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Shared Book Reading Styles and Expressive and Receptive Vocabulary Outcomes Among Low-Income Latino Caregivers and Young Children

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Shared Book Reading Styles and Expressive and Receptive Vocabulary Outcomes
Among Low-Income Latino Caregivers and Young Children

by

Julie Curran Manzo

Presented to the Graduate and Research Committee
of Lehigh University

in Candidacy for the Degree of

Doctor of Philosophy

in

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ABSTRACT

This study examined whether distinctive naturally occurring reading styles categorized by types of caregiver utterances were found among low-income Latino caregivers and their two-year-old children. Additionally, the study looked at the relationships of these styles to caregiver and child demographic variables and to the language in which the caregiver read with the child. Finally, this study investigated whether there were significant differences in children's expressive and receptive vocabulary as measured by the Expressive One-Word Picture Vocabulary Test – Revised (EOWPVT-R) and the Peabody Picture Vocabulary Test – Third Edition (PPVT-III) based on caregiver reading style. Data from 29 caregiver-child dyads were drawn from a larger pool of participants from an evaluation study of a home visiting program. During a home visit, each caregiver shared a wordless picture book with the child. The EOWPVT-R and PPVT-III were administered concurrently. Book reading sessions were audio recorded, transcribed, and translated into English if necessary. Transcripts were then segmented into utterances and each utterance was coded by content and speech act. Proportions of each code were submitted to hierarchical cluster analysis. Results of the cluster analysis indicated three types of reading styles: Directors, Elicitors, and Storytellers. Chi square analyses were used to investigate relationships between these reading styles and caregiver and child demographic variables. No significant relationships were found. There was a significant relationship between reading style and language of book reading; however, this result should be interpreted with caution due to the small sample size and imbalance in numbers between English and Spanish transcripts. Finally, MANOVA was used to examine whether there were significant differences in

child EOWPVT-R and PPVT-III raw scores based on caregiver reading style. There were no significant differences; however, this analysis was underpowered and should be interpreted with caution. Findings regarding the reading styles are discussed in the context of previous literature. Recommendations for future research include confirmation of the present findings with a larger sample size, extension of the methodology used in the present study to older children and situations with text-based books, and the application of this line of research to culturally relevant intervention design.

CHAPTER I. INTRODUCTION

Home storybook reading with young children has long been promoted as an effective means of developing oral language skills, including vocabulary skills, and later literacy (National Research Council, 1998). This recommendation is supported by a multitude of research studies showing links among storybook reading in early childhood, vocabulary skills, and later reading skills (Bus, van IJzendoorn, & Pellegrini, 1995; Hood, Conlon, & Andrews, 2008; Raikes et al, 2006; Sénéchal & LeFevre, 2002). However, much of this research has been conducted with white, middle-class participants and may not pick up on the diverse language- and literacy-promoting behaviors that occur in other homes (Melzi & Caspe, 2005; Reese & Gallimore, 2000). In particular, the quantity of studies of book reading among low-income Latino families is limited. Given the relative risks of academic difficulties faced by lower-income Latino children once they enter school, it is important to examine the book sharing practices of their families as a potential means of promoting early literacy (Fletcher & Reese, 2005; Vernon-Feagans, Hammer, Miccio, & Manlove, 2001).

Studies suggest that low-income Latino children in the United States, particularly those whose first language is Spanish, are at risk for poor language and literacy outcomes (Hammer, Miccio, & Wagstaff, 2003). Children in lower income families tend to have lower vocabulary, broad language, and reading skills than children in higher income families (Byrnes & Wasik, 2009; Hart & Risley, 1995; NICHD, 2005). Bilingual Latino children are more likely to lag behind monolingual children in oral language and emergent literacy skills when they enter kindergarten (Páez, Tabors, & López, 2007). Spanish speaking children are twice as likely as non-Hispanic white children to read

below grade level in English (National Research Council, 1998). Given current demographic trends, Latino children from Spanish speaking or bilingual homes are making up an increasing proportion of students in early childhood programs and schools (Páez et al., 2007). It is vital to find ways to teach these children effectively and increase the likelihood of their school success.

Low-income Latino parents are less likely to read with their children under 3 than are others (Barrueco, López, & Miles, 2007; Bradley, Corwyn, McAdoo, & Coll, 2001; Raikes et al., 2006). This is particularly true among non-English-speaking parents (Raikes et al., 2006; Yarosz & Barnett, 2001). There may be cultural reasons underlying these behaviors, as immigrant Latino parents may believe that children under three years old are not equipped to understand or appreciate what is being read to them (Reese & Gallimore, 2000). Although book sharing itself may not be a culturally relevant task for all families, there is evidence that it can be an effective means of bolstering children's oral language skills, particularly vocabulary skills (Bus et al., 1995; Dickinson & McCabe, 2001; Storch & Whitehurst, 2002). Given the potential benefit, it is important to explore avenues that might lead to culturally relevant interventions to increase low-income Latino children's exposure to books in early childhood

There is empirical evidence to show that frequency and style of reading can be impacted through intervention programs. Research on Early Head Start has shown that frequency of book reading can be increased through programming that targets child development (Raikes et al., 2006). Studies on reading intervention programs provide evidence that an adult's style of book reading also can be amenable to intervention (e.g., Mol, Bus, de Jong, & Smeets, 2008; Whitehurst et al., 1988). However, such programs

may not be maximally effective for all groups. For example, dialogic reading, an intervention that teaches parents specific evocative strategies for reading with their young children, has shown strong language outcomes among children from middle class families, but has not shown the same success among children from lower income homes (Mol et al., 2008). Given these findings, interventions that target book reading may hold promise for low-income Latino families if they are culturally relevant as well as empirically based (Manz, Hughes, Barnabas, Bracaliello, & Ginsburg-Block, 2010). In the search for culturally appropriate interventions for Latino families with young children, it is imperative to explore what activities are already taking place in these homes to support vocabulary and literacy development. It is possible that building on activities with which caregivers are already comfortable may be more effective than implementing interventions that introduce activities outside of a caregiver's comfort level (Melzi & Caspe, 2005). The steps taken by the present study may be germane to creating more culturally responsive interventions.

Overview of the Literature

There is an extensive research literature that supports shared storybook reading as an effective means of promoting vocabulary development in children (Raikes et al, 2006; Sénéchal & LeFevre, 2002). A few studies have found a direct link between frequency of shared storybook reading and emergent literacy, but many others have found a more complex picture involving the development of oral language, including vocabulary (Burgess, Hecht, & Lonigan, 2002; Bus et al., 1995; Crain-Thoreson & Dale, 1992; Scarborough, Dobrich, & Hager, 1991; Weigel, Martin, & Bennet, 2006). There appears to be a significant relationship between vocabulary and the development of later reading

skills (Dickinson & McCabe, 2001; Scarborough, 1990; Sénéchal & LeFevre, 2002). It is possible that oral language, including receptive vocabulary, may in some cases act as a mediator of the effect of storybook reading in early childhood on later literacy (Sénéchal & LeFevre, 2002). As shared book reading has been shown to be one means of promoting vocabulary development, this may be an avenue by which book reading in early childhood can promote later school success.

Shared book reading offers a variety of opportunities for language development in young children, such as exposure to a wider range of words and concepts than are generally used in conversation (Fletcher & Reese, 2005). A number of studies have examined the link between frequency of storybook reading and the development of receptive and expressive vocabulary (Raikes et al., 2006; Sénéchal & LeFevre, 2002). Much of this research focuses on four- and five-year-old preschool and early elementary aged children. There appears to be a strong empirical basis for the relationship between shared reading and receptive vocabulary in this age group (Dickinson & McCabe, 2001; Farver, Xu, Eppe, & Lonigan, 2006; Haden, Reese, & Fivush, 1996; Hood et al., 2008; Sénéchal & LeFevre, 2002). However, there is less research on the relationship between frequency of book reading and expressive vocabulary, although some studies in natural and intervention contexts do support a connection (Sénéchal, Pagan, Lever, & Oullette, 2008). For children under four years old, there are fewer studies on shared reading and vocabulary outcomes than for older children. Nevertheless, there does appear to be evidence of a relationship between shared book reading and receptive and expressive vocabulary for this age group as well, based on studies in naturally occurring and

intervention contexts (Crain-Thoreson & Dale, 1992; Raikes et al., 2006; Sénéchal, 1997; Sénéchal, LeFevre, Hudson, & Lawson, 1996; Whitehurst et al., 1988).

The literature described above demonstrates that shared book reading with young children can be related to language and literacy outcomes. However, there are several notable limitations to this body of research. One limitation is the heavy reliance on parent report of frequency as the primary metric for measuring shared book reading. None of the studies reviewed above use direct observation or examine the qualities of naturally occurring home reading practices. A second major limitation is the scarcity of studies with socioeconomically, ethnically, and linguistically diverse participants. It is unclear how well established findings generalize to low-income families. In addition, few studies examine book reading among Latino families, particularly those that are bilingual. Therefore, the understanding of the relationships between book reading and language among low-income Latino children is limited. It is possible that there may be different relationships between early literacy experiences and language and literacy outcomes for children from low-income Latino families (Manz et al., 2010).

Past research has shown that low-income Latino families tend to read with their children less frequently than do other ethnic and income groups (Barrueco et al., 2007; Bradley et al., 2001; Raikes et al. 2006). The reasons for this finding may be rooted in cultural beliefs and practices for some families, who may not believe that children under three years old are equipped to understand or benefit from shared reading (Reese & Gallimore, 2001). Reading may be perceived in some families as an activity that should be formally taught at school.

Latino families may be more likely to engage in storytelling with their children than European American families (Melzi & Caspe, 2005; Reese & Gallimore, 2001). Storytelling can take a number of forms, such as stories told to children, stories told among adults, and stories that children tell with adult scaffolding (Melzi, 2000; Melzi & Caspe, 2005; Miller, Cho, & Bracey, 2005; Reese & Gallimore, 2001). Some research has shown that storytelling can have a distinctive impact on oral language. For example, one study found that children hearing stories told to them demonstrated improved story comprehension (Isbell, Sobol, Lindauer, & Lowrance, 2004). This and other alternative language and literacy practices may be overlooked by research that focuses solely on the frequency of book reading.

The limited number of studies that have focused on bilingual Latino children have found a relationship between oral language skills, including vocabulary, and early literacy (Hammer, Lawrence, & Miccio, 2007; Lindsey, Manis, & Bailey, 2003). Other studies looking more specifically at home literacy environments in bilingual homes have shown mixed results in establishing a relationship between shared reading and language and literacy outcomes (Farver et al., 2006; Gonzalez & Uhring, 2008; Hammer et al., 2003). These findings again suggest that earlier studies of the relationships among shared reading, language, and literacy may not address all of the relevant variables for low-income Latino families.

Some researchers have begun to examine diverse shared book reading styles to create a more nuanced picture of home literacy practices (Anderson-Yockel & Haynes, 1994; Britto, Brooks-Gunn, & Griffin, 2006; Caspe, 2009; Hammer, Nimmo, Cohen, Draheim, & Johnson, 2005; Haden et al., 1996; Melzi & Caspe, 2005; Haynes &

Saunders, 1999; Reese & Cox, 1999). These studies take a closer look at what happens during book reading interactions, and offer potential for providing a more culturally relevant perspective on the home literacy practices of low-income Latino families (Casper, 2009; Melzi & Caspe, 2005). Studies on book reading styles address both prescribed reading interventions and naturally occurring practices.

Studies on dialogic reading, an intervention that teaches parents specific evocative strategies for reading with their young children, have shown positive impacts on children's expressive language skills as measured by standardized tests and by mean length of utterance (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Huebner, 2000; Huebner & Meltzoff, 2005; Lonigan & Whitehurst, 1998; Mol, Bus, de Jong, & Smeets, 2008; Valdez-Menchaca & Whitehurst, 1992; Whitehurst et al., 1988; Whitehurst et al., 1994). Significant outcomes have also been found for receptive vocabulary in some studies, although positive outcomes for expressive language have been found more frequently (Arnold et al., 1994; Valdez-Menchaca & Whitehurst, 1992). However, Mol and colleagues (2008) found in a meta-analysis that the effect size for dialogic reading was minimal for children whose parents had a lower education level and socioeconomic status. Possible explanations for this finding include the intervention being uncomfortable for parents, not matching cultural styles of interaction, and not meeting the language needs of some children (Casper, 2009; Fletcher & Reese, 2008; Hammer et al., 2003; Melzi & Caspe, 2005; Mol et al., 2008). Although this line of research offers valuable insight into the possible relationships between shared reading and expressive and receptive language and demonstrates the possibilities for intervening in family book

reading practices, it does not provide information on how families may interact with their children over books in a natural setting.

There is a limited body of literature that addresses naturally occurring reading styles and child outcomes. A small number of studies comparing patterns of book reading across racial and socioeconomic groups show many similarities and some distinct differences, suggesting that studies describing reading styles may offer more sensitive pictures of reading among diverse populations (Anderson-Yockel & Haynes, 1994; Haynes & Saunders, 1999). However, much of the research done on reading styles has focused on white, middle-class participants.

Many of the studies examining reading styles code caregiver and/or child utterances during reading to derive distinct styles, often through cluster analysis. Haden and colleagues (1996) used cluster analysis to derive styles from codes of maternal utterances during reading. The styles included describers, whose style was characterized by describing and naming features of the book; comprehenders, who engaged in talk about print knowledge and used high-demand extratextual talk; and collaborators, whose extratextual talk focused on eliciting and confirming child talk about the story. Children whose mothers read with a comprehender style had higher scores on a standardized measure of receptive vocabulary and a story comprehension task at 70 months. Building on this line of research, Reese and Cox (1999) used experimental manipulation to investigate outcomes of particular styles. They found that children who were in the describer condition, which focused on describing and labeling pictures, made the greatest gains in receptive vocabulary. However, children with higher initial vocabulary gained most from a performance-oriented condition, which involved uninterrupted reading of the

story, with higher-demand discussion confined to before and after. Children with lower initial vocabulary gained more from the describer condition. In studying low-income African American mother-child dyads, Britto, Brooks-Gunn, and Griffin (2006) found that parents who read with a Story-teller style, using decontextualized language, asking labeling questions, giving children positive feedback, and demonstrating expressive language use, had children who spoke more words and demonstrated higher expressive language use skills during book reading than did children whose parents did not engage in much extratextual talk. Dickinson and Smith (1994) identified preschool teacher reading styles through cluster analysis. They found that a performance-oriented style, characterized by analytic discussion before and after the story, was related to higher receptive vocabulary than a didactic-interactional style, characterized by immediate recall tasks and task organization. It appears that there are styles characterized by higher levels of extratextual talk, as well as styles that limit extratextual talk and focus on reading the story. There is empirical support for positive child outcomes for a diversity of these styles.

There is a small body of literature beginning to look at shared book reading styles among racially, ethnically, and socioeconomically diverse samples (Anderson-Yockel & Haynes, 1994; Britto, Brooks-Gunn, & Griffin, 2006; Haynes & Saunders, 1999). There are limited studies that include significant numbers of Latino participants. A few studies examine naturally occurring styles among Latino caregivers without relating them to outcomes. Rodríguez and colleagues (2009) provided descriptive information about the shared reading behaviors and strategies of Mexican American mothers of low and middle socioeconomic status. Frequently used communicative behaviors included yes/no

questions, descriptions, and positive feedback. The most frequently used interactive strategy was enhancing the child's attention to the text. Mothers of middle socioeconomic status used yes/no questions and feedback more frequently than did mothers of lower socioeconomic status. Participants did not differ by socioeconomic status in their use of interactive strategies (Rodríguez et al., 2009). Hammer and colleagues (2005) coded the maternal and child utterances of English-speaking African American and Puerto Rican dyads during book reading. The researchers derived a text reading style, in which 60% or more of the mother's utterances consisted of text from books, a labeling style, which consisted primarily of labels and comments about the book, a child centered style, which allowed the child to be the primary storyteller, and a combinational style, in which the adult read the text but stopped periodically to comment or ask questions. They found that Puerto Rican parents were more likely to use a child centered style. Melzi and Caspe (2005) studied reading styles among monolingual middle- to upper-class mother-child dyads from the United States and Peru sharing a wordless picture book. Using cluster analysis, they derived a storyteller style, which included greatest use of informative narrative utterances and tended toward discussion of referential and evaluative information about the story, as well as a storybuilder style, which used interactive narrative and non-narrative utterances and often included discussion of general knowledge and related events. Seventy-five percent of Peruvian mothers and 7% of American mothers used the storyteller style. The findings of these studies are congruent with other findings that Latino families may draw on a storytelling tradition and draw a strong distinction between the storyteller and audience.

One study does relate naturally occurring reading styles in low-income Latino families to child outcomes. Caspe (2009) used a similar methodology as Melzi and Caspe (2005) to examine the book reading styles of low-income, Spanish-speaking Latino mothers sharing books with 4-year-old children. Using k-means cluster analysis, Caspe (2009) derived three styles. Participants in the storybuilder-labeler group requested more narrative information from their children than those in the other groups did. Storytellers provided more narrative information than did those in other groups. Abridged-storytellers provided a moderate amount of information, but requested the least amount of narrative information. In assessing children's emergent literacy skills six months after the storybook analysis, Caspe (2009) found that the storytelling style predicted children's print-related literacy skills in comparison with storybuilder-labelers; an abridged-storytelling style in combination with more years of Head Start predicted some of the highest print-related literacy skills; and a storybuilder-labeling style was associated with children using more evaluations in their own narratives. Maternal booksharing styles did not predict other aspects of children's narrative outcomes. This study represents a new direction in research on booksharing styles among Latino caregivers in that it includes child outcome measures. The present study builds on this line of research.

Purpose and Research Questions

The purpose of this study is to explore naturally occurring reading styles among low-income Latino caregivers and their two-year-old children and to examine the relationship of book reading styles and children's receptive and expressive vocabulary as measured through standardized assessment. This study will contribute to the literature by

continuing the research on reading styles among a low-income Latino population and including the variable of language used during reading. It also includes measures of receptive and expressive vocabulary, which have not been used in studies of reading styles specific to Latino families. In addition, expressive vocabulary measures have not been used frequently in studies of naturally occurring styles, but have been used extensively in studies of dialogic reading.

The specific research questions addressed in this study are: (1) Are distinct book reading styles categorized by types of caregiver verbalizations found among low-income Latino caregivers reading to their two-year-old children? (2) Are there relationships between caregiver reading style and child and caregiver demographic variables? (3) Is there a relationship between the language used by a caregiver while reading and his or her reading style? (4) Are there significant differences in children's expressive and receptive vocabulary as measured by the Expressive One-Word Picture Vocabulary Test, Revised (EOWPVT-R) and the Peabody Picture Vocabulary Test, Third Edition (PPVT-III) based on caregiver reading style?

It is hypothesized that two or more distinct book reading styles will be determined. Past research has generally found two to three types of styles (Britto et al. 2006; Dickinson & Smith, 1994; Haden et al., 1996; Melzi & Caspe, 2005; Reese & Cox, 1999). Based on the research literature, a style may be found that is oriented toward the adult telling the story to the child, whereas another style may be oriented toward the adult eliciting information about the story or related events from the child. This hypothesis is supported by studies that find a naturally occurring performance-oriented style, as well as those that find more styles focused on eliciting responses from the child (Caspe, 2009;

Melzi & Caspe, 2005; Reese & Cox, 1999). As the children participating in this study are younger than those in some earlier studies of reading style, parents may not focus on higher level discourse about inferences, a style that was found in other studies (Fletcher & Reese, 2005; Reese & Cox, 1999).

It is hypothesized that caregivers might be more likely to use a co-constructed style with boys, as was found by Caspe (2009). It is hypothesized that caregivers who have a native language of Spanish or who have spent less than 50% of their lives in the United States might be more likely to use a storytelling, performance-oriented style. These hypotheses are drawn from studies that have shown a greater emphasis on narrative during book reading interactions among Latino caregivers (Hammer et al., 2005; Melzi & Caspe, 2005; Reese & Gallimore, 2001). It is possible that this finding may be more pronounced among caregivers whose native language is Spanish or who have spent much of their lives outside of the United States, as these may be indicators of acculturation. Hypotheses were not generated for the associations between reading style and child age, caregiver employment status, caregiver education, or shared reading frequency. There is not adequate guidance in the literature to generate research-based hypotheses in these areas. These analyses are considered exploratory.

Additionally, it is hypothesized that caregivers who read with their children in Spanish would be more likely to use a storytelling style. As mentioned in the previous hypothesis, studies have found a greater emphasis on narrative and less emphasis on co-construction in book reading among Latino caregivers (Hammer et al., 2005; Melzi & Caspe, 2005; Reese & Gallimore, 2001). It is possible that the language in which one shares a book with a child may also be a rough indicator of acculturation. Therefore,

there may be a tendency toward a performance-oriented narrative style among caregivers who read with their children in Spanish.

Finally, it is hypothesized that a co-constructed, storybuilding style will be associated with higher EOWPVT-R and PPVT-III scores. For expressive language, this hypothesis is supported by dialogic reading literature, which has shown that a style of reading that is focused on eliciting speech from the child can impact expressive language (Arnold et al. 1994; Huebner, 2000; Huebner & Meltzoff, 2005; Lonigan & Whitehurst, 1998; Mol et al., 2008; Valdez-Menchaca & Whitehurst, 1992; Whitehurst et al., 1988; Whitehurst et al., 1994). In addition, a small number of studies have found effects for questioning during reading on expressive language (Britto et al., 2006; Sénéchal, 1997). Findings by Haden and colleagues (1996) and Reese and Cox (1999) support the hypothesis that a co-constructed style would be associated with higher receptive vocabulary scores. However, guidance from the literature is mixed, with the finding by Dickinson and Smith (1994) that a performance-oriented style by a teacher was associated with higher receptive vocabulary scores.

CHAPTER II. LITERATURE REVIEW

The literature on frequency of book reading reveals relationships between shared book reading with young children and oral language outcomes, including vocabulary acquisition, which may be connected to later literacy outcomes (Bus et al., 1995; Hood et al., 2008; National Early Literacy Panel, 2008; Raikes et al., 2006; Sénéchal & LeFevre, 2002). These studies form the basis for recommendations about home reading and intervention programs implemented with schools and families. However, much of the research done on the interrelationships among shared reading and language and literacy outcomes has been done with white, middle-class samples. There is substantially less research addressing the home language and literacy practices of low-income Latino families, especially those who use languages other than English. In addition, much of the research that has been done has focused on the frequency with which families read with children. It appears that research only addressing frequency may miss the language and literacy activities that are being conducted in these homes. Research on the ways in which caregivers read and tell stories to their children, rather than just the quantity of reading, may provide a more sensitive representation of home language and literacy practices and their outcomes, particularly among low-income Latino families.

Group Differences in Vocabulary and Literacy Skills

There have been extensive studies of the impact of shared reading on vocabulary and literacy skills. Vocabulary is often studied in conjunction with other oral language skills, such as syntactic skills, conceptual knowledge, and narrative discourse (Storch & Whitehurst, 2002). Common measures of receptive vocabulary require the child to indicate a picture or object that corresponds to a word given by an examiner. Expressive

vocabulary is generally measured by asking the child to name a picture or object. At every age, children vary greatly in their vocabulary skills (Bornstein, Hahn, & Haynes, 2004). There are group differences to consider in the development of vocabulary and other vocabulary skills. In reviewing the literature, Byrnes and Wasik (2009) conclude that there appear to be no significant gender differences in vocabulary size in the preschool years, although girls tend to be more capable of combining words into complex syntactic constructions. However, there is a difference in vocabulary favoring boys in the elementary years. Bornstein and colleagues (2004) found that girls outperformed boys across multiple language measures, including vocabulary measures from ages two to five, but not before or after. Socioeconomic status appears to impact language skills in early childhood, with children in lower SES families having lower vocabulary and broad language skills (Hart & Risley, 1995; NICHD, 2005). Differences in oral language development by racial and ethnic group have also been found, but these differences are not independent of SES (Byrnes & Wasik, 2009).

As with oral language skills, literacy outcomes can be conceptualized in various ways. Researchers have examined emergent skills, such as phonological awareness, alphabet knowledge, and print concepts, as well as more conventional skills, such as decoding and comprehension. The skills investigated generally are influenced by the ages of children participating in the research. Gender differences in reading skills do not tend to be significant in the preschool and elementary years (Byrnes & Wasik, 2009). Findings about the relationship of SES to reading skills are similar to those about the relationship of SES to language skills. Children from higher-SES homes perform significantly better in reading skills than children from lower-SES homes at all age levels

(Byrnes & Wasik, 2009). There are few large-scale studies on racial and ethnic group differences in reading skills, particularly in the preschool and early elementary years, but it appears that white and Asian children tend to perform better in reading than Latino and African American children in elementary and secondary school (Byrnes & Wasik, 2009).

Relationships Among Shared Reading, Vocabulary, and Early Literacy

One way to further examine the development of vocabulary and reading skills among different groups is to look at the interactions at home and school that may promote language and literacy. The research literature reveals complex interrelationships among shared reading, vocabulary, and reading outcomes. Only a limited subset of studies have found a direct relationship between shared reading and literacy skills (Burgess et al., 2002; Bus et al, 1995; Crain-Thoreson & Dale, 1992; Scarborough et al., 1991; Weigel et al., 2006). In a meta-analysis, Bus and colleagues (1995) found a moderate effect size for the relationship between frequency of book reading and emergent literacy skills, such as name reading, letter naming, and phoneme blending. In addition, a moderate effect size was found for the relationship between frequency of book reading in the preschool years and literacy skills at school age. However, there seems to be empirical support for direct links between home literacy practices other than shared book reading, such as formal instruction in letter names and sounds, to emergent literacy (Sénéchal & LeFevre, 2002; Sénéchal, LeFevre, Thomas & Daley, 1998). The National Early Literacy Panel (2008) cautions that shared reading appears to have a significant effect on oral language and print knowledge, but there are not enough rigorous studies to determine impacts of shared reading on other aspects of language and literacy

development. There is not yet sufficient evidence to determine that shared reading directly impacts emergent or conventional reading skills.

It is possible that oral language, including vocabulary, may mediate the effect of storybook reading on literacy. In a longitudinal study involving early elementary school children, Sénéchal and LeFevre (2002) found that shared book reading was related to receptive vocabulary development, but not directly to early literacy. However, there was a relationship between shared reading and reading vocabulary and comprehension in third grade that was mediated by children's early receptive language skills, which included receptive vocabulary and listening comprehension. While a direct relationship between shared reading and literacy skills has not been substantiated, it is possible that shared reading's impact on vocabulary and other aspects of oral language may in turn influence later literacy.

A number of studies have found links between oral language in the preschool and early elementary years and literacy skills. Expressive and receptive vocabulary measures generally have been included in studies involving oral language, and are often used independently of other oral language measures. Whitehurst and Lonigan (1998) note that vocabulary can be particularly important in the early stages of literacy acquisition. Semantic and syntactic skills can be more important later, as children are reading for meaning (Whitehurst & Lonigan, 1998). Many studies look primarily at vocabulary, although the NICHD Early Child Care Research Network (2005) found that oral language conceived broadly was more predictive of concurrent preschool coding skills and later reading achievement than vocabulary alone across socioeconomic levels.

Among studies that examine links between oral language skills and literacy skills, Scarborough (1990) found that language delays at 30 months were associated with reading difficulties at age 5. Dickinson and McCabe (2001) found in a longitudinal study that receptive vocabulary in the preschool years was consistently and modestly related to concurrent phonological awareness, early literacy, and print concepts. The relationship between vocabulary and reading abilities continued into the older grades with a relationship between first grade vocabulary skills and fourth grade reading comprehension. Storch and Whitehurst (2002) found a more complex picture in their longitudinal study of children enrolled in Head Start. They concluded that the relationship between oral language, including receptive and expressive vocabulary, and reading skill is mediated by code-related skill, such as phonological processing and print concepts, in the early stages of learning to read. Once a child has learned to decode, oral language can support comprehension (Storch & Whitehurst, 2002). Similarly, Sénéchal and LeFevre (2002) found that receptive language, as measured by the PPVT-R and a listening comprehension measure, impacted phonological awareness, emergent literacy, and reading skills in first grade, as well as having a direct association with reading in third grade. It appears that the promotion of oral language can be an important part of supporting early literacy skills, particularly reading comprehension skills (Hood et al., 2008; Sénéchal & LeFevre, 2002; Storch & Whitehurst, 2002). Shared book reading has been well researched as an environmental means of promoting oral language skills, particularly receptive and expressive vocabulary. Through this impact, it may influence later literacy skills.

Shared Book Reading and Vocabulary Outcomes

Shared book reading provides a variety of opportunities for language development in early childhood (DeTemple & Snow, 2003; Fletcher & Reese, 2005). It exposes children to a wider array of words and concepts than are generally used in conversation (Fletcher & Reese, 2005). In addition, book reading promotes vocabulary acquisition through non-immediate talk, such as discussion of vocabulary words, making predictions, making connections to past experiences, and drawing inferences (DeTemple & Snow, 2003). Adults talk in more complex ways during book reading than they do in other activities, such as free play (Fletcher & Reese, 2005). Fletcher and Reese (2005) noted in a review of the literature that parental reading behaviors of children under three years old tend to focus on learning vocabulary and conversation. For children under 18 months, parents tended to deviate from the text, pointing to, labeling, and commenting on pictures. For children older than 18 months, parents tended to ask questions and have extended conversations about pictures and text more frequently than with younger children. The authors noted that the studies reviewed were largely limited to white, middle-class samples and cautioned against extending results to other cultural groups (Fletcher & Reese, 2005). DeTemple and Snow (2003) observed that book reading is not indispensable for vocabulary development, as there are many possible avenues to build vocabulary. However, it can be considered an efficient means of promoting vocabulary acquisition. In addition, Raikes and colleagues (2006) suggest a “snowball effect,” in which reading frequency may support early vocabulary gains, which lead to more reading and vocabulary growth. They found a link between child vocabulary at 14 months and maternal reading at 24 months that might suggest that more linguistically advanced

children might encourage caregivers to read to them, promoting even more vocabulary growth.

Some studies have synthesized research to look at the relationship between shared reading and overall oral language, rather than focusing only on vocabulary. The National Early Literacy Panel (2008) found that shared reading interventions had a moderate effect on young children's oral language skills, with an average effect size of 0.73. In a narrative review, Scarborough and Dobrich (1994) found a reliable but modest association between reading to preschool children and the development of language and literacy skills. In a meta-analysis, Bus and colleagues (1995) found that frequency of book reading, in isolation or as part of a composite measure of literacy environment, had a moderate effect size on overall language skills. Most studies, however, look more specifically at receptive or expressive vocabulary skills.

Shared book reading and receptive vocabulary skills. A number of studies address the relationship between shared book reading and the development of receptive language, particularly receptive vocabulary, in preschool and elementary aged children. There appears to be a replicated relationship between frequency of shared reading and receptive vocabulary among children from families of varying SES and ethnic background (Dickinson & McCabe, 2001; Farver et al., 2006). Additionally, in studying naturally occurring reading styles, Haden and colleagues (1996) also found that shared reading could have impacts on receptive vocabulary skills. Other studies have examined shared book reading's relationship to both receptive language skills and literacy skills. Sénéchal and colleagues (1998; 2002) found in longitudinal studies that shared book reading was directly associated with the development of receptive vocabulary as

measured by the Peabody Picture Vocabulary Test – Revised (PPVT-R). It was through this association with receptive vocabulary that shared book reading had an impact on emergent literacy skills and later reading skills. Hood, Conlon, and Andrews (2008) also found that shared reading was associated with receptive vocabulary skills, although they did not find a relationship with later reading skills. Frijters and colleagues (2000) also found that frequency of reading correlated with oral receptive vocabulary. However, they found that phonological awareness, rather than oral language skills, facilitated print-to-sound knowledge obtained through home literacy experiences. There appears to be a strong empirical basis for the relationship between shared reading and receptive vocabulary. It also seems that receptive vocabulary may in part link shared reading and literacy outcomes, although findings in this area have been mixed.

The research literature on shared book reading and receptive vocabulary in children 4 years old and older is larger than that for younger children; however, there is still empirical support for a significant relationship among children under 4 years old. Studies have found a relationship between frequency of book reading and receptive vocabulary as measured by the PPVT-R (Crain-Thoreson & Dale, 1992; DeBaryshe, 1993; Sénéchal et al., 1996). Sénéchal (1997) found that multiple readings of a storybook facilitated acquisition of receptive vocabulary that was in the book. Creating a more complex picture, Raikes and colleagues (2006) found that reading daily or several times a week with 14-month-olds and 24-month-olds was consistently related to vocabulary. They noted that shared reading at 24 months had a stronger association with vocabulary at 36 months than did concurrent reading at 36 months. For Spanish speaking children, only daily reading at 36 months was related to language outcomes, whereas

concurrent reading at earlier ages was not. These findings point to the possibility that there may be a different relationship between early literacy experiences and language and literacy outcomes for children from minority linguistic and cultural backgrounds.

Shared book reading and expressive vocabulary skills. There is less research on the impact of frequent book reading on children's expressive vocabulary skills outside of an intervention context. Again, there is more research targeting children 4 years and older. Sénéchal and colleagues (2008) found that frequency and variety of shared reading accounted for 10% of the unique variance in children's expressive vocabulary. In addition, a study looking at shared reading as part of a comprehensive "home literacy environment" found a significant relationship with an expressive language subtest of the Illinois Test of Psycholinguistic Abilities (Burgess et al., 2002). However, Weigel, Martin, and Bennet (2006) found no relationship between their composite measure of home literacy environment and expressive language as measured by the Expressive Communication subscale of the Preschool Language Scale – Third Edition, instead finding a significant relationship with print knowledge and interest in reading.

A number of studies on dialogic reading, an intervention designed to promote oral language through evocative techniques and feedback during shared reading, show an impact on expressive language skills as measured through standardized testing and calculation of mean length of utterance (Mol et al., 2008; Whitehurst et al., 1988). However, this impact is lower for four- and five-year-old children, as well as children at risk for language and literacy impairments (Mol et al., 2008). The research on dialogic reading supports a link between shared reading and expressive language; however, it is in the context of a prescribed intervention rather than a natural setting. Overall, there is less

empirical support for the impact of frequent book reading on expressive vocabulary than receptive vocabulary with children four years old and older.

As with preschool and elementary aged children, there is less evidence supporting a link between naturally occurring shared book reading and expressive language in children under 4 years old. Karrass and Braungart-Rieker (2005) found that shared reading with eight-month-old infants was related to expressive language abilities at 12 and 16 months old. Sénéchal and colleagues (1996) found a significant relationship between storybook knowledge of parents and children, which was used as an indicator of storybook reading frequency, and expressive vocabulary as measured by the Expressive One-Word Picture Vocabulary Test – Revised (EOWPVT-R). DeBaryshe (1993) found that age of onset of joint reading predicted expressive language skills, including vocabulary, among one- and two-year-old children, although the relationship was more powerful for receptive language. Sénéchal (1997) found that listening to multiple readings of a storybook facilitated children’s acquisition of expressive vocabulary. Answering questions during the multiple readings was more helpful to the acquisition of expressive than receptive vocabulary. These findings were based on vocabulary in the particular book being read. The research on dialogic reading also shows an impact for shared book reading on expressive language, including expressive vocabulary and mean length of utterance, among young children, although this research looks at a prescribed intervention rather than naturally occurring practices (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Huebner, 2000; Huebner & Meltzoff, 2005; Lonigan & Whitehurst, 1998; Valdez-Menchaca & Whitehurst, 1992; Whitehurst et al., 1988, Whitehurst et al., 1994).

Limitations of Research on Frequency of Shared Book Reading

The research literature reveals that shared book reading with young children, in isolation or as part of a composite home literacy environment, can be related to positive vocabulary outcomes, as well as related literacy outcomes. These relationships are notable and reveal the promise of home reading interventions. However, there are several limitations to this body of literature. One is the methods by which these studies examine shared book reading. The primary metric used in the majority of studies reviewed above was parent report of frequency of shared book reading. Many of these studies included parent report of other factors, such as number of books at home, library visits, and caregiver reading habits, to provide more information about aspects of a home literacy environment (Burgess et al., 2002; DeBaryshe, 1991; Payne et al., 1994; Weigel et al., 2006). Rather than asking parents to self-report their literacy practices, which may be subject to social desirability biases and lack of clarity in responses, Monique Sénéchal and her colleagues (1996; 1998; 2002; 2008) measured child exposure to storybooks through parental recognition of well-known children's books and authors. However, none of these studies measured storybook reading through direct observation or examined the specific characteristics of the book reading interactions.

Another major limitation of the literature reviewed above is the predominance of white, middle-class samples. It is unclear how well these findings generalize to low-income families. In a meta-analysis, Manz and colleagues (2010) found that Latino children and English language learners were underrepresented in studies of family-based literacy interventions. The meta-analysis showed a substantial difference in effect sizes between Caucasian/middle income and minority families (Manz et al., 2010). The National Early Literacy Panel (2008) also found that many studies did not report

demographic characteristics or examined samples of children with mixed demographic characteristics. With this limited sample of studies, results of their analysis found that effect size estimates did not vary significantly as a result of children's economic status or ethnicity (NELP, 2008). Another meta-analysis found that SES did not impact the effect that frequency of shared book reading had on language, emergent literacy, or reading skills (Bus et al., 1995). Other studies found significant results of book reading on receptive and expressive vocabulary after controlling for SES (Dickinson & McCabe, 2001; Sénéchal et al., 1996). However, a number of studies did not use socioeconomically diverse samples, providing a limited view of how shared reading, vocabulary, and literacy are related in low-income families.

There are few studies that examine book reading with Latino children, particularly those from bilingual homes. The understanding of the relationships between book reading and language among Latino children is severely limited, even in comparison with other racial and ethnic minority groups (Fletcher & Reese, 2005; Vernon-Feagans et al., 2001). Research has shown that low-income Latino families tend to read to their children less frequently than do other ethnic and income groups (Barrueco et al., 2007; Bradley et al., 2001; Raikes et al., 2006). However, the reasons for this finding may be rooted in cultural beliefs and practices (Reese & Gallimore, 2001). In addition, the links among shared book reading, oral language, and literacy skills detailed above may not be the same among Latino families. There are a number of questions that remain unanswered regarding the generalizability of previous research to low-income Latino families.

Shared Book Reading and Other language and Literacy Practices among Latino Families

Ethnographic studies have demonstrated that there is considerable diversity in families' approaches to literacy in the home (Heath, 1982). However, many American educational programs are designed with an expectation of a certain type of home literacy environment (Heath, 1982; Reese & Gallimore, 2001). Such expectations may cause professionals to see young children from low-income and ethnically diverse families as deficient in pre-literacy skills, without recognizing that they may have had exposure to other types of literacy practices (Heath, 1982). The research that exists suggests that there are possible cultural differences in literacy practices that may place Latino children from low-income background at risk for academic failure in programs designed with certain assumptions about early exposure to shared reading. In particular, some families with immigrant backgrounds may be less likely to read with children under three years old, as they may not believe that younger children will understand or appreciate what is being read (Reese & Gallimore, 2001). Reading may be perceived as an activity that is best taught at school through a formal teaching process. Moreover, parent and child interaction over reading often may center on material provided by school or imparting a moral lesson (Reese & Gallimore, 2001). This approach toward literacy may be perceived as a lack of interest or attention to academics by others, but in fact may be a model of literacy in which early interactions with text are not seen as precursors to reading (Reese & Gallimore, 2001). Parents may perceive teaching the child manners and morals to be more important than promoting reading in preparing a child for school.

Storytelling. When Latino families engage in language activities with children, their approaches may not be captured by studies that focus solely on book reading. It has been suggested that Latino families may be more likely to engage in storytelling and

sharing of oral folklore on a regular basis than are European American families (Caspe, 2009; Melzi & Caspe, 2005; Reese and Gallimore, 2001). However, Barrueco and colleagues (2007) found that Latino mothers were less likely to engage in book reading or storytelling with their children less than one year old than Euro-American mothers, even after controlling for potential explanatory variables, suggesting that some families may not engage in this language activity with very young children. It is possible that families begin including children in storytelling practices at older ages.

Storytelling to children may have distinctive benefits and can take a variety of forms (Isbell et al., 2004). Storytelling practices may include stories explicitly told to children, stories told among adults that children might hear, or stories that adults assist children in telling as part of conversation about their personal experiences (Melzi, 2000; Melzi & Caspe, 2005; Miller, Cho, & Bracey, 2005; Reese & Gallimore, 2001). Types of stories can include classic children's tales or folklore, stories invented by the narrator, didactic stories aimed at teaching a lesson, and narratives about personal experiences (Melzi & Caspe, 2005; Reese & Gallimore, 2001). Storytellers can use a variety of styles in telling stories and in assisting children in telling their own stories, just as adults reading with children can use a variety of styles (Melzi, 2000; Melzi & Caspe, 2005; Miller et al., 2005). If one considers shared book reading to be a narrative context, storytelling can be another narrative context without the structure of a book (Melzi, 2000). In both cases, the narrator can use a particular style in interacting with the child (Melzi, 2000). One way of combining the structure of a book reading interaction with a less structured storytelling interaction is through the use of wordless books, which can be considered a semi-structured narrative activity (Caspe, 2009; Melzi & Caspe, 2005).

Melzi and Caspe (2005) used such books in examining reading styles of Peruvian and American mothers and Caspe (2009) used them in examining reading styles of low-income Latino mothers. Wordless books may allow adults who are practiced storytellers, whose reading style prioritizes relating the narrative, or who are not comfortable with text to interact more freely with children over books. Additionally, it can give bilingual parents greater flexibility to use both languages in the storybook reading interaction (Caspe, 2009). One component of culturally relevant approaches to promoting language and literacy development at home may be finding ways to promote both storytelling and book reading in similar ways.

In addition to engaging in different types of language and literacy practices, Latino families may also have distinctive styles of book reading and storytelling. For example, Latino families may draw a sharper distinction between narrator and audience in storytelling and story reading, whereas European American caregivers may be more likely to “co-construct” and scaffold a narrative with their children (Caspe, 2009; Melzi & Caspe, 2005). Caspe (2009) noted that in studies of book reading with Latino participants, there tended to be a distinction between the narrator and audience, even when the narrator was the child. In addition, the type of questioning of children that some parents use when reading with children might not be culturally relevant across groups (Anderson-Yockel & Haynes, 1994; Fletcher & Reese, 2005; Heath, 1982). Both the types of language and literacy activities and the approaches to these activities may be subject to cultural variations.

Given the types of cultural differences impacting book reading practices, Raikes and colleagues (2006) note that it is possible that book reading relates less powerfully to

language outcomes among Spanish speaking children, whose language learning may be conveyed in other culturally acceptable ways, such as storytelling. However, that study's finding that reading daily for at least some period during the first three years of life is related to cognitive and language outcomes suggests that shared book reading remains an important avenue to investigate. Research in this area may lead to more culturally relevant interventions, in which vocabulary can be promoted in a natural context, rather than in a prescribed book reading context that may seem less natural to families (Casper, 2009; Fletcher & Reese, 2005).

Research on shared reading, vocabulary, and literacy among Latino families.

There are a few studies that look at home language and literacy practices among bilingual families, but the extent to which developed concepts of emergent literacy apply to children learning other languages remains unclear (Whitehurst & Lonigan, 1998). The process of acquiring literacy skills certainly becomes more complex when children's home languages differ from the one they are expected to speak, understand, write, and read at school (Hammer et al., 2003).

Some research with young bilingual children has examined links between vocabulary and literacy skills. Hammer, Lawrence, and Miccio (2007) found that the rate of change of bilingual Head Start children's English and Spanish oral language abilities, including receptive vocabulary, predicted later English and Spanish word-reading abilities. Growth in either language in the preschool years resulted in positive reading outcomes in kindergarten. In studying Spanish-speaking English language learners in kindergarten and first grade, Lindsey, Manis, and Bailey (2003) found that expressive vocabulary tended to show language-specific relationships to later reading. However,

Páez and colleagues (2007) found that bilingual children performed below average in oral language, including expressive vocabulary, and early literacy skills compared to monolingual norms in Spanish and English. They showed some growth in pre-kindergarten, but continued to score behind monolingual peers. They scored better in early literacy skills than in oral language, suggesting that interventions that bolster oral language in either language could be of use for bilingual children. The studies above reveal that there are relationships between vocabulary and literacy among bilingual students that may assist in intervention design. However, outcomes show that these students remain at risk for academic difficulties when they enter school.

Other studies have looked more specifically at home literacy environments in bilingual homes, as well as their outcomes. In a study involving low-income Latino mothers of preschoolers, Farver and colleagues (2006) found that parent involvement in and encouragement of literacy activities, which included shared reading, was associated with receptive vocabulary as measured by the Peabody Picture Vocabulary Test – Revised or Test de Vocabulario en Imagenes Peabody. Gonzalez and Uhring (2008) examined the relationship of home literacy environment of Spanish speaking families with three- to four-year old children to the children’s English and Spanish language proficiency, including receptive and expressive vocabulary. Shared reading was not the most important variable for proficiency in either language, with use of the library being most important for English proficiency and extended family being most important for Spanish proficiency. In examining families in which children were exposed to both Spanish and English at home prior to age three, as well as families in which children were exposed only to Spanish at home, Hammer, Miccio, and Wagstaff (2003) found no

significant differences in how often mothers engaged in literacy activities or read books with children, although parents who spoke both English and Spanish with their children engaged in more teaching of pre-academic and early literacy skills. The two groups did differ in the language in which they read to their children. The researchers found no relationship between home literacy environment and reading achievement. These findings show mixed results for home reading with children, again suggesting that earlier studies examining the relationships among shared reading, vocabulary, and literacy may not address all the relevant information for low-income Latino families. It appears that more nuanced information is needed about the home literacy practices of these families.

Styles of Shared Book Reading

Given the potential benefits of shared book reading in promoting vocabulary skills and the limitations of the research to date, it is important to take a more detailed look at what happens during shared book reading interactions. Adults have a diversity of styles in which they read to children (Reese, Cox, Harte, & McAnally, 2003). It may be that the styles in which adults read offer varying benefits. In addition, research on reading styles has promise in providing a more culturally relevant perspective on the home language and literacy practices of Latino families (Caspe, 2009; Melzi & Caspe, 2005). The research in this area falls into two major categories: intervention studies and studies on naturally occurring reading styles.

Intervention studies. Dialogic reading is a well-researched intervention that teaches parents strategies for reading with their young children (Arnold et al., 1994; Huebner, 2000; Huebner & Meltzoff, 2005; Lonigan & Whitehurst, 1998; Mol et al., 2008; Valdez-Menchaca & Whitehurst, 1992; Whitehurst et al., 1988; Whitehurst et al.,

1994). The intervention package is designed according to three principles: the use of evocative techniques that encourage the child to talk about the pictured materials; informative feedback by incorporating expansions, corrective modeling, and other techniques that highlight the differences between what the child has said and what he or she could have said; and sensitivity to the child's developing abilities (Whitehurst et al., 1988). The intervention was designed for the purpose of maximizing children's language skills, particularly their expressive language skills (Whitehurst et al., 1988). The original study by Whitehurst and his colleagues (1988) found that training parents of two- to three-year-old children in dialogic reading resulted in significant positive impacts in expressive language in relationship to a control group. In this study, expressive language was measured through the Expressive One-Word Picture Vocabulary Test (EOWPVT), mean length of utterance during reading, and the verbal expressive subscale of the Illinois Test of Psycholinguistic Abilities (ITPA). Effects were maintained at nine months for EOWPVT and ITPA scores. There have been numerous studies investigating dialogic reading across differing home and school settings and training modalities, and have included families of differing SES and racial and ethnic background (Arnold et al., 1994; Huebner, 2000; Huebner & Meltzoff, 2005; Lonigan & Whitehurst, 1998; Valdez-Menchaca & Whitehurst, 1992; Whitehurst et al., 1994). These studies have documented a positive impact on expressive language for children whose families were trained in dialogic reading. In some cases, the intervention increased the frequency and enjoyment of shared book reading (Huebner, 2000). In a meta-analysis, Mol and colleagues (2008) found a moderate effect size for measures of expressive vocabulary. However, the effect size was greatly reduced for four- and five-year-old children. In addition, the effect size

was minimal for children whose parents had a lower education level and SES. Huebner (2000) found that low-income families used few dialogic reading techniques prior to a dialogic reading intervention. It is possible that the dialogic reading techniques are out of the comfort zone of some parents, especially those who have a lower education level. In addition, some children who are already at risk for language difficulties may not be ready for the level of questioning and inference demanded by dialogic reading (Mol et al., 2008). Finally, dialogic reading may not match the cultural styles of interaction in many families (Caspe, 2009; Fletcher & Reese, 2005; Hammer et al., 2003; Melzi & Caspe, 2005). In sum, dialogic reading has a strong research base in increasing the expressive language abilities of many two- and three-year-old children. However, it shows less promise with low-income, Latino families. As a prescribed intervention, this research base does not provide information on how caregivers interact with their children over books in a more natural setting.

Naturally occurring book reading styles. There is a developing body of research examining naturally occurring adult reading styles and related child outcomes. This research offers pictures of how families interact over books without outside intervention, which may provide a more discriminating look at how racially and ethnically diverse families engage in literacy practices. For example, there is a small body of literature looking at differences among racial, ethnic, and socioeconomic groups in book reading interactions. In examining differences between book reading patterns in working-class African American and white families with children from 18 to 30 months, Anderson-Yockel and Haynes (1994) found that white mothers asked significantly more questions than did African American mothers. There were no significant differences in description,

labeling, giving feedback, attentional cues, and directives. In a follow-up study focused on a middle-class sample, Haynes and Saunders (1999) found no difference between African American and white mothers in questioning, but did find that white mothers engaged in more labeling. The patterns of similarities and differences found in these studies suggest that examination of specific book reading practices can yield valuable information about how participants from different racial, ethnic and socioeconomic groups might interact over books.

Much of the research on naturally occurring styles codes adult or child utterances based on function and content and uses cluster analysis or descriptive methods to derive styles. In these ways, one can begin to examine how combinations or patterns of utterances vary in consistent ways (Hammett, van Kleeck, & Huberty, 2003). Much of this research has been done with white, middle-class samples. However, there is some research on more diverse samples, and the methods used in these studies provide guidance for investigating book reading styles among other groups.

Haden and colleagues (1996) coded maternal utterances during reading of familiar and unfamiliar storybooks with three- to four-year-olds of European descent. Codes included descriptions, predictions/inferences, general knowledge, print knowledge, and confirmations. The researchers used cluster analysis to discriminate similar styles. The styles included describers, whose style was characterized by describing and naming features in the book; comprehenders, who engaged in more talk about print knowledge and used high-level, high-demand extratextual talk, and collaborators; whose extratextual talk focused on eliciting and confirming child commentary about the story. The researchers found that children whose mothers read with a comprehender style on

unfamiliar stories had higher scores on the PPVT-R and on a story comprehension task at 70 months. Children whose mothers read with a collaborator style had higher scores on the Wide Range Achievement Test (WRAT) at 70 months.

In a study guided by previous research on naturally occurring styles, Reese and Cox (1999) used experimental manipulation to investigate the differential outcomes of certain styles. Experimenters read to four-year-old children during a six-week intervention using one of three styles. A describer style focused on describing and labeling pictures, made low demand on the child, and interrupted the story to comment. The authors drew parallels between this style and dialogic reading. A comprehender style focused on story meaning, making inferences, and predicting events, made a high level of demand on the child, and interrupted the story for discussion. A performance-oriented style involved uninterrupted reading of the story, with higher-demand discussion confined to before and after the story. The post-intervention outcomes for receptive language measured by the PPVT-R depended on the child's initial vocabulary skills. Overall, children in the describer condition made the greatest gains. However, children with higher initial vocabulary gained most from the performance-oriented condition, whereas children with lower initial vocabulary gained most from the describer condition. In terms of print skills, children in the describer condition gained more when they had higher initial comprehension skills, but children with lower initial comprehension gained more from a performance-oriented style.

In a study focusing on low-income African American mother-child dyads whose children were under 25 months, Britto, Brooks-Gunn, and Griffin (2006) used hierarchical cluster analysis to identify maternal reading styles based on language use,

cognitive demand placed on the child, timing of conversation, and positive feedback. They identified two styles. Story-readers did not talk much to their children during reading. Story-tellers used more decontextualized language, asked more labeling questions, gave their children more positive feedback, and demonstrated greater expressive language use. Children of Story-tellers spoke more words and demonstrated higher expressive language use skills during book reading when compared with children of Story-readers. No differences were found between maternal reading patterns and children's school readiness scores or receptive vocabulary scores.

The concept of reading style has also been extended to classroom reading. In a study of preschool classrooms serving lower income families, Dickinson and Smith (1994) found a performance-oriented style, characterized by analytic discussion before and after a story, was related to higher PPVT-R scores than a didactic-interactive style, characterized by immediate recall tasks and task organization. The other style identified through cluster analysis was a co-constructive style, which involved high amounts of talk by both children and teachers, but little talk before or after reading.

In the studies described above, there appear to be styles in which the adult provides varying levels of extratextual talk and feedback, as well styles in which there is an emphasis on telling the story while limiting related talk to before and after reading. The describer and comprehender styles identified by Haden and colleagues (1996) and Reese and Cox (1999) appear similar to the Story-teller style found by Britto and colleagues and the co-constructive style identified by Dickinson and Smith (1994). Parallels may also be drawn to the strategies taught by dialogic reading (Whitehurst et al., 1988). These styles vary in the types and proportions of extratextual talk, as well as their

contributions to child outcomes. It is possible that the types of styles found may be related to the age and perceived skills of the child, with parents using less abstraction in their talk with younger children (Fletcher & Reese, 2005). Supporting reading styles in which extratextual talk is limited, Hammett and colleagues (2003) found that the most prevalent style identified through cluster analysis involved limited extratextual utterances. This appears congruent with the performance-oriented style to which Dickinson and Smith (1994) and Reese and Cox (1999) refer, as well as the Story-reader style identified by Britto and colleagues (2006). There is empirical support for positive child outcomes for a diversity of these styles, suggesting that interventions targeting children's language outcomes may draw on multiple styles of reading.

Naturally occurring styles in Latino families. The studies noted above did not include significant numbers of Latino families. There are three studies that do look specifically at Latino families and the attributes of their shared book reading, but these do not include outcome measures. Rodríguez and colleagues (2009) examined communication behaviors and interactive strategies of Mexican American mothers reading to their 24- to 36-month-old children. Participants used a variety of communicative behaviors, most frequently yes/no questions, descriptions, and positive feedback. Directives were frequently used to structure the book reading interaction. Participants also used interactive strategies, most frequently enhancing the child's attention to the text. Rodríguez and colleagues (2009) also found that Mexican American mothers of middle socioeconomic status used yes/no questions and feedback more frequently than did mothers of lower socioeconomic status. Participants did not differ by socioeconomic status in their use of interactive strategies. This study did not derive

styles, as the studies below did. However, it provides descriptive information on shared reading strategies of a subset of Latino caregivers.

Hammer and colleagues (2005) coded the maternal and child utterances of English-speaking African American and Puerto Rican mother-child dyads during book reading. Children were 43 to 66 months old. Codes included a variety of maternal and child assertive and responsive acts. The researchers derived a text-reading style, in which 60% or more of the mother's utterances consisted of text from books, a labeling style, which consisted primarily of labels and comments about the book, a child centered style, which allowed the child to be the primary storyteller, and a combinational style, in which the adult read the text but stopped periodically to comment or ask questions. Hammer and colleagues (2005) found that Puerto Rican parents were more likely to use a child centered style, whereas more African American mothers used a text reading style. This finding is congruent with literature that discusses an emphasis on storytelling and a strong distinction between the storyteller and the audience among Latino families (Melzi & Caspe, 2005).

Melzi and Caspe (2005) studied reading styles among monolingual middle- to upper-class mother-child dyads from the United States and Peru sharing a wordless picture book. Children were 36 to 48 months old. Using cluster analysis, the researchers derived two reading styles after coding narrative and non-narrative utterances. The storyteller style included the greatest use of informative narrative utterances and tended toward discussion of referential and evaluative information about the story. The storybuilder style tended to use interactive narrative and non-narrative utterances, and often included discussion of general knowledge and related events. This style is more

closely related to the describer and comprehender styles discussed by Haden and colleagues (1996). In this study, 75% of Peruvian mothers and 7% of American mothers used the storyteller style. Conversely, 25% of Peruvian mothers and 93% of American mothers used a storybuilder style. Both groups used about the same number of utterances, meaning that children were exposed to similar amounts of linguistic input.

Caspe (2009) used a similar methodology to Melzi and Caspe (2005) to examine book sharing styles among low-income, Spanish speaking Latino mothers. Mothers were asked to share a wordless book with their four-year-old children in whatever language they were comfortable with, including a mix of English and Spanish. In this study, cluster analysis indicated three maternal booksharing styles: storybuilder-labelers, who co-constructed the story with their children by requesting narrative information; storytellers, who narrated the story with minimal requests of their children; and abridged-storytellers, who told a more concise story than the storytellers did, but were otherwise similar. Caspe (2009) noted that while differences existed in the sample in terms of approach to booksharing, a storytelling style rather than a co-construction style was predominant. Caspe (2009) found that the only demographic variable associated with booksharing style was child gender, with a higher percentage of girls in the storytelling style and a high percentage of boys within the storybuilder-labeler style. There were no statistically significant differences in the proportion of Spanish or English used during book sharing; however, there was a statistical trend suggesting that storytellers and abridged-storytellers used more Spanish.

The Caspe (2009) study is unique among studies of book reading styles among Latino caregivers in that it includes child outcome measures. This study found that the

three booksharing styles were differentially predictive of emergent literacy skills. The storytelling style positively predicted children's print-related literacy skills in comparison to storybuilder-labelers. The abridged-storyteller style in combination with more years in Head Start predicted some of the highest print-related literacy skills in the sample. The storybuilder-labeler style was associated with children using more evaluations in their own narratives. Booksharing styles did not predict other components of child narrative outcomes.

The studies by Melzi and Caspe (2005) and Caspe (2009) are consistent with other findings that Latino families may draw on a rich storytelling tradition in sharing books with their children (Raikes et al., 2006). Parallels may be drawn to the findings of discussion-oriented styles, as well as performance-oriented styles, in other research on naturally occurring reading styles (Britto et al., 2006; Dickinson & Smith, 1994; Haden et al., 1996; Reese & Cox, 1999)

Contributions of the Present Study to the Literature

There is an extensive body of literature addressing frequency of shared book reading with young children. This research provides abundant evidence that shared reading can have beneficial effects on the vocabulary skills, and possibly indirectly the literacy skills, of young children (Bus et al., 1995; Raikes et al. 2006; Sénéchal & LeFevre, 2002). However, it provides less information on low-income Latino children who may be at risk of later academic difficulties. Empirical studies have suggested that Latino families may be less likely to read frequently to their young children, possibly due to beliefs about the appropriateness of such activities for young children (Bradley et al., 2001; Raikes et al., 2006; Reese & Gallimore, 2001). Research focusing entirely on the

frequency of shared book reading among these families may miss the activities that are going on in the home and the specific qualities of book reading itself.

It appears that research on reading styles may offer a way to gain more specific knowledge about the naturally occurring literacy practices among low-income Latino families. This will be of particular importance in creating culturally relevant programming for bolstering young children's language and literacy skills. Dialogic reading studies reveal that the distinct ways in which adults read to children may offer specific types of benefits for children's language skills (Mol et al., 2008; Whitehurst et al., 1988). Guidance also is provided by studies that have begun looking at the diversity of naturally occurring ways in which adults can read to children, and the differential effects that these styles may have on child outcomes (Britto et al., 2006; Dickinson & Smith, 1994; Haden et al., 1996; Reese & Cox, 1999). There are a few studies that have looked at the reading styles of Latino families (Caspe, 2009; Hammer et al., 2005; Melzi & Caspe, 2005). It appears that Latino caregivers may be more likely to use reading styles that emphasize having the adult or child tell the story, rather than interrupting the story for discussion. These findings are congruent with ethnographic findings of a rich storytelling tradition in Latino families (Reese & Gallimore, 2001). However, this line of investigation requires further empirical validation, including more studies examining child outcome variables.

This study will contribute to the literature by continuing the research on reading styles among a low-income Latino population. The sample includes caregivers who read in English and Spanish. Many other studies have examined monolingual groups. This study also will focus on younger children than have been studied in previous research. In

addition, this study will include expressive and receptive vocabulary outcome measures, which have not been used in studies of reading styles specific to Latino families. In studying expressive vocabulary outcomes of naturally occurring styles, this study links to the empirical studies on dialogic reading interventions, which have not shown as much success with low-income children as with other populations. Information derived from this study may provide steps toward creating intervention programs that may be more culturally relevant with low-income Latino families.

CHAPTER III. METHODS

Participants and Setting

Data from a sample of 29 caregiver-child dyads were used in this study. Participants were drawn from a larger pool of participants in an evaluation study of a home visiting program. All participants whose data were used in this analysis identified themselves as Latino. One participant identified herself as Latino and Caucasian, and another identified herself as Latino and African American. Child participants had a mean age of 28.68 months at the time of first assessment, with a standard deviation of 3.34 months. Detailed demographic information for all participants is listed in Tables 1 and 2.

The participant pool was drawn from participants in an evaluation of an intensive home visiting program for families with young children in an urban area. The home visiting program focuses on building early childhood literacy and school readiness skills by cultivating parent-child verbal interactions. All data used were from baseline assessments prior to any intervention to control for possible differences in caregiver reading style or child vocabulary skill as a result of treatment effects. All data were collected in participants' homes.

Measures

The Expressive One-Word Picture Vocabulary Test, Revised (EOWPVT-R); Brownell, 2000) is an individually administered, norm-referenced measure of an individual's speaking vocabulary. The individual is asked to name objects, actions, and concepts pictured in illustrations. The median internal consistency reliability coefficient alpha across age groups is 0.96, and the internal consistency coefficient for two-year-olds is 0.93. The corrected test-retest reliability coefficient across age groups is 0.91, and the

coefficient for two- to four-year-olds is 0.88. Standardization samples for the EOWPVT-R were stratified on the basis of geographic region, race/ethnicity, gender, parent education level, and disability status, based on the data from the 1998 Bureau of the Census (Brownell, 2000).

The EOWPVT-R was administered to each child in his or her native language. The EOWPVT-R has distinct norms for English and Spanish administration. However, the age range for the Spanish norms begins at four years old, which does not include the participants for this sample. Given the lack of normative information for Spanish administration, as well the demographic differences between this sample and the normative sample, raw scores rather than standard scores were used for analysis.

The Peabody Picture Vocabulary Test – Third Edition (PPVT-III); Williams & Wang, 1997) is an individually administered, norm-referenced measure of receptive vocabulary. The individual being tested is shown four pictures while the examiner says a single stimulus word. The individual verbally or nonverbally indicates which picture best represents the stimulus word. The median internal consistency reliability coefficient alpha across age groups is 0.95, and the internal consistency coefficient for children 2 years and 6 months old is 0.93. The corrected test-retest reliability coefficient for 2 year, 6 month olds to 5 year, 11 month olds is 0.92. Standardization samples for the PPVT-III were stratified within each age group on the basis of gender, race/ethnicity, geographic region, and socioeconomic status, based on United States Census data from March 1994 (Williams & Wang, 1997).

The PPVT-III was administered to each child in his or her native language. There is a Spanish language receptive vocabulary assessment based on an earlier edition of the

PPVT. As the norms are dated and the correspondence to the PPVT-III is unclear, the PPVT-III was administered in Spanish to children whose native language was Spanish. As some of the child participants were not old enough for standard scores to be derived, and due to the use of non-standard procedures for Spanish-speaking children, raw scores were used for analysis.

All data collectors who administered the EOWPVT-R and PPVT-III were bilingual paraprofessionals who lived in the communities of the participants. Individual data collectors made the decision about the language in which to administer the measures to each child, based on the information provided by the caregiver. Data collectors translated directions and items for the measures into Spanish during administration, which may have led to unknown variations in administration across participants.

Demographic data were collected through self-report. A demographic questionnaire (see Appendix A) was completed by the caregiver at the time of enrollment in the home visiting program. The parent interview (see Appendix B) was administered by a data collector during the initial home visit. Demographic data collected through the questionnaire included child gender, caregiver gender, caregiver's number of years in the United States, caregiver education level, and caregiver employment. Information on frequency of reading with the child was collected through the parent interview.

Procedures

Data collection. Data were collected by paraprofessionals associated with early childhood programs in the school district. Data collectors received half-day training in the assessment procedures, including didactic training on standardized measures, guidance in managing the visit, modeling, and role playing. Each assessor was shadowed

by a graduate student during her initial assessments, until it was determined that the assessment procedures were conducted with 100% accuracy. At this point, data collectors worked independently. All data used in the present study were collected after it was determined that the paraprofessionals conducted the visit with complete integrity. For each assessment, data collectors completed an integrity checklist, reporting their adherence with key steps in the assessment process. The checklists were routinely monitored by project staff, and when indicated, refresher training was provided. Protocols for the standardized measures were checked on an ongoing basis to ensure that assessors were using basal and ceiling rules appropriately.

Other than information from the demographic questionnaire, which was gathered at the time of enrollment in the home visiting program, all data were collected during a visit to the child's home before any intervention took place. During one home visit, a data collector administered the EOWPVT-R and PPVT-III to the child and conducted the parent interview. Additionally, data collectors introduced the storybook reading task to participants. Each caregiver shared the book *Frog on His Own* (Mayer, 1973), a picture book with no words, with their child (see Appendix C for specific procedures). A wordless book was chosen to allow for the full variety of style that may emerge, as it may facilitate those who would tend toward a storytelling style and who may otherwise feel confined to the text (Melzi & Caspe, 2005). In addition, use of a wordless book takes into consideration caregivers with varying levels of literacy in their respective languages and allows caregivers to use both English and Spanish, if that is what is comfortable for them (Caspe, 2009). The data collector prefaced the task by asking the caregiver to look

through the pictures, and then tell the child a story to go with the pictures. The data collector audio taped the reading session, and attempted to remain unobtrusive.

Coding scheme for caregiver reading styles. Each recorded book reading session was transcribed. Sessions conducted in Spanish were first transcribed in Spanish and then translated into English by the transcriber. Translators were undergraduate and graduate students who were native speakers of Spanish or who had acquired fluency in Spanish. Following transcription and translation, each transcript was coded. Caregiver speech in these transcripts was segmented into utterances by coders (see Appendix D for detail on utterance segmentation). Each caregiver utterance was given a speech act code of Provision, Request, or Directive (see Appendix D). In addition, utterances were coded for content using 15 categories. The coding scheme is based on work done by Hammer and colleagues (2005), Melzi and Caspe (2005), and Reese and colleagues (2003). If an utterance consisted of a nonsense word, was clearly unrelated to the book reading task, or was unclear to the point that a coding decision could not be made, the utterance was left uncoded and was not included in this analysis.

Prior to coding, all coders, including those doing coding for interobserver agreement checks, were trained against transcripts that had already been coded by a research team. Coders met initially to discuss the code and to code a transcript as a group. Coders then coded transcripts independently as part of the training process, and agreement with the existing codes was calculated. Feedback was given to each coder on disagreements with existing codes. Each coder had to reach 85% agreement with existing coded transcripts on at least three transcripts. Once this level of training was attained, coders coded new transcripts independently. However, given the complexity of the

coding system and the transcripts, coders maintained communication with each other over email or in group meetings to discuss issues as they arose. Some clarifications were made to the coding scheme as a result of these discussions.

Over 25% of the transcripts were randomly chosen to be coded by a second trained coder to calculate interobserver agreement (IOA). Agreement was defined as agreement on utterance segmentation, content code, and speech code. Differences on any of those three criteria were considered disagreements. IOA was calculated periodically throughout the coding process, with no more than 10 transcripts being coded without at least one IOA check. Coders met following IOA checks to discuss disagreements, and the transcript reflecting consensus reached was used for data analysis.

Data Analyses

Research Question 1: Are distinct book reading styles categorized by types of caregiver verbalizations found among low-income Latino caregivers reading to their two-year-old children? To examine whether distinct book reading styles can be categorized by types of caregiver verbalizations in this population, agglomerative hierarchical cluster analysis was used. This analysis has been used in other studies to identify reading styles (Britto et al., 2006; Dickinson & Smith, 1994; Haden et al., 1996). Cluster analysis is used to identify homogeneous subgroups of cases in a population. It is an exploratory technique that requires no prior grouping of participants, but explores the data to determine if groupings exist (Aldenderfer & Blashfield, 1984). Cluster analysis identifies a set of groups which both minimize within-group variation and maximize between-group variation.

Coding data for caregiver utterances were submitted to cluster analysis using Ward's method. This is a minimum distance hierarchical method which calculates the sum of squared Euclidean distances from each case in a cluster to the mean of all variables. At each step of the cluster analysis, the two clusters that merge are those that result in the smallest increase in the overall sum of the squared within-cluster distances (Norušis, 2011). Examination of the resulting agglomeration table and dendrogram was used to determine distinct clusters. To determine the optimal number of clusters, distance coefficients were inspected to find cluster solutions occurring before the distances at which clusters combined became large. The larger differences between the distance coefficients, the more clustering may involve combining unlike entities. Previous research was also used to guide interpretation of the clusters. Descriptive statistics were examined to see how the clusters differ in content and type of caregiver utterance.

Analyses were based on data derived from the previously described coding scheme. Percentages of each category of verbalization were calculated by dividing the frequency of the category by the total number of caregiver utterances and multiplying by 100. The percentages for each category were submitted to the cluster analysis as variables of interest. Descriptive statistics, such as means and standard deviations for the percentages for each category, were also produced to examine the contents of clusters.

Research Question 2: Are there relationships between caregiver reading style and child and caregiver demographic variables? Once clusters were derived, the significance of their associations with child and caregiver demographic information as reported on the demographic questionnaire and the caregiver interview were examined through individual chi square analyses. Demographic variables examined included child gender,

child age, child native language, caregiver native language, age of caregiver immigration, caregiver employment status, and caregiver education. The frequency of reading with the child at home per week, as reported by the caregiver, was also included in this analysis.

Research Question 3: Is there a relationship between the language used by a caregiver while reading and his or her reading style? A chi-square analysis was used to test the significance of the association between language used during book reading and the reading styles identified through the previously described analysis. It should be noted, however, that there were 24 participants who read in English in this sample, but only five participants who read in Spanish (see Table 2). This analysis should be considered with caution due to the imbalance in numbers.

Research Question 4: Are there significant differences in children's expressive and receptive vocabulary as measured by the Expressive One-Word Picture Vocabulary Test, Revised (EOWPVT-R) and the Peabody Picture Vocabulary Test, Third Edition (PPVT-III) based on caregiver reading style? To investigate group differences in expressive and receptive vocabulary based on caregiver reading style, MANOVA was used. The independent variable was book reading style, and the dependent variable was vocabulary, defined as raw EOWPVT-R and PPVT-III scores. It should be noted that a power analysis for a moderate effect size with three groups in the independent variable suggests a sample size of 45 (effect size = 0.15, $\alpha = 0.05$, power = 0.80). Therefore, with a sample size of 29, this analysis is underpowered and should be interpreted with caution.

CHAPTER IV: RESULTS

Interobserver Agreement

Three transcripts (10.34%) used in the present study were used as training transcripts and were coded multiple times by different coders. Of these three, two were originally in Spanish and one was in English. The training transcripts were coded jointly by two members of the project staff who were responsible for training other coders. These three transcripts then were coded independently by all coders during training. Each coder had to reach 85% agreement with the existing codes on all three transcripts. In the process of training, some codes on these transcripts were refined following discussion. The final coded versions of these transcripts were used in data analysis.

From the 29 transcripts, eight (27.59%) were randomly selected for interobserver agreement (IOA) checks of the coding scheme. Of these, two were originally in Spanish and six were in English. The mean IOA for initial checks was 86.83%, with a range of 78.6% to 93.1%. Two of these initial checks fell below the criterion of 85%. Four transcripts, including the two that fell below 85%, were discussed following the IOA check, and IOA was recalculated to reflect any changes that the original coder made after discussion. The IOA values of the two transcripts that fell below 85% were revised from 78.6% and 80.8% to 95.1% and 88.5%, respectively. The mean IOA including those that were revised following discussion was 92.41%.

Research Question 1: Are distinct book reading styles categorized by types of caregiver verbalizations found among low-income Latino caregivers reading to their two-year-old children?

Coding data for caregiver utterances were submitted to hierarchical cluster analysis, an agglomerative process. Agglomerative hierarchical cluster analysis begins with every case being a cluster. At each step, similar clusters are merged. The agglomeration schedule (see Table 3) shows the distance coefficient at each step of the cluster analysis. The distance coefficient shown in the agglomeration schedule is the within-cluster sum of squares at that step (Norušis, 2011). When the differences between coefficients become relatively large, this indicates that relatively dissimilar clusters are being merged. As noted by Aldenderfer and Blashfield (1984), the decision procedure for determining the number of clusters indicated by a cluster analysis is based on subjective inspection. The optimal cluster solution is considered to be the one occurring just before the differences between distance coefficients become large (Aldenderfer & Blashfield, 1984). To facilitate examination of the differences between the distance coefficients, the coefficients were graphed against the number of clusters suggested by each step of the cluster analysis (see Figure 1). Examination of the graph in Figure 1 reveals a relatively large “jump” between four clusters and three clusters, suggesting that relatively dissimilar clusters are being merged at this point. This indicates that a four-cluster solution could be considered as a satisfactory cluster solution. To further explore this finding, the dendogram was examined (see Figure 2). On the dendogram, the observed differences between clusters are rescaled to fall in the range of 1 to 25. Vertical lines indicate clusters that have been joined. One examines the distances between sequential vertical lines to assess how dissimilar the clusters being joined are (Norušis, 2011). The dendogram in Figure 2 does not present a definitive solution, as many of the

differences shown on the plot are relatively small. Subjective inspection could suggest two- to five-cluster solutions as possible solutions.

Given that four clusters were suggested by the differences in the distance coefficients in the agglomeration schedule, the contents of four clusters were inspected to assess interpretability and meaningfulness in the context of the research literature. Within the four-cluster solution, there was one cluster with two participants. Upon examination of the mean content and speech act codes, this two-participant cluster bore similarities to another cluster containing nine participants. Both of the clusters in question included a high proportion of Provision speech acts. The same five content codes had the highest percentage means in both clusters, although in differing proportions. Due to these interpretive similarities and the difficulties inherent in interpreting such a small cluster, this cluster was not considered to be meaningful and interpretable within the context of the research literature. Therefore, the three-cluster solution was examined.

The three-cluster solution merges the two-participant cluster into the similar cluster described above. The resulting cluster is described below as Cluster 3: Storytellers. The three-cluster solution can be supported by the cluster analysis data, as the dendrogram suggests that this solution merges cases that can still be considered relatively similar (see Figure 2). In addition, the three-cluster solution is more readily supported by the relevant literature and allows for statistical analysis on all clusters. Therefore, this was determined to be the optimal cluster solution for this study. The three clusters indicated in this stage of the cluster analysis are detailed below.

Cluster 1: Directors. Cluster 1 contains 13 out of the 29 participants.

Participants in Cluster 1 had a mean number of coded utterances of 135.69, with a range from 17 to 398 and standard deviation of 118.99. However, there are two dyads in Cluster 1 that are statistical outliers for total number of utterances both for this cluster and the sample as a whole. The total quantities of utterances for these dyads are 347 and 398. With these two outliers removed, the greatest number of utterances in this cluster is 205, and the greatest value for the entire sample is 228. With the outliers removed, the mean number of coded utterances for Cluster 1 is 92.64, with a standard deviation of 60.04. The mean percentages of content codes for Cluster 1 are listed in Table 4 and displayed in Figure 3. The mean percentages of speech act codes are displayed in Figure 6.

In contrast to participants in other clusters, the participants in Cluster 1 used the Directive speech act codes more than the Request codes and almost as much as the Provision codes (see Figure 6). In other clusters, the Directive codes were used the least. The most frequently used content code among participants in this cluster was Direct Attention, a request for the child to attend to some aspect of the book reading interaction (see Appendix D for details on the definitions of the codes). The mean percentage for Direct Attention is higher in this cluster than in any other. Utterances coded as Direct Attention do not contain book-related content. The utterance coded most frequently as Direct Attention is, “Look.” In general, caregivers in this Cluster 1 were directing a greater proportion of their utterances toward engaging the child’s attention in the particular aspects of the book or to the task at hand than were other caregivers.

The participants in Cluster 1 used the greatest variety of content codes. Other than Direct Attention, there were six content codes whose proportion means represented more than five percent of the total. These codes were Label – Provision, Description – Provide, Label – Directive, Label -- Request, Inference – Provision, and Event – Provision. It appears that when participants in Cluster 1 provided or requested content, it was most often focused on labels, including names of characters and objects. They did utilize utterances that focused on the action in the story or inferences about the characters or plot, but they tended to use them less than utterances regarding labels.

Cluster 2: Elicitors. Cluster 2 has five participants. Participants in Cluster 2 had a mean number of coded utterances of 132.00, with a range from 13 to 228 and standard deviation of 99.15. The mean percentages of content codes are listed in Table 4 and displayed in Figure 4. The mean percentages of speech act codes are displayed in Figure 6. Figure 6 shows that these participants used the Request speech act codes more often than the Provision or Directive codes, a trait that is unique among the three clusters.

The most frequently used content code in this cluster was Label – Request, the mean proportion of which was over a third of the total for this cluster. With utterances coded as Label – Request, the caregiver is requesting information from the child about a concrete aspect of the story, such as the name of a character. Examples of utterances coded Label – Request include, “And what’s this thing right here?” and “What he drinking?”

Direct Attention was the content code most frequently used following Label-Request. The content code Correction or Confirmation – Provision was the third most frequently used code. This code was used more frequently in this cluster than in other

clusters. Since Confirmation or Correction – Provision was used in response to child utterances, it appears that the children were responding to at least some of the caregiver requests. The following exchange contains utterances coded both Label – Request and Confirmation or Correction – Provision:

Caregiver: “What he looking at?” (*Label – Request*)

Child: “He looking at fleas!”

Caregiver: “That’s a butterfly.” (*Confirmation or Correction – Provision*)

The final code used more than five percent of the time is Description – Request. With these utterances, the caregiver asks the child about elements of the plot and action in the book. An example of this code is, “And what the doggy doing?” It can also be noted that this cluster was the only one in which the mean percentage of Inference – Request was greater than one percent, suggesting that these participants did tend to ask higher level questions more than others, although they did not do so at a high rate. With utterances coded as Inference – Request, caregivers are asking the child about predictions for what will happen in the story, as well as input about causality and the characters’ mental states. Examples of utterances coded Inference – Request are, “Where froggy’s gonna go next?”, “Did they get scared?”, and “Why is he crying?”

From the combination of codes used most frequently in Cluster 2, it appears that these caregivers were making concerted attempts to engage the child in the storybook task through use of requests and directives. They were eliciting responses frequently and directing the child’s attention to the task. They responded to the child’s contributions more often than did other participants, although it is possible that children in this cluster made a higher number of contributions than children in other clusters due to the greater proportion of requests.

Cluster 3: Storytellers. Cluster 3 has 11 participants. Participants in Cluster 3 had a mean number of coded utterances of 98.64, with a range from 31 to 184 and standard deviation of 50.50. These participants used the Provision codes more than Request or Directive codes, with a magnitude of difference greater than that in Cluster 1 (see Figure 6). As shown by the dendrogram, this cluster contains the most diversity in terms of caregiver reading behaviors (see Figure 2).

Event – Provision and Description – Provision were the most commonly used content codes in this cluster (see Table 4). Both codes are used for utterances that deal with explanations or elaborations of the plot in the book. Description – Provision utterances must be in present tense and Event – Provision utterances must be in past tense. An example of a Description – Provision utterance is “Out comes the frog!” An example of an Event – Provision utterance is “The frog went into the picnic basket!” These codes are used more frequently in Cluster 3 than in Clusters 1 and 2.

Additionally, the content code Inference – Provision was used more often than in the other clusters, suggesting that caregivers using this reading style were not only providing information about the plot of the story, but also offering predictions about the story and interpretations about causality and the characters’ mental states. Examples of utterances labeled Inference – Provision are, “He was hungry so he needed to eat,” “They scared the cat away,” and “He’s gonna get the baby!”

Other codes used more than five percent of the time include Label – Provision, Evaluation – Provision, Direct Attention, and Label – Request. Utterances coded as Evaluation – Provision include personal opinions about the story and perceptions about character opinions or speech. An example would be, “She’s like, ‘What’s this?’” From

the combination of most frequently used codes, it appears that these caregivers were focusing attention on the plot and on evaluations and inferences about the story. The information that they were providing to the child focused more on this information than on labeling, although they did provide labeling information. Direct Attention was the sixth most frequently used code, in contrast to the frequency of use in Clusters 1 and 2. Given that these participants also made fewer requests, they were expending more utterances on telling the story and fewer on engaging or eliciting information from the child.

Anecdotally, it would appear that caregivers in this cluster spoke longer sequences of utterances without the child speaking than did caregivers in other clusters. Within these longer sequences, there appeared to be a variety of content codes, particularly those with Provision speech acts. The following is an example of one of these sequences. Codes are in italics following utterances.

Look at that. (*Label – Directive*) The cat started chasing the frog, (*Event – Provision*) and gripped up the frog! (*Event – Provision*) Hold him down. (*Description – Provision*) The frog was afraid. (*Inference – Provision*) Then he heard a familiar voice. (*Inference – Provision*) Woof woof! (*Evaluation – Provision; Repetition*) The dog came to help him (*Event – Provision*) and he was so glad to see his friend. (*Inference – Provision*) The boy in the big boot. (*Label – Provision*) The turtle was still in the bucket. (*Description – Provision*) He was glad to see him too. (*Inference – Provision*) The frog got into the boy's arm (*Event – Provision*) and was so happy to see him. (*Inference – Provision*) And said, never again I would like to be alone on the city park. (*Evaluation – Provision*) The end. (*Whole Book – Provision*)

The caregiver above is asking for and receiving little participation from the child in this sequence. She is using a variety of the provision codes to discuss the action of the plot, her inferences of the emotional states of the characters, and the words attributed to the characters.

Excerpts. To provide qualitative examples of the three book reading styles identified and further elucidate the distinctions among them, the following excerpts are provided. All three excerpts refer to the first three pages of the book, in which a boy enters a gate labeled “City Park” with a dog, as well as a frog and a turtle in a bucket. The frog jumps out of the bucket, and the boy and other animals walk on without him. Codes are in italics following utterances.

The following excerpt illustrates the Director style, with participants in Cluster 1. This caregiver is attempting to engage the child in the reading task and in specific aspects of the book, frequently using utterances coded as Direct Attention and other Directive speech acts. From the child utterances throughout this transcript, it appears that the child is offering some resistance to the task. The caregiver does provide some information about the characters and the action in the story.

Caregiver: Look at this book. (*Whole Book – Directive*) Down here, (*Direct Attention*) look, (*Direct Attention*) he’s walking through the park. (*Description – Provision*) You see him walking through the park with the /doggy? (*Description – Request*)

Child: /[[babbles]

Child: /Look, look. (*Direct Attention; Repetition*) Look at this book. (*Whole Book – Directive*) He’s walking through the park with the dog, (*Description – Provision*) you see him? (*Label – Request*) Look, (*Direct Attention*) turn the page. Turn the page. (*Whole Book – Request; Repetition*) Look. (*Direct Attention*) He’s looking at the butterflies, (*Description – Provision*) and walking through the park. (*Description – Provision*) Look, (*Direct Attention*) over here. Over here, (*Direct Attention; Repetition*) look at the book. (*Whole Book – Directive*) Look at the boy. Look at the boy. (*Label – Directive; Repetition*)

Child: [babbles] Ah/ no no, no no.

Caregiver: /Look at the boy. (*Label – Directive*) See that he’s walking through the park? (*Description – Request*)

The following excerpt is from participants in Cluster 2, demonstrating the Elicitor style. The caregiver and child label the items on the pages through a series of questions and answers. The caregiver requests labels for the pictures, and confirms or corrects the

child's responses. She also uses praise in responding to the child's utterances. In this excerpt, the caregiver and child do not delve into the action or plot of the story.

Caregiver: See the little boy? (*Label – Request*) With the bucket of frogs, and the doggy? (*Label – Request*)
Child: A there frog.
Caregiver: Yeah the frog. (*Confirmation or Correction – Provision*)
Child: A go frog!
Caregiver: Yeah. (*Confirmation or Correction – Provision*) What's this? (*Label – Request*)
Child: Frog.
Caregiver: Good job! (*Praise – Provision*) And what's this? (*Label – Request*)
Child: Nene.
Caregiver: A nene. (*Confirmation or Correction – Provision*) Good job! (*Praise – Provision*) How about this? (*Label – Request*)
Child: A, a nene hair!
Caregiver: Yeah ha, the nene has hair. (*Confirmation or Correction – Provision*)
Child: Green!
Caregiver: That's black. (*Confirmation or Correction – Provision*) And what's this? (*Label – Request*)
Child: Doggy?
Caregiver: Doggy. (*Confirmation or Correction – Provision*) What's this? (*Label – Request*)
Child: Buffly.
Caregiver: Butterfly. (*Confirmation or Correction – Provision*) Good job! (*Praise – Provision*)

The following excerpt is from participants in Cluster 3, demonstrating the Storyteller reading style. The caregiver narrates the events of the story with some detail, and her provision of narrative information is predominant in this interaction. She requests a label from the child once, but there is no verbal response from the child. The child provides no spontaneous speech during this portion of the story.

Caregiver: There's the little boy walking with the dog. (*Description – Provision*) He's holding a basket. (*Description – Provision*) The basket got a little frog and a turtle, (*Description – Provision*) and they're going to the park. (*Description – Provision*) What's in the park? (*Label – Request*) There's butterflies. (*Label – Provision*) The dog is looking up at the butterfly, (*Description – Provision*) and the boy keeps on walking with the dog, (*Description – Provision*) and the dog's looking up at the butterflies, (*Description – Provision*) and the frog jumps out of the basket, (*Description – Provision*) he keeps on walking, (*Description –*

*Provision) the frog's behind, (Description – Provision) there's the butterflies.
(Label – Provision)*

Research Question 2: Are there relationships between caregiver reading style and child and caregiver demographic variables?

Frequencies of child demographic characteristics by cluster are listed in Table 5. Caregiver demographic frequencies are listed in Table 6. Chi square analyses were used to examine whether there were significant differences among the clusters. The chi square analyses generally violated the rule of thumb that the expected frequency in each cell should be at least 5 participants (McCall, 2000). Additionally, given the limited sample size, the results of the analysis should be interpreted with caution (McCall, 2000).

One result, frequency with which the child was read to in a week, approached significance ($\chi^2(4) = 8.04, p = 0.090$). All five participants who told the interviewer that someone read with the child one to two times per week were in Cluster 1. This result overlapped with the result of the language of reading chi square analysis, as four out of the five participants who read in Spanish also said that someone read with the child one to two times a week (see Table 7). There was no reading frequency data available for the fifth participant who read in Spanish.

Significant results were not found for the following demographic variables: child gender, child age, child native language, caregiver native language, age of caregiver immigration, caregiver employment status, and caregiver education.

Research Question 3: Is there a relationship between the language used by a caregiver while reading and his or her reading style?

As shown in Table 8, the chi square analysis for this research question reached significance ($\chi^2(2) = 7.44, p = 0.024$), indicating a relationship in this sample between the

language used by the caregiver during reading and the reading style. In a notable contribution to this result, all five participants who read in Spanish were in Cluster 1. This result should be interpreted cautiously due to the small sample size, as well as the imbalance in numbers between English and Spanish readers.

Research Question 4: Are there significant differences in children's expressive and receptive vocabulary as measured by the Expressive One-Word Picture Vocabulary Test, Revised (EOWPVT-R) and the Peabody Picture Vocabulary Test, Third Edition (PPVT-III) based on caregiver reading style?

Multivariate analysis of variance was used to examine group differences on child PPVT-III and EOWPVT-R raw scores based on caregiver reading style. It should be noted that the analysis is underpowered, and results of this analysis should be interpreted with caution.

Means and standard deviations for PPVT-III and EOWPVT-R raw scores by reading style cluster are presented in Table 9. A one-way MANOVA revealed no significant main effect for PPVT-III and EOWPVT scores (Wilks' $\lambda = 0.843$, $F(4, 50) = 1.118$, $p = 0.358$). Power to detect the effect was 0.326, indicating that the analysis is underpowered. Univariate analyses were not examined due to the lack of significance in the multivariate test.

CHAPTER V: DISCUSSION

The purposes of this study were to investigate naturally occurring reading styles among low-income Latino caregivers and their two-year-old children, to explore the associations between these reading styles and child and caregiver demographic variables, and to examine the relationship of reading styles and children's receptive and expressive vocabulary. It was hypothesized that two or more distinct reading styles would be discerned. This hypothesis was supported by the data, as three interpretable reading styles were indicated by interpretation of the hierarchical cluster analysis. Two of these styles are consistent with the research literature. The Elicitor style parallels in many ways naturally occurring styles found in other studies that focused on eliciting responses from the child (Britto et al., 2006; Caspe, 2009; Dickinson & Smith, 1994; Haden et al., 1996; Melzi & Caspe, 2005; Reese & Cox, 1999). This style can be considered somewhat similar to dialogic reading interventions (Whitehurst et al., 1988; Zevenbergen & Whitehurst, 2003). The Storyteller style is consistent with a number of studies that have found a performance-oriented style that is more focused on narrating the story than on eliciting responses from the child (Britto et al., 2006; Caspe, 2009; Dickinson & Smith, 1994; Melzi & Caspe, 2005; Reese & Cox, 1999). The Director style has aspects that are not reflected in the prior research literature. It is unclear whether the emergence of this style was due to the distinctive aspects of the coding scheme used in the present study or to qualities in the specific book reading interactions.

This study also examined relationships between reading style clusters and various child and caregiver demographics, as well as frequency of shared reading. In some cases, these analyses were exploratory, as there is little guidance in the literature to support

hypotheses. Hypotheses were not generated for the associations between reading style and child age, caregiver employment status, caregiver education, or shared reading frequency. It was hypothesized that caregivers might be more likely to use a co-constructed style with boys. It was also hypothesized that caregivers who had a native language of Spanish or who had spent less than 50% of their in the United States might be more likely to use a storytelling, performance-oriented style. None of these analyses had significant results. The results for the analysis regarding frequency with which someone read to the child approached significance. All children who were read to once or twice per week were in the Director cluster. However, all chi square analyses should be interpreted with caution due to the small sample size and the low level of variability in some of the demographic categories.

It was hypothesized that caregivers who read in Spanish would be more likely to use a storytelling style. While this analysis had a significant result, all caregivers who read in Spanish were in the Director cluster, rather than the Storyteller cluster. This analysis should be interpreted with caution due to the small sample size and the imbalance in numbers between English and Spanish readers.

Finally, it was hypothesized that a co-constructed reading style would be associated with higher EOWPVT-R and PPVT-III scores. The reading style found in this study that most parallels a co-constructed style is the Elicitor style. However, there were no differences in EOWPVT-R and PPVT-III scores associated with caregiver reading style. The MANOVA used to analyze this data was underpowered; therefore, this research question cannot be answered with confidence given the sample size of the present study.

Reading Style Clusters

The hierarchical cluster analysis revealed three interpretable reading style clusters. A four-cluster solution for the cluster analysis was considered, but was not considered interpretable or theoretically meaningful in context of the literature, as one cluster only had two participants. This cluster bore strong similarities to the Storyteller style, and was merged with that style in the three-cluster stage of the cluster analysis. It is possible that with further research with a larger sample size, this cluster may emerge as a more distinct reading style.

In the present study, the clusters that have been discerned through the cluster analysis are interpreted as reading styles, as has been done in previous research literature that uses cluster analysis to discover patterns in single storybook reading interactions (Britto et al., 2006; Caspe, 2009; Dickinson & Smith, 1994; Melzi & Caspe, 2005). However, it is important to consider that the data on reading frequency in this sample indicate that the book reading interaction may have been relatively unfamiliar to some of the caregiver-child dyads. The use of a wordless book may have added to the novelty of the situation. Additionally, the children in this sample are young, and families may have had less opportunity to establish patterns of behavior around book reading than did families participating in previous research studies. Therefore, it is possible that the clusters discerned are not stable reading styles, but patterns of behavior that emerged in a relatively unfamiliar situation. Further research will be needed to investigate the stability of these clusters over varied samples and book sharing situations. However, given the precedent established in the research literature, the clusters found in the present study are interpreted as reading styles.

In interpreting the clusters in the context of the literature, there are two distinct features of the present study that should be considered. First, this study utilized a wordless book, which has precedent in the literature on naturally occurring book sharing styles with Latino participants (Casper, 2009; Melzi & Casper, 2005). Sharing the wordless book was a semi-structured task. Therefore, caregivers who might not be comfortable with text or who might be more familiar with a storytelling interaction could have more flexibility to share books in ways that were comfortable for them (Casper, 2009; Melzi & Casper, 2005). Additionally, it gave caregivers more freedom to use the language or languages with which they were most comfortable. However, other studies of naturally occurring styles have used text-based picture books (Britto et al., 2006; Dickinson & Smith, 1994; Haden et al., 1996; Reese et al., 2003). The direct applicability of studies utilizing text-based books to those utilizing wordless books must be further explored in research; however, these studies provide a broad framework in which to interpret the clusters discerned in the present study.

Additionally, it is important to consider that the child participants in this study were younger than the child participants in other studies of naturally occurring reading styles. There are studies of dialogic reading with children as young as two years old, but the youngest children in previous studies of naturally occurring styles were three years old (Melzi & Casper, 2005; Zevenbergen & Whitehurst 2003). There are a number of instances in which the younger age of these children must be considered in interpreting similarities to previous literature.

The sample as a whole showed a great deal of variability in terms of total number of codable utterances, suggesting differences in the amount of verbal interaction during

the storybook reading. While there were not significant differences between the clusters in total number of utterances, there was notable variability within each cluster. Many studies using cluster analysis to investigate reading styles did not report data on length of narrative. Among those that did report this information, Melzi and Caspe (2005) did not find significant differences among clusters in the length of narratives produced, although they did not find as much variability within the clusters as was found in the present study. Caspe (2009) found clusters that differed significantly in number of utterances, with the abridged-storyteller style being more concise than the storyteller style. The variability within clusters that was found in the present study may be due to differences in child behavior, attention, or engagement, although that is difficult to discern with the audio recording technique used. Caregivers whose narratives were relatively brief may have had children who were demonstrating less interest in the task, while those using higher numbers of utterances may have been responding to children who were more engaged. This variability in length of narrative did occur across clusters, so it appears to be independent of other reading behaviors in this sample. Further investigation of this area may be needed, as the quantity of verbal input provided to the child in a book reading interaction may be a variable related to child behavior and outcomes.

One pattern was noted across all three reading style clusters found in this study. Caregivers generally kept their provisions and requests close to the content of the book. Other than the Direct Attention content codes, most content codes fell in the Label, Description, and Event categories (see Table 3). These codes are used for information about the concrete objects and characters in the book and the observable events of the story. There was some use of Inference content codes, which related to predictions about

the story, discussions of causality, and interpretations about the character's mental states. However, there was little use of the codes that tapped into extension of the book content to other aspects of the child's life. For example, the Personal Experience and General Knowledge codes were rarely used (see Table 3).

Some, although not all, previous studies have found styles with more expansion on what is portrayed in the book (Haden et al., 1996; Reese & Cox, 1999). For example, the study by Haden and colleagues (1996), which included 40-month-old children, found a comprehender style, which balanced many high-level comments, such as predictions, inferences, and print knowledge talk, with lower-level descriptions in unfamiliar books. An equivalent style was not found in the present study. It is possible that the lack of a style emphasizing higher-level inferential talk could be due to the young age of the children, who might be developing the language and cognitive skills with which to have these types of discussions (Byrnes & Wasik, 2009). Fletcher and Reese (2005) note that parents use less abstraction in their language when reading with younger children. They may tailor their book sharing practices to the skills they perceive in their children. Supporting this reasoning, dialogic reading interventions for four- and five-year-old children emphasize these higher-level inferential skills, but those for two- and three-year-old children tend to be more focused on more concrete questioning (Zevenbergen & Whitehurst, 2003). It is possible that two-year-olds may not be ready for higher-level discussion that may require abstract language. In addition, children this young may be less likely to have personal experience with some of the situations portrayed in the book. Finally, it should also be considered that a number of participants had interaction styles that fell into the Director and Storyteller clusters. Those caregivers who have an

inclination toward styles that emphasize performance of the story and child attention to task might not expend a number of utterances toward discussions that expand the story outside of its immediate context. This is a question that may be clarified with future research with older preschool-aged children.

Cluster 1: Directors. The Director style was characterized by a high proportion of utterances directing the child's attention to the book reading task. Aside from the Directive speech act and Direct Attention content codes, Directors used a variety of other codes, particularly those with a Provision speech act. These caregivers provided information to their children about labels and events in the story and made some inferences about the events. They also requested label-related information from their children. In some ways, this style has similarities to the describer style found by Haden and colleagues (1996), in which caregivers also focused on provisions and requests of concrete, label-related information.

Despite some similarities noted above, there does not appear to be a direct parallel in the literature to this reading style cluster. However, most related studies do not have an equivalent to the Direct Attention content code or the Directive speech act codes. Hammer and colleagues (2005) included a "directs attention" code in their coding scheme, but it is not noted as a significant contributor to any of the reading styles that they describe. That study was one of the only major reading style studies that did not use cluster analysis to derive reading styles, so it is difficult to make more direct comparisons. The other major studies of naturally occurring styles, which did use cluster analysis in some way, did not have an analogous coding structure (Casper, 2009; Dickinson & Smith, 1994; Haden et al., 1996; Melzi & Casper, 2005). Therefore, it is

challenging to determine whether this style is unique to this study because of qualities inherent in this sample's book sharing interactions or because of the distinctiveness of the coding scheme. However, there are features of this cluster that lend themselves to further interpretation.

One characteristic of the sample of the present study that makes it unique among studies of naturally occurring reading styles is the young age of the child participants. In addition to the coding scheme, this may be a contributor to the emergence of the Director reading style. Child participants in this sample were between two and three years old at the time of data collection. It should be noted that the chi square analysis exploring the relationship between child age and reading style was not significant for this sample; however, these children were within a limited age range. Children in other studies of naturally occurring styles ranged from three to six years old (Casper, 2009; Dickinson & Smith, 1994; Haden et al., 1996; Hammer et al., 2005; Melzi & Casper, 2005). The caregivers in the present study may have perceived their children as needing direction toward the storybook task due to their younger ages. Additionally, children of this age might have shorter attention spans and might be distracted by the novel situation of the data collection. Given that the interactions were audiotaped, it is difficult to get a full picture of the behaviors of the children during the book reading. However, it is possible that this style is influenced factors related to child age, and would not be as distinct in older children.

Being younger than children in other studies, the children participating in this study may have had less total exposure to reading. According to the chi square analysis, some of the children with the least exposure to shared reading were in this cluster. This

may be consistent with previous research findings that some Latino families with immigrant backgrounds may be less likely to read with children under three years old, as they may not believe that younger children will understand or appreciate what is being read (Reese & Gallimore, 2001). Therefore, the frequent directives may have been attempts to orient the child to aspects of the book reading interaction that the caregiver found important.

Aside from the utterances coded as Direct Attention, caregivers in this cluster were more likely to engage in talk about labels in the context of Provisions, Requests, and Directives, than to talk about actions in the story. This too may be due to the children's young age. As Fletcher and Reese (2005) noted, parents reading with children under the age of three tend to focus on teaching vocabulary and conversation. For children under 18 months, parents tend to point to, label, and comment on pictures. It is possible that parents in the Director condition were scaffolding their directives and other speech acts with knowledge of their children's familiarity with book reading and their comprehension of language.

Cluster 2: Elicitors. Caregivers using an Elicitor style were the most likely in this sample to request information or other responses from their children. They most commonly requested labeling information from their children, such identification of characters or objects, although they also requested descriptive information. These caregivers also responded to their children's utterances with a higher frequency than participants in other clusters. Finally, they tended to direct their children's attention to the task often.

This style bore similarities to styles derived in a number of other studies. There are similarities to the techniques taught in a dialogic reading intervention using text-based books (Whitehurst et al., 1988; Zevenbergen & Whitehurst, 2003). For example, in dialogic reading with two- to three-year-olds, adults are taught to ask “what” questions. These include asking for labels and descriptions, as Elicitors often did. Later, adults are taught to ask open-ended questions, as these caregivers did to a lesser extent.

This cluster also had parallels in studies of naturally occurring styles, although many of these studies were done with older children. With a sample of low-income Latino mothers and their four-year-old children sharing wordless books, Caspe (2009) found a storybuilder-labeler style, in which mothers requested narrative information from children. The coding scheme used by Caspe (2009) does not include as much detail as the one used in the present study, so it is difficult to draw further parallels. Using similar methodology with a sample of Peruvian and American mothers and three-year-old children, Melzi and Caspe (2005) also found a storybuilder style in which the adult actively elicited the child’s comments about narrative and non-narrative information.

In studies with older, non-Latino samples utilizing text-based books, similar naturally occurring styles were found. Haden and colleagues (1996) found a collaborator style, in which the adult explicitly elicited child contributions and confirmed, but did not elaborate upon, those contributions. However, the Elicitor style emphasizes less demanding and inferential requests than the collaborator style. Additionally, the describer style found by Haden and colleagues (1996) and Reese and colleagues (2003) has some parallels to the Elicitor style. Caregivers reading in the describer style emphasized description of objects and characters in the pictures, but did not initiate

extended discussion of the story. To some extent, they also encouraged children to contribute specified information, such as descriptions of objects and characters. In this tendency toward requesting concrete and specific contributions from children, caregivers in this style are similar to those in the Elicitor style in the present study. Britto and colleagues (2006) found a story-teller style that was characterized by decontextualized comments and labeling questions. Finally, Dickinson and Smith (1994) found a co-constructive approach in a study of teachers' reading styles with four-year-olds. In this style, students were prompted to respond during the book reading. These studies establish a precedent in the literature for the Elicitor style among differing samples, types of books, and child age groups.

While there certainly are similarities with a number of co-constructed styles found in earlier research, the Elicitor style focuses on requests of more basic information than do styles found in previous literature. In the Elicitor style, requests were most likely to be related to labeling information. As with the Director style, caregivers using the Elicitor style may have been focused on labeling information due to the young age of their children and their knowledge of their children's language and cognitive skills.

The Elicitor style cluster was the smallest cluster found in this study, containing only five out of the 29 participant dyads (17.24%). This parallels findings in other studies that include Latino participants. Caspe (2009) noted in her study of low-income Latino mothers and children that only 32% of participants used a storybuilder-labeler style. Caspe (2009) suggested that Latino mothers might shift away from a co-constructive style, such as the Elicitor style, and instead assign specific roles in the book sharing process. In a similar vein, Melzi and Caspe (2005) found that the American

mothers were more likely to use a storybuilder style, while Peruvian mothers were more likely to use a storyteller style. Hammer and colleagues (2005) found that Puerto Rican mothers were most likely to use a child centered style, which allowed the child to be the primary storyteller. The finding that the Elicitor style has the smallest number of participants is consistent with these findings. It supports the hypothesis that Latino families may be less likely to use a co-constructed style, in which the adult elicits responses from the child. Additionally, it reveals the diversity that can be found in book sharing styles among low-income Latino caregivers.

Cluster 3: Storytellers. The Storyteller style was characterized by a high proportion of Provision speech acts, suggesting that these caregivers were expending many of their utterances on providing narrative information to their children. Caregivers used a variety of the Provision content codes, with the codes most frequently used addressing the action in the book. These caregivers also provided some amount of inference and labeling. In a distinctive feature of this cluster, these caregivers were the least likely to make requests or direct their children toward the task. Overall, these caregivers were primarily oriented toward narrating the story portrayed in the book.

This cluster has parallels in a number of other studies on reading style utilizing both wordless and text-based books. In a study of low-income Latino mothers sharing wordless books with four-year-old children, Caspe (2009) found a storyteller style and an abridged-storyteller style, in which the caregivers narrated the story with minimal requests made of their children. The Storyteller cluster in the present study certainly has congruencies with the storyteller style in the Caspe (2009) study. Given the similarities of the demographics of the samples, the presence of a storyteller style in the present study

seems to add confirmation to Caspe's findings, albeit with younger children.

Additionally, Melzi and Caspe (2005) also found a storyteller style using similar methodology and a sample of Peruvian and American mothers. The Storyteller style in the present study has precedent in other studies with Latino samples.

With the Storyteller style, it can be difficult to draw parallels to studies with text-based books. In some studies, such as the one by Haden and colleagues (1996), analysis was focused on the content of extratextual comments. It is difficult to discern how styles determined in such studies relate to the Storyteller style in the present study, as the "storytelling" aspect with text-based books may occur with the reading of the text. However, some studies analyze such variables as the proportion of text reading and the timing of extratextual comments. With these studies, comparisons can be made more readily, despite the differences in study methodology.

The performance-oriented style used in the experimental study by Reese and Cox (1999) has parallels to the Storyteller style in the present study, as the reader proceeds through the story without interruption. However, Reese and Cox (1999) considered this a high-demand style, as the reader provided information and asked questions before and after the story. Dickinson and Smith (1994) found a performance-oriented approach in their study of teacher reading styles in classrooms of four-year-old children. Similarly to the Reese and Cox (1999) study, they found that teachers reading with this style reserved talk for before and after the story, and tended to read straight through the story. With the Storyteller style found in the present study, some caregivers did introduce the title of the book or asked a question at the end, but most proceeded through the story without extra commentary before or after the story. This could be an artifact of the age of the children,

who possibly did not have the language skills to make predictions or to answer questions about the story.

Hammer and colleagues (2005) found that a child-centered style, in which the child was encouraged to be the primary storyteller, was the most commonly used style by Puerto Rican mothers in her sample. They also found two other styles that focused in some way on reading the text. These styles all have some relationship to the Storyteller style in that one member of the dyad is considered the primary narrator (Hammer et al. 2005).

Caspe (2009) noted that in her sample of low-income Latino mothers and their four-year-old children, the two styles that emphasized narration of the story were predominant. The Storyteller cluster in the present study contains over one-third of the caregivers in the sample, but this cluster is not the largest one. However, if one considers that the Director style also trends towards an emphasis on provision of information and a distinction between the narrator and the audience, a pattern related to the finding by Caspe (2009) emerges. Previous research has noted that Latino families may be more likely to draw a distinction between the narrator and the audience, even when the narrator is a child (Caspe, 2009; Hammer et al., 2005; Melzi & Caspe, 2005). In this way, the findings of the present study may be consistent with findings in other studies with Latino samples (Caspe, 2009; Hammer et al., 2005; Melzi & Caspe, 2005). These findings may be rooted in a tradition of oral folklore and storytelling in Latino culture (Melzi & Caspe, 2005; Reese & Gallimore, 2001). It is possible that given the task involving the wordless book, caregivers were able to interact with children in a way that included a storytelling tradition if they were so inclined. However, this interpretation must be substantiated with

further research to gain more information on how the Storyteller and Director styles relate to each other.

Relationships between Reading Style and Demographic Variables

Chi square analyses were used to examine the relationships between the reading style clusters and child and caregiver demographic variables. Given the small sample size in relationship to the potential cell sizes in the chi square analyses, these results should be interpreted with caution. No significant relationships were found for the following demographic variables: child gender, child age, child native language, caregiver native language, age of caregiver immigration, caregiver employment status, and caregiver education. Given the limited sample size and limited variability on some of the demographic variables, these findings are not unexpected. For example, most caregivers had spent their entire lives in the United States, had graduated from high school, and were not employed (see Table 3). The ages of child participants were within a year's span. The result of the analysis regarding how often the child was read to in a week approached significance. All five participants who indicated that someone read with the child one to two times per week were in the Director cluster. All other participants indicated that someone read with their children more frequently. It is possible that caregivers were more likely to use the Director style, which involved a high proportion of direction to task, with children who were less familiar with the reading interaction and required more orientation to it. Further research will be needed to discern relationships among reading styles and demographic variables in similar samples.

Relationships between Reading Style and Language of Storybook Reading

The chi square analysis examining the relationship between reading style cluster and language of the book sharing interaction was significant. This analysis also should be interpreted with caution due to the imbalance in numbers between caregivers using English and those using Spanish. Also, it should be noted that some caregivers who read in English used occasional Spanish words or phrases, so the division of this variable into English and Spanish readers may be imperfect. All five caregiver-child dyads who read in Spanish were in the Director cluster. In this style, caregivers tended to use many directives. Additionally, they used more speech acts coded as Provisions than those coded as Requests. They tended to provide information about labels and events in the story, and most requests were related to labels.

In some ways, the finding that all caregivers reading in Spanish were in the Director cluster seems contradictory to expectations. Previous research would suggest that caregivers reading in Spanish would be most likely to read with a Storyteller style, given the clusters found in the present study. Caspe (2009) found a statistical trend suggesting that caregivers with storyteller and abridged-storyteller styles used more Spanish than English in sharing wordless books with their children. Additionally, other studies suggest an emphasis on narrative during book reading interactions among Latino caregivers (Hammer et al., 2005; Melzi & Caspe, 2005; Reese & Gallimore, 2001). If language used in the book reading interaction might be considered a rough indicator of acculturation, one might hypothesize that caregivers reading in Spanish might trend toward the reading style with the most emphasis on narrative. In this case, that would be the Storyteller style. However, the Director style does have congruencies with the Storyteller style, as caregivers using this style are asserting themselves as the primary

narrators of the story. The Director style does not have a notable “co-constructed” element, in which the caregiver scaffolds the narrative with the child. Additionally, given that the Director style does not have an equivalent in the literature referenced above, it is difficult to draw direct parallels regarding this style.

To further examine this result, the demographic characteristics of English and Spanish readers were examined (see Table 7). One notable finding is that four out of the five Spanish readers reported that someone read with their children one to two times per week. The fifth Spanish reader did not respond to the reading frequency question. Most caregivers in the sample reported that someone read with their children more frequently than one to two times per week. This finding is in line with previous research suggesting that Latino families may be less likely to read with their children under three years old, as they may not believe that younger children will understand or appreciate what is being read (Reese & Gallimore, 2001). They may perceive reading to be an activity that is taught at school through a formal process.

If language of reading might be considered an imperfect indicator of acculturation, the finding that those who read in Spanish were among those whose children had the least exposure to shared reading is congruent with the literature. However, examination of some of the demographic characteristics of the caregivers who read in English and Spanish suggests that language of reading might not line up with other indicators of acculturation (see Table 7). Only three out of the five Spanish readers reported the amount of time they had lived in the United States. None of the three Spanish readers for whom data was available were born in the United States, but it is difficult to draw any conclusions from this limited data. Additionally, the majority of

caregivers who reported their native language as Spanish chose to read in English (73.33%). Half of those whose child's native language was Spanish read in English. Of those who reported that Spanish was the native language for both adult and child, three read in English and three read in Spanish. Caregivers may have chosen to read in the language in which they thought the child was most proficient, or may have perceived the task as an academic one that should be done in English, but there is not a discernable pattern regarding language of storybook reading and demographic information.

Ultimately, there is no way to know in the present study why caregivers chose to read in the language that they did, so it is difficult to draw substantial conclusions from these findings. However, the finding that there was a significant relationship between reading style cluster and language of reading gives guidance for a future line of research.

Expressive and Receptive Vocabulary

The MANOVA utilized in this study did not reveal a significant main effect for the relationship between caregiver book reading style and child expressive and receptive vocabulary. However, the analysis was underpowered and should be interpreted with caution. Further research with a larger sample size is necessary to examine whether the obtained results are supported or are an artifact of the small sample size.

Given the book reading styles that were found in this study, hypotheses can be posited about their possible associations with concurrent child expressive and receptive vocabulary skills. These hypotheses may be explored in future research with a larger sample size. There is little guidance from the literature on how to interpret the Director style, as it does not directly parallel findings in other studies. This style does not bear strong similarities to a co-constructed style, which can be hypothesized to be associated

with higher PPVT-III and EOWPVT-R scores (Britto et al., 2006; Dickinson & Smith, 1994; Haden et al., 1996; Mol et al., 2008; Reese & Cox, 1999; Sénéchal, 1997; Whitehurst et al., 1988). Therefore, the Director style might be hypothesized to be associated with lower receptive and expressive vocabulary scores than would the Elicitor style, which is more of a co-constructed style. Additionally, these parents might be scaffolding their reading to their perceptions of children's language and cognitive skills (Raikes et al., 2006). Given that the caregivers in this cluster emphasized label-related information, it is possible that they perceived their children as being ready for that type of information, rather than more complex discussion. Again, this could support the hypothesis of lower PPVT-III and EOWPVT-R scores than might be found in other clusters.

In the present study, the Director cluster included the children with the least experience with shared reading. Given the findings of associations between frequency of shared book reading and expressive and receptive vocabulary, there might be lower PPVT-III and EOWPVT-R scores in the Director style in this sample (Dickinson & McCabe, 2001; Farver et al., 2006; Raikes et al., 2006). However, it would require further research to determine if this relationship exists in a larger sample.

Given past research on dialogic reading and naturally occurring reading styles, it can be hypothesized that the Elicitor style could be associated with higher concurrent EOWPVT-R and PPVT-III scores. The dialogic reading literature has demonstrated that a style of reading that is focused on eliciting speech from the child can have an impact on child expressive language (Arnold et al. 1994; Huebner, 2000; Huebner & Meltzoff, 2005; Lonigan & Whitehurst, 1998; Mol et al., 2008; Valdez-Menchaca & Whitehurst,

1992; Whitehurst et al., 1988; Whitehurst et al., 1994). In addition, some studies in natural settings have found effects for questioning during reading on expressive language (Britto et al., 2006; Sénéchal, 1997). Although it is not a direct measure of expressive vocabulary, Caspe (2009) found that children whose mothers adopted a storybuilder-labeler style had higher average evaluative narrative scores than did those whose mothers adopted an abridged-storyteller style. For receptive vocabulary, findings in several studies in natural settings support the hypothesis that a co-constructed style would be associated with higher scores (Haden et al., 1996; Reese & Cox, 1999).

Finally, the storyteller style might be hypothesized to be associated with lower PPVT-III and EOWPVT-R scores than would be associated with the Elicitor style. There is little research investigating the relationships of this type of performance-oriented style to expressive and receptive vocabulary outcomes. Dickinson and Smith (1994) found that a performance-oriented style in teachers was associated with higher receptive vocabulary scores in students. In the present study, caregivers in the storyteller style frequently narrated the action in the story and discussed inferences, presumably using a variety of words and semantic structures. For example, utterances coded with Description and Event content codes generally contain verbs, whereas utterances coded with Label content codes did not necessarily contain verbs. The other two styles had more emphasis on label-related information. Therefore, it is possible that caregivers saw their children as able to comprehend more complex narration than did caregivers in other clusters. This supports the possibility of these children having higher receptive vocabulary skills than those in the other clusters. However, given the current state of the research literature, the most plausible hypothesis is that the storyteller style would be

associated with lower EOWPVT-R and PPVT-III scores than would be found with the Elicitor style.

Limitations

The findings of the present study should be interpreted in the light of its limitations. The most notable limitation is the sample size, which resulted in too little power in the MANOVA in which the vocabulary data was analyzed. The sample size was less than optimal for the chi square analyses exploring demographic variables and reading frequency. Another analysis in which sample size issues were notable was the chi square analysis exploring the associations between reading style and language of caregiver book sharing. Due to the imbalance in numbers between caregivers who read in English and those who read in Spanish, this analysis must be interpreted with particular caution.

Although there are significant limitations in interpreting the MANOVA and chi square analyses due to the sample size, it can be noted that the sample size was consistent with other book reading studies utilizing cluster analysis (Dickinson & Smith, 1994; Haden et al., 1996; Melzi & Caspe, 2005). Therefore, the cluster analysis can be more readily interpreted as an estimate of reading styles of low-income Latino caregivers sharing wordless books with young children. However, in this analysis as well, it would provide more definitive results to have a larger sample size. This may clarify the distinction between a four-cluster and three-cluster solution for this data.

The present study utilized a wordless book, which provided a semi-structured narrative task. This was chosen to provide caregivers who might not be comfortable with text or who might be more familiar with a storytelling interaction with more flexibility in

the interaction (Casper, 2009; Melzi & Casper, 2005). However, for some caregivers, inventing a story to go along with the wordless book may have been more difficult than sharing a text-based book with their children, which may have impacted their behaviors in this particular situation. It is possible that some caregivers felt inhibited by this task, which may require a somewhat different set of skills than sharing a text-based book would. The applicability of this task and coding scheme to text-based story reading must be further explored. Given that similar patterns emerged to those found in studies in which text-based books were used, there may be parallels; however, this must be confirmed with empirical data.

The present study utilized non-standard procedures in the administration of the EOWPVT-R and PPVT-III. Bilingual data collectors translated the assessments, which were written in English, into Spanish when the child's skills warranted assessment in Spanish. Translation may have varied among individual data collectors, creating unknown variations in administration. In part due to these non-standard procedures, raw scores were used rather than standard scores. However, the possible variations in the administration of the vocabulary measures are acknowledged as a limitation of this study.

The present study utilized a detailed and complex code, which required a great deal of training and ongoing discussion to maintain reliability. The mean interobserver agreement on independently coded transcripts was 86.83%, and there were two transcripts that had interobserver agreement below 85% in initial reliability checks. Even after discussion, independent coders disagreed at times about the correct code to assign to an utterance due to the complexity of the code and the enormous variation of caregiver language in a natural setting. Additionally, the coding process was time-intensive, even

for experienced coders, which may make future research with larger sample sizes more difficult to complete. Future research may address ways to increase reliability of the coding process without sacrificing the detail provided by these codes.

Additionally, the book sharing interactions were audiotaped, which at times limited the ability of the coder to interpret utterances. Nonverbal responses and cues could not be used to provide context to ambiguous caregiver utterances. For example, at times it was unclear if caregiver speech was related to the book or to another situation in the room. Additionally, the child's level of attention and engagement in the storybook interaction could not be thoroughly assessed. For example, it was unclear if a child was pointing, nodding, or using other nonverbal behaviors to respond to the caregiver. It is possible that the caregivers adjusted their reading behaviors to fit the interest level or responsiveness of the children. Use of videotapes could be considered in future research, although this method could have drawbacks in terms of the comfort of the participants and the potential complexities of coding.

Given the young age of the children in the present study, as well as the reading frequency information reported by the caregivers, the book sharing situations that were analyzed may have been relatively unfamiliar for the participants. These caregivers may have had limited opportunities to establish reading "styles." It is possible that the clusters established through the cluster analysis were patterns of behavior in response to a relatively unfamiliar situation that was being observed and recorded. The unfamiliarity of the situation may have been compounded by the use of a wordless book. While these clusters are being interpreted as reading styles, as has been done in previous studies, it is important to consider that these clusters may not represent established patterns of

behavior (Britto et al., 2006; Caspe, 2009; Dickinson & Smith, 1994; Melzi & Caspe, 2005). This may impact potential relationships between clusters and child outcomes, as these behaviors may not be stable enough to impact or be impacted by child behavior. Further research will be needed to investigate the stability of these clusters over various reading situations.

The present study is subject to the challenges inherent in working with young children in a data collection situation. Two-year-old children may be easily distracted by the novel situation of sharing a book with a caregiver with a home visitor present who is recording the interaction. While the presence of an observer can always influence a data collection situation, this effect may be even more pronounced in data collection with young children (Gall, Borg, & Gall, 1996). Additionally, while the EOWPVT-R and PPVT-III are brief assessments, the testing situation would be novel for young children. Assessments with children this young should always be interpreted cautiously, as young children's performance can more easily be swayed by external variables. This study attempted to minimize these issues by having home visitors trained in assessment collect data in participants' homes. However, the difficulties of working with young children in a research context must be acknowledged.

In considering generalization of these findings, it is important to consider that the families in this sample may not be representative of other low-income Latino families. The caregivers in this sample had volunteered for an intensive home visiting program intended to promote early childhood literacy and school readiness skills. Although all data collection took place prior to any intervention, the initial commitment to this home

visiting program may indicate distinctive qualities in these families, particularly in terms of caregiver reading behaviors or child vocabulary skill.

Finally, care must be taken in generalizing these findings to other Latino caregivers. The term Latino can encompass a diverse range of people and can have different meanings to different people. The caregivers participating in this study identified themselves as Latino when asked, but there is little other information available about their backgrounds. For those participants who were not born in the United States, there is no information about their country or region of origin. While it is important not to over-generalize these findings, this study represents one step toward better understanding reading styles in the larger Latino culture, which could be of assistance in impacting young Latino children's pre-academic skills.

Future Directions

This study suggests a number of promising directions for future research in this area. The present study has a limited sample size, and further study is necessary to confirm the results of the cluster analysis with a larger sample size and to further explore the relationships of reading styles to demographic variables. Additionally, the question of the relationships between book reading styles and child expressive and receptive vocabulary has not been satisfactorily answered due to issues with sample size.

The present study and the Caspe (2009) study address book reading styles with wordless books among low-income Latino caregivers. It will be an interesting extension of this research to examine how book reading styles look in this population with caregivers sharing books with text with their children. Although the wordless book was chosen to allow caregivers flexibility in their interactions, it is possible that some

caregivers might find a text-based book more accessible than a wordless book, which involves invention of a narrative. Research in this area should be approached with sensitivity to ensure that caregivers have the flexibility to share books in ways and languages that are comfortable for them. A possible method for this type of research would be to allow caregivers to select the type of book and/or language of text that they prefer.

Additionally, future research could examine this coding scheme with older children. It is possible that different reading styles may emerge based on the age of the child. For example, with older children, a style with more emphasis on inferential discussions and expansion of book content into other aspects of the child's life may emerge. The detail of the coding scheme used in the present study positions it to explore nuanced differences among reading styles at various ages.

Future research can also examine the role that the child plays in the book reading interaction. With children this young, it can be difficult to interpret child utterances in audio recording. Additionally, two-year-old children may communicate as much with their behavior as with their recordable utterances. However, with more sophisticated recording techniques, such as video recording, it may be productive to examine how child behavior relates to caregiver reading style. For example, children may speak more when they are directly questioned, or their tendency to speak may lead the caregiver to include them more in constructing a story. Child engagement may also relate to the total number of utterances that the caregiver directs toward the child. As the relationship of children's vocabulary and oral language skills with caregiver reading styles becomes clearer, it may

be possible to discern whether caregivers are scaffolding their styles to accommodate their children's skills.

Past research has shown the relationships among shared reading, oral language development, and emergent literacy to be complex (Burgess et al., 2002; Bus et al, 1995; Crain-Thoreson & Dale, 1992; Scarborough et al., 1991; Weigel et al., 2006). Research on naturally occurring styles has not yet explored child outcomes with the detail that has been used with research on frequency of shared reading. It will be important to extend research on naturally occurring reading styles into detailed analysis of child outcomes. Vocabulary as assessed in the present study is a relatively narrow outcome; there is a range of child outcomes that could be related to a task as complex as storybook reading. For example, child narrative and story comprehension outcomes could be enhanced by a book sharing style that emphasizes the performance of a story as a whole. There are a variety of relationships to explore in terms of children's oral language skills and various components of early literacy.

Finally, as this line of research becomes more developed, it can be brought into the realm of culturally relevant intervention development. Reading with children has been shown to be an effective means of bolstering children's oral language skills, particularly vocabulary skills (Bus et al., 1995; Dickinson & McCabe, 2001; Storch & Whitehurst, 2002). However, intervention programs meant to alter the frequency and style of caregiver reading may not be maximally effective for all populations (Manz et al., 2010; Mol et al., 2008). For example, dialogic reading is less likely to be effective with children from lower income homes (Mol et al., 2008). Therefore, it is advisable for interventions to be culturally relevant as well as empirically designed in order to have

maximal impact. Culturally relevant interventions must be informed by the language and literacy activities already taking place in the homes of young Latino children. Building on these activities may be more effective than introducing completely new ways of interacting with children around language and literacy activities (Caspe, 2009). Additionally, caregivers may be able to learn various strategies to support shared reading that they can use with flexibility depending on the child and the situation.

The three reading style clusters found in the present study provide some ideas for possible interventions, although much greater research into the reading styles and possible child outcomes is needed to guide intervention development. With the Director style, caregivers might be comfortable with programming that supports a narrative style, as well as recommendations for engaging children in the reading interaction. The Elicitor style is the one that is most congruent with established dialogic reading interventions (Whitehurst et al., 1988; Zevenbergen & Whitehurst, 2003). It is possible that caregivers utilizing this style might be comfortable with a dialogic-type intervention, which could provide ideas on further developing a style with which they already feel comfortable. Finally, caregivers using a Storyteller style might feel comfortable with recommendations that maintain the distinction between storyteller and audience. If the caregiver elicits responses from the child, this could be done before and after the story, rather than in a way that interrupts the story. Additionally, caregivers utilizing this style naturally may feel comfortable with suggestions that support making the child the primary narrator with scaffolding from the adult. If differential child outcomes are found in future research on naturally occurring styles among low-income Latino caregivers, this will inform potential

interventions promoting and supporting book reading as a means of building child language and literacy skills.

This study represents an early step in the development of understanding of naturally occurring language and literacy practices in low-income Latino homes. It points out a number of interesting avenues for further research in the areas of reading styles with caregivers and young children, differential child outcomes by reading style, and potential areas for culturally relevant programming. These directions for research may lead to systemic and individual impacts for young Latino children as they acquire pre-academic skills in their homes and communities and begin to encounter the formal educational system.

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Table 1

Child Participant Demographics (n=29)

	n	%
Gender		
Female	16	55.2
Male	13	44.8
Age		
23-28.99 months	18	62.1
29-34.99 months	11	37.9
Ethnicity		
Latino	27	93.1
Latino & African American	1	3.4
Latino & Caucasian	1	3.4
Native language		
English	14	48.3
Spanish	6	20.7
English & Spanish	9	31.0
How often someone reads to child per week		
1-2 times	5	17.2
3-5 times	5	17.2
6 or more times	14	48.3

Table 2

Caregiver Participant Demographics (n=29)

	n	%
Relationship to child		
Mother	28	96.6
Other relative	1	3.4
Native language		
English	8	27.6
Spanish	15	51.7
English & Spanish	6	20.7
Age of immigration		
Did not immigrate	17	58.6
Under 18	4	13.8
18 or over	4	13.8
Employment status		
Full time	4	13.8
Part time	3	10.3
Unemployed	22	75.9
Education		
Graduated high school	22	75.9
Did not graduate high school	6	20.7

Table 3

Agglomeration Schedule for Hierarchical Cluster Analysis

Stage	Number of clusters	Cluster Combined		Coefficient s	Stage Cluster First Appears		Next Stage
		Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	28	4	26	27.31	0	0	13
2	27	7	12	70.39	0	0	7
3	26	2	28	150.56	0	0	12
4	25	8	9	255.34	0	0	7
5	24	13	22	366.44	0	0	6
6	23	13	16	510.96	5	0	20
7	22	7	8	723.42	2	4	16
8	21	10	15	956.83	0	0	14
9	20	11	25	1192.35	0	0	17
10	19	21	23	1449.01	0	0	26
11	18	20	27	1749.35	0	0	25
12	17	2	19	2056.92	3	0	15
13	16	3	4	2435.83	0	1	21
14	15	10	29	2852.97	8	0	19
15	14	2	24	3301.92	12	0	22
16	13	5	7	3773.36	0	7	17
17	12	5	11	4306.07	16	9	20
18	11	6	18	4901.08	0	0	23
19	10	10	14	5529.00	14	0	21
20	9	5	13	6276.58	17	6	24
21	8	3	10	7050.36	13	19	25
22	7	2	17	8138.27	15	0	27
23	6	1	6	9257.21	0	18	24
24	5	1	5	10825.65	23	20	27
25	4	3	20	12631.89	21	11	26
26	3	3	21	16203.24	25	10	28
27	2	1	2	20663.09	24	22	28
28	1	1	3	28938.59	27	26	0

Table 4

Means and Standard Deviations for Percentages of Content Codes by Reading Style Cluster

Content Code	Cluster 1: Directors (n=13)	Cluster 2: Elicitors (n=5)	Cluster 3: Storytellers (n=11)
Provision			
Label	10.16 (6.95)	4.74 (3.26)	8.91 (4.27)
Description	9.24 (5.03)	2.16 (2.77)	18.57 (16.96)
Event	6.35 (6.39)	2.00 (1.88)	26.95 (16.03)
Inference	6.64 (6.49)	3.63 (2.44)	14.17 (8.20)
Evaluation	3.19 (3.14)	0.97 (1.34)	8.38 (10.86)
General Knowledge – Immediate	0.39 (0.99)	0.00 (0.00)	0.15 (0.49)
General Knowledge – Not Immediate	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Personal Experience	0.32 (0.63)	0.00 (0.00)	0.00 (0.00)
Whole Book	2.93 (3.27)	3.33 (5.53)	2.25 (1.96)
Praise	0.10 (0.28)	0.96 (1.69)	0.22 (0.72)
Confirmation or Correction	4.63 (4.30)	8.39 (5.88)	1.35 (1.91)
Expansion of Utterance	0.19 (0.48)	0.10 (0.22)	0.10 (0.35)
Request			
Label	8.31 (6.71)	36.33 (15.20)	5.43 (6.46)
Description	3.02 (4.16)	7.29 (4.69)	0.66 (1.06)
Event	0.58 (1.12)	1.71 (2.62)	0.55 (0.98)
Inference	0.61 (0.93)	3.46 (3.64)	0.77 (1.48)
Evaluation	0.10 (0.25)	0.50 (1.11)	0.43 (0.62)
General Knowledge – Immediate	0.96 (1.95)	0.46 (0.76)	0.40 (1.31)

Content Code	Cluster 1: Directors (n=13)	Cluster 2: Elicitors (n=5)	Cluster 3: Storytellers (n=11)
Request (cont.)			
General Knowledge – Not Immediate	0.16 (0.56)	0.00 (0.00)	0.14 (0.48)
Personal Experience	0.02 (0.08)	0.00 (0.00)	0.15 (0.49)
Whole Book	1.54 (2.96)	2.66 (4.56)	0.10 (0.35)
Praise	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Confirmation or Correction	1.02 (1.69)	3.44 (5.14)	0.16 (0.52)
Clarification Request	0.77 (1.68)	2.14 (2.48)	0.00 (0.00)
Expansion of Utterance	0.15 (0.37)	0.36 (0.58)	0.00 (0.00)
Directive			
Label	8.71 (9.01)	1.07 (1.01)	2.94 (2.35)
Description	0.17 (0.47)	0.20 (0.28)	0.42 (0.78)
Event	0.00 (0.00)	0.00 (0.00)	0.11 (0.35)
Inference	0.25 (0.90)	0.00 (0.00)	0.13 (0.30)
Evaluation	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
General Knowledge – Immediate	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
General Knowledge – Not Immediate	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Personal Experience	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Whole Book	0.34 (1.07)	0.00 (0.00)	0.00 (0.00)
Praise	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Confirmation or Correction	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Expansion of Utterance	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Direct Attention	29.15 (11.24)	14.10 (7.33)	6.56 (5.27)

Table 5

Child Demographic Frequencies by Reading Style Cluster

	Cluster 1: Directors (n=13)	Cluster 2: Elicitors (n=5)	Cluster 3: Storytellers (n=11)	χ^2 (df)	p
Gender				1.68 (2)	0.433
Female	6	4	6		
Male	7	1	5		
Age				3.23 (2)	0.199
23-28.99 months	6	3	9		
29-34.99 months	7	2	2		
Native language				2.02 (4)	0.732
English	6	2	6		
Spanish	4	1	1		
English & Spanish	3	2	4		
How often someone reads to child per week				8.04 (4)	0.090
1-2 times	5	0	0		
3-5 times	3	1	1		
6 or more times	4	3	7		

Table 6

Caregiver Demographic Frequencies by Reading Style Cluster

	Cluster 1: Directors (n=13)	Cluster 2: Elicitors (n=5)	Cluster 3: Story- tellers (n=11)	χ^2 (df)	P
Native language				2.39 (4)	0.665
English	4	1	3		
Spanish	6	4	5		
English & Spanish	3	0	3		
Age of immigration				4.28 (4)	0.370
Did not immigrate	7	3	7		
Under 18	1	2	1		
18 or over	3	0	1		
Employment status				4.47 (4)	0.346
Full time	1	1	2		
Part time	3	0	0		
Unemployed	9	4	9		
Education				2.01 (2)	0.366
Graduated high school	8	4	10		
Did not graduate high school	4	1	1		

Table 7

Selected Child and Caregiver Demographic Variables by Language of Reading

	<u>Language of reading</u>	
	English (n=24)	Spanish (n=5)
Child native language		
English	14	0
Spanish	3	3
English & Spanish	7	2
How often someone reads to child per week		
1-2 times	1	4
3-5 times	5	0
6 or more times	14	0
Caregiver native language		
English	8	0
Spanish	11	4
English & Spanish	5	1
Age of immigration		
Did not immigrate	17	0
Under 18	3	1
18 or over	2	2

Table 8

Language of Storybook Reading Frequencies by Reading Style Cluster

	Cluster 1: Directors (n=13)	Cluster 2: Elicitors (n=5)	Cluster 3: Story- tellers (n=11)	χ^2 (df)	p
Language of storybook reading				7.44 (2)	0.024
English	8	5	11		
Spanish	5	0	0		

Table 9

Means and Standard Deviations for PPVT-III and EOWPVT-R Raw Scores as a Function of Reading Style Cluster

Cluster	<u>PPVT-III</u>		<u>EOWPVT-R</u>	
	M	SD	M	SD
Cluster 1: Directors (n=13)	8.46	6.42	8.85	8.54
Cluster 2: Elicitors (n=5)	8.80	7.12	10.40	11.63
Clusters 3: Storytellers (n=11)	10.82	7.01	6.73	6.68

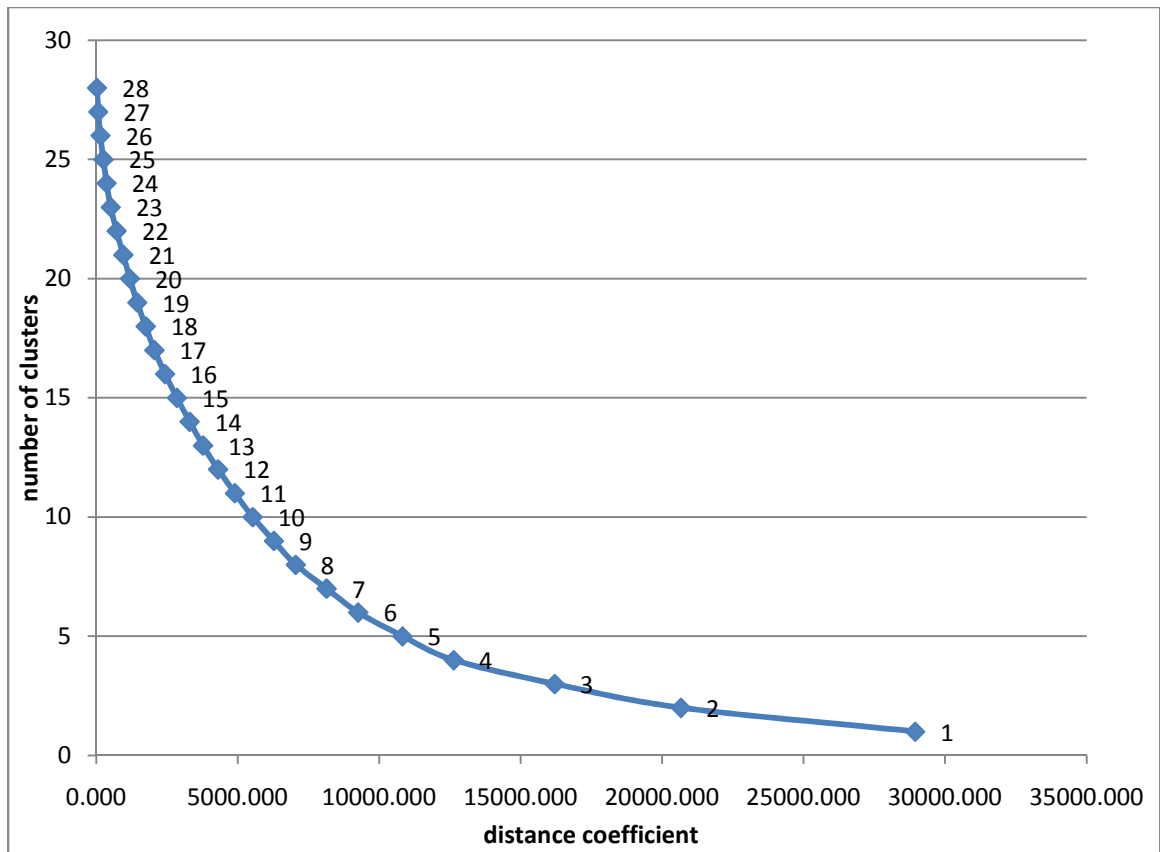


Figure 1: Distance coefficients for number of clusters in hierarchical cluster analysis

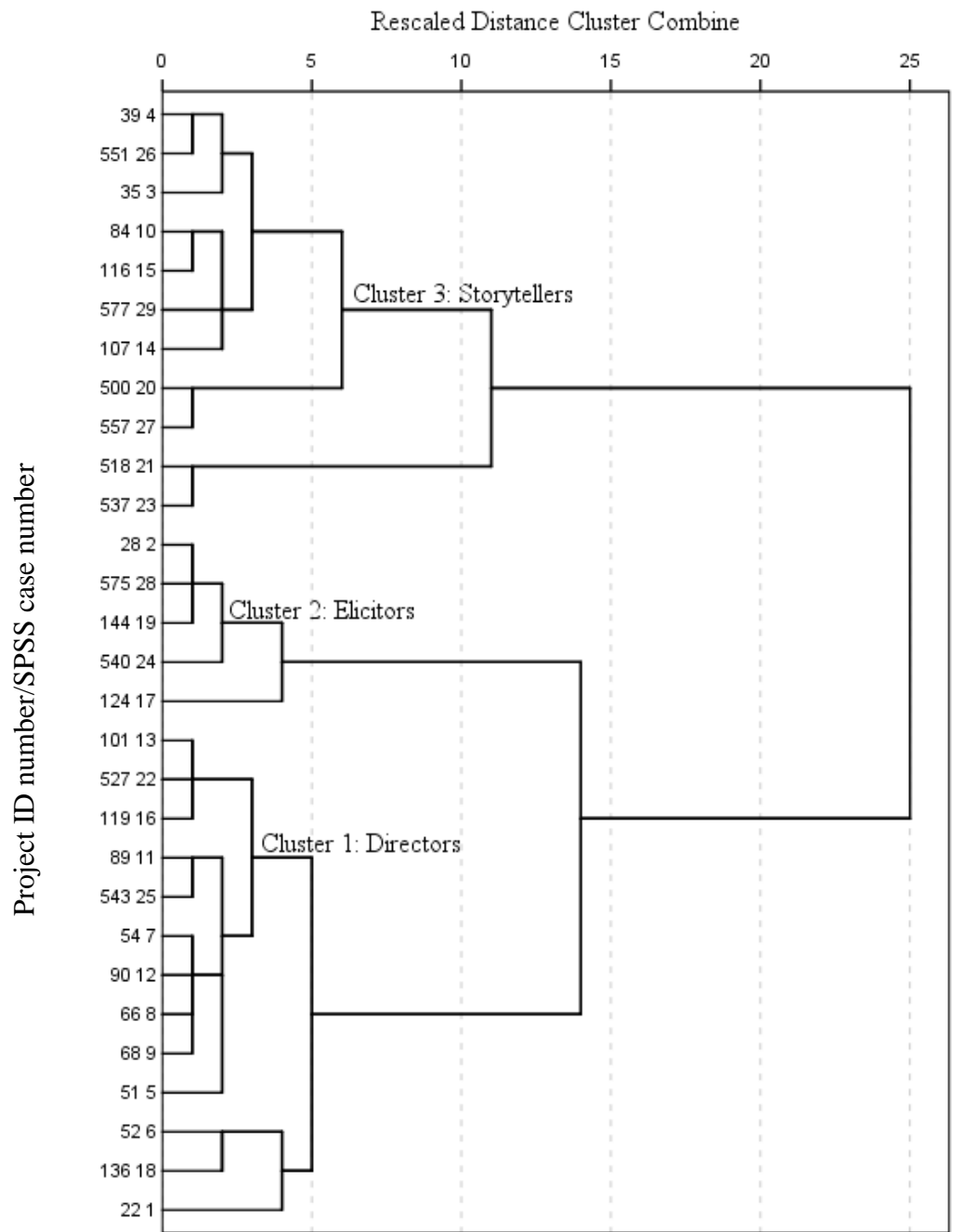


Figure 2. Dendrogram based on hierarchical cluster analysis

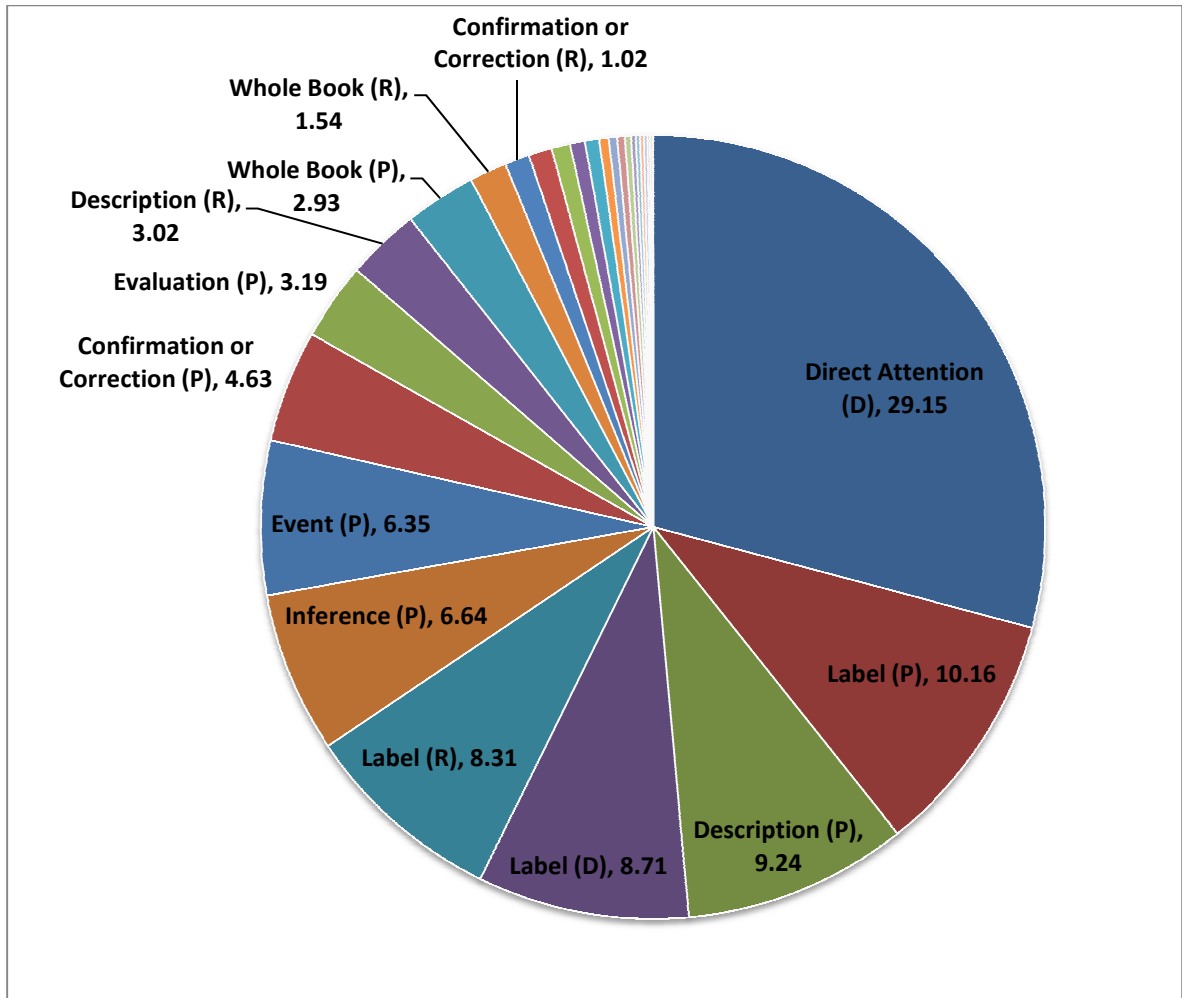


Figure 3. Mean percentages of individual content codes for Cluster 1: Directors

Notes. Letters in parentheses indicate speech acts. P: Provision; R: Request; D: Directive.

Means are represented on the plot from largest to smallest. Fifteen codes, which have means greater than 0.00 and less than 1.00, are not labeled, although they are included on the plot. Ten codes, which have means of 0.00, are not included on the plot. Refer to table 4 for a complete list of means for this cluster.

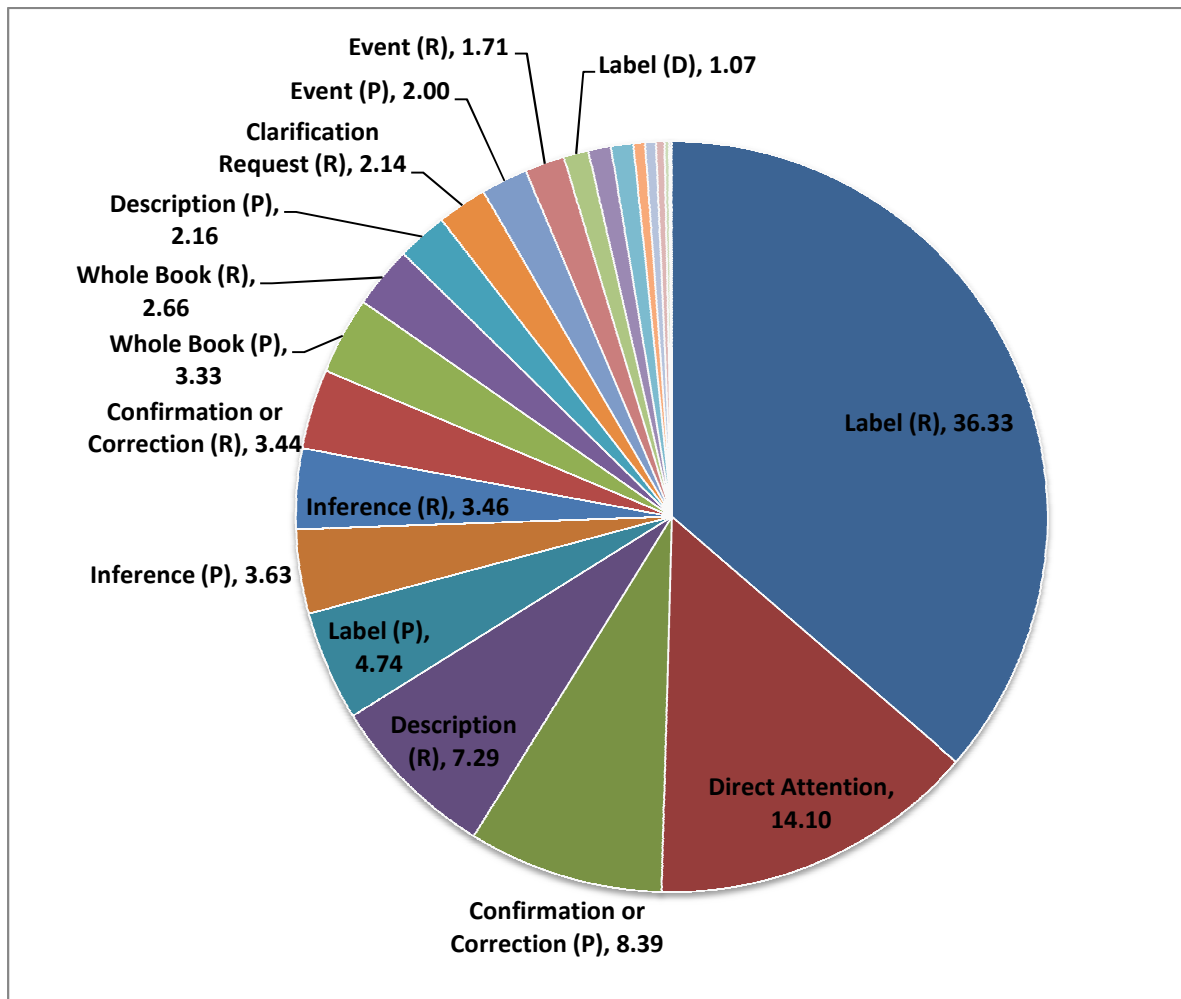


Figure 4: Mean percentages of individual codes for Cluster 2: Elicitors

Notes. Letters in parentheses indicate speech acts. P: Provision; R: Request; D: Directive.

Means are represented on the plot from largest to smallest. Seven codes, which have means greater than 0.00 and less than 1.00, are not labeled, although they are included on the plot. Sixteen codes, which have means of 0.00, are not included on the plot. Refer to table 4 for a complete list of means for this cluster.

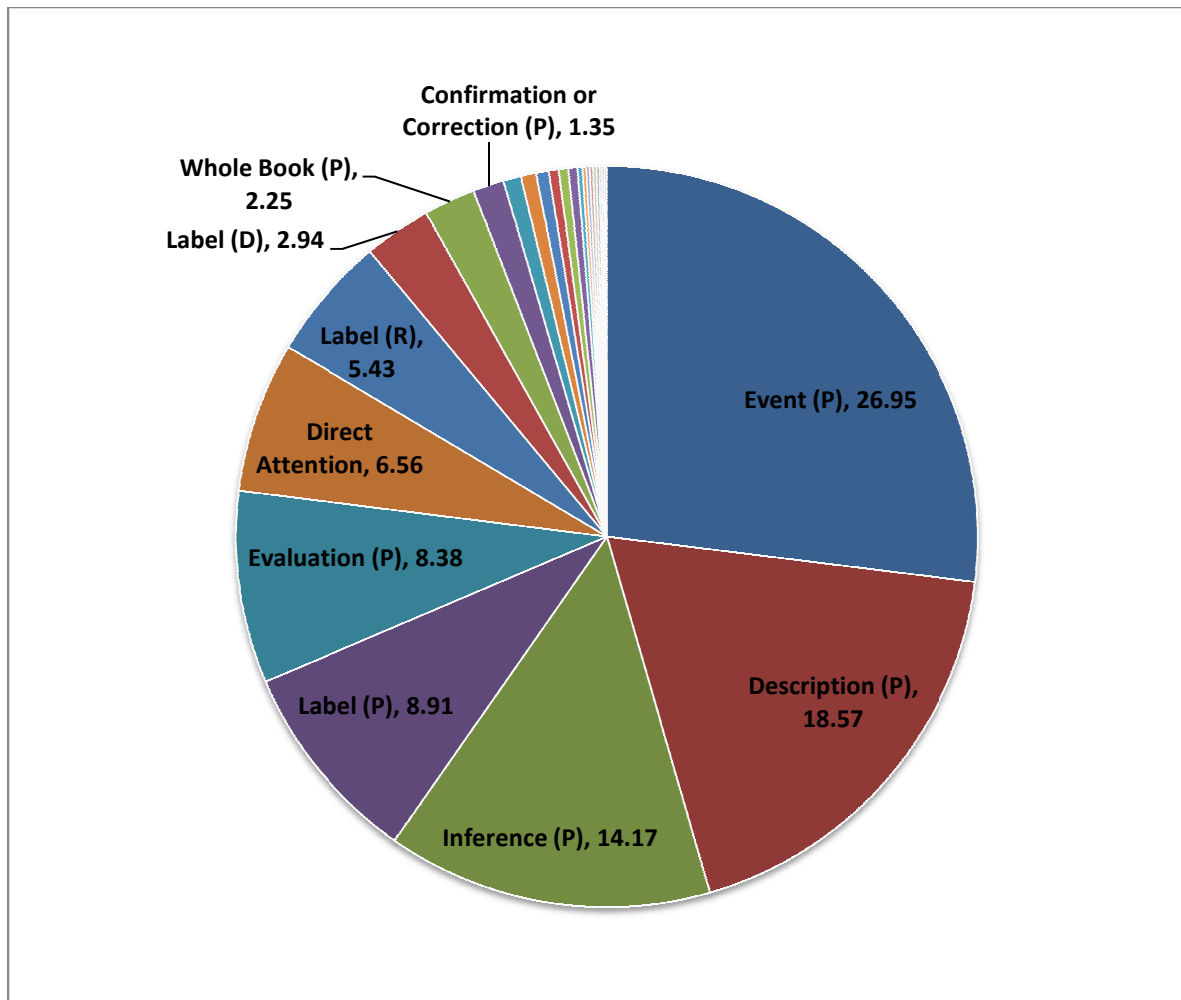


Figure 5. Mean percentages of individual codes for Cluster 3: Storytellers

Notes. Letters in parentheses indicate speech acts. P: Provision; R: Request; D: Directive.

Means are represented on the plot from largest to smallest. Fifteen codes, which have means greater than 0.00 and less than 1.00, are not labeled, although they are included on the plot. Thirteen codes, which have means of 0.00, are not included on the plot. Refer to table 4 for a complete list of means for this cluster.

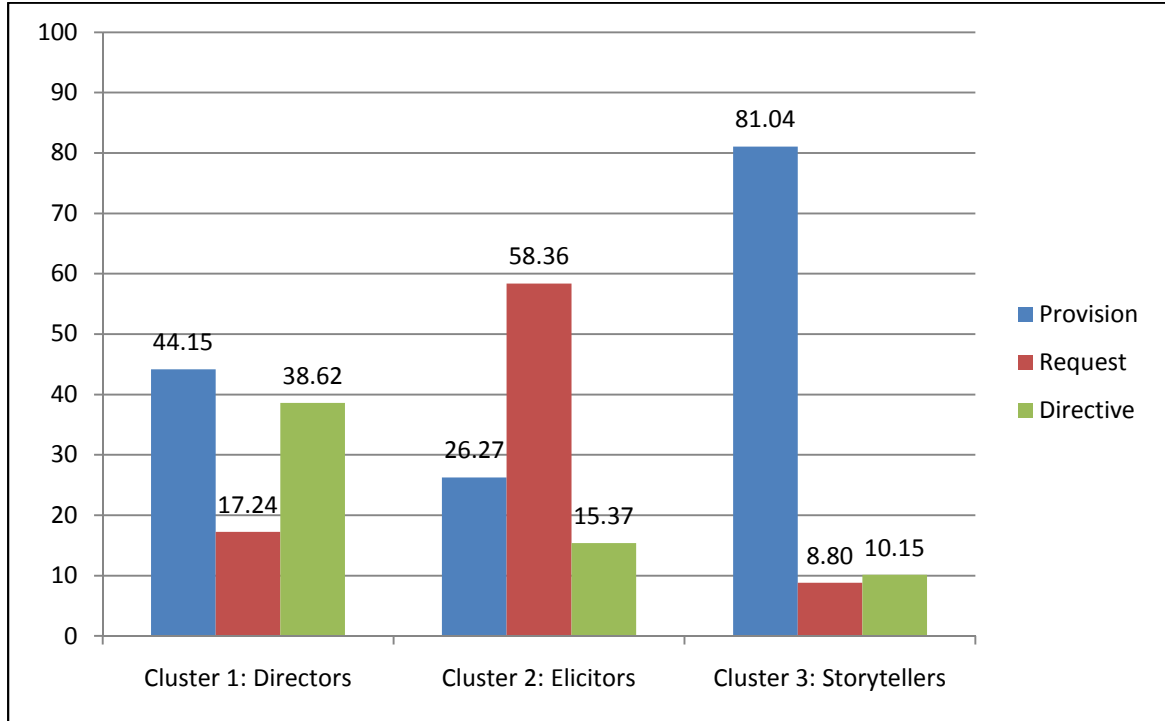


Figure 6: Mean percentages of speech act codes by cluster

Appendix A

Family Demographics Form

- ❖ **Child Name** _____
- ❖ **Caregiver Name** _____
- ❖ **Relationship to child** Mother Father Grandparent Other
relative Foster parent
- ❖ **Caregiver Gender** Male Female **Caregiver Birth date:** ____ /
____ / ____
- ❖ **Are you the child's primary caregiver?** Yes No
- ❖ **Do you live with the child?** Yes No
- ❖ **Number of years in the United States?** _____
- ❖ **Caregiver Employment:** Full-time Part time Not employed
- ❖ **In US, Caregiver Schooling Completed:** Less than 9th grade Some high
school, didn't finish
 Received GED High School Graduate High school + some college or
trade school
 Four-year college degree College +
- ❖ **Outside of US, Caregiver Schooling Completed:** Less than 9th grade
 Some high school, didn't finish Received GED High School
Graduate
 High school + some college or trade school Four-year college degree
College +

❖ **Caregiver's native language:** English Spanish Haitian-Creole
 Russian Arabic Polish Cambodian Vietnamese Laotian
 Other _____

❖ **Child Gender** Male Female **Child birth date:** ___ / ___ / ___

❖ **Does the child have any siblings?** Yes No
○ **If yes, how many?** _____ **What are sibling ages?** _____

❖ **Child Ethnicity:** Spanish/Hispanic/Latino Black/African-American
 White Asian N. American Indian or
Alaskan Native Other: _____

❖ **Child's native language:** English Spanish Haitian-Creole
Russian
 Arabic Polish Cambodian Vietnamese Laotian Other

❖ **Does Child Participate in:** Head Start Bright Futures CELC
Even Start Pre-School Center-Based Child Care Family Day Care
 Relative Care Other early childhood program _____

❖ **Is child receiving any home visiting services?** None Head Start home
visiting PAT
 Healthy Families Nurse-Family Partnership Early Intervention Services
 Early Head Start Even Start Other: _____

❖ **Has the child been diagnosed with special needs?** Yes No

- **If Yes,** Speech and language impairment Developmental delay
- Vision impairment Hearing impairment Chronic health impairment

❖ **What is the primary language spoken in the home?** English Spanish

Haitian-Creole Russian Arabic Polish Cambodian Vietnamese

Laotian Other _____

❖ **Family Government Aid:** None Food Stamps Medical TANF CHIP

Child Care Subsidy Public or Section 8 housing

Other: _____

❖ **Please Check Annual Income Range for the Family:**

- Under \$10,000 \$10,001 – \$15,000 \$15,001 – \$20,000
- \$20,001 – \$25,000 \$25,001 – \$30,000 \$30,001 – \$35,000
- \$35,001 – \$40,000 \$40,000 or more

Appendix B

Parent Interview

Describe a typical day and evening with [child's name].

What can you tell me about [child]?

What activities do you like to do with [child]?

If you have one hour to spend with [child], what do you usually do?

What do you do with [child] in the neighborhood?

When do you seem to talk the most to [child]? What times of day or during what activities/routines?

Do you and your child read together? How often? When?

Does your child have a favorite book? If so, what is it?

Do you and your child tell stories or reminisce together? About what sort of things?

Appendix C

Parent-Child Narrative Protocol for Data Collectors

Introduction / Set Up

- Introduce the storybook task to the parent after the interview and while the child is completing the assessment.
 - “I have a book that I would like you to read with [child’s name]. This book tells a story through pictures; there are no words. So I would like you to first look through the book once on your own, and then tell your child a story that goes along with the pictures. Don’t worry if this is an activity that you normally do not do with your child. Just try to enjoy the book together. Here is the book for you to look at before you read with your child.”
 - If the caregiver expresses some discomfort in reading with child, saying this is not a routine activity, continue to encourage them to do it as they think best.
 - Remind them that our focus is on the child’s language and response to caregiver. Try to lessen the perceived focus on their reading abilities or frequency with which they read to their toddler.
- If you are starting with the storybook task, ask caregiver where she (he) is most comfortable reading with the child, and set up the equipment in a place that is most unobtrusive. Should the child show interest in the equipment, let him or her explore it, cautiously, to diminish his/her curiosity prior to the storybook reading task.
- If this task follows the past event task, then simply ask the caregiver and child to stay where they are. Start the task.

Storybook Reading Task

- Start audio tape. Be sure to record the identifying information in the recorder before you start the storybook task.
- Repeat directions to the parent: “Please read this picture book with your child as you normally would. Let me know when you have finished reading together.”
- During the activity, stay as unobtrusive as possible. You will be completing the observation record, so you want to be able to see and hear the parent-child interaction, yet you do not want to interfere or be a distraction. Do not interact with the child or caregiver (verbally or nonverbally).
- When the parent indicates that they are finished reading, stop the audio tape.
- Give some encouraging words (ex., “You seemed to enjoy the time with each other.”) and thank them for doing the task.

Appendix D

CARES Observational Codes for Storybook Reading

June 2010

Procedures

- Each utterance is coded for one of each of the following:
 - 1) Content code OR assertive/responsive code
 - 2) Speech act
 - **Exception: DA can stand alone as a code (see below)*
- Analyze utterances for content or assertive or responsive codes (see table below)
- Conceptualize utterances as one of three distinct “speech acts”
 - 1) Statement or provide information (P): declarative and exclamatory statements that do not fall in the other categories
 - 2) Request (R): (a) all questions or statements with question marks; (b) commands for response from another person
 - 3) Directive (D): statements that focus attention
 - A directive that stands alone, without a content code, is a direct attention (DA) code alone [see DA under assertive/responsive codes for more clarification]
 - Example: “Look.” (DA)
 - Non-example: “Look at the butterflies” (L-D) (directive that does NOT stand alone)
 - When the caregiver says his/her own child’s name, the name, in isolation, counts as a stand-alone directive, so it is coded as direct attention (DA)
 - Example: “Look, John. Look.” divided and coded as follows: [Look,] [John.] [Look.] (DA) (DA) (DA)
 - Example: “John, look at the butterfly.” divided and coded as follows: [John,] [look at the butterfly.] (DA), (L-D)
 - **Exception: When the caregiver gives a character in the book the same name as his/her “real” child, the direct attention (DA) code is only given when the caregiver is referring to the real child. (see personal experience code)*
- Unit of analysis = utterance
 - Each utterance is a unit of speech that can stand alone (see samples below)
 - 1) A subject can stand alone as a label (e.g., “Frog.” [L-P])
 - 2) A verb can stand alone as direct attention (e.g., “Look!” [DA])
 - 3) Complete subject and predicate statements (e.g., “That is a frog.” [L-P])

Codes

Content Codes

Code	Symbol	Definition	Example
Label	L	Information about a <i>concrete aspect</i> of the story, such as character identification or naming objects, colors, and animals. Identifies a subject. No verb is necessary. This code includes prompts to child to identify a character or object in the story.	<p>Mother: What is that? (L-R) Child: That is a frog. (L-P)</p> <p>Mother: Where is the butterfly? (L-R) Child: The butterfly is in the park. (DS-P)</p> <p>Mother: The boy with the frog. (L-P)</p> <p>Mother: Show me the frog. (L-R)</p> <p>Mother: Look at the dog. (L-D)</p>
Description	DS	An explanation or elaboration of plot information stated or pictured in book; a focus on the indicated <i>action</i> in text, and not a prediction or inference of mental states. Identifies a subject and simple predicate. Must be in present tense.	<p>Child: The frog is jumping very high! (DS-P)</p> <p>Mother: The boy is in the park. (DS-P)</p>
Event	Et	Presented in past tense; includes noun and verb/predicate. At the time, not distinguishing complexity.	Mother: There was a little boy and dog walking to the park. (Et-P)
Inference	In	Predictions about what will happen or addition to reasoning about mental states or causality in the story. Inference is selected when picture in story leaves room for interpretation of character's mental or physical	<p>Mother: What will the frog do next? (In-R)</p> <p>Mother: The boy is surprised! (In-P)</p>

		states. When questionable, this is the default code. Words referring to emotional reactions (e.g., crying, screaming) are coded as inferences. Any form of “try” is coded as an inference.	
Evaluation	Ev	Personal opinion about the story or a character’s opinion of an event in the story. Includes exclamatory remarks (e.g., “wow”) while reading. If exclamatory remarks repeat consecutively, code only one time. Also includes verbs showing an ability to do something (e.g., “can”) and negatives, such as “can’t.” Also includes <i>any</i> time the caregiver makes the character speak.	<p>Mother: What do you think about the book? (Ev-R)</p> <p>Child: I like this story! (Ev-P)</p> <p>Child: (telling story) He ate the butterfly and it tasted good (Et-P, Ev-P)</p> <p>Mother: Can he jump? (Ev-R)</p> <p>Mother: He cannot jump. (Ev-P)</p> <p>Mother: “The boy said, ‘I’m happy.’” (Ev-P)</p>
General Knowledge - Immediate	GKI	Contextualized connection or extension of story to real-world events or knowledge, including definitions, and counting/alphabet (e.g. reciting) identification; teaching or instruction occurring in the present time (e.g., occurring within the story). Prompt for involvement that is external to the storybook content, such as to say a word.	<p>Mother: How many butterflies do you see? (GKI-R)</p> <p>Mother: Say flower. (GKI-R)</p>
General Knowledge – Not Immediate	GKN	Decontextualized connection or extension of story to real-world events or knowledge, including definitions, and counting/alphabet (e.g. reciting)	<p>Child: A dog barks. (GKN-P)</p> <p>Mother: Where do flowers grow?</p>

		identification; teaching or instruction occurring in past or future (e.g., outside of the immediate story). Prompt for involvement that is external to the storybook content, such as to say a word.	(GKN-R)
Personal Experience	PE	Connect the story to child's personal experiences. This includes using the child's name as the name of a character in the story.	Child: That looks like the park we go to! (PE-P) Mother: Where have you seen flowers? (PE-R) Mother: Look, John! The frog's name is John, too. John jumped in the boat. (DA, DA, PE-P, Et-P)
Whole Book	WB	Information about the book, including title, author, print concepts, or story organization. Includes instruction/identification of letters as they appear in the story, talk about book orientation or use (e.g., turning pages, holding book)	Mother: Frog on his own (title). (WB-P) Mother: You turn to the next page. (WB-P)

Assertive or Responsive Codes

Code	Symbol	Definition	Example
Praise	Pr	Reinforcing statement about a contribution or the engagement of the partner in the storybook reading or extratextual dialogue	Mother: You know that word! (Pr-P)
Confirmation or Correction	CC	<i>Mother</i> confirms the child's previous utterance, often consisting of a repetition plus yes, right, or good, or can just be mother commenting on what child has just said, or	<u>Examples:</u> Child: the doooog (L-P) Mother: Yes, that is the dog (CC-P)

		<p>mother repeating words of child's utterance without additional comments. Additionally, a <i>child</i> can confirm what the mother has just said, with statements like <i>yea oryes</i>. Corrections correct the child's previous utterance; this could be the mother just restating in a more correct way the word the child just said. Confirmations or corrections are specifically in response to child speech, sometimes involving the repetition of the child's speech. It does not include the repetition of the mother's previous utterance.</p>	<p>Child: Huh? Green is scared? (no code, DS-R) Mother: Yea green is scared. (CC-P)</p> <p><i>Non-Example:</i> <i>Mother: Look the froggy was drinking too. (DA, Et-P)</i> <i>Child: Huh?(no code)</i> <i>Mother: The frog was drinking. (Et-P)</i></p>
Clarification request	CR	<p><i>Mother or child</i> asks the other to clarify what he or she just said; does not include questions pertaining to other content areas; this code is only used when it is clear that the previous speaker's utterance was not heard or understood.</p>	<p>Child: What? (CR-R) Mother: Which butterfly did you say you liked? (CR-R)</p>
Expansion of utterance	EU	<p>Extend previous comment by partner by adding information or description; must be interpreted in context of previous comments</p>	<p>Child: That's the frog. (L-P) Mother(in response): That's the frog that has lots of spots too! (EU-P)</p>
Direct Attention	DA	<p>Request for partner to attend to book or aspect of dialogue; command to participate in storybook reading or dialogue with caregiver. If request to attend comes at the beginning or end of a sentence without a preposition, use DA alone without a speech act for that part of the sentence. Direct attention does not have a speech act attached.</p>	<p>Mother: Look! The frog jumping! (DA, DS-P) Child: Look! The frog has a big tongue! (DA, DS-P) Mother: Pay attention! (DA) Mother: Look at.</p>

			Frog is dancing. (not code-able, DS-P) Mother: Here. (DA) <i>(if directing attention)</i>
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Education

- May 2011 (expected) **Ph.D., School Psychology**
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Publications and Presentations

- Humenik, A.L., Curran, J., Luiselli, J., & Child, S. (2008). Intervention for self-injury in a child with autism: Effects of choice and continuous access to preferred stimuli. *Behavioral Development Bulletin*, 14, 17-22.
- Humenik, A.L., Curran, J., Luiselli, J., & Child, S. (2007, October). *The effects of non-contingent reinforcement and choice on severe self-injurious behavior*. Symposium presented at Berkshire Association for Behavior Analysis and Therapy Annual Conference.
- Curran, J.A., & Manz, P.H. (2005, August). *Development of a measure of culturally responsive early childhood environment*. Poster presented at the APA Annual Convention, Washington, DC.
- Curran, J.A., & Manz, P.H. (2005, May). *Development of an observational measure of culturally responsive classroom environment for early childhood settings*. Paper presented at the 5th Annual Cross-University Collaborative Mentoring Conference, Philadelphia, PA.
- Logan, D. E., & Curran, J. A. (2005). Adolescent chronic pain problems in the school setting: Exploring the experiences and beliefs of selected school personnel through focus group methodology. *Journal of Adolescent Health*, 37, 281-288.