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The Instructional and Emotional Quality of Parent–Child Book Reading and Early Head Start Children’s Learning Outcomes

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Abstract

Research Findings: The objective of this study was to understand how two dimensions of parent–child book-reading quality—instructional and emotional—interact and relate to learning in a sample of low-income infants and toddlers. Participants included 81 parents and their children from Early Head Start programs in the rural Midwest. Correlation and multiple regression analyses were used to test the hypothesis that parental book-reading qualities interact and relate to children’s concurrent cognitive and language scores. Exploratory analyses examined if patterns of relationships varied for families who had different home languages (i.e., English, Spanish). Results included that book-reading qualities and home language interacted to predict child scores.

Practice or Policy: Findings suggest a need to further explore potentially complex patterns of relationships among parental book-reading behaviors and child learning for diverse families. Understanding these patterns could inform the development of culturally-sensitive intervention approaches designed to support high-quality shared book reading.

In recent years, researchers, practitioners, and policymakers have emphasized the importance of children entering school ready to learn and have addressed the stark differences in readiness among children of diverse backgrounds (e.g., Neuman, 2006). Variations in school readiness skills are largely attributed to differences in children’s living situations and life stressor experiences, as well as contextual factors, which include language and literacy opportunities and safe, emotionally nurturing relationships and attachments (Hart & Risley, 1995; Landry & Smith, 2006; Shonkoff & Phillips, 2000). Low-income children, such as those served by the federally funded Early Head Start (EHS) program, may be at risk compared to their higher income counterparts because exposure to stresses associated with poverty has the potential to compromise families’ abilities to provide the consistent, positive, and stimulating experiences (both intellectual and emotional) that optimally support children’s

development (Bradley, Caldwell, & Rock, 1988; Brooks-Gunn & Duncan, 1997; McLoyd, 1990, 1997). Likewise, immigrant status may be related to risk factors. The Latino population, for example, is growing in the United States, and many children of recent immigrants are at risk for school failure because of their minority status, language barriers, parental education and employment, and housing conditions (e.g., Farver, Xu, Eppe, & Lonigan, 2006; Hemphill & Vanneman, 2011; Raver & Knitzer, 2002). Parents from minority populations may also endorse values and beliefs about child development and education that are at odds with the educational approaches and formats primarily utilized in American schools; families' and schools' contrasting views can present challenges when children enter school and are expected to exhibit competencies that have not been emphasized as part of the home socialization experience.

In the context of concern for children's early development and school readiness, promoting literacy activities and the "curriculum of the home" (Walberg, 1984, p. 400) is recognized as one pathway for promoting young children's school readiness, especially their cognitive, language, and emergent literacy development (Bradley, Whiteside, & Mundfrom, 1994; Clarke-Stewart, 1973; Foster, Lambert, Abbott-Shinn, McCarty, & Franze, 2005; Hill, 2001; Payne, Whitehurst, & Angell, 1994; Roberts, Jurgens, & Burchinal, 2005; Weigel, Martin, & Bennett, 2006). One literacy activity that has shown promise and is the focus of the current research study is reading books to children. Research has shown book reading to be a valuable learning experience, not only in the preschool years but also in the infant/toddler period. Research has demonstrated that both *how often* (e.g., Bus, van IJzendoorn, & Pellegrini, 1995; Ninio, 1983; Raikes et al., 2006; Zill & Resnick, 2006) and *how well* (e.g., Bingham, 2007; Haden, Reese, & Fivush, 1996; Leseman & de Jong, 1998, 2001) parents and children read together are related to children's language and literacy outcomes. Although the majority of book-reading research has focused on preschool-age children (3–5 years old), the importance of reading in the infant=toddler period is increasingly being emphasized (Fletcher & Reese, 2005) and explored, with both the frequency (e.g., DeBaryshe, 1993; Lyytinen, Lassko, & Poikkeus, 1998; Raikes et al., 2006) and quality (e.g., Arnold, Lonigan, Whitehurst, & Epstein, 1994) of book reading relating to learning outcomes for children ages 2 and younger.

Understanding how book-reading behaviors relate to learning outcomes is especially important for young, low-income children, including those from Spanish-speaking families, as these children may be exposed to stressors that can compromise their development (Shonkoff & Phillips, 2000). Nonetheless, few studies have focused on how the book-reading behaviors of these at-risk families relate to the learning outcomes of infants and toddlers. In one exception, Raikes and colleagues (2006) found concurrent and cumulative relationships between how often parents and children engaged in book reading and children's cognitive and language skills during the first years of life. Furthermore, the significant associations between book-reading frequency and child outcomes differed for English-speaking and Spanish-speaking families. Raikes et al. did not, however, investigate how the *quality* of book reading relates to EHS children's learning outcomes. Research indicates that the quality of book reading may be as important as its frequency for children's learning (e.g., Mol, Bus, De Jong, & Smeets, 2008). Quality can be conceptualized in two ways: instructional quality and emotional quality.

Instructional Quality

Parents use a variety of instructional behaviors (e.g., attention-getting strategies, questioning, offering of additional information) when reading with their children, including with their infants and

toddlers (see Fletcher & Reese, 2005, for a review). Previous research has often operationalized instructional quality as the use of *extra-textual talk*, or conversation that moves beyond the strict reading of the text and takes off in directions of interest to the child or parent. The amount of extra-textual talk and the cognitive demand of that talk (i.e., moving from labeling to higher order thinking, including reasoning and making predictions; Leseman & de Jong, 1998, 2001) are recognized as important components of instructional quality. Parent behavior during book reading that uses extra-textual talk to encourage children's intellectually active participation, as opposed to passive listening, and/or places greater cognitive demand on children is associated with children's better learning outcomes (Arnold et al., 1994; Bingham, 2007; Leseman & de Jong, 1998, 2001; Sénéchal, Thomas, & Monker, 1995). In addition, using question-and-answer formats in extra-textual talk may be effective in preparing children for school because those techniques parallel the cognitive style that dominates North American schooling (Heath, 1982). Therefore, more interactive and/or cognitively demanding book-reading interactions are generally considered to be of higher instructional quality.

Variations in the instructional quality of parent-child book reading may be related to family background factors, including socioeconomic status (e.g., Heath, 1982) and culture (e.g., Hammer, Nimmo, Cohen, Draheim, & Johnson, 2005; McNaughton, 1995; Melzi & Caspe, 2005). Socioeconomically disadvantaged parents and parents from some cultural groups have been found to use book-reading styles and strategies that may be less interactive and/or may be considered less cognitively demanding (Heath, 1982; McNaughton, 1995; Ninio, 1980). For example, research has demonstrated diversity in how a heterogeneous group of Latino parents and children interact around books (e.g., Caspe & Melzi, 2008; Hammer et al., 2005). The book-sharing approaches commonly adopted by Latino parents place distance between the narrator and the audience, meaning that one individual (the expert) narrates the story while the other individual (the novice) listens (Caspe & Melzi, 2008). Although the parent is commonly the expert and the child the novice, these roles may be reversed, depending on the parents' expectations of the child's understanding and capabilities in that particular situation; however, a distance remains between the narrator and audience. This type of book-sharing style differs from the format commonly used by middle-income Euro-American parents, and styles commonly adopted by members of these two cultural groups align closely with more global differences in communicative styles, parenting beliefs, values, and literacy socialization practices (Caspe & Melzi, 2008; van Kleeck, 2006).

Interventions designed to increase parents' use of more interactive and cognitively challenging reading strategies (i.e., dialogic reading) have been found to effectively promote preschoolers' and toddlers' language and emergent literacy learning in low-income children participating in Head Start (e.g., Whitehurst, Arnold, et al., 1994; Whitehurst, Epstein, et al., 1994; Whitehurst et al., 1999). However, recent research focused on Latino families has challenged the generalizability of these findings. Caspe (2009) explored the relationships between maternal book-sharing styles and the subsequent language and literacy development of Latino Head Start preschool children and found that the use of a storytelling style (i.e., the parent spending more time providing narrative information, thus telling and controlling the story) was more positively associated with children's development of print-related literacy skills than the interactive book-sharing approach commonly considered effective in supporting children's learning. These findings challenge the assumptions that more interactive book sharing best supports the development of children's skills and suggest that what works best may vary for cultural and linguistic (and perhaps socioeconomic) groups. There

is a lack of research focused on these relationships for Latino families with infants and toddlers, including those served by EHS.

Emotional Quality

Emotional relationships play a role in parent-child interactions, including in the context of book reading. In a series of ground-breaking and well-known studies, Bus, van IJzendoorn, and colleagues (Bus, Belsky, van IJzendoorn, & Crnic, 1997; Bus & van IJzendoorn, 1988, 1992, 1995, 1997) used an attachment framework (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969) to examine how the quality of the parent-child relationship, as indicated by attachment status, relates to how often and how well parents and children read together. Bus, van IJzendoorn, and colleagues theorized that based on parent-child relationship history, children who have a secure attachment relationship with a parent are more willing to explore unfamiliar aspects of their environment, such as written material, and to trust their caregiver as a teacher, in comparison to their counterparts without a secure attachment relationship with a parent. They also theorized that parents of securely attached children would be more effective at engaging and instructing their children during book reading. Several studies showed that secure attachment status related to more frequent and higher quality book-reading interactions (Bus et al., 1997; Bus & van IJzendoorn, 1988, 1992, 1995, 1997), demonstrating the importance of the emotional quality of the parent-child relationship for understanding parent-child book-reading interactions and providing a theoretical basis for the current study, which includes a dual focus on instructional and emotional dimensions of book sharing.

Although relatively few studies have examined how the emotional quality of parent behavior specifically in the context of book reading relates to children's learning outcomes, this nurturing factor has been found to relate to preschool-age children's language and emergent literacy outcomes (e.g., Bingham, 2007; Leseman & de Jong, 1998, 2001; Sonnenschein & Munsterman, 2002). The emotional quality of book-reading interactions is characterized by a range of parental behaviors (e.g., warmth, sensitivity, and responsiveness to the child's cues and interests; use of strategies to increase children's enjoyment of the activity, including reading with expression and excitement; Bingham, 2007; Leseman & de Jong, 1998, 2001; Sonnenschein & Munsterman, 2002). Although the emotional quality of book reading has been linked to preschool-age children's learning outcomes, there is a lack of research focused specifically on how the emotional quality of parent-child book reading relates to the learning of infants and toddlers, including those from at-risk populations.

The Present Study

As discussed previously, both the instructional and emotional qualities of book reading have been found to relate to children's learning outcomes. Furthermore, research indicates that the two dimensions of quality are positively related to each other (Leseman & de Jong, 1998). It is not clear whether these two dimensions of book reading quality interact as they relate to young children's learning outcomes. It seems possible that pairing instructional quality with different levels of emotional quality might influence how teaching relates to children's learning. Specifically, based on findings discussed previously, instructional behaviors provided in the context of emotionally warm

and engaging book reading may be more effective than the same instructional behaviors provided in a negative, harsh, and nonengaging atmosphere. The current study was concerned with better understanding the relationships among book-reading qualities and child learning. Furthermore, this study explored whether there were variations in the patterns of these relationships for two home language subgroups (i.e., English, Spanish; primary home language was used here as a proxy for more global cultural variations). We hypothesized that for English-speaking parents, the use of *high* levels of extra-textual talk in the context of a *high*-quality emotional atmosphere would be related to more positive scores on assessments of child learning. Based on an emerging body of literature documenting cultural variations in book-reading style preferences and suggesting differences in how particular styles may relate to children's learning for Latino children (Casper, 2009), it seemed reasonable to question whether the pattern associations would differ for families who spoke Spanish as their primary home language. The particular hypothesized patterns of associations for these families were not specified.

Methods

The current study was part of a larger longitudinal investigation conducted in the Midwest examining the effects of an intervention to promote parental engagement and school readiness among families and children between the ages of birth to 5 living in low socioeconomic conditions and at risk for academic, socioeconomic, and behavioral difficulties. The current study was not focused on the effects of the intervention. Rather, the current study involved a secondary coding of observations of parent-child interactions collected from a subsample of participants and an analysis of observational and child assessment data. The intervention was not designed to influence the measures of the current study.

EHS Programs

EHS is a federally funded, community-based intervention program for low-income families with children younger than age 3 and pregnant women; it is designed to support the development of children and promote healthy family functioning. Participants in this study received EHS programs from one of two different community service agencies in four rural counties. EHS professionals provide weekly home-visiting services to pregnant women and families with children younger than age 3 and focus on child development and parenting skills using developmental curricula (e.g., Born to Learn, Parents as Teachers National Center, 1999; Beautiful Beginnings, Raikes & Whitmer, 2006). Each professional has a caseload of 10 to 15 families; monthly group activities (socializations) are sponsored for enrolled families in addition to the scheduled weekly home visits.

Participants

This study utilized data collected from 81 parents and their children receiving home-based EHS services. Table 1 summarizes the demographic characteristics of the children and parents. Note that because there was an interest in potential variations between home language subgroups, demographic and other information is provided for the full sample as well as the two home language subgroups (i.e., English, Spanish).

Table 1. Child and Parent Demographic Characteristics

Characteristic	Full sample (N = 81)	Home language	
		English (n = 59)	Spanish (n = 22)
Child mean age in months	13	13	13
Range	2–27	3–24	2–27
Child gender (%)			
Male	53	51	59
Female	47	49	41
Child race/ethnicity (%)			
White/non-Latino	62	87	0
Hispanic/Latino	34	11	100
Other	4	2	0
Child identified disability (%)	16	15	18
Parent mean age in years	25	24	26
Range	14–49	14–49	19–35
Parent relationship to the child (%)			
Mother	95	93	100
Father	4	6	0
Grandmother	1	1	0
Parent race=ethnicity (%)			
White/non-Latino	67	91	0
Hispanic/Latino	32	7	100
Other	1	2	0
Parent level of education (%)			
Less than a high school diploma	43	33	71
High school diploma/GED	27	33	10
Training beyond high school	30	34	19
Marital status (%)			
Married/with partner	37	43	81
Single/not with partner	63	57	19
Parent age at child's birth (%)			
18 or younger	21	25	10
Receiving public assistance (%)			
Yes	96	96	95
Employment status (%)			
Not employed or in school	45	53	23
Cumulative risk ^a (%)			
One risk factor	18	15	24
Two risk factors	40	37	48
Three risk factors	25	27	19
Four risk factors	11	14	5
Five risk factors	6	7	5

GED = general equivalency diploma.

a. Risk factors include less than a high school education, single-parent household, 18 or younger at child's birth, receiving public assistance, and not employed or in school.

Procedures

As part of the larger study, English-speaking or bilingual English/Spanish-speaking trained and reliable data collectors administered all assessments, conducted interviews, and facilitated parent-child interaction sessions with English- or Spanish-speaking families. On each assessment visit families received a gift card to a local retailer. Data collected at baseline, the time of families' initial enrollment in EHS and the larger project, were used for the current study. Arrangements were made to complete the assessments at a location convenient for the family, including the children's centers or the families' homes. Parents were interviewed to collect demographic and other information; children were administered cognitive and language assessments; and parents and children were videotaped engaging in a series of semistructured tasks, including book reading. Parent-child interactions were videotaped in semistructured situations adapted from the procedures of the National Institute of Child Health and Human Development Early Child Care Research Network (2002). A blanket was laid on the floor, and parents were asked to sit on it with their child, in view of the camera. Parents received verbal directions and materials for each task. One of the tasks included book reading, and parents and children were provided with 2-4 books depending on the child's age and the home language of the family. Parents were instructed to read with their children and were told that they could read one or more of the books. The book-reading task lasted approximately 5 min.

Measures

There were three components to the current study: coding of quality during shared book reading, assessment of children's cognitive and language skills, and consideration of demographic information reported by the parent.

Observational Measures

Instructional and emotional book-reading quality were coded from videotaped observations. Research assistants transcribed all parent speech during the book-reading activity. Each of the parents' utterances was typed verbatim. An utterance was defined as a verbal statement or vocalization; it could be a full sentence, a phrase, a single word, or a nonword sound (e.g., "Mmmhmm") that carried social meaning and filled a conversational turn. After the first draft of a transcript was completed, a second research assistant watched the videotape, checked, and, if necessary, edited the transcript to develop the final version to be used for coding. Although all transcripts were checked, approximately 10% of the transcripts ($n = 16$) were also independently transcribed by another research assistant to obtain an agreement score. A mean agreement score of 95% was obtained for the transcription of intelligible words (range = 89%-99% per sample).

Instructional quality and reliability. The instructional quality of parents' book reading was coded using procedures adapted from DeBaryshe (1995). Each parent utterance was coded as one of the following: (a) questions/requests (e.g., requests for the child to complete a book-related action/gesture, yes/no questions), (b) feedback (e.g., praise, correction), (c) book-related conversation/commentary,

(d) reading (i.e., direct reading and close paraphrasing), or (e) other utterances that were not relevant to the content of the book and were not used in subsequent analyses of instructional quality (e.g., telling the child to come back to the blanket). It is worth noting that although they did not impact scores of instructional quality, some of the interactions categorized as "other" (e.g., talk intended to manage the child's behavior) were captured in and influenced the coding of emotional quality. In order to assess interrater reliability, two independent coders coded one third of the transcripts. Cohen's kappa was .91, indicating adequate interrater reliability.

Questions, feedback, and conversation/commentary were combined to determine the total number of book-relevant extra-textual talk utterances. To determine the percentage of book-relevant talk that was extra-textual, we divided the number of book-relevant extra-textual talk utterances by the total number of book-relevant utterances (book-relevant extra-textual talk + reading) and multiplied by 100. These scores have been labeled as *extra-textual talk* and represent the degree to which parents adopted a more verbally interactive style of reading that moved beyond straight reading of text to include other book-relevant talk (i.e., questions, feedback, and conversation and commentary); higher scores indicate the use of more book-relevant extra-textual talk. From here on, the term *extra-textual talk* is used interchangeably with *instructional quality*.

Emotional quality and reliability. The videotaped book-reading interactions were coded for emotional quality using items modified from Sonnenschein and Munsterman (2002) and the Parent/Caregiver Involvement Scale (Farran, Kasari, Comfort, & Jay, 1986). These items included (a) reading expression, (b) reader sensitivity to child's engagement, (c) child enjoyment and involvement (Sonnenschein & Munsterman), (d) parent's enjoyment of child, (e) parent's acceptance of child, (f) amount of positive statements/regard, and (g) amount of negative statements/regard (Parent/Caregiver Involvement Scale; Farran et al.). In order to assess reliability, two independent coders coded one third of all videotaped observations; intraclass correlations for individual items ranged from .78 to .91 (average = .87), indicating adequate interrater reliability.

An emotional quality composite score was computed using the seven emotional quality items. This score was intended to provide an indicator of the general emotional atmosphere of the reading interaction. Coding was adjusted to keep all of the items on the same 1–5 scale (e.g., 1 = *low emotional quality*, 5 = *high emotional quality*). The mean of the seven items was used as a score of emotional quality; Cronbach's alpha for the composite score was .76, indicating adequate internal consistency.

Cognitive Skills

The Bayley Scales of Infant Development–Second Edition (BSID-II; Bayley, 1993) Mental Scale was used to assess children's cognitive skills. The BSID-II is an individually administered test designed to assess the developmental status of infants and children ages 1 month to 42 months. The BSID-II covers multiple domains of development and includes test items that relate to language, emergent literacy, early mathematics ability, social development, and motor skills. Raw scores on the Mental Scale were converted to age-normed Mental Development Index scores for the interpretation of children's performance. The mean for the standardization sample was 100 ($SD = 15$).

Language Skills

The Preschool Language Scale–Fourth Edition (PLS-IV; Zimmerman, Steiner, & Pond, 2002a) and Preschool Language Scale–Fourth Edition Spanish (PLS-IV Spanish; Zimmerman, Steiner, & Pond, 2002b) were used to assess children’s language developmental status. Children were assessed in the language that parents reported they used most frequently in the home. The PLS-IV and PLS-IV Spanish are individually administered tests designed to identify children who have language disorders or delays. These assessments are designed to be administered to children ages birth through 6 years, 11 months. The PLS-IV and PLS-IV Spanish include two language subscales, Auditory Comprehension and Expressive Communication, and these subscales were used for the current study. The Auditory Comprehension and Expressive Communication subscale tasks vary by child age. The Auditory Comprehension subscale measures how much language the child understands. The Expressive Communication subscale measures how well the child communicates with others.

Demographic Characteristics

Demographic characteristics considered as part of the current study included child gender, child age, family’s level of cumulative risk (see Table 1 for an explanation of risk factors), and home language. These data were collected from parents via interviews with trained research assistants. The language in which families requested to be assessed was considered their home language.

Data Analyses

After examining univariate and bivariate statistics, we used multiple regression to test the study hypotheses. To ensure that using linear modeling techniques was appropriate for examining interaction effects, we examined bivariate scatter plots; these plots demonstrated linear characteristics. We explored differences in the concurrent relationships among book-reading qualities and child learning for families who spoke English versus Spanish as their home language by examining the interactions among extra-textual talk, emotional quality, and home language in predicting child cognitive, Expressive Communication, and Auditory Comprehension scores.

Results

Descriptive Statistics

Descriptive statistics for predictor variables and criterion variables are provided in Table 2. The table provides descriptive statistics for the full sample as well as for the two home language subgroups. For the sake of space, intercorrelations among the predictor variables are not presented here. However, it is worth noting that whereas a strong positive correlation between extra-textual talk and emotional quality was observed in the subgroup of families who spoke English as their home language ($r = .56, p < .01$), this same relationship was weaker ($r = .27, p = .23$) for the subgroup of families who spoke Spanish as their home language; however, the difference was not significant ($z = 1.34, p = .18$).

Table 2. Descriptive Statistics for Predictor and Criterion Variables

Variable	N	M	SD	Range	
				Min.	Max.
Extra-textual talk ^a					
Full sample	81	67	27	4	100
Home language: English	59	63	28	4	99
Home language: Spanish	22	76	21	14	100
Emotional quality ^b					
Full sample	81	3.4	0.7	1.6	4.6
Home language: English	59	3.5	0.7	1.9	4.6
Home language: Spanish	22	3.3	0.7	1.6	4.6
Cognitive scores ^c					
Full sample	77	91.96	12.70	50	114
Home language: English	57	90.25	13.34	50	112
Home language: Spanish	20	96.85	12.70	82	114
Expressive Communication scores					
Full sample	79	106.04	12.79	77	140
Home language: English	57	105.14	13.31	77	140
Home language: Spanish	22	108.36	12.64	22	129
Auditory Comprehension scores					
Full sample	79	98.71	12.9	76	127
Home language: English	57	96.75	13.31	68	126
Home language: Spanish	22	103.77	12.64	61	127

a. Scores are reported in percentages; high scores represent more extra-textual talk, and low scores indicate less extra-textual talk.

b. Scores range from 1 to 5, with 1 = low quality and 5 = high quality.

c. Examination of descriptive statistics indicated that cognitive scores had significant skewness (-4.41) and kurtosis (4.54; Tabachnick & Fidell, 2001). To correct for this, we used a square transformation.

Regression Analyses

Despite finding no statistically significant bivariate correlations between the predictor and criterion variables, we tested regression models (corresponding with the study goals and hypotheses) as planned. Regression models including the three-way interaction among extra-textual talk, emotional quality, and home language as a predictor of children's learning scores are presented here. All models included child gender, child age, and family level of cumulative risk as control variables.

Cognitive Scores

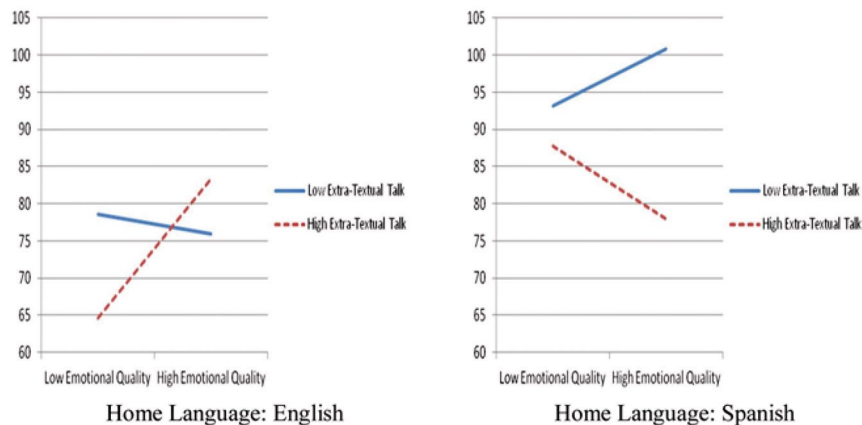
The model testing the contribution of the interaction between extra-textual talk, emotional quality, and home language to cognitive scores accounted for a statistically significant amount of variance ($R^2 = .26$), $F(10, 66) = 2.31$, $p = .02$; the three-way interaction was a statistically significant predictor in the model ($p < .01$; see Table 3, Figure 1). For families who spoke English as their home language, when emotional quality was *high*, the use of *more* extra-textual talk was related to higher cognitive scores,

Table 3. Regression Model Predicting Baseline Cognitive Scores

Variable	<i>B</i>	SE <i>B</i>	β	<i>t</i>
(Constant)	7,316.85	696.04		
10.51***				
Extra-Textual Talk×Emotional Quality×Home Language	-80.42	26.94	-0.52	
-2.99**				
Extra-Textual Talk×Emotional Quality	40.68	15.13	0.44	
2.69**				
Extra-Textual Talk×Home Language	-38.36	27.46	-0.23	-1.39
Emotional Quality×Home Language	-873.86	822.83	-0.15	-1.06
Extra-textual talk	-7.40	12.18	-0.01	-0.61
Emotional quality	836.45	528.65	0.27	1.58
Home language	2,387.72	648.14	0.49	
3.68***				
Child gender	-772.86	473.14	-0.18	-1.63
Child age	-4.83	43.48	-0.01	-0.11
Family cumulative risk	343.89	237.21	0.18	1.45

$R^2 = .26$, $F(10, 66) = 2.31$, $p = .02$

** $p < .01$; *** $p < .001$

**Figure 1.** Interaction between extra-textual talk and emotional quality predicting cognitive scores

but when emotional quality was *low*, the use of *less* extratextual talk was related to higher cognitive scores. For families who spoke Spanish as their home language, when emotional quality was *high*, the use of *less* extra-textual talk was related to higher cognitive scores, but when emotional quality was *low*, the amount of extra-textual talk was not related to cognitive scores. Thus, the effect of extra-textual talk depended on the emotional quality within which it occurred.

Expressive Communication Scores

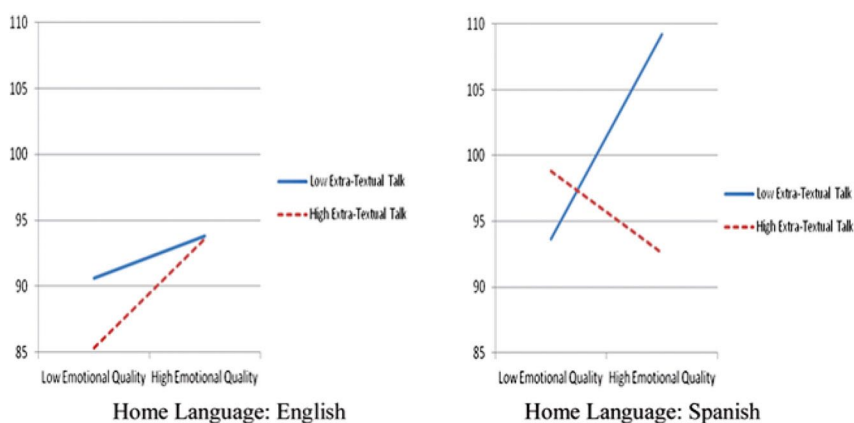
The model testing the contribution of the interaction among extra-textual talk, emotional quality, and home language to cognitive scores demonstrated that the regression model did not account for

Table 4. Regression Model Predicting Baseline Expressive Communication Scores

Variable	<i>B</i>	SE <i>B</i>	β	<i>t</i>
(Constant)	102.46	4.38		3.38***
Extra-Textual Talk×Emotional Quality×Home Language	-0.34	0.17	-0.37	-2.02*
Extra-Textual Talk×Emotional Quality	0.06	0.10	0.12	0.67
Extra-Textual Talk×Home Language	-0.05	0.17	-0.05	-0.31
Emotional Quality×Home Language	-0.76	5.18	-0.02	-0.15
Extra-textual talk	-0.05	0.08	-0.11	-0.64
Emotional quality	4.07	3.33	0.22	1.22
Home language	7.73	4.08	0.27	1.90†
Child gender	-5.80	2.98	-0.23	-1.95†
Child age	0.01	0.27	0.01	0.05
Family cumulative risk	1.79	1.49	0.15	1.20

$R^2 = .17$, $F(10, 67) = 1.37$, $p = .22$

† $p \leq .1$; * $p < .05$; *** $p < .001$

**Figure 2.** Interaction between extra-textual talk and emotional quality predicting Expressive Communication scores

a statistically significant amount of variance; however, the three-way interaction was a statistically significant predictor ($p < .05$; see Table 4, Figure 2). For families who spoke English as their home language, when emotional quality was *high*, the use of extra-textual talk was not related to Expressive Communication scores, but when emotional quality was *low*, the use of *less* extra-textual talk was related to higher Expressive Communication scores. For families who spoke Spanish as their home language, when emotional quality was *high*, the use of *less* extra-textual talk was related to higher Expressive Communication scores, but when emotional quality was *low*, the use of *more* extra-textual talk was related to higher Expressive Communication scores.

Table 5. Regression Model Predicting Baseline Auditory Comprehension Scores

Variable	<i>B</i>	SE <i>B</i>	β	<i>t</i>
(Constant)	88.91	5.62		
19.24***				
Extra-Textual Talk×Emotional Quality×Home Language	−0.30	0.18	−0.28	−1.66†
Extra-Textual Talk×Emotional Quality	0.10	0.10	0.16	1.03
Extra-Textual Talk×Home Language	−0.12	0.18	−0.10	−0.65
Emotional Quality×Home Language	7.18	5.46	0.18	1.32
Extra-textual talk	0.02	0.08	0.04	0.25
Emotional quality	3.01	3.51	0.14	0.86
Home language	13.01	4.30	0.39	
3.02**				
Child gender	−7.21	3.14	−0.25	−2.29*
Child age	−0.18	0.29	−0.07	−0.62
Family cumulative risk	4.01	1.58	0.30	2.54*

$R^2 = .29$, $F(10, 67) = 2.70$, $p = .008$

† $p \leq .1$; * $p < .05$; ** $p < .01$; *** $p < .001$

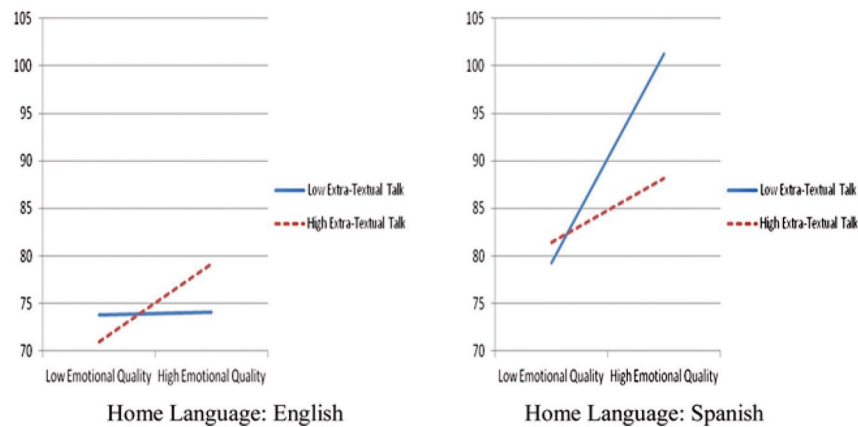


Figure 3. Interaction between extra-textual talk and emotional quality predicting baseline Auditory Comprehension scores

Auditory Comprehension Scores

The model including the three-way interaction among extra-textual talk, emotional quality, and home language accounted for a statistically significant amount of variance ($R^2 = .29$), $F(10, 67) = 2.70$, $p = .008$; the three-way interaction approached statistical significance as a predictor ($p = .10$; see Table 5, Figure 3). For families who spoke English as their home language, when emotional quality was *high*, the use of *more* extra-textual talk was related to higher Auditory Comprehension scores, but when emotional quality was *low*, the use of less extra-textual talk was related to *higher* Auditory Comprehension scores (less pronounced difference at lower levels of emotional quality). For families who spoke Spanish as their home language, when emotional quality was *high*, the use of *less* extra-textual

talk was related to higher Auditory Comprehension scores, but when emotional quality was *low*, the use of more extra-textual talk was related to *higher* Auditory Comprehension scores (less pronounced difference at lower levels of emotional quality).

Summary and Concluding Discussion

This study served to describe parent book-reading behaviors and child learning in a sample of linguistically and culturally diverse families participating in EHS in the rural Midwest. The overarching goal of this study was to explore variations in how book-reading qualities interact and relate to child learning for families who are linguistically and culturally different. Findings indicated that the parents in the sample used a wide range of book-reading styles and behaviors and that there was diversity in behaviors observed for both families who spoke English as their home language and families who spoke Spanish as their home language.

Although it was hypothesized that pairing *high* extra-textual talk with *high* emotional quality would be related to high learning scores for children whose home language was English (used as a proxy for cultural background), findings from previous literature suggested that associations might vary for children whose home language was Spanish. The three-way interaction among extra-textual talk, emotional quality, and home language contributed to predicting child learning in regression models. These results indicated that the use of extra-textual talk during book reading was differentially related to child learning depending on the emotional quality provided during book reading, and the associations differed for families who spoke English versus Spanish as their home language. Although there was variation in the levels of statistical significance of the models and the three-way interaction predictor for the different learning outcomes, the following patterns were generally observed: (a) For families whose home language was English, pairing *high* extra-textual talk with *high* emotional quality was related to positive child learning; whereas (b) for families whose home language was Spanish, pairing *low* extra-textual talk with *high* emotional quality was related to positive child learning.

How might the findings of this study be interpreted? Considering the values, beliefs, and practices commonly observed among Latino parents may aid in understanding the findings of the current study and also be important for designing future research to further explore patterns of these relationships. Using the literature on Latino families and culture, van Kleeck (2006) described beliefs commonly adopted by Latino parents that may contrast with values embedded in interactive book sharing. In addition, Caspe and Melzi (2008) further described how Latino parents are more likely to prefer less interactive book-sharing styles that place distance between the reader and the audience and that correspond with the communication style commonly observed among Latino cultural groups. Although highly interactive book sharing is commonly considered to be most supportive of children's learning, recent research by Caspe (2009) found that among low-income Latino families, parents' use of less interactive book-sharing styles was related to greater emergent literacy gains. These findings challenge the assumption that one particular book-reading style best supports all children's learning in all situations and suggest a need to more closely examine cultural variations in relationships among book-sharing qualities and children's learning. Considering potential differences in the cultural relevance of styles of reading and how these styles interact with emotional atmospheres provided by

parents whose home language is English or Spanish has the potential to aid in understanding how children learn in the context of book reading.

One limitation of this study is that it focused only on concurrent relationships among book-reading qualities and children's learning. Understanding these relationships over time has important practical implications, and another article describing interacting relationships between emotional quality and change in the use of extra-textual talk over time is forthcoming. A related limitation is that relationships between parents' behaviors and children's behaviors and competencies are widely recognized as bidirectional. Given the design of this study, the results cannot be used to support claims of causation. Future research focused on understanding how parental behavior in the context of book reading affects children's skills should consider how children may elicit particular responses—in both instructional and emotional domains—from their parents and better account for the complex relationship history of the parent and child. In addition, grouping families based on home language may have resulted in missing important within-group variations. Families who share a home language may differ in other important ways (e.g., country of origin) that could influence the patterns of the relationships between book-sharing qualities and child learning, so future research should more closely specify and examine the role of other demographic characteristics related to culture beyond home language.

Furthermore, this study focused on a specific instructional quality—the proportion of book-related talk that was extra-textual. Focusing on the extent to which parents moved beyond straight reading of text is viewed as meaningful and appropriate when studying the book reading of parents and their infants and toddlers. However, further exploring how other instructional qualities, such as the cognitive demand of talk, interact with emotional quality to relate to young children's learning skills should be a direction for future research.

It is important to note that this study focused only on parent-child interaction within the context of book reading. Previous research has established the potential value of this activity, documenting that both the quantity and quality of joint book reading relates to children's learning outcomes. Nonetheless, book reading obviously is not the only context in which parents and children engage in instructional and emotional experiences. The qualities of parent-child book reading may be representative of the qualities of parent-child interaction more globally. Future research should explore whether interacting patterns of relationships between qualities of parent behavior and children's learning and skills generalize to behaviors observed in other contexts (e.g., free play, dinner-time interactions and conversations).

An additional limitation is that some models were tested with limited statistical power because of a small sample size. Despite the small sample size, significant findings were observed. However, these results must be interpreted with an appropriate level of caution; some important predictors may not have been identified because of a lack of statistical power. Furthermore, regression analyses conducted with small sample sizes may be more influenced by outliers. A direction for future research should be to conduct a study that would allow for the examination of these same relationships in a larger sample of families.

An important future direction for this line of research should include examining parent beliefs and values related to early literacy socialization practices. The current study suggested that the links among parents' book-reading styles and qualities and children's learning differed for families who were linguistically and culturally different. A comprehensive examination of relationships among parents' literacy socialization beliefs, values, and motivations; book-reading styles and qualities; and

children's learning outcomes would allow for a more thorough understanding of the process by which children from linguistically, culturally, and socioeconomically diverse populations learn from book sharing. This could aid in understanding why different patterns of relationships among book-reading behaviors and child learning might be observed for diverse families. This would advance understanding in the area of book reading and literacy research as well as have important practical implications. Understanding these patterns of relationships could inform the development of intervention approaches designed to promote high-quality, culturally relevant book sharing that supports learning through instructional and emotional behaviors. Developing and assessing the effectiveness of such interventions should be a long-term goal of this current line of research.

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