dimensions of teacher closeness and teacher conflict were collected.

A study conducted by Cassidy, Kirsh, Scolton, and Parke (1996) found that securely attached children interpret peer intent in unknown situations more positively than children with insecure attachments do (cited in Cugmas, 2011). Suess et al. (1992) found that children who had more anxious attachments, at times, viewed others as less available and possibly even threatening or hostile (cited in Cugmas, 2011). Cugmas (2011) attributes such behaviors, when understood from the perspective of internal working models (Bowlby), as based in past relationships. Bowlby theorized that every individual was ‘equipped’ with an internal working model- a way to view self-beliefs, beliefs about others, and beliefs about the world based on prior attachments. Children’s different interpretations and understandings of their peers, as
understood by the internal working model, could change the way other children interpret them as a peer, leading to some rejection and differences in popularity.

Mathieson and Banerjee (2010) found links between children’s social competence and emotion regulation in the peer-play environment. One specific finding, which looked at temperament, self-regulation, and social competence, showed that those children with a disposition towards higher levels of regulation were more likely to play in a socially competent way in the classroom. They also found that children with a greater general understanding of their emotions had more pro-social behaviors and interactive peer play. Thus, children who are temperamentally predisposed towards better emotion regulation abilities may be more positively rated by their peers.

The skills involved in emotion regulation are important when children are faced with the demands of interpersonal relationships (Gottman & Mettetal, 1986). A study conducted by Contreras et al. (2000) looked at emotion regulation as a possible mediator between attachment and peer relationships. Results supported the notion that emotion regulation accounted for links between attachment and peer sociability. Based on those findings, the present study hopes to address the possible mediating effects that later attachments (peer sociability or teacher relationships) may have on links between early attachment and emotion regulation.

**Emotion Regulation**

Various studies on young children have shown the implications of emotion regulation skills on a child’s future. It is important to reiterate that emotion regulation refers to “extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions,” because these processes involve the interplay between external factors and internal regulation abilities (Contreras et al., 2000, p. 112). A study done by Cole et al. (1996) found that
inexpressive styles of emotion regulation reveal a resistance to external input and a tendency to internalize distress. These findings were interpreted as being predictive risks for the development of depressive and anxious disorders (Cole et al., 1996). The study looked at heart activity during emotion regulation tasks with preschoolers, finding similar patterns of heart activity in disruptive, inexpressive preschoolers as found in children who are temperamentally fearful and those who have anxiety disorders, putting the inexpressive preschoolers at risk for internalizing problems.

Cole et al. (2009) acknowledge that, on the developmental trajectory of emotion regulation, typically developing children understand emotions that arise from challenging circumstances by age 5. Parents play an important role in a child’s development of emotion regulation aside from the basic attachment between parent and child. Parents who are more sensitive towards their children, as well as parents who emotionally support their children while teaching them self-regulation are optimal factors to the development of good emotion regulation skills (Cole et al., 2009). Graziano, Calkins, and Keane (2011) note that two main strategies can be employed in emotion regulation situations - active emotion regulation strategies and passive emotion regulation strategies. Active emotion regulation is typically more effective, and it involves “distraction or initiation of help seeking behavior,” whereas passive emotion regulation is more powerfully rooted in “self-comforting” (Graziano et al., 2011). The present study looked at emotion regulation on dimensions of negative to positive emotional tone and levels of organizational quality.

**The Present Study and Hypotheses**

A number of researchers have examined the impact of attachment, particularly concerning infant-primary caregiver attachment. Research also exists in the realm of preschool peer relationships between peers and relationships between teachers and their preschoolers. Little
research has examined the possible mediation effects amongst all three relationships. Furthermore, although research exists on each individual attachment relationship and that attachment relationship’s effects on emotion regulation, little research exists linking and analyzing the relationship between the different attachments and emotion regulation. With this research, we hope to develop a better understanding of the aforementioned model. We also hope to contribute to existing research on the importance of attachment and its later affects on emotion regulation.

This study has provided insight into how different relationships in early infancy and childhood work together or separately to impact emotion regulation. This is highly beneficial research, given that early attachments in life are crucial and influential on the emergence and organization of emotion regulation, highlighting the central role of emotion in early personal development (Parritz & Troy, 2011). The study has allowed us to look at how early attachments to a primary caregiver may affect attachments to teachers and relationships with peers, as well as how all of these attachments ultimately affect a child’s abilities to initiate, maintain, evaluate, and modify emotional responsiveness to accomplish specific goals (Smith et al., 2006).

In light of current research about attachment security and its relationship to temperament, later attachments, and emotion regulation, I predicted that:

1. Children higher in secure attachment (as determined by parental-reports) and/or lower in dependency would have better social relations with teachers, better social relations with peers, and better emotion regulation.

2. Children with more difficult temperaments would have poorer early attachments to parents, poorer later attachment to peers and teachers, and poorer emotion regulation.
3. Relations with peers and teachers would mediate the effect of security of attachment on emotion regulation.

4. Finally, I predicted that difficult temperament would moderate the effect of attachment on later social relations (peers and teachers) and on emotion regulation, such that child attachment’s effect on later social relations would depend on the degree of a child’s temperamental difficulty. I expected that the degree of attachment security would be most important when child temperament was more difficult.

We also explored the further contributions of peer and teacher sociability in predicting emotion regulation hypotheses.

Methods

Participants

Participants in this study were children attending a local day care center in the greater Boston area. Children were in two different classrooms based on age (2-4, or 4-6). The children’s primary caregivers were recruited along with the children’s teachers to gain a broader understanding of each child’s attachment relations. Active consent procedures were used to obtain informed consent from the primary caregiver participants and teacher participants in the study and active assent was obtained from the preschoolers. In the present study, a primary caregiver was defined as the individual who assumes primary, consistent responsibility for the housing, health, and/or safety of the child. This individual could be a parent (mother or father), a grandparent, a full time nanny, or any other individual who fit the above criteria.

Of the possible 38 children enrolled at the daycare center, 19 families agreed to participate in the study. The participant sample in the study consisted of (n=19, using children as a unit of analysis, but representing 42 individuals): 19 preschool children (9 Male, 10 Female)
ranging in age from 29 months to 60 months (M = 44.16, SD = 14.949). Other participants included 19 primary caregivers of the preschool children (7 Fathers, 12 Mothers); and 4 head teachers at Lemberg (3 Females, 1 Male) (see Table 1).

To be included as part of the study, the children were required to be able to verbally communicate with the experimenter and be able to use a writing implement for drawing purposes.

**Measures**

**Demographic Questionnaire.** Each primary caregiver of the preschool participants was asked to disclose information about themselves and their child (see Appendix A). This information included child gender and age, caregiver’s relation to the child, and other family background data.

**Parent-Child Attachment.** *Attachment Q-set (Version 3)* (Waters, 1987) is a 90-item task consisting of individual statements that are to be sorted by relevance to their child into nine separate groups (Waters, 1987; see Appendix B) Either the mother or the father of each child involved in the study completed the task. Each item describes a behavior that a child may exhibit. The primary caregiver was asked to read the behavior and decide, on a scale of 1 to 9, where his/her child fell based on his/her most recently observed behaviors (a rating of 1 being an action least reflective his/her child and 9 being an action most reflective of his/her child; items perceived as non-applicable would be placed in the center, given a number of 5). The task took approximately 35-45 minutes for parents to complete and provided a measure of their perceived attachment relationship with his or her child. Q-set outcomes were correlated with criterion sorts for security and dependency. The correlations served as scores for security, with higher scores on the security criterion reflecting greater levels of attachment security, and for dependency, with higher scores on the dependency criterion reflecting greater dependency (Waters, 1987).
Child’s Temperament. The primary caregiver completed the Toddler Behavior Assessment Questionnaire, Abbreviated (Goldsmith, 1996), a 55-item questionnaire measuring child temperament (see Appendix C). Primary caregivers were asked to complete the questionnaire, answering the statements on a 7-point Likert-type scale based on whether the behaviors are never present (1) through always present (7). The questionnaire measures temperamental dimensions on subscales of activity level, anger, inhibitory control, interest, pleasure, and social fearfulness. For the purposes of data analysis in the present study, a subscale called “difficulty” was created, which was comprised of the activity level subscale, the anger subscale, and the reverse coding of the pleasure subscale, 28 items total (Goldsmith, 1996). The analysis of the measure has provided crucial information about the degree to which each child’s temperament reflected being difficult, which is considered an important factor in the development of attachment relationships (Goldsmith, 1996; Sanson et al., 2004; Walker et al., 2001). The difficulty subscale of the Toddler Behavior Assessment Questionnaire (with the removal of item 13C) had an internal consistency of $\alpha=.80$ in this sample.

Student-Teacher Relationship. Student-Teacher Relationship Scale-Short Form (Pianta, 2001) is a 15-item questionnaire, asking teachers to determine what type of relationship they have with children in their classroom (see Appendix D). The questions use a 5-point Likert-type scale, and the teachers must decide if each statement “definitely does not apply” or “definitely applies” to their relationship with the subject. This report is a measure used for teachers of children ages 3-12, measuring teacher perception of conflict and closeness with specific children in their classes. Teachers were asked to complete a form for each child participating in the study in their respective classroom. In this sample, two teachers completed the scale for each child. Closeness scores and conflict scores for each child were comprised on an average of the two
teacher ratings. In this sample, a high internal consistency was found for the closeness subscale, \( \alpha = .80 \), and a high internal consistency was found for the conflict subscale, \( \alpha = .94 \).

**Peer-likeability.** Ratings of likeability (Asher, Singleton, Tinsley, & Hymel, 1979; Olson & Lifgren, 1988) is a peer nomination measure resulting in a social status score for each child who is rated (see Appendix E). This task requires children to rate each of their peers as either someone they enjoy playing with, someone they do not enjoy playing with, or someone about whom they feel neutral. Participating children used photographs of their peers (only those that were part of the study) to help them complete this task. This task serves as a measure of peer sociability, as the results yielded how well liked each child is. Children were given a rating of 0 for negative nominations, 1 for neutral nominations, and 2 for positive nominations. Doubling positive nominations scores and adding that number to neutral nomination scores created total peer scores. Positive nomination scores were doubled to indicate that higher peer scores were related to more positive peer ratings. The composite score was then divided by the total number of peer raters, creating the average peer nomination score.

**Emotion regulation.** Impossibly Perfect Circle task (IPC) (Dennis, Hong, & Solomon, 2010) is a frustrating task designed for young children to complete, eliciting a measurement of their emotion regulation abilities. The task requires the experimenter to have the subject to draw a circle, which the experimenter reacts to with a series of negative feedback regarding the circle. Research assistants coded behaviors on two dimensions for a series of five trials: emotional state of the child (positive, negative, and neutral) and organizational quality of the child (organized on-task, organized off-task, disorganized, immobilized).

**Box Empty task** (BE) (Dennis, Hong, & Solomon, 2010) is a disappointing and distressing activity in which the child is given an empty, wrapped box, yet they are told that
inside the box contains a present for them. The task also elicits a measurement of emotion regulation abilities. Research assistants coded behaviors on two dimensions (one immediately after the child opened the box and the second after a 20-second delay): emotional state of the child (positive, negative, and neutral) and organizational quality of the child (organized on-task, organized off-task, disorganized, immobilized).

Both emotion regulation tasks were used in a study by Dennis, Hong, & Solomon (2010) to examine the connection between the effects of effortful control on exuberance and emotion regulation. In the present study, research assistants were trained in coding the behaviors in the tasks to reliability. The coding team had a consistent inter-rater reliability of 100% on measures of organizational quality. Ultimately, the coding team reached an inter-rater reliability score of 94% on coding emotional state.

**Procedures**

Before recruiting subjects and conducting data collection, the experimenter volunteered in each of the two classrooms so that the experimenter and the preschoolers became more comfortable with each other. When recruitment began, participating families were recruited through individualized, pre-numbered subject packets, which were placed in each child’s mailbox. The packets contained an informational letter about the experiment, a set of instructions regarding the packet, the primary caregiver informed consent document, the child informed consent document, a child photo release form, a demographic questionnaire, and the Toddler Behavior Assessment Questionnaire, Abbreviated along with 2 envelopes labeled “Signed Documents” and “Questionnaires” in which the forms were returned to the experimenter. The experimenter also recruited participants by directly meeting and informing each parent about the ongoing research, offering them the consent documents again. The demographic questionnaire
took approximately 5 minutes to complete, and the Toddler Behavior Assessment Questionnaire, Abbreviated took approximately 15 minutes to complete.

Once primary caregiver informed consent documents had been received, the experimenter contacted the primary caregiver to arrange a time to complete the Attachment Q-Set (Version 3). Subjects were given the option of meeting with the experimenter either in a room at Lemberg or in their private, on-campus office. When subjects arrived for the task, they were offered an opportunity to ask questions regarding the informed consent or the study. At this point, the study began. The experimenter read a scripted set of directions to the subject instructing them on how to sort the 90-items in the Attachment Q-Set (Version 3) (Waters, 1987). The experimenter left the room and allowed subjects to complete the sorting task. This took approximately 35-45 minutes.

The next portion of data collection involved the four head teachers at Lemberg. Each teacher was given an envelope containing a pre-numbered Student-Teacher Relationship Scale-Short Form questionnaire for children in their classrooms that were participating in the study. Inside the envelope was an informed consent document to be signed by the teachers along with instructions on what to do with the questionnaires. Each questionnaire was labeled with a post-it indicating the child’s name that was associated with his/her subject number. Teachers were asked to remove the post-it upon completing the questionnaire to ensure child confidentiality. The questionnaires were returned to the experimenter in a mailbox set up by the Lemberg Children’s Center. Each questionnaire took approximately 5 minutes.

The experimenter then began conducting the emotion regulation tasks, as well as the ratings of likeability task, with the preschoolers. The three tasks were run on two separate trials. The two emotion regulation tasks were run on different days to ensure that any emotions
resulting from the task did not affect performance on the other subsequent emotionally taxing task. The first set of data collection with the children involved the Impossibly Perfect Circles Task. The date and time that a subject was run was not predetermined. Rather, the experimenter would go into one of the classrooms and based on the disposition of the children, one would be asked, based on an established script if they would like to play a game in a room outside of the classroom that the children are comfortable and familiar with.

If a child agreed to come with the experimenter, they would be led into the room. If the child did not agree to come with the experimenter, the experimenter asked the child again on up to two separate occasions later. Once inside of the room, the child chose a space to sit. The experimenter offered them any writing implement they would like (markers, pencil, or pen) and began giving the task instructions based on a script (see Appendices). While the subjects followed the experimenter’s directions, a coding assistant would record the child’s emotional state and organizational quality on each of the five trials in the task. At the end of the task, the experimenter would draw a circle with the subject and praise them on a job well done. The child was then rewarded with a sticker. The IPC task took approximately 5 minutes.

The second round of data collection with the preschool children was conducted after the entire completion of the first round. Prior to bringing children in to complete the task, the experimenter and research assistant arranged the room accordingly. This involved setting up the three faces involved in the ratings of likeability task and wrapping the gift box for the Box Empty task. Children were approached using the same aforementioned method used with the IPC task. All instructions regarding the task, procedures involved in the task, and conversations with the children were read from a script. When children entered the room, they were instructed to sit on the floor in front of the faces. The experimenter explained the Ratings of Likeability task.
After the task was complete, the children participated in the Box Empty task. While the subjects followed the experimenter’s directions regarding the present, a coding assistant would record the child’s emotional state and organizational quality at two distinct times. The experimenter then offered the child a small toy, stating that it should have been included in the box. The ratings of likeability task and the box empty task took approximately 5-10 minutes in total.

**Data Reduction**

**Independent Measures.** The two main predictor variables in the study were attachment and temperament. Attachment was measured using the Attachment Q-set. Subscales were created from the Attachment Q-set (Version 3), called “security correlation” and “dependency correlation.” These subscales were created by correlating parent ratings on each child’s score with a criterion score for each subscale; the criterion score was an average score that was generated by Waters and his team based on average correlations in general on security and dependency (Waters, 1995). For temperament, based on findings from Goldsmith (1996), internal consistency levels, and theoretical purposes, we used the difficulty subscale outlined by Sanson (2004), which corresponds to one of the temperament measurements used in his study. To test for potential moderating effects, median split variables were created for the difficult temperament subscale, average teacher conflict, and average teacher closeness.

**Dependent Measures.** Two subscales were created from the emotion regulation tasks. A subscale called “average emotional tone” was created for each child by averaging their ratings across each of the 7 points in time that their emotional tone was rated during the IPC task and the BE task. Higher scores on average emotional tone indicated children with poorer emotion regulation abilities. A subscale called “average organizational quality” was created for each child by averaging their ratings on each of the 7 points in time that their organizational quality was
rated during the IPC task and the BE task. Higher scores on average organizational quality indicated children with poorer emotion regulation abilities.

**Results**

**Descriptive Statistics**

Descriptive statistics were conducted for all of the interval measures (see Table 2). The subscale of temperament that was used in the study, temperamental difficulty, showed below average ratings. This indicated that temperamental difficulty was seen less frequently in the current sample than in the standard population, with a relatively narrow range of scores ($M=3.44$, $SD=0.52$, $Range=2.37-4.35$). The average security score was a fairly strong correlation, consistent with other samples measuring attachment security ($M=0.42$, $SD=0.14$), whereas the average dependency score did not indicate a strong correlation with the criterion ($M=0.05$, $SD=0.22$).

The number of positive peer ratings ($M=2.95$, $SD=1.311$) was greater than the number of negative peer ratings ($M=1.47$, $SD=.697$), showing that overall children rated their peers more positively. Average teacher closeness was high across the sample with little variability ($M=4.70$, $SD=0.18$, $Range=4.36-5.00$), whereas average teacher conflict had a greater range of scores, indicating more variability in teacher conflict across the sample ($M=1.93$, $SD=0.60$, $Range=1.12-3.19$).

Overall ratings on average emotional tone were low, indicating that children displayed more positive emotions than negative ones during the emotion regulation tasks ($M=0.92$, $SD=0.38$, $Range=0.14-1.43$). Overall ratings on average organizational quality were relatively low, although there was great variability amongst the sample ($M=0.32$, $SD=0.71$, $Range=0.00-3.00$).
Independent samples t-test were conducted to assess if there was any relationship between age and the other variables. A median split was created for age (Mdn=45.00 months). Age showed trends for more negative peer ratings ($t(17)=1.93, p=.069$) and poorer organizational quality ($t(8.29)=1.79, p=.11$). Age did not significantly predict any of the other variables.

**Inferential Statistics**

**Hypotheses 1 and 2:** Pearson correlations, which can be found in Table 2, were conducted to examine the effects of early attachment relationships on later attachment and emotion regulation as well as the effects of temperament on early attachment, later attachment, and emotion regulation. As expected, the attachment security score was significantly, negatively correlated with children rated high in temperamental difficulty ($r=-.50, p=.030$). The attachment dependency score tended to be negatively correlated with average teacher conflict ($r=-.44, p=.063$). Our hypothesis that early attachment relationships would affect later attachment relationships, with peers and with teachers, was partially supported. No other significant correlations between attachment security or dependency were found.

Unexpectedly, the attachment security score was significantly, positively correlated with emotional tone ($r=0.47, p=0.042$), indicating that higher negative affect was associated with greater attachment security. The dependency criterion of attachment tended to be positively correlated with emotional tone ($r=0.44, p=0.056$), again, indicating that higher negative affect was associated with greater dependency. Our hypotheses regarding relationships between early attachment and emotion regulation were partially supported, as shown by the relationship between security and emotional tone and the relationship between dependency and emotional tone.
Only the average peer rating tended to correlate significantly with temperamental difficulty \((r = .407, p = .083)\). No other significant correlations between temperamental difficulty and peer or teacher closeness, or emotion regulation were found.

Hypothesis 3: To test the hypothesis that relations with peers and teachers would mediate the effect of security of attachment on emotion regulation, a hierarchical linear regression using a general linear model was conducted. We expected that the relation between early attachment relationships and emotion regulation would be explained through the effect on current attachment relationship. Based on the significant correlations (see Table 3) between the dependency criterion for attachment and average teacher conflict \((r=0.063)\), between the dependency criterion for attachment and emotional tone \((r=0.042)\), and between average conflict and emotional tone \((r=0.040)\), a mediation relationship was analyzed between the three factors.

To test mediation effects, security (or temperament) must significantly correlate with one facet of emotion regulation and one facet of sociability (Baron, & Kenny, 1986). Using hierarchical regression, with dependency entering first, dependency positively predicted negative emotional tone across the two tasks \((\beta=.45, p=.056; \text{adjusted } R^2=.151), F_{\text{Change}} (1,17)=4.20, p=.056\).

However, when teacher conflict was entered, it was no longer a significant predictor of emotional tone \((\beta=-.35, p=.157)\), and dependency no longer significantly predicted emotional tone \((\beta=.295, p=.224, \text{adjusted } R^2=.207), F_{\text{Change}} (1,16)=2.20, p=.157\). Thus, the effect of dependency was not mediated by teacher conflict in this sample. Figure 1 illustrates the hypothesized mediation relationship.

Hypothesis 4: To test the hypothesis that higher levels of difficult temperament would moderate the effect of attachment on later social relations (peers and teachers) and on emotion regulation, four Univariate ANOVAs were conducted to analyze the possible moderating effects
of temperament on the relationship between early attachment measures and emotion regulation. The first ANOVA conducted looked at the main effects and possible interaction effects of the median split variable of difficult temperament, the attachment security score, and their effects on average emotional tone. Security significantly predicted emotional tone \((F(1,15)=6.31, p=.024, \eta^2=.65, \beta=.60)\). There was no significant main effect for difficult temperament \((F(1,14)=.05, p=.833, \eta^2=.06, \beta=.05)\). There was no significant interaction effect between difficult temperament and security on emotional tone \((F(1, 14)=1.6, p=.225, \eta^2=.22, \beta=.31)\).

Some evidence suggests that difficult temperament may moderate the effect of attachment dependency on emotional tone. A second ANOVA was conducted to look at the main effects and possible interaction effects of the difficult temperament and the attachment dependency on emotional tone. No significant main effect was found for difficult temperament \((F(1,14)=0.20, p=.660, \eta^2=.07, \beta=-.09)\). A significant main effect was found for attachment dependency \((F(1,14)=5.53, p=.033, \eta^2=.59, \beta=.49)\). Although the interaction between difficult temperament and attachment dependency was not significant, it showed trends towards significance \((F(1,14)=3.90, p=.067, \eta^2=.46, \beta=.42 ; \text{see Figure 2})\). This supports the notion that difficult temperament may moderate the effect of attachment dependency on emotional tone. Figure 2 depicts that subjects high in attachment dependency and high in temperamental difficulty displayed poorer emotional tone.

A Univariate Analysis of Variance (ANOVA) was conducted to analyze the possible moderating effects of temperament on the relationship between attachment security and average organizational quality. Security did not significantly predict organizational quality \((F(1,15)=3.21, p=.580, \eta^2=.08, \beta=.18)\). There was no significant main effect for difficult temperament \((F(1,15)=.285, p=.601, \eta^2=.08, \beta=.16)\). There was no significant interaction effect between
difficult temperament and security on organizational quality \((F(1, 15)=.206, p=.656, \eta^2=.07, \beta=.09)\).

A fourth ANOVA was conducted to look at the main effects and possible interaction effects of difficult temperament and the attachment dependency on average organizational quality. No significant main effect was found for difficult temperament \((F(1,15)=.345, p=.57, \eta^2=.085, \beta=.15)\). No significant main effect was found for attachment dependency \((F(1,15)=.416, p=.529, \eta^2=.093, \beta=.158)\). The interaction effect between difficult temperament and attachment dependency was not significant \((F(1,15)=1.48, p=.243, \eta^2=.21, \beta=.34)\). There were no significant moderating relationships of temperament on early attachment and average organizational quality.

**Exploratory Analysis:** In addition, we explored contributions from teacher and peer rated attachment measures to emotional tone. We conducted further analyses with standardized scores using multiple regression scores using Generalized Likelihood Models to test whether emotional tone was predicted by later attachments. Only two variables significantly predicted poorer emotional tone, security of attachment \((\beta=.46, p=.019)\) and conflict with teacher \((\beta=-.485, p=.018, \text{adjusted } R^2=.389)\).

Finally, standardized predictors of organizational quality were entered into multiple regression analysis. Average teacher closeness significantly predicted poorer organizational quality \((\beta=.81, p=.004)\) as did average teacher conflict \((\beta=.51, p=.031)\). Temperamental difficulty significantly predicted poorer organizational quality \((\beta=.52, p=.027)\). In addition, average teacher conflict and attachment dependency interacted to predict average organizational quality. Figure 3 displays that average teacher conflict moderated the effect of attachment dependency on average organizational quality, which indicated that children who were both high
in attachment dependency and high in levels of average teacher conflict showed poorer organizational quality. This model accounted for a significant proportion of the variance, adjusted $R^2 = .437$.

**Discussion**

The main purpose of this study was to examine the effects that early attachment and temperament have on later attachment and emotion regulation abilities. Specifically, we examined whether later attachment served to explain the relation between early attachment relationships and emotion regulation, and we explored whether temperamental difficulty might moderate the relationship between early attachment or later attachment and emotion regulation.

**Main Findings**

We found that children with better attachment security were lower in temperamental difficulty. The association between high attachment security and low temperamental difficulty was consistent with many findings (McElwain et al., 2012; Yagmurlu & Altan, 2010). Parents react reciprocally to child exhibition of temperament, thus parents will have an easier time forming secure attachments to those children who are less difficult. One interesting, counterintuitive finding was that temperamental difficulty tended to correlate positively with peer ratings. It was expected that children that had more difficult temperaments would be less liked by their peers. One explanation is that children who exhibited temperamental difficulty (negative moods and highly intense and arrhythmic behaviors) may have been more noticed by their peers (Howes et al., 1994). Rather than peers rating these children as neutral, the children stood out in their minds and made an impression. In addition, children who were high in attachment dependency tended to be low in teacher conflict, suggesting that children who have dependent relationships with their caregiver cause fewer difficulties with their teachers.
Results indicated that, in some cases, early attachment relationships and temperament do have effects on later attachment and emotion regulation. Partial support was obtained for the notion that more secure attachment ratings and low temperamental difficulty would predict better teacher relations, better peer sociability, and better emotion regulation abilities, consistent with previous research. Children who were high in attachment dependency and children who were high in attachment security tended to have more negative emotional tone on emotion regulation tasks, consistent with previous research that attachment relationships affect a child’s emotion regulation skills (Contreras et al., 2000; Parritz & Troy, 2011). Children who are highly dependent on their parents may not have developed appropriate, individualized emotion regulation skills. It can also be understood that the tasks were compiled with the intention of frustrating children, thus the response from a child with healthy, effective self-regulation should be negative affectivity and distress. Temperamental difficulty moderated the effects of dependency on emotional tone, meaning that the effect of dependency depended on whether or not the child had high levels of difficult temperament. These findings suggest that children displaying temperamental difficulties may have trouble adapting to new and different situations or environments (Goldsmith, 1996; Sanson et al., 2004). Further analyses in an exploratory model indicated that high levels of attachment security and high levels of teacher conflict predicted more negative emotional tone across the two frustrating tasks.

Overall, there were not any significant first-order correlations between the variables and organizational quality of emotion regulation. However, the exploratory multiple regression model indicated that organizational quality could be predicted by a number of factors. High levels of teacher closeness and teacher conflict predicted poorer organizational quality, as did higher levels of temperamental difficulty. Teacher conflict moderated the effects of attachment
dependency on organizational quality, such that higher teacher conflict and higher dependency predicted poorer organizational quality, but all other combinations predicted better organizational quality.

**Limitations**

Several limitations of the present study must be noted. With only 19 participants, the small sample size was certainly one of the greatest limitations in the study. A number of findings, although not significant, yielded small to moderate effect sizes. Thus, a larger sample would have provided a better test for the hypotheses. The small sample size certainly indicates caution is warranted when trying to generalize these findings.

Another limitation of the study related to the homogeneity of the sample, both in terms of sample size and in terms of performance on the emotion regulation tasks. Most of the participants were Caucasian, leaving little room for racial variance. In addition, all the children had been enrolled at the daycare center since the beginning of the academic year; this was both a limitation and a positive aspect of the study. This served as a limitation, because the children may have developed a level of comfort in their school environment, giving them a high baseline level for positive emotion regulation in the familiar setting. This also served as helpful in that the children likely did not exhibit any negative emotions related to inhibitions from being in a new environment. Overall, this small sample was one of mentally and emotionally healthy children. In general, the children had good emotion regulation skills, explaining for the little variability and statistical significance of the results.

Laboratory tasks performed in a secluded school classroom are not necessarily generalizable to the population or to emotion regulation as a whole. The two emotion regulation tasks were controlled and performed under circumstances that allowed the subjects to feel the
optimal level of comfort. Many real-life situations in which children need to utilize emotion regulation are spontaneous and less structured, thus the emotion regulation tasks do not necessarily replicate reality (Sanson et al., 2004).

Another limitation may be in the way emotion regulation was rated in the present study. Cole et al. (1996) suggested that inexpressive styles of emotion regulation could be predictive of depression and anxiety, thus suggesting that inexpressive styles of emotion regulation may be somewhat unproductive in regulating emotions. Therefore, in the present study, negative expressions of emotion regulation may be seen to be more positive and healthy than no expression of emotion regulation at all. Granziano et al. (2011) also noted the differences between active and passive emotion regulation; active strategies include seeking out the help of someone or distraction, while passive strategies include comforting oneself. Because of the way in which emotion regulation was measured in the present study, negative emotional tone may have been expression of active emotion regulation, which is noted to be more effective.

Implications and Conclusions

The findings indicate that attachment and emotion regulation are related, and probably affected by later social relations. The effects of early attachments on emotion regulation depended, in part on the degree of temperamental difficulty. Further development in this field can provide insight into the advantageous or damaging effects of different attachment relationships and connections on emotion regulation. These findings highlight the importance of early teaching relationships, particularly around conflict with teachers.

The results of the study point to the need to explore future research in which different relationships in early childhood relate to emotion regulation. If the study were to be replicated, a larger sample size should be used. It may also be beneficial to expand the methodologies for
analyzing emotion regulation, including active versus passive emotion regulation strategies and expressive versus inexpressive styles of emotion regulation (Graziano, Calkins, & Keane, 2011). It would be interesting to conduct further studies in more heterogeneous demographic settings. Conducting this study in a more diverse socio-economic community, such as an urban setting, could provide important information on the attachment relationships in a less homogenous area than the one in the present study. These findings could potentially reveal something unique, and the results could be used to educate parents on the best ways to interact with their young child. It would also be useful to explore fully the role of temperament in such a way that teachers and parents would have a better understanding of how to respond to various aspects of temperament.

Ultimately, there are connections between early attachment, later attachment, and emotion regulation. Not all of the significant connections occurred as anticipated, and all of the findings should be treated with caution due to the small sample size. These connections are particularly interesting to our understanding of secure attachments and negative emotions. The findings of this research provide a better understanding of relations between various ways of looking at attachment, temperament, later attachments and later social relations, and emotion regulation. Parent child attachment is related to emotion regulation, and certain later attachments may mediate that relationship while temperament may moderate that relationship.
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Tables

Table 1. *Sample breakdown by subject characteristics, gender, race, and age.*

<table>
<thead>
<tr>
<th></th>
<th>Child</th>
<th>Primary Caregiver</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td>9 Male</td>
<td>7 Male</td>
<td>1 Male</td>
</tr>
<tr>
<td></td>
<td>10 Female</td>
<td>12 Female</td>
<td>3 Female</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td>4 Asian</td>
<td>5 Asian</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>14 Caucasian</td>
<td>14 Caucasian</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
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<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>SD = 14.949</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Female</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Important to note that the large age range (in months) in the sample.
Table 2. Means, standard deviations, ranges, and correlations for interval variables.

| Variable                        | M    | SD   | Ranges       | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |
|---------------------------------|------|------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Difficulty                      | 3.44 | 0.52 | 2.37-4.35    |     |     |     |     |     |     |     |     |     |     |
| Emotional Tone                  | 0.92 | 0.38 | 0.14-1.43    |     |     |     |     |     |     |     |     |     | -.295|
| Organizational Quality          | 0.32 | 0.71 | 0.00-3.00    | 0.083|     |     |     |     |     |     |     |     |     |
| Number of Positive Ratings      | 3.00 | 1.30 | 0.00-6.00    | 0.340|     |     |     |     |     |     |     |     |     |
| Number of Negative Ratings      | 0.71 | 0.22 | 0.00-3.00    | -.056| .091| .162|     |     |     |     |     |     |     |
| Average Peer Rating             | 1.12 | 0.18 | 0.75-1.44    | .407t| -.234| .212| -.908|     |     |     |     |     |     |
| Security Correlation            | 0.42 | 0.14 | 0.19-0.74    | -.498*| .471*| .055| .045| -.042|     |     |     |     |     |
| Dependency Correlation          | 0.05 | 0.22 | -0.32-0.42   | -.165| .445t| .161| .035| .073| -.029|     |     |     | .107|
| Teacher Closeness               | 4.70 | 0.21 | 4.36-5.00    | -.371| .237| .323| -.321| -.022| -.188| .108|     |     |     |
| Teacher Conflict                | 1.93 | 0.60 | 1.12-3.19    | .080| -.474*| .101| .358| .275| .140| .023| -.435t| -.512*|
| Age                             | 44.16| 14.95| 29-60        | -.260| -.193| -.304| .051| -.568*| .019| .097| -.177| -.246| .230|

Note: t p < .1, * p < .05
**Figure 1.** Mediation Model of the relationship between attachment dependency and average emotional tone with average conflict with a teacher as a mediating variable.

Figure 1. Mediation model of the association between attachment dependency and average emotional tone. Hypothesized meditational models between parent-child attachment dependency, child's average conflict with a teacher, and average emotional tone. Average conflict with a teacher did not mediate the relationship between attachment dependency and average emotional tone. Path values represent standardized regression coefficients.

\[ a = -0.435^{(1)} \]

\[ b = 0.346 (-0.474^{*}) \]

\[ c = 0.295 (0.445^{*}) \]

\(^{(1)} p<.1 \quad ^{*} p < .05\)
Figure 2. Moderation relationship between attachment dependency and average emotional tone moderated by split temperamental difficulty.

Figure 2. Moderation model of the association between attachment dependency and average emotional tone. Hypothesized moderation models of parent-child attachment dependency, child’s temperamental difficulty, and average emotional tone. Temperamental difficulty tended to moderate the relationship between attachment dependency and average emotional tone ($F(1,14)=3.90, p=.067, \eta^2=.46, \beta=.42$). Thus, attachment effects on emotional tone depended on the degree of temperamental difficulty. Children with high in attachment dependency and high in temperamental difficulty tended to show more negative emotional tone on tasks.
Figure 3. Moderation relationship between attachment dependency and average organizational quality moderated by average teacher conflict.

Figure 3. Moderation model of the association between child’s attachment dependency and average teacher conflict on average organizational quality. Average teacher conflict moderated the relationship between attachment dependency and organizational quality, $F(1,13)=5.2, p=.040, \eta^2=.56, \beta=.45$. Higher teacher conflict only predicted poorer organizational quality when the child was rated as having a more dependent attachment to their primary caregiver.
Appendix A

Demographic Questionnaire

To be completed by the preschooler’s primary caregiver: In the present study, a primary caregiver is being defined as the individual who assumes primary, consistent responsibility for the housing, health, and/or safety of the child. If there are two primary caregivers involved in the child’s life, please only have one fill out the questionnaire below alone.

1. Child’s gender ___________________

2. What is your relationship to the child (e.g., mother, father)?
   □ Mother □ Father □ Grandmother □ Grandfather □ Nanny □ Other ___________________

3. Who drops the child off at the Lemberg Children’s Center in the morning?
   □ Mother □ Father □ Grandmother □ Grandfather □ Nanny □ Other ___________________

4. Is the child adopted? (Please check one) □ Yes □ No

5. Is English your first language? (Please check one) □ Yes □ No
   a. If you checked no, what is your first language? __________________

6. Is English the child’s first language? (Please check one) □ Yes □ No
   a. If you checked no, what is your first language? __________________

7. Primary Caregiver’s Ethnicity (Please check one)
   □ African American □ Asian □ Caucasian □ Hispanic □ Native American □ Other ___________________

8. Child’s Ethnicity (Please check one)
   □ African American □ Asian □ Caucasian □ Hispanic □ Native American □ Other ___________________

9. Child’s Age in Months: __________________

10. Is this the child’s first year at the Lemberg Children’s Center? (Please check one)
    □ Yes □ No
Appendix B


The items and explanations will be individually printed and placed on index cards. (“Middle” and “low” serve as gauges for the parents to decide where their child falls on a scale from 1-9.)

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, s/he is sometimes fussy for no clear reason.
Low: Child is happy or affectionate when s/he returns to mother between or after play times.

3. When s/he is upset or injured, child will accept comforting from adults other than mother.
Low: Mother is the only one s/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 s/he wants to play with, s/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 easily than others.

8. When child cries, s/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/her to bed for naps or at night.
Low: Does not cry or resist going to bed.

11. Child often hugs or cuddles against mother, without her asking or inviting her/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 her/him shy or frightened him. Middle if never shy or afraid.
Low: Child is slow to get used to people or things.
13. When the child is upset by mother’s leaving, s/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, s/he carries it to mother or shows it to her from across the room.

15. Child is willing to talk to new people, show them toys, or show them what s/he can do, if mother asks him to.
Low: Mother’s suggestion does not increase willingness to engage new people.

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 her/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, s/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 her/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 s/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/herself.
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 her/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)
Low: Child does not become upset in response to such behavior.
25. Child is easy for mother to lose track of when s/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 child is doing.

26. Child cries when mother leaves her/him at home with babysitter, father, or grandparent.
Low: Doesn’t cry with any of these.

27. Child laughs when mother teases her/him.
Middle: If mother never teases child during play or conversations.
Low: Annoyed when mother teases her/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 s/he doesn’t seem to hear when people speak to her/him.
Low: Even when deeply involved in play, child notices when people speak to her/him.

30. Child easily becomes angry with toys.
Low: Child does not easily become angry with toys.

31. Child wants to be the center of mother’s attention. If mom is busy or talking to someone, s/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.
Low: Child persists in misbehavior.

33. Child sometimes signals mother (or gives the impression) that s/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 s/he signals mother to put him down.

34. When child is upset about mother leaving her/him, s/he sits right where s/he is and cries. Doesn’t go after her.
Middle: If never upset by her leaving
Low: Actively goes after her if s/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 allowed or not enough room to play
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.
Low: Child’s activity level is low. Prefers quite activities.

38. Child is demanding and impatient with mother. Fusses and persists unless she does what s/he wants right away.
Low: Child waits a reasonable time if mother doesn’t respond immediately.

39. Child is often serious and businesslike when playing away from mother or alone with his/her toys.
Low: Often silly or laughing when playing away from mother or alone with his/her 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.)
Low: Child ignores or refuses.

42. Child recognizes when mother is upset. Becomes quiet or upset herself/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 behavior.

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 s/he has, if they ask to.  
Low: Child does not readily share with new adults when asked.

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 s/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 s/he eventually warms up to them.  
Low: Initial reaction s to approach and interact.

51. Child enjoys climbing all over visitors when he plays with them.  
Middle if s/he won’t play with visitors.  
Low: Doesn’t seek close contact with visitors when s/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/her arms around mother or puts his hand on her shoulder when she picks her/him up.  
Low: Accepts being picked up but doesn’t especially help or hold on.

54. Child acts like s/he expects mother to interfere with his/her activities when she is simply trying to help her/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 s/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/her own activities more interesting.  
Low: Finds visitors quite interesting, even if s/he is a bit shy at first.

59. When child finishes with an activity or toy, s/he generally finds something else to do without returning to mother between activities.  
Low: When finished with an activity or toy, s/he returns to mother for play, affection or help finding more to do.
60. If mother reassures her/him by saying "It’s OK’ or "It won’t hurt you", child will approach or play with things that initially made her/him cautious or afraid. 
Middle if never cautious or afraid.
Low: Child does not accept mother’s assurances.

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, s/he is likely to stay that way all day.
Low : Happy moods are very changeable.

63. Even before trying things herself/himself, child tries to get someone to help her/him.
Low: Confident. Tries things herself/himself before seeking help.

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 her/him change from one activity to another.  
(Even if the new activity is something child often enjoys.)
Low: Readily changes activities when mother suggest new ones.

66. Child easily grows fond of adults who visit her/his home and are friendly to her/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.
Low: Does not particularly seek attention from visitors.
Note: It is easy to overlook "scorable" behavior until you are very familiar with the Q-set items and have used them in the field. Lapsing into play for play’s sake is often a sign that an inexperienced observer is missing a lot and therefore finding the visits boring.

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/her 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 her/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, s/he repeats it again and again.
Low: Visitors’ reactions don’t influence child this way.

73. Child has a cuddly toy or security blanket that he carries around, takes it 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, child 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 if s/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, s/he readily understands what s/he 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/her parents and/or grandparents.
Low: No particular interest in such contact.

79. Child easily becomes angry at mother.
Low: Doesn’t become angry the mother unless she is very intrusive or s/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/her own mind without checking mother’s expressions first.

81. Child cries as a way of getting mother to what s/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.
Low: Explores and plays (briefly) with a number of different toys.

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 herself/himself and on floors all the time.

85. Child is strongly attracted to new activities and new toys.  
Low: New things do not attract her/him away from familiar toys or activities.

86. Child tries to get mother to imitate her/him, or quickly notices and enjoys it when mom imitates her/him on her own.  
Low: Doesn’t show any particular interest in this such engagement.

87. If mother laughs at or approves of something the child has done, s/he repeats again and again.  
Low: Child is not particularly influenced this way.

88. When something upsets the child, s/he stays where he is and cries.  
Low: Goes to mother when s/he cries. Doesn’t wait for mom to come to her/him.

89. Child’s facial expressions are strong and clear when s/he is playing with something.  
Low: Facial expressions are not particularly clear or varied.

90. If mother moves very far, child follows along and continues his/her 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.  
Low: Child may or may not continue play but does not adjust location when mom moves.
Appendix C

TODDLER BEHAVIOR ASSESSMENT QUESTIONNAIRE (ABBREVIATED)

Please circle the number that describes how often the child did this in the last month. Circle NA (Not Applicable) if you did not see the child in that situation in the last month.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td></td>
<td>Very</td>
<td>Rarely</td>
<td>Less than half of the time</td>
<td>About half the time</td>
<td>More than half the time</td>
<td>Almost always</td>
<td>Always</td>
</tr>
</tbody>
</table>

1. When playing inside (for example, because of bad weather), how often did the child:
   - A. run through the rooms? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NA |
   - B. climb over furniture? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NA |

2. When playing on a movable toy, such as a tricycle, how often did the child try to go as fast as s/he could? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NA |

3. The child had trouble sitting still when s/he was told to. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NA |

4. When s/he saw other children while in the park or playground, how often did the child:
   - A. go over and start playing with them right away? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NA |
   - B. join in the laughing and giggling? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NA |

5. When you removed something the child should not have been playing with, how often did s/he:
   - A. scream? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NA |
   - B. try to grab the object back? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NA |
   - C. follow your request without signs of anger? | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NA |

6. The child easily stopped an activity when s/he was told “no”. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | NA |
7. The child waited before entering into new activities when s/he was asked to. | 1 2 3 4 5 6 7 NA |
--- | --- |
8. When the child was asked to share toys, how often did s/he: | 1 2 3 4 5 6 7 NA |
| A. protest in a whining tone of voice? | 1 2 3 4 5 6 7 NA |
| B. follow the request without signs of anger? | 1 2 3 4 5 6 7 NA |
9. While coloring by her/himself, how often did the child: | 1 2 3 4 5 6 7 NA |
| A. continue to color alone for 20 minutes or more? | 1 2 3 4 5 6 7 NA |
| B. continue to color alone for 10-20 minutes? | 1 2 3 4 5 6 7 NA |
10. When another child took away a favorite toy that the child was playing with, how often did s/he: | 1 2 3 4 5 6 7 NA |
| A. object? | 1 2 3 4 5 6 7 NA |
| B. find something else to play with? | 1 2 3 4 5 6 7 NA |
| C. try to hit, kick or bite the other child? | 1 2 3 4 5 6 7 NA |
11. The child was able to resist temptation when told s/he was not supposed to do something. | 1 2 3 4 5 6 7 NA |
12. When playing quietly with one of his/her favorite toys, how often did the child: | 1 2 3 4 5 6 7 NA |
| A. smile? | 1 2 3 4 5 6 7 NA |
| B. make happy noises? | 1 2 3 4 5 6 7 NA |
13. When the child wanted to play outside but you said “no”, how often did s/he: | 1 2 3 4 5 6 7 NA |
| A. protest by crying loudly? | 1 2 3 4 5 6 7 NA |
| B. protest in a whining tone of voice? | 1 2 3 4 5 6 7 NA |
| C. pout or frown? | 1 2 3 4 5 6 7 NA |
14. When you told the child that s/he should go and play for a short time, how often did: | 1 2 3 4 5 6 7 NA |
<p>| A. s/he need constant encouragement to remain occupied? | 1 2 3 4 5 6 7 NA |
| B. s/he need just one activity or object keep her/him occupied? | 1 2 3 4 5 6 7 NA |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. How often did the child:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. play games which involved running around, banging, or dumping out toys?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>B. play quiet games that did not involve moving, such as looking at books or arranging toys?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>16. While playing with a detailed or complicated toy (such as a big doll house or toy garage), how often did the child:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. explore the toy thoroughly?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>B. become easily bored or restless?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>C. only give the toy a quick try?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>17. When the 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 the child shift attention rapidly to the new activity?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>18. When given a wrapped package or a new toy in a bag, how often did the child:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. remain neutral (for example, not smile)?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>B. squeal with joy?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>C. laugh?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>19. While reading a story of average length to the child, how often did s/he:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. remain attentive during the entire story?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>B. become restless after the first few pages?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>20. The child lowered his/her voice when asked to do so.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>21. When the child needed to sit still how often did s/he:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. try to climb out of the chair?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>B. play quietly with 1 or 2 toys?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>C. try to climb all over other chairs?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>NA</td>
</tr>
</tbody>
</table>
D. remain still and calm even though other children started to giggle or laugh?  | 1  2  3  4  5  6  7  NA

22. When a person who does not see the child every day came to visit, how often did the child:

<table>
<thead>
<tr>
<th>Question</th>
<th>1  2  3  4  5  6  7  NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. check with you for security?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
<tr>
<td>B. talk much less than usual?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
<tr>
<td>C. enthusiastically greet them?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
<tr>
<td>D. squeal with joy?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
<tr>
<td>E. smile?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
<tr>
<td>F. babble or talk happily?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
</tbody>
</table>

23. When first visiting a new place how often did the child:

<table>
<thead>
<tr>
<th>Question</th>
<th>1  2  3  4  5  6  7  NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. cry if you were not holding them and refuse to be put down?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
<tr>
<td>B. feel at ease within 10 minutes?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
<tr>
<td>C. immediately begin to explore?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Question</th>
<th>1  2  3  4  5  6  7  NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. babble or talk?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
<tr>
<td>B. show distress or cry?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
<tr>
<td>C. avoid possible danger by looking to you?</td>
<td>1  2  3  4  5  6  7  NA</td>
</tr>
</tbody>
</table>

25. The child was good at following instructions.  | 1  2  3  4  5  6  7  NA

26. The child approached places s/he had been told are dangerous slowly and cautiously.  | 1  2  3  4  5  6  7  NA
Please reflect on the degree to which each of the following statements currently applies to your relationship with this child. Using the scale below, circle the appropriate number for each item.

<table>
<thead>
<tr>
<th>Definitely does not apply</th>
<th>Not really</th>
<th>Neutral, not sure</th>
<th>Applies somewhat</th>
<th>Definitely applies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I share an affectionate, warm relationship with this child.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. This child and I always seem to be struggling with each other.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. If upset, this child will seek comfort from me.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. This child is uncomfortable with physical affection or touch from me.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. This child values his/her relationship with me.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. When I praise this child, he/she beams with pride.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. This child spontaneously shares information about himself/herself.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. This child easily becomes angry with me.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. It is easy to be in tune with what this child is feeling.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. This child remains angry or is resistant after being disciplined.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Dealing with this child drains my energy</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. When this child is in a bad mood, I know we’re in for a long and difficult day.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. This child’s feelings toward me can be unpredictable or can change suddenly.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. This child is sneaky or manipulative with me.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. This child openly shares his/her feelings and experiences with me.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ratings of Likeability Task

Below are the three boxes labeled with happy, neutral, and sad faces, respectively. For purposes of the experiment, each photo will be enlarged on an 8 ½ x 11 sheet of cardstock. The child will be asked to assign one photo of each of their peers to one of the boxes below.