Children’s Behavior During Group Storytime in Head Start Pre-Kindergarten

Megan C. Livengood

A thesis submitted to the faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Arts in the School of Education (Early Childhood, Families, and Literacy).

Chapel Hill
2007

Approved by: Dr. Kathleen Gallagher
Dr. Dixie Lee Spiegel
Dr. Steve Knotek
ABSTRACT

MEGAN C. LIVENGOOD
Children’s Behavior During Group Storytime in Head Start Pre-Kindergarten
(Under the direction of Dr. Kathleen C. Gallagher)

The study examined children’s participation, attention, and body movement during group storytime in Head Start pre-kindergarten classrooms. Observers recorded frequencies of participation, looking away, and body movement. Teachers completed questionnaires that included measures of temperament, teacher-child relationship, and literacy skills. A total of sixteen children from four classrooms were observed in storytime at least two different times throughout the semester. Results described children who participate most often in storytime as being extroverted and able to control their attention during activities. Previous studies have shown that children’s participation in storytime could positively influence their acquisition of vocabulary and other literacy skills (Sénéchal, Thomas, & Monker, 1995). Teachers in this sample rated nearly all children very highly on the literacy skills measure; no significant correlations were found between the observed variables and scores on the literacy skills measure.
ACKNOWLEDGEMENTS

The completion of this project means the accomplishment of goals I set for myself over ten years ago. My success is due to the support of my professors and my family.

I offer a special dedication to my advisor, Dr. Kathleen Gallagher, for her patience and direction throughout this process.

I also offer my sincere appreciation to the other members of my committee, Dr. Steve Knotek and Dr. Dixie Lee Speigel.

Finally, special thanks to my family for their support along this journey. I look forward to sharing the next chapter of my life with you.
# TABLE OF CONTENTS

LIST OF TABLES ................................................................. vi

**Chapter**

1. Introduction................................................................. 1
   Literature Review............................................................. 3
   Storybook reading in preschool classrooms............................. 3
   Participation........................................................................ 4
   Attention........................................................................... 6
   Body Movement................................................................... 6
   Temperament....................................................................... 7
   Teacher-Child Relationships................................................ 9
   Emergent Literacy Skills..................................................... 10
   Gender............................................................................. 11

2. Research Questions......................................................... 12
   Methodology....................................................................... 13
   Sample............................................................................. 13
   Procedures........................................................................ 13
   Measures........................................................................... 15
   Group Storytime Observation............................................. 15
   Child Temperament............................................................. 17
   Teacher-Child Relationship................................................ 18
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Child ethnicity</td>
<td>13</td>
</tr>
<tr>
<td>2.</td>
<td>Interrater reliability: Intraclass correlations for frequency variables</td>
<td>16</td>
</tr>
<tr>
<td>3.</td>
<td>Interrater reliability: Intraclass correlations for qualitative ratings</td>
<td>17</td>
</tr>
<tr>
<td>4.</td>
<td>Descriptive statistics for observed frequency variables</td>
<td>23</td>
</tr>
<tr>
<td>5.</td>
<td>Descriptive statistics for teacher reported measures</td>
<td>23</td>
</tr>
<tr>
<td>6.</td>
<td>Descriptive statistics for qualitative ratings</td>
<td>24</td>
</tr>
<tr>
<td>7.</td>
<td>Spearman’s correlations between study variables</td>
<td>25</td>
</tr>
</tbody>
</table>
CHAPTER ONE

Introduction

Many teachers accept the practice of reading aloud to young children as an effective way to prepare children to learn to read. Although some researchers have questioned the empirical validity of the tradition in the past (Scarborough & Dobrich, 1994), recent research has shown that shared reading can play a significant role in language and literacy development in young children (Brabham & Lynch-Brown, 2002; Sénéchal, 1997; Wasik & Bond, 2001; Whitehurst, Falco, Lonigan, Fischel, DeBaryshe, Valdez-Menchaca, & Caulfield, 1988). The present study examines children’s participation, attention, and body movement during group storybook reading in Head Start pre-kindergarten classrooms. Additionally, this study considers how behavior during group storytime may relate to teacher-child relationship quality, literacy skills, and child temperament.

Sociocultural theory relates well to the study of children’s early literacy activities. Socioculturalists describe how development occurs through participation in the typical social activities and interactions offered by culture (Miller, 2002). As understanding and cognition develop, children take on more responsibility during the activity or interaction. According to Rogoff (1995), adults can gradually scaffold the development of skills for children during social interactions. In Rogoff’s view, the interaction is similar to an apprenticeship, with children as active participants in the transfer of the skill from the more competent adult. In addition to apprenticeship, Rogoff describes two other planes of
development from a sociocultural perspective: guided participation and participatory appropriation. Guided participation refers to how individuals coordinate and communicate during interactions. It is a process in which “people manage their own and others’ roles, and structure situations (whether by facilitating or limiting access) in which they observe and participate in cultural activities.”(Rogoff, 1995, p. 147). In a group storybook reading activity, teachers help children learn appropriate behavior such as paying attention or engaging in conversation about the story by limiting certain behaviors and freely allowing others. The concept of guided participation includes people’s attempts to find common understanding during an interaction. During group storybook reading, teachers may choose a specific element of a story and use it to relate the story to children’s own experiences. By doing so, the adult emphasizes things that are interesting and important for children to know (Kertoy, 1994).

The term participatory appropriation refers to how “individuals transfer their understanding of and responsibility for activities through their own participation.”(Rogoff, 1995, p. 150). Participatory appropriation is a dynamic approach to learning and development where the focus is not the acquisition of a specific bit of knowledge, but it is the active changes in understanding that occur as an individual participates in an event or activity. Storybook reading provides an opportunity for children to learn a variety of literacy and language skills. According to Rogoff’s perspective, children’s attention and participation are important facets of the learning and development that may occur during such activities. This study explores these aspects of children’s behavior during group storybook reading activities.
Literature Review

*Storybook Reading in Preschool Classrooms*

Storybook reading may be especially important in programs such as Head Start that serve children from low-income backgrounds. In a report on a literacy intervention in Head Start programs, Whitehurst and colleagues (1994a) noted that some children come to preschool with low levels of book exposure. One antidote to this disadvantage might be increased shared book reading experiences in preschool classrooms. Researchers assert that storybook reading can foster children’s vocabulary and oral language development (Whitehurst & Lonigan, 1998). Teachers can look at storybook reading as an interactive process that may accelerate the language development of delayed children (Whitehurst et al., 1988).

The current study examines large group storybook reading, a typical daily activity in most pre-kindergarten programs. Large group reading includes the whole class, usually 15 or 20 children. Some researchers doubt that children receive the same literacy and language benefits when read to in a large group (Whitehurst, Epstein, Angell, Payne, Crone, & Fischel, 1994b). Morrow and Smith’s (1990) experimental study did find that children read to individually or in small groups had better comprehension than children read to in the large group setting. However, a study of a storybook reading program by Karweit (1989) found effects on comprehension and vocabulary with groups of 15 children. Another study examined 4-year-old children’s vocabulary learning during storybook reading. Children who actively participated in the reading by pointing, commenting, repeating words or labeling learned more new words than children who listened passively to the story (Sénéchal, Thomas, & Monker, 1995).
Wasik and Bond (2001) conducted an intervention that trained teachers to read in a more interactive style. One group of teachers used a series of questioning strategies to encourage children’s participation in the book reading event. A control group of teachers read in their usual fashion. Children in the interactive book reading groups scored better on measures of vocabulary, receptive language, and expressive language than children in the control group. Wasik, Bond, and Hindman (2006) later conducted a similar study with Head Start teachers. The teachers read stories in a typical group setting of between 18 and 20 children. Children in the intervention classrooms scored higher than the control on measures of expressive and receptive vocabulary. This research suggests that even children in large groups can receive increased language and literacy benefits from a storybook reading if they actively participate in the interaction. The present study further examines children’s active participation during large group storybook readings.

Participation

Some studies described in the previous section focused on the ability of the teacher to encourage participation by using a specific style of reading. Unfortunately, researchers admit that most teachers were not using a questioning or interactive style of reading before the interventions began (Hargrave & Sénéchal, 2000; Wasik et. al., 2006; Whitehurst et al., 1994b). This suggests that many preschool teachers do not typically use strategies that encourage participation when reading aloud to children. Therefore it is useful to describe children’s participation during group storybook readings when there is no intervention to change reading style.

Several studies indicate that children who display low levels of classroom participation are more likely to be at risk for academic and social adjustment difficulties
(Finn, 1993; Ladd, Birch, & Buhs, 1999). Finn (1993) concluded that the roots of good classroom participation lie in the earliest years of schooling. Observing children’s participation in preschool literacy activities gives researchers the opportunity to explore Finn’s assertion. The current study will include observation of children’s participation during a group storybook reading activity. Participation is defined as pointing, touching the book, commenting on the book, asking a question, or responding to prompts from the teacher. One observational study of children’s participation in storybook reading examined the context of reading between mother and child. Crain-Thoreson & Dale (1992) collected two story reading variables, frequency of reading and child’s engagement. The study’s definition of child engagement (observed questioning, responding, and nonverbal behavior) is similar to the current study’s definition of participation. Frequency of reading at 24 months explained a significant portion of the variance in a phonological awareness measure and a letter-word identification test given at 56 months. The child’s engagement in story reading at 24 months explained a significant portion of the variance on a print concepts measure given at 56 months (Crain-Thoreson & Dale, 1992). Considerable development of attention systems takes place between 12 months and 4.5 years of age (Derryberry & Rothbart, 1997; Ruff & Lawson, 1990). Participation or engagement in storybook reading may be related to other child characteristics like attention, temperament, and relationship quality. This study explores how participation may relate to these child characteristics in the context of a typical large group storybook reading in Head Start preschool classrooms.
Attention

Children’s participation in an activity also depends on their ability to focus their attention on the activity. Doing this in a group of twenty other preschoolers may be quite difficult for some children. Although the causes of this are unknown, two studies found lower ability for sustained attention in children from low-income backgrounds (Levy, 1980; Hutt, Tyler, Hutt, & Christopherson, 1989). The current study focuses on a sample of children from Head Start preschool classrooms which specifically cater to economically disadvantaged families.

Group storybook reading in preschool may require sustained attention similar to that needed for academic activities in elementary school, but little research has addressed children’s attention during preschool literacy activities. One study found support for questioning and interactive styles of reading that aim to actively engage children in the storytime. Results showed that during group storybook reading, teacher questions and comments related to the story serve to reinforce children’s attentiveness to the book while unrelated interruptions (i.e. disciplinary) distract them from the book (Gianvecchio & French, 2002). Gianvecchio and French observed children’s eye gaze as a measure of whether or not children were attending to the book. Another study looked at children’s attention during a puzzle task and also used eye gaze as a measure (Wertsch, McNamee, McLane, & Budwig, 1980). The present study examines attention as indicated by the child looking away from the book or the teacher.

Body Movement

Children’s body movement is another aspect observed during group storybook reading. The children typically sit in a circle or semi-circle around the teacher. Once
seated, there appear to be large individual differences in the amount of movement or fidgeting each child does during the story. In other words, some children sit very still while others move (large or small movements) almost constantly. No research has examined preschoolers’ body movement during tasks such as storybook reading. A more general search of the topic revealed that researchers believe motor development and cognitive development to be fundamentally interrelated (Diamond, 2000).

A recent study looked at 9-year-old children with either reading difficulties, movement difficulties, or both. Children classified as having movement difficulties performed below a certain percentile on a measure of manual dexterity, ball skills, and balance (static and dynamic). Children with reading difficulties performed similarly to typically developing children on a measure of cognitive attention. Children with movement difficulties, whether combined with reading difficulties or not, performed poorly on the attention measures when compared with typically developing children (Cruddace & Riddell, 2006). Studies also indicate that children with Attention Deficit Hyperactivity Disorder are more likely to have movement difficulties (Diamond, 2000). Much more research is needed to determine the relationship between movement and attention. The current study observes body movement in order to examine whether it relates to attention in the context of preschool group storybook reading.

**Temperament**

The present study examines how child temperament relates to behavior during group storybook reading. Temperament refers to the individual differences in reactivity and self-regulation. In that definition, reactivity refers to the “arousability of motor, affective, and sensory response systems.” (Rothbart, Ahadi, Hershey, & Fisher, 2001,
Self-regulation refers to processes that increase or decrease such response systems. Biological processes such as heredity and maturation also influence temperament (Rothbart et al., 2001). Researchers suggest that aspects of temperament relate to attention, motivation, and school adjustment in young children (Chang & Burns, 2005; Coplan, Barber, & Lagace-Seguin, 1999; Harris, Robinson, Chang, & Burns, 2007). Coplan and colleagues (1999) studied the role of temperament as a predictor of literacy and numeracy skills in preschoolers. Children reported by their parent as having a greater attention span, lower activity level, and less negative emotionality performed better on measures of literacy and numeracy. The temperamental characteristics also contributed uniquely to literacy and numeracy skills beyond other variables such as parental education and gender (Coplan et al., 1999).

More recent research has further explored the dimensions of temperament. Rothbart and colleagues identified three factors associated with temperament: surgency, negative affect, and effortful control (Putnam & Rothbart, 2006; Rothbart et al., 2001). The current study will look at two of the three factors. High ratings on the surgency scale correspond with high activity level, impulsivity, and high intensity pleasure (Rothbart et al., 2001). Analyses for this study include surgency in order to look for a possible relationship between extraversion and participation in storybook reading. The effortful control factor includes attention control and other aspects of self-regulation. Effortful control individually relates to attention skills in 3 to 5 year old children (Chang & Burns, 2005). This study will look for a similar relationship in the context of group storybook reading.
Teacher-Child Relationships

More than simply an adult reading text aloud, storybook reading is a social interaction between children and their teacher or parent. In a study of storybook reading with 5-year-olds and their parents, researchers discovered that the affective quality of the reading interaction was the most powerful predictor of children’s motivations for reading (Sonnenschein & Munsterman, 2002). These results emphasize the importance of the affective quality of reading interactions for fostering children’s interest in future literacy activities. According to the NICHD Early Child Care Research Network (2000), caregivers of young children should strive for interactions that are emotionally supportive and beneficial for language and literacy.

Since group storybook reading is an interaction often initiated by the teacher, it is possible that children who have a troubled teacher-child relationship may be less likely to adequately attend or participate. Alternately, a child with a positive relationship with his or her teacher may be more likely to engage in activities with the teacher.

There is evidence that children’s attachment to parents is related to quality of storybook reading beginning in infancy. Bus and van Ijzendoorn (1997) observed eighty-two mothers and their 44 to 63 week old infants. Insecurely attached children were less attentive and the mothers were more likely to control the child’s behavior physically. For example, mothers of insecure children frequently kept the book out of the child’s reach, limiting the participation of the child in the book reading. These mothers were also less successful in trying to get the child interested and keep the child interested in the book (Bus & van Ijzendoorn, 1997). Similarly, Frosch, Cox, and Goldman (2001) found that two-year-olds with a history of insecure-resistant attachment were less enthusiastic and
focused during a storybook reading event. Since the present study measures participation and attention during storybook reading, including a measure of teacher-child relationship provides another layer of information. While studies of storybook reading described in this section observed one-on-one reading interactions between parents and children, results of the proposed study will contribute to the growing body of information about the importance of teacher-child relationships in preschool.

Emergent Literacy Skills

The emergent literacy approach examines the earliest building blocks of reading and writing such as language, concepts of print, vocabulary, letter knowledge, and phonological sensitivity. Important language abilities include early understanding of syntax, semantics, and vocabulary. The set of skills referred to as concepts of print includes structural aspects of books and print. For example children learn to identify the front and back of a book, locate the title, and identify that print reads from left to right and top to bottom on a page (Whitehurst & Lonigan, 1998). Alphabet knowledge includes the ability to identify letters and early understanding of the letter-sound connection. Phonological sensitivity (or awareness) refers to children’s ability to detect rhyme, manipulate syllables, and distinguish individual phonemes. These skills are viewed as precursors to conventional forms of writing and reading (Whitehurst & Lonigan, 1998). In a study of emergent literacy skills, phonological sensitivity and letter knowledge in preschool accounted for 54% of the variance in kindergarten and first grade decoding abilities (Lonigan, Burgess, & Anthony, 2000). Based on this and other studies, researchers believe the preschool period is an important time for the development of emergent literacy. One aim of the proposed study is to examine how teacher report of
literacy skills are associated with children’s attention and participation during group storybook reading activities in preschool.

*Gender*

The proposed study will examine gender differences in participation, attention, and body movement during group storytime. Evidence from a study of preschool children suggests that girls are more attentive than boys during classroom activities (Holmes, Pellegrini, & Schmidt, 2006). The proposed study may contribute more to that line of research. Furthermore, research describes gender differences in children’s relationships with their teachers. For example, more closeness in the teacher-child relationship during kindergarten predicted better long-term academic outcomes for girls but not for boys (Hamre & Pianta, 2001). In boys’ relationships with their kindergarten teachers, conflict and dependency correlated with poorer academic outcomes in later schooling. Hamre and Pianta postulated that teacher-child relationship quality may “reflect the extent to which children are able to engage the instructional resources present in classrooms” (p. 634). In addition to studying possible correlations with teacher-child relationship quality, the present study will examine gender differences in children’s ability to engage in a classroom group story reading activity.
CHAPTER TWO

Research Questions

The purpose of the proposed study is to observe children’s participation, attention, and body movement during group storytime and determine how those variables may relate to teacher report of children’s literacy skills, temperament, and teacher-child relationship.

1. Are children’s body movement and attention as observed during group storytime related to one another?

2. Are children’s participation and attention as observed during group storytime related to teacher report of effortful control?

3. Are children’s participation and attention as observed during group storytime related to teacher report of surgency?

4. Are children’s participation and attention as observed during group storytime related to teacher report of teacher-child relationship quality?

5. Are children’s participation, attention, and body movement as observed during group storytime related to teacher report of literacy skills?

6. Do children’s participation, attention, and body movement as observed during group storytime differ by gender?
Methodology

Sample

The sample for this study included children \((N = 16)\) from four Head Start preschool classrooms located in four different public schools. Four children were randomly chosen from each classroom. Parents and teachers signed consent forms allowing videotaping of the children for research purposes. Of the sixteen children, 6 were male and 10 were female. The youngest child was 3.08 years old while the oldest was 4.91 years old \((\text{mean age} = 4.51)\). Table 1 shows the children’s ethnicities as reported by their teachers. All four lead teachers were female; 2 were white and 2 were African American.

Table 1

<table>
<thead>
<tr>
<th>Child Ethnicity</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, Non-Hispanic</td>
<td>1</td>
</tr>
<tr>
<td>White, Hispanic</td>
<td>8</td>
</tr>
<tr>
<td>Black or African American</td>
<td>5</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>1</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

Procedures

This study used group storytime observations collected as part of a project to study one-on-one storybook reading between a teacher and child in Head Start
classrooms. Teachers read to participating children individually twice a week throughout the study period. Researchers videotaped the one-on-one and group storybook readings at several times throughout the semester. Each child was recorded in group storytime at least twice. The first round of videotaping occurred early in the semester and the second occurred approximately halfway through the semester. A third round of videotaping at the end of the semester only collected video for eleven out of the sixteen children due to absences or scheduling conflicts. The four lead teachers conducted group storytime in a similar manner. Teachers usually chose a book relating to the current theme in the classroom such as colors, seasons, or holidays. This study did not require all teachers to read the same book because we aimed to observe the story reading interaction as it naturally occurred everyday in the classroom. The teacher sat facing the children, often on a chair or stool. The children sat in a semi-circle on the floor facing the teacher. Children usually sat in the same place on the semi-circle each time. Researchers adapted to the classroom layout when deciding where to place the video camera. The camera was set up so that the focal child was completely in the shot and any body movements were visible. Researchers verified that the audio could clearly record the teacher’s voice. At the time of each videotaping, researchers drew a small sketch of the storytime area to show the position of the camera, the teacher, and the focal child. Researchers also recorded the total length of the story reading, book title, total number of children in the group, and any interruptions or problems that occurred during the videotaping.

The lead teacher of each classroom completed questionnaires at the end of the semester. Teachers completed separate questionnaires for each participating child (See Appendix A).
Measures

*Group Storytime Observation.* This study used an observational method of assessing attention, participation, and body movement. A researcher transferred classroom video recorded on Mini DV tapes to DVD for coding. The videos were coded in random order, not in order of collection. To assess attention, coders counted the number of times the child looked away from the book and the teacher. Eye gaze was considered an appropriate measure of attention due to the strong visual component of storybooks and previous use of eye gaze to measure attention (Wertsch et al., 1980; Gianvecchio & French, 2002). It is important to note that for this particular variable a higher score indicates poorer attention. For all other variables high scores indicate positive outcomes.

Coders also recorded the number of times a child participated in the story. This included any participation in the storybook reading such as pointing, touching the book, comments relating to the story, asking a question, or responding to a prompt from the teacher.

Body movement coding was split into upper body movement and lower body movement. Upper body movement was classified as movement of body or limbs above the waist (head, arms, shoulders). Lower body movement was defined as movement below the waist (legs, feet, hips). When a child participated in the storybook reading by pointing, clapping, or moving in some way, coders counted this as both participation and body movement. For example, a child who pointed at a picture in the book would have one instance of participation and one instance of upper body movement. Coders recorded
the frequency of upper and lower body movement during the storybook reading, and applied an overall qualitative rating of movement at the end of the story.

Two reliable coders were used for frequency counts and qualitative ratings. During videotape coding, frequency counts began when the coders observed one of the following cues: 1) teacher verbally directs children’s attention to the book (i.e. “look up here please” or “we will read this book now”), 2) teacher begins talking about the cover or subject of the book, 3) teacher tells children the title of the book. Frequency counts ended when the teacher stopped discussing the story and moved on to another activity. Statistical tests were conducted to measure reliability between coders on each variable. The intraclass correlation procedure provides the ratio of between-groups variance to total variance (Norusis, 2005). Table 2 shows the single measures intraclass correlations for the frequency variables.

Table 2

*Interrater reliability: Intraclass correlations for frequency variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention</td>
<td>.861</td>
</tr>
<tr>
<td>Participation</td>
<td>.990</td>
</tr>
<tr>
<td>Upper Body</td>
<td>.917</td>
</tr>
<tr>
<td>Lower Body</td>
<td>.966</td>
</tr>
</tbody>
</table>

Coders also assigned qualitative ratings for overall body movement, attention, and involvement. The ratings capture the quality of children’s behavior during the book reading (see complete coding sheet in Appendix B). For example, a frequency count of body movement describes how many times a child moved. It does not distinguish
between large and small movements. Qualitative ratings were also important because the length of a story reading depends on the book and the reading style of the teacher. Longer readings may increase the likelihood of higher frequency counts. The qualitative ratings ranged from 1 to 4. For body movement, a qualitative rating of 1 translated to virtually no movement. A qualitative rating of 4 meant there was constant, often broad, movement. The scales for attention and involvement followed a similar pattern. Coders assigned qualitative ratings at the end of the story. Any disagreements or questions about the definitions of the qualitative ratings were resolved by discussion between the two coders. Table 3 shows the single measures intraclass correlations for the qualitative ratings.

Table 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention</td>
<td>.932</td>
</tr>
<tr>
<td>Involvement</td>
<td>.962</td>
</tr>
<tr>
<td>Movement</td>
<td>.963</td>
</tr>
</tbody>
</table>

*Interrater reliability: Intraclass correlations for qualitative ratings*

*Child Temperament.* The teachers completed the Children’s Behavior Questionnaire (Very Short) (Rothbart et al., 2001). This caregiver-report measure was developed to assess temperament in young children. The scales, negative affect, effortful control, and surgency, were adapted for use by teachers. The present study uses only the effortful control and surgency scales. Teachers rated thirty-six statements on a seven-point Likert scale for each focal child.

Examples of statements on the surgency scale include “Seems always in a big hurry to get from one place to another” and “Seems to be at ease with almost any
person.” Statements on the effortful control scale include “Is good at following instructions” and “Likes being sung to.” For each statement, teachers choose a number on a scale of one through seven, with one being “extremely untrue of this child” and seven being “extremely true of this child.” The instructions indicate that if the teacher has never seen the child in a situation (i.e. being sung to), the teacher should circle “NA” for not applicable (see Appendix C). Internal consistency alpha coefficients for the very short form equaled .75 for surgency, .72 for negative affect, and .74 for effortful control (Putnam & Rothbart, 2006).

Teacher-Child Relationship. The present study uses the short form of the Student-Teacher Relationship Scale (STRS) as measurement of the teacher-child relationship. The STRS measures three conceptually different elements of the teacher-child relationship based in attachment theory and other behavior interaction studies (Pianta, 1993). These elements - closeness, conflict, and dependency – relate to behavior at home (Pianta & Nimetz, 1991), school adjustment (Birch & Ladd, 1997), and academic achievement. For example, a study by Burchinal, Peisner-Feinberg, Pianta, and Howes (2002) found that teacher-child closeness correlated with receptive language during the preschool years. Closeness also correlates with teacher rating of children’s school liking and self-directedness in that children with close teacher-child relationships liked school more and exhibited greater self-directedness (Birch & Ladd, 1997). Birch and Ladd’s study showed conflict correlated with school adjustment difficulties, poorer academic performance, and more negative school attitude.

The present study uses the short form of the STRS that includes two of the three scales: closeness and conflict. The closeness scale describes the degree of warmth and
open communication between a teacher and child. Teachers rate items such as “I share an affectionate, warm relationship with this child,” and “This child openly shares his/her feelings and experiences with me.” The second scale measures conflict in the teacher-child relationship by identifying inharmonious interactions and lack of good communication (Birch & Ladd, 1997). The conflict scale contains items such as “This child and I always seem to be struggling with each other.” Teachers rate each item on a scale of one to five; one is “definitely does not apply” and five is “definitely applies.” Based on information from the NICHD Study of Early Child Care, the conflict and closeness variables had high internal reliability, with alpha coefficients equal to .90 and .84 respectively.

**Literacy Skills.** Teachers completed the literacy scale from the Developmental Continuum, the assessment tool of the Creative Curriculum (Dodge & Colker, 1992). Many Head Start programs in the United States currently use the Creative Curriculum (Lambert, no date). Items include “enjoys and values reading” and “demonstrates knowledge of the alphabet.” Teachers rate a child’s skill level on each item using the following four-point scale: not yet, beginning, intermediate, or well-developed. The teachers’ guide for the Developmental Continuum explains skills and behaviors a child should exhibit at each level of the scale. For example, a rating of “not yet” on “demonstrates understanding of print concepts” means the child can recognize logos or knows a favorite book by its cover. A rating of “intermediate” means a child shows general knowledge of how print works, such as that print reads left to right and top to bottom on a page. Internal reliability analysis of a sub-scale of emergent literacy items from the Developmental Continuum resulted in an alpha of .950 (Lambert, n.d.).
Analyses

Analyses of the data were conducted using the statistical software SPSS. In order to account for variability in story length, the frequency variables were standardized by making the mean length of story (7.16 minutes) equal to 1 and then converting the other story times to percentages of 1. For example, the longest story was 15.93 minutes long. Dividing 15.93 by 7.16 equals 2.22 rounded to the nearest hundredth. Then, frequency scores for cases that corresponded with that story (15.93 minutes long) were then divided by 2.22. This process standardizes the scores as though all children listened to stories approximately 7.16 minutes long for each observation. Due to the small sample size (N = 16) this method of standardization is more accurate than standardizing the scores based on the means (i.e. converting to z-scores). Each case had at least two observations on each frequency variable; 11 of the 16 children had a third observation on each variable. All analyses of the frequency variables were conducted using the mean score of the observations for each case. Descriptive statistics were computed and the data was examined for appropriate minimum and maximum values, means, and standard deviations. The frequency variables are not normally distributed. Therefore, correlations between study variables were computed as Spearman correlation coefficients. Spearman coefficients are based on ranks so the actual values of the variables do not have to be linearly related (Norusis, 2005). To examine possible differences between males and females on the study variables, an independent samples t-test was conducted. Using the qualitative variables, the cases were divided into groups based on each of the four levels of involvement, attention, and body movement. Analyses of variance (ANOVAs) were conducted to examine differences by group on the teacher reported measures. Any
significant F-tests were further examined using Tukey’s honestly significant difference test for pairwise comparisons.
CHAPTER 3

Results

Descriptive Statistics

The purpose of the current study is to provide descriptive analysis of children’s behavior during group storytime. Table 4 shows descriptive statistics for the observed frequency variables: participation, attention, and body movement. Table 5 provides descriptive statistics for the teacher reported measures: temperament, teacher-child relationship, and literacy skills. All analyses of the observed frequency variables were computed using standardized scores based on the length of storytime. Children participated (i.e. commented, pointed to the book, responded to the teacher) during group storytime a mean of approximately 9 times. Children looked away from the book or teacher during storytime an average of 16.65 times. The mean number of body movements (upper and lower body) during storytime was 23.69.

The descriptive statistics for the teacher reported measures revealed some notable issues. Examination of the mean literacy scores showed that teachers generally rated children on the highest end of the scale. The highest possible value is 3.0, and the mean of all 16 literacy scores equaled 2.3. Scores on the teacher-child relationship closeness scale exhibited similar properties. The highest possible score on the closeness scale is 35; the mean of all cases was a score of 29.13.
Table 4

*Descriptive statistics for observed frequency variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum value</th>
<th>Maximum value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>8.98</td>
<td>6.25</td>
<td>.49</td>
<td>19.24</td>
</tr>
<tr>
<td>Attention (# of looks away)</td>
<td>16.65</td>
<td>7.07</td>
<td>6.10</td>
<td>32.58</td>
</tr>
<tr>
<td>Body Movement</td>
<td>23.69</td>
<td>9.21</td>
<td>10.84</td>
<td>48.35</td>
</tr>
</tbody>
</table>

Table 5

*Descriptive statistics for teacher reported measures*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum value</th>
<th>Maximum value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperament</td>
<td>Surgency</td>
<td>4.35</td>
<td>.975</td>
<td>2.8</td>
<td>5.91</td>
</tr>
<tr>
<td></td>
<td>Effortful Control</td>
<td>5.10</td>
<td>.815</td>
<td>3.9</td>
<td>6.73</td>
</tr>
<tr>
<td>Teacher-Child Relationship</td>
<td>Closeness</td>
<td>29.13</td>
<td>4.67</td>
<td>18</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Conflict</td>
<td>17.94</td>
<td>7.39</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td>Emergent Literacy</td>
<td>Literacy</td>
<td>2.30</td>
<td>.810</td>
<td>.71</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 6

*Descriptive statistics for qualitative ratings*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Rating</th>
<th>Observation 1</th>
<th>Observation 2</th>
<th>Observation 3*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: uninvolved</td>
<td>2</td>
<td>12.5</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>2: seldom involved</td>
<td>4</td>
<td>25.0</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>3: usually involved</td>
<td>6</td>
<td>37.5</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>4: consistently involved</td>
<td>4</td>
<td>25.0</td>
<td>4</td>
<td>25.0</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>100.0</td>
<td>16</td>
<td>100.0</td>
</tr>
<tr>
<td>Attention</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: not attentive</td>
<td>1</td>
<td>6.3</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td>2: seldom attentive</td>
<td>3</td>
<td>18.8</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>3: usually attentive</td>
<td>7</td>
<td>43.8</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>4: consistently attentive</td>
<td>5</td>
<td>31.3</td>
<td>4</td>
<td>25.0</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>100.0</td>
<td>16</td>
<td>100.0</td>
</tr>
<tr>
<td>Body Movement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: little or no movement</td>
<td>4</td>
<td>25.0</td>
<td>1</td>
<td>6.3</td>
</tr>
<tr>
<td>2: some movement; mostly small motor</td>
<td>5</td>
<td>31.3</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>3: frequent movement; gross and small motor</td>
<td>5</td>
<td>31.3</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>4: constant movement; especially gross motor</td>
<td>2</td>
<td>12.5</td>
<td>5</td>
<td>31.3</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>100.0</td>
<td>16</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* only 11 out of 16 children were observed a third time due to absences or schedule conflicts
Table 7

*Spearman’s Correlations between study variables*

<table>
<thead>
<tr>
<th></th>
<th>Look aways (attention)</th>
<th>Participation</th>
<th>Body Movement</th>
<th>Literacy</th>
<th>Surgency</th>
<th>Effortful Control</th>
<th>Teacher-Child Closeness</th>
<th>Teacher-Child Conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look aways</td>
<td>1.00</td>
<td>-.668**</td>
<td>.268</td>
<td>-.434</td>
<td>-.403</td>
<td>-.385</td>
<td>-.187</td>
<td>-.237</td>
</tr>
<tr>
<td>(attention)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>-.668**</td>
<td>1.00</td>
<td>-.221</td>
<td>.381</td>
<td>.549*</td>
<td>.590*</td>
<td>.323</td>
<td>.122</td>
</tr>
<tr>
<td>Body Movement</td>
<td>.268</td>
<td>-.221</td>
<td>1.00</td>
<td>-.255</td>
<td>-.283</td>
<td>-.016</td>
<td>-.232</td>
<td>-.399</td>
</tr>
<tr>
<td>Literacy</td>
<td>-.434</td>
<td>.381</td>
<td>-.255</td>
<td>1.00</td>
<td>.104</td>
<td>.153</td>
<td>.450</td>
<td>-.338</td>
</tr>
<tr>
<td>Surgency</td>
<td>-.403</td>
<td>.549*</td>
<td>-.283</td>
<td>.104</td>
<td>1.00</td>
<td>.794**</td>
<td>.544*</td>
<td>.513*</td>
</tr>
<tr>
<td>Effortful Control</td>
<td>-.385</td>
<td>.590*</td>
<td>-.016</td>
<td>.153</td>
<td>.794**</td>
<td>1.00</td>
<td>.570*</td>
<td>.131</td>
</tr>
<tr>
<td>Teacher-Child</td>
<td>-.187</td>
<td>.323</td>
<td>-.212</td>
<td>.450</td>
<td>.544*</td>
<td>.570*</td>
<td>1.00</td>
<td>.054</td>
</tr>
<tr>
<td>Closeness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher-Child</td>
<td>-.237</td>
<td>.122</td>
<td>-.399</td>
<td>-.338</td>
<td>.513*</td>
<td>.131</td>
<td>.054</td>
<td>1.00</td>
</tr>
<tr>
<td>Conflict</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*significant at alpha = .05

**significant at alpha = .01
In order to examine any differences in the three observations conducted across the semester, descriptive statistics for the qualitative ratings were computed separately for each observation (Table 6). The mean ratings for the three qualitative variables were 2.91 for attention, 2.67 for involvement, and 2.61 for body movement. During their first observation, 12 out of the 16 children received a rating of 3 or better (usually or consistently attended) for overall attention throughout the book reading. Only 9 out of 16 received a rating of 3 or better for attention at the second observation, and 8 out of the 11 children observed a third time fell into that category. Since five children did not have a third observation, it is difficult to determine if this decrease is a trend. When examining the 5 missing cases separately, 3 out of the 5 did have a lower attention rating on their second observation compared to their first.

A similar trend was observed in the qualitative body movement ratings. At their first observation, 9 out of 16 children received a rating of 2 or lower indicating only small motor movement or no movement. During their second storytime, 10 out of 16 children received ratings of 3 or higher indicating frequent or constant movement, both gross and small motor. At the third observation, 7 out of the 11 cases had ratings of 3 or higher.

A category system was developed to further analyze the qualitative ratings. For the qualitative rating of attention, each case was placed in one of four categories based on the mean rating for that case across the three observations. The same method was applied for the involvement and body movement ratings. Categories one through four were defined as follows:

Category 1: mean rating of 0 to 0.99

Category 2: mean rating of 1 to 1.99
Category 3: mean rating of 2 to 2.99

Category 4: mean rating of 3 to 4

This method was devised in order to examine differences between the categories on the quantitative and teacher reported variables. After placement of the cases, no children had mean ratings that fell in category 1 on any of the qualitative variables.

Results of all analyses are described in order of the original research questions.

Research Question #1: Are children’s body movement and attention as observed during group storytime related to one another?

Table 7 demonstrates correlations between study variables. The relationship between children’s body movement and attention indicated that high body movement related to low attention, but this relationship was not statistically significant. An ANOVA was conducted to compare body movement frequency mean scores of cases in categories 2, 3, and 4 of the attention qualitative variable. The mean difference between attention categories 2 and 4 approached significance (p=.082).

As would be expected, fewer looks away from the teacher (high attention) correlated significantly with high participation ($r = -.668$, $p<.01$). An ANOVA was conducted to examine differences in participation between categories 2, 3, and 4 of the attention qualitative variable. The mean difference in participation was significant between groups 2 and 4 ($p=.0003$) and groups 3 and 4 ($p=.001$). In other words, children in attention category 4 (mean qualitative rating between 3 and 4) had significantly higher participation frequency scores than children in categories 2 or 3.

Research Question #2: Are children’s participation and attention as observed during group storytime related to teacher report of effortful control?
Teacher report of effortful control was positively correlated ($r=.590$, $p<.05$) with mean participation frequency during group storytime. Using the involvement qualitative categories, an ANOVA to examine differences on the effortful control measure revealed a nearly significant difference between involvement categories 2 and 4 ($p=.069$). The correlation between attention and effortful control was not statistically significant.

Teacher report of closeness in the teacher-child relationship was positively correlated with effortful control ($r=.570$, $p<.05$).

**Research Question #3: Are children’s participation and attention as observed during group storytime related to teacher report of surgency?**

Teacher report of surgency was positively correlated ($r=.549$, $p<.05$) with mean participation frequency during group storytime. Using the involvement qualitative categories, an ANOVA to examine differences on the surgency measure resulted in a significant difference between involvement categories 2 and 4 ($p=.008$). The correlation between attention and surgency was not significant, but the mean difference between attention categories 2 and 4 approached significance ($p=.051$).

Additionally, surgency was positively correlated with both closeness ($r=.544$, $p<.05$) and conflict ($r=.513$, $p<.05$) in the teacher-child relationship. The surgency and effortful control items were highly correlated in this sample ($r=.794$, $p<.01$). However, clear differences in the two concepts surfaced when compared to the teacher-child relationship variables. Both temperament variables were significantly related to teacher-child closeness, but surgency correlated with teacher-child conflict and effortful control did not.
Research Question #4: Are children’s participation and attention as observed during group storytime related to teacher report of teacher-child relationship quality?

The teacher-child relationship measures of closeness and conflict were not significantly correlated with any of the frequency variables. The positive relationship between teacher-child closeness and literacy approached significance (p=.081). However, as mentioned previously, teachers tended to give highly positive scores on the teacher-child relationship measure. This may interfere with the analyses of the closeness and conflict scores.

Research Question #5: Are children’s participation, attention, and body movement as observed during group storytime related to teacher report of literacy skills?

Scores on the literacy skills measure were not significantly correlated with any of the frequency variables. Teachers generally rated children very highly on the literacy scale which may interfere in analyses conducted using that measure.

Research Question #6: Do children’s participation, attention, and body movement as observed during group storytime differ by gender?

The t-tests conducted to compare scores by gender were not significant for any of the observed or teacher reported variables.
CHAPTER FOUR

Discussion

Analysis of group storytime is important because the practice can be observed often in many early childhood classrooms (Burgess, Lundgren, Lloyd, & Pianta, 2001; Dickinson, McCabe, and Anastopolous, 2002). The results of this study provide a descriptive and increased understanding of children’s behavior during group storytime.

Children who maintained focused attention on the book and teacher participated more frequently by pointing, commenting, or responding to the teacher. Results of previous studies show that children’s participation in storytime could positively influence their acquisition of vocabulary and other literacy skills (Sénéchal et al., 1995). Although the correlation was moderate in the current study, the relationship between participation and teacher report of literacy skills was in the expected direction.

Results of the current study show stronger associations between aspects of temperament and participation in group storytime. Children rated by their teachers as high in surgency participated more often during group storytime. Effortful control, which is highly correlated with surgency in this sample, was also significantly related to participation. These results indicate that children who participated frequently in group storybook reading were active and energetic yet also able to control their attention and focus on an activity. According to Rogoff’s theory of participatory appropriation as well as research by Sénéchal, Thomas, and Monker (1995), children who actively participate have a better chance of learning and developing skills during storybook reading. Thus,
teachers can engage shy and inattentive children by encouraging them to participate in the storybook reading interaction. Teachers who have difficulty convincing shy children to actively participate in group storytime may start by involving those children in small ways, such as asking them to raise their hand or nod their head. It may also be helpful to read to those children in a separate small group where it is possible to direct questions about the book to each child individually.

Measures of literacy and teacher-child relationship were not correlated with any of the observed variables. However, this result may be misleading due to the small sample size and the fact that teachers tended to rate children highly on the literacy and teacher-child relationship scales. Teacher-child relationship was correlated with the teacher reported measures of surgency and effortful control. Results from this study indicate that teachers in this study feel strongly about their relationships with extroverted children. Surgency was significantly correlated with both the closeness and conflict scores on the teacher-child relationship scale. It seems that extroverted children may be more likely to make an impression on the teacher, either positively or negatively. This result is supported by findings from a study that identified shy children through both observation and parental report. Shy children had less close and less conflictual relationships with their teachers at age five (Rydell, Bohlin, & Thorell, 2005). In light of the results of the current study, it seems that less energetic or outgoing children are also less likely to socially engage with the teacher, whether in group or one-on-one situations. Teachers should be aware of this trend and attempt to initiate positive interactions with shy children.
Results of this study are particularly encouraging when one considers the backgrounds of the children in this sample. Since this study chose to observe in Head Start classrooms, all of the children are from low-income families. Furthermore, 13 out of the 16 children were identified by their teachers as Black/African American or Hispanic. Previous research highlights the possibility that children from low-income families come to Head Start having experienced few opportunities for book exposure (Raz & Bryant, 1990). According to researchers, storybook reading in preschool is one possible antidote to this previous experience (Whitehurst et al., 1994). Results of the current study provide evidence that children from low-income backgrounds participate in these interactions when they occur, and thus may reap benefits from the story reading process.

Limitations

The greatest limitation of this study was the small sample size. Several correlations and ANOVAS conducted for this study approached statistical significance. For example, this study hypothesized that close teacher-child relationships would correlate with participation during storytime. The two variables were moderately correlated in the expected direction. Similarly, attention was moderately correlated with literacy skills, surgency, and effortful control in the expected direction. A larger sample size might provide stronger evidence of behavioral indicators of child differences in literacy, social development, and relationships.

The current study does not account for differences in teacher reading style. Research points to the idea that the teacher’s style of reading affects the quality of a storybook reading interaction (Dickinson et al., 2002). Styles vary in terms of enthusiasm, performance, and time allotted for questions or comments (Dickinson &
Smith, 1994). For this study, however, the purpose was to observe children’s behavior in group storytime as it typically occurred in the classroom. Future studies may choose to control for teacher reading style or examine differences in children’s behavior when read to by different teachers.

Measurements of children’s of temperament, teacher-child relationship and literacy skills were all reported by the teacher. As mentioned previously, teachers generally rated children very highly on the scales of closeness and literacy skills. A standardized measure of language and literacy such as the Peabody Picture Vocabulary Test could have yielded a more accurate picture of the children’s abilities.

The sample for this study included primarily Hispanic and African American children from low income backgrounds. It is important to note that results from this study cannot be generalized for the larger population of pre-kindergarten children. A study with participants from a broader range of backgrounds is needed in order to understand the implications of these results in the larger population.

Conclusion

This study provides a description of children’s behavior group storybook reading as it relates to teacher report of temperament, teacher-child relationship, and literacy skills. Specifically, this study described children who participate most often in storytime as being more surgent and attentive during activities. Future research should focus on whether the children who actively participate in group storytime are learning more language and literacy skills than other children. This research has potential to affect the way teachers conduct group storytime, encouraging them to incorporate more opportunities for participation into the reading routine.
Storytime in Prekindergarten

Child's Name ____________

Dear Teacher,

This packet contains three questionnaires for you to complete. Please write your answers directly on the questionnaire in the space provided or by circling the most appropriate response. As always, your answers to these questions are confidential.

Thank you very much for your participation in Storytime!

Storytime in Prekindergarten
University of North Carolina at Chapel Hill

August 31, 2005
Storytime Child Survey

Date completed ______/_____/_____

Child’s date of birth ______/_____/_____

(mo/day/year)

Dear Teacher,
Please answer the following questions to the best of your ability. The information you provide is confidential.

1. What is the child’s gender?  
   a. Female ............ 1  
   b. Male .............. 2

2. How would you describe the child’s ethnicity?  
   (Circle as many as apply)
   a. White, non-Hispanic .................. 1  
   b. White, Hispanic ...................... 2  
   c. Black or African American .......... 3  
   d. American Indian or Alaska Native ... 4  
   e. Asian or Pacific Islander ............ 5  
   f. Other ................................ 6

3. For each language spoken by this child, rate the child’s proficiency in that language.

   A few words  Communicates  Conversational needs
   a. English ................................ 1 .................. 2 .................. 3
   b. Spanish ................................ 1 .................. 2 .................. 3
   c. Other ................................ 1 .................. 2 .................. 3

Please specify language ________________________________

   d. Other ................................ 1 .................. 2 .................. 3

Please specify language ________________________________

Storytime in Prekindergarten  
University of North Carolina at Chapel Hill  
August 31, 2005

2
4. What is the child's enrollment status?  
   a. More at Four...........1  
   b. Head Start............2  
   c. Tuition Paying........3  

5. Does this child have an IEP?  
   a. Yes...............................1  
   b. No..............................2  

6. How many times per week do you (or an aide) read a storybook one-on-one to this child?  
   ........................................................................... ___ times per week  

Child's Literacy Skills:  

Please circle the answer that describes the child's behavior based on your observations. Please circle only one rating for each item.

<table>
<thead>
<tr>
<th>This Child...</th>
<th>Not Yet (Familiar)</th>
<th>Beginning</th>
<th>Intermediate</th>
<th>Well-Developed</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Enjoys and values reading</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Demonstrates an understanding of print concepts</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Demonstrates knowledge of the alphabet</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Uses emerging reading skills to make meaning from print</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. Comprehends and interprets meaning from books and other texts</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. Understands the purpose of writing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. Writes letters and words</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Child's Social and Emotional Development

Please circle the answer that describes the child's behavior based on your observations. Please circle only one rating for each item.

<table>
<thead>
<tr>
<th>This Child…</th>
<th>Not Yet (Forerunner)</th>
<th>Beginning</th>
<th>Intermediate</th>
<th>Well-Developed</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Shows ability to adjust to new situations</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. Demonstrates appropriate trust in adults</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. Recognizes his/her own feelings and manages them appropriately</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. Stands up for rights</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. Demonstrates self-direction and independence</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. Takes responsibility for his/her own well-being</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. Respects and cares for classroom environment and materials</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21. Follows classroom routines</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22. Follows classroom rules</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23. Plays well with other children</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24. Recognizes the feelings of others and responds appropriately</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25. Shares and respects the rights of others</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>26. Uses thinking skills to resolve conflicts</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Thank you for your time.

Storytime in Prekindergarten  
University of North Carolina at Chapel Hill  
August 31, 2005  
4
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>
</table>

1. I share an affectionate, warm relationship with this child.  
2. This child and I always seem to be struggling with each other.  
3. If upset, this child will seek comfort from me.  
4. This child is uncomfortable with physical affection or touch from me.  
5. This child values his/her relationship with me.  
6. When I praise this child, he/she beams with pride.  
7. This child spontaneously shares information about himself/herself.  
8. This child easily becomes angry with me.  
9. It is easy to be in tune with what this child is feeling.  
10. This child remains angry or is resistant after being disciplined.  
11. Dealing with this child drains my energy.  
12. When this child is in a bad mood, I know we’re in for a long and difficult day.  
13. This child’s feelings toward me can be unpredictable or can change suddenly.  
14. This child is sneaky or manipulative with me.  
15. This child openly shares his/her feelings and experiences with me.

© 1992 Plante, University of Virginia.
Children’s Behavior Questionnaire
Teacher Version

Child First Name ____________________
Today’s Date ____________________

Instructions: Please read carefully before starting.

On the following pages you will see a set of statements that describe children’s reactions to a number of situations. We would like you to tell us what the child’s reaction is likely to be in those situations. There are of course no “correct” ways of reacting; children differ widely in their reactions, and it is these differences we are trying to learn about. Please read each statement and decide whether it is a “true” or “untrue” description of this child’s reaction within the past six months. Use the following scale to indicate how well a statement describes this child:

Circle #   If the statement is:
1  extremely untrue of this child
2  quite untrue of this child
3  slightly untrue of this child
4  neither true nor false of this child
5  slightly true of this child
6  quite true of this child
7  extremely true of this child

If you cannot answer one of the items because you have never seen the child in that situation, for example, if the statement is about the child’s reaction to your singing and you have never sung to this child, then circle NA (not applicable).

Please be sure to circle a number or NA for every item.
<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>1</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

My child:

1. Seems always in a big hurry to get from one place to another.
   1  2  3  4  5  6  7  NA

2. Gets quite frustrated when prevented from doing something s/he wants to do.
   1  2  3  4  5  6  7  NA

3. When drawing or coloring in a book, shows strong concentration.
   1  2  3  4  5  6  7  NA

4. Likes going down high slides or other adventurous activities.
   1  2  3  4  5  6  7  NA

5. Is quite upset by a little cut or bruise.
   1  2  3  4  5  6  7  NA

6. Prepares for trips and outings by planning things s/he will need.
   1  2  3  4  5  6  7  NA

7. Often rushes into new situations.
   1  2  3  4  5  6  7  NA

8. Tends to become sad if the family's plans don't work out.
   1  2  3  4  5  6  7  NA

9. Likes being sung to.
   1  2  3  4  5  6  7  NA

10. Seems to be at ease with almost any person.
    1  2  3  4  5  6  7  NA

11. Is afraid of burglars or the "boogie man."
    1  2  3  4  5  6  7  NA

12. Notices it when parents are wearing new clothing.
    1  2  3  4  5  6  7  NA

13. Prefers quiet activities to active games.
    1  2  3  4  5  6  7  NA

14. When angry about something, s/he tends to stay upset for ten minutes or longer.
    1  2  3  4  5  6  7  NA

15. When building or putting something together, becomes very involved in what s/he is doing, and works for long periods.
    1  2  3  4  5  6  7  NA
<table>
<thead>
<tr>
<th></th>
<th>extremely untrue</th>
<th>quite untrue</th>
<th>slightly untrue</th>
<th>neither true nor untrue</th>
<th>slightly true</th>
<th>quite true</th>
<th>extremely true</th>
<th>not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.</td>
<td>Likes to go high and fast when pushed on a swing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>17.</td>
<td>Seems to feel depressed when unable to accomplish some task.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>18.</td>
<td>Is good at following instructions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>19.</td>
<td>Takes a long time in approaching new situations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>20.</td>
<td>Hardly ever complains when ill with a cold.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>21.</td>
<td>Likes the sound of words, such as nursery rhymes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>22.</td>
<td>Is sometimes shy even around people s/he has known a long time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>23.</td>
<td>Is very difficult to soothe when s/he has become upset.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>24.</td>
<td>Is quickly aware of some new item in the living room.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>25.</td>
<td>Is full of energy, even in the evening.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>26.</td>
<td>Is not afraid of the dark.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>27.</td>
<td>Sometimes becomes absorbed in a picture book and looks at it for a long time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>28.</td>
<td>Likes rough and rowdy games.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>29.</td>
<td>Is not very upset at minor cuts or bruises.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>30.</td>
<td>Approaches places s/he has been told are dangerous slowly and cautiously.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>extremely untrue</td>
<td>quite untrue</td>
<td>slightly untrue</td>
<td>neither true nor untrue</td>
<td>slightly true</td>
<td>quite true</td>
<td>extremely true</td>
<td>NA</td>
</tr>
<tr>
<td>---</td>
<td>-----------------</td>
<td>-------------</td>
<td>-----------------</td>
<td>------------------------</td>
<td>---------------</td>
<td>-----------</td>
<td>----------------</td>
<td>-----</td>
</tr>
<tr>
<td>51.</td>
<td>Is slow and unhurried in deciding what to do next.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>32.</td>
<td>Gets angry when s/he can't find something s/he wants to play with.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>33.</td>
<td>Enjoys gentle rhythmic activities such as rocking or swaying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>34.</td>
<td>Sometimes turns away shyly from new acquaintances.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>35.</td>
<td>Becomes upset when loved relatives or friends are getting ready to leave following a visit.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>36.</td>
<td>Comments when a parent has changed his/her appearance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Please check back to make sure you have completed all items by marking a number or "NA".

Thank you very much for your help!
APPENDIX B

Storytime Group Coding
Code continuously while watching tape. Record quantitative responses while watching. Record qualitative ratings at end of story.

Quantitative Coding

**Engagement**

*Looking away (attention)* – child looks away from book and teacher. May look at camera, something else in the classroom etc.

*Participation* – child participates with story reading in some way, i.e. responds to teacher’s prompts for the group, asks question etc.

**Body Movement**

*Upper Body* – any movement of the upper body i.e. moves arms, rocks in seat, shrugs shoulders

*Lower Body* – movement of the lower body i.e. Extends legs, sits on knees, moves seating position

Qualitative Coding

**Body Movement** - After scoring frequencies for body movement, assign a qualitative rating of 1-4 for the child’s overall body movement during the activity. Take into account the intensity and frequency of movement.

1. Virtually no movement
2. Small motor (may be constant)/ head turn, arms but close to body, may shift position once or twice especially to see book better.
3. Trunk movement, small motor, arms broad motion, some lower body movement, shifts position a few times.
4. Constant movement, broad motions both upper and lower body.

**Attention**

1. Virtually none, off task throughout story
2. Attention spotty (ex: not necessarily off task, but not paying close attention either)
3. Primarily attends throughout story, may look away some
4. Consistently focused

**Involvement**

- Score for involvement cannot be higher than score for attention.
1. Virtually none
2. Seldom, even when scaffolded or requested of by teacher or group
3. Usually participates when given opportunity, responds to teachers and peers.
4. Participates at almost all opportunities and may even make input without being prompted.
ITEMS-BY-SCALE

Surgency
1. Seems always in a big hurry to get from one place to another.
4. Likes going down high slides or other adventurous activities.
7. Often rushes into new situations.
10. Seems to be at ease with almost any person.
13R. Prefers quiet activities to active games.
16. Likes to go high and fast when pushed on a swing.
19R. Takes a long time in approaching new situations.
22R. Is sometimes shy even around people s/he has known a long time.
25. Is full of energy, even in the evening.
28. Likes rough and rowdy games.
31R. Is slow and unhurried in deciding what to do next.
34R. Sometimes turns away shyly from new acquaintances.

Negative Affect
2. Gets quite frustrated when prevented from doing something s/he wants to do.
5. Is quite upset by a little cut or bruise.
8. Tends to become sad if the family’s plans don’t work out.
11. Is afraid of burglars or the “boogie man.”
14. When angry about something, s/he tends to stay upset for ten minutes or longer.
17. Seems to feel depressed when unable to accomplish some task.
20R. Hardly ever complains when ill with a cold.
23. Is very difficult to soothe when s/he has become upset.
26R. Is not afraid of the dark.
29R. Is not very upset at minor cuts or bruises.
32. Gets angry when s/he can’t find something s/he wants to play with.
35. Becomes upset when loved relatives or friends are getting ready to leave following a visit.

Effortful Control
3. When drawing or coloring in a book, shows strong concentration.
6. Prepares for trips and outings by planning things s/he will need.
9. Likes being sting to.
12. Notices it when parents are wearing new clothing.
15. When building or putting something together, becomes very involved in what s/he is doing, and works for long periods.
18. Is good at following instructions.
21. Likes the sound of words, as in nursery rhymes.
24. Is quickly aware of some new item in the living room.
27. Sometimes becomes absorbed in a picture book and looks at it for a long time.
30. Approaches places s/he has been told are dangerous slowly and cautiously.
33. Enjoys gentle rhythmic activities, such as rocking or swaying.
36. Comments when a parent has changed his/her appearance.

APPENDIX C
Information for the Very Short Form of the Children’s Behavior Questionnaire

The Very Short Form of the Children’s Behavior Questionnaire (CBQ) was designed to assess three broad dimensions of temperament, which have consistently emerged from scale-level factor analysis of the standard form of the CBQ. Details regarding the development, content, and suggestions for use of the standard, short, and very short forms are found in the following articles:


SCORING PROCEDURE

Scale scores for the three dimensions represent the mean score of all scale items applicable to the child during the last 6 months, as judged by the caregiver. If a caregiver omitted an item, or if the caregiver checked the “Does not apply” response option for an item, the item receives no numerical score and is not factored into the scale score.

Scores are to be computed by the following method:

1) Items indicated with an R on the items-by-scale list below are reverse-scored. Before using them, to calculate the scale score, they must be reversed. This is done by subtracting the numerical response given by the caregiver from 8. Thus, a caregiver response of 7 becomes 1, 6 becomes 2, 5 becomes 3, 4 remains 4, 3 becomes 5, 2 becomes 6, and 1 becomes 7.

2) Sum the scores for items receiving a numerical response (do not include items marked “does not apply” or items receiving no response). For example, given a sum of 50 for a scale of 12 items, with one item receiving no response, two items marked “does not apply,” and 9 items receiving a numerical response, the sum of 50 would be divided by 9 to yield a mean of 5.56 for the scale score.

Note: Most statistics programs will carry out these steps for you. Users of SPSS can copy the following commands into a syntax file to reverse items and calculate scale scores. The syntax assumes that items are titled “CBQ1,” “CBQ2,” “CBQ3,” etc. It is also assumed that no score was entered when caregivers omitted an item or checked “Does not apply”.

```plaintext
COMPUTE cbq31r = 8 - cbq31. COMPUTE cbq34R = 8 - cbq34. COMPUTE cbq20R = 8 - cbq20.
COMPUTE SURGERCY = MEAN (cbq1, cbq4, cbq7, cbq10, cbq13r, cbq16, cbq19, cbq22r, cbq25, cbq28, cbq31r, cbq34).
COMPUTE NENGAF = MEAN (cbq2, cbq5, cbq8, cbq11, cbq14, cbq17, cbq20, cbq23, cbq26r, cbq29, cbq32, cbq33).
COMPUTE EFFCON = MEAN (cbq3, cbq6, cbq12, cbq15, cbq18, cbq21, cbq24, cbq27, cbq30, cbq38, cbq38).
execute.
```


MI: Center for the Improvement of Early Reading Achievement.


York: Cambridge University Press.


