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ACCEPTANCE

This dissertation, EVALUATING THE RELATIONSHIP AMONG PARENTS' ORAL AND WRITTEN LANGUAGE SKILLS, THE HOME LITERACY ENVIRONMENT, AND THEIR PRESCHOOL CHILDREN'S EMERGENT LITERACY SKILLS by NICOLE A. TAYLOR, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the College of Education, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chair, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty. The Dean of the College of Education concurs.

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ABSTRACT

EVALUATING THE RELATIONSHIP AMONG PARENTS' ORAL AND WRITTEN LANGUAGE SKILLS, THE HOME LITERACY ENVIRONMENT, AND THEIR PRESCHOOL CHILDREN'S EMERGENT LITERACY SKILLS

by

Nicole A. Taylor

Studies have examined the impact of parents' educational level on their child's emergent literacy skills and have found positive associations (Korat, 2009). However, a review of the literature indicates that previous studies have not investigated whether parents' oral and written language skills relate to their child's emergent oral and written language skills. This is important in light of the fact that parents' educational level does not provide a complete picture of their academic skills (Greenberg, 1995). In addition to parental characteristics, the home literacy environment (HLE) is seen as important in the growth of children's emergent literacy skills (Hood, Conlon, & Andrews, 2008). The two studies in this investigation explored the relationships among parental oral and written language skills, the HLE, and preschoolers' emergent literacy skills. Both studies included 96 parent-child dyads. The first study examined the relationship between parents' oral and written language skills and their preschoolers' oral and written language skills. All participants were assessed on various oral and written language measures. Descriptive analyses, one-way Analysis of Variance (ANOVA), correlations, and regressions were conducted to assess the relationships between the parent skills and child skills. Most of the parental skills were found to have a relationship with the child skills. The second study extended the first study by examining the relationships between parental responses on a Home Literacy Environment Survey (HLES) and Title

Recognition Test (TRT) of children's books, parental characteristics (educational level and oral and written language skills), and children's emergent literacy skills. Descriptive analyses, one-way ANOVA, correlations, and regressions were employed to gain information about the relationships among the variables. The HLE (measured by responses to the HLES and TRT) had positive relationships with parents' skills and children's skills. However, the HLE did not predict the children's skills beyond the contribution of parental characteristics. Interpreting the results of this study promotes thought about the specific role of the HLE as a potential mediator between parental characteristics and child skills. Altogether, both studies provide preliminary information about parental factors that may influence preschoolers' emergent literacy skills.

EVALUATING THE RELATIONSHIP AMONG PARENTS' ORAL AND WRITTEN LANGUAGE SKILLS, THE HOME LITERACY ENVIRONMENT, AND THEIR PRESCHOOL CHILDREN'S EMERGENT LITERACY SKILLS

by

Nicole A. Taylor

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ABBREVIATIONS

EVT	Expressive Vocabulary Test
HLE	Home Literacy Environment
HLES	Home Literacy Environment Survey
PALS	Phonological Awareness Literacy Screening
PPVT	Peabody Picture Vocabulary Test
TRT	Title Recognition Test
WJ-III	Woodcock Johnson III: Tests of Achievement

CHAPTER 1

THE RELATIONSHIP BETWEEN PARENTS' ORAL AND WRITTEN LANGUAGE SKILLS AND THEIR PRESCHOOL CHILDREN'S EMERGENT LITERACY SKILLS

Introduction

Previous literature describes how a child's oral and written language attainment is influenced by parents' educational level (Korat, 2009; Magnuson, Sexton, Davis-Kean, & Huston, 2009). However, a review of the literature indicates that previous studies have not investigated the specific relationship between parents' oral and written language skills and their children's oral and written language skills. The purpose of this study is to expand our understanding of the nature of this relationship. Specifically, this study explores the relationship between parents' oral (receptive and expressive vocabulary) and written (decoding, word recognition, fluency) language skills and their preschool children's oral (receptive and expressive vocabulary, phonological awareness) and written (letter knowledge, print awareness) language skills.

Emergent Oral and Written Language Skills and Their Importance during the Preschool Years

Emergent literacy, also known as preliteracy skills, consists of several oral and written elements. Oral related elements include receptive vocabulary (e.g., the vocabulary an individual understands the meaning of; National Early Literacy Panel [NELP], 2008), expressive vocabulary (e.g., the vocabulary used to communicate in speaking; Gettinger & Stoiber, 2008), and phonological awareness (e.g., the ability to detect and manipulate the sounds of spoken language independent of meaning; Whitehurst & Lonigan, 1998). Written related elements include letter knowledge (e.g., identifying and naming letters in

the alphabet; Molfese, Modglin, et al., 2006) and print awareness (e.g., knowing that writing goes from left to right; Whitehurst & Lonigan, 1998).

Most children develop preliteracy skills prior to school attendance, and are better prepared to engage in the task of learning to read, compared with children who lack these foundational skills (NELP, 2008; Wasik, Bond, & Hindman, 2006). These foundational skills are linked to children's long term academic success (Gettinger & Stoiber, 2008; NELP, 2008; Townsend & Konold, 2010). For example, Gettinger and Stoiber (2008) discussed how many young children face difficult challenges learning to read because they lack significant early literacy skills when they begin school. According to the authors, children who are poor readers at the end of elementary school are most often those who failed to develop preliteracy skills in preschool and kindergarten. The preliteracy skills of oral vocabulary, phonological awareness, letter knowledge, and print awareness and their importance to reading attainment are described below.

Oral Vocabulary

Researchers distinguish between two types of vocabulary, receptive and expressive. The National Reading Panel (NRP, 2000) considers the differences between the two types of vocabulary as follows, " Receptive vocabulary is the vocabulary that we can understand when it is presented to us in text, or as we listen to others speak, while productive (*expressive*) vocabulary is the vocabulary we use in writing or when speaking to others" (NRP, 2000, p.2). Previous research shows that there is a connection between the ways in which parents communicate with their children and their children's oral vocabulary skills (Evans & Shaw, 2008; Paris, Morrison, & Miller, 2006). There also is a strong relationship between receptive and expressive vocabulary and emergent literacy

skills such as print awareness, letter recognition, and writing in preschool children (Dickinson & McCabe 2001; Storch & Whitehurst, 2002). This relationship between oral vocabulary and emergent literacy skills continues and predicts children's later reading abilities. For example, the National Institute of Child Health and Human Development Early Child Care Research Network (NICHD, 2005) investigated the contribution of preschool oral vocabulary (receptive and expressive) to reading performance in early elementary school. The results of the study indicated that oral vocabulary skills in preschool were related to word decoding in first grade and reading comprehension in third grade, with the strengths of associations being moderate.

Phonological Awareness

Phonological awareness is the understanding that speech (i.e., sentences, words, syllables) can be divided into smaller components and manipulated. Thus sentences can be divided into words, words into syllables, and syllables into phonemes (Torgesen, Wagner, & Rashotte, 1994). Adams (1990) operationally categorized phonological awareness into five different tasks, knowledge of rhymes, sound categorization, blending, segmentation, and manipulation. Rhyming tasks require the individual to recognize or create rhyming words. In sound categorization tasks, the individual must decide which words start or end with the same or different sounds. An individual is asked to combine a string of sounds into a recognizable word in blending tasks and break apart words into constituent sounds in segmenting tasks. Manipulation tasks require one to delete a particular sound or substitute one sound for another.

Research has indicated there is a strong relationship between phonological awareness and reading skills. For example, at the kindergarten level, Gray and

McCutchen (2006) found as the children's phonological awareness skill increased, so did their word recognition and reading comprehension abilities. Other researchers found preschool and kindergarten student's phonological abilities were a good indicator of their performance on tasks of word recognition in first through third grade (Blaiklock, 2004; Muter, Hulme, Snowling, & Stevenson, 2004).

Letter Knowledge

Letter knowledge includes mastering alphabet letter names and comprehending that they form a class of labels of letters. Furthermore, letter knowledge involves connecting each letter shape with its name as well as with one or more sounds for which it stands in written words (Levin, Shatil-Carmon, & Asif-Rave, 2006). To assess letter knowledge, children are usually instructed to name the letters presented to them in print. Children who can identify few or no letter names have greater difficulty on tasks of early literacy (such as print knowledge, emergent writing, and phonological skills) than children who are able to identify letter names (Johnston, Anderson, & Holligan, 1996; Molfese, Beswick, Molnar, & Jacobi-Vessels, 2006). Early letter naming skills (i.e., preschool and kindergarten) are found to be consistent predictors of reading ability in Grades 1 to 6 (Badian, 1995; Muter & Diethelm, 2001).

Print Awareness

Printed language is constructed by a set of conventions that can be understood without being able to read (Whitehurst & Lonigan, 1998). These include such conventions as the difference between print and pictures, spaces between words, letter orientations, and the linear arrangement of writing (Levy, Gong, Hessels, Evans, & Jared, 2006). Research has indicated a positive relationship between young children's print

knowledge and early reading skills where an increase in print knowledge constitutes an increase in early reading skills (e.g., Korat, 2005). In Korat's (2005) study, kindergarteners were assessed on print measures (reading environmental print such as a stop sign and milk container and identifying print material such as a newspaper) and early reading measures (phonemic awareness, letter naming, emergent writing, and word recognition). Results indicated that the children's print awareness was significantly related to emergent writing and word recognition skills. Levy et al. (2006) reported a relationship between print awareness and emergent reading in preschool and kindergarten children. Specifically, the preschool children's understanding of print positively related to their letter reading ability. The kindergarten student's print awareness positively related to letter naming and word reading.

The Relationship between Parents' Educational Levels and Children's Literacy Skills

According to the 2000 Census, more than 40 million adults, or approximately 21 percent of the adult population in the United States do not have a high school diploma, or a high school equivalence diploma (Lasater & Elliot, 2005). Since researchers have found a strong relationship between parents' educational levels and their children's literacy levels, this is important to consider. For example, Hecht, Burgess, Torgesen, Wagner, and Rashotte (2000) annually assessed a group of children from kindergarten through fifth grade on measures of decoding, word identification, reading comprehension, print knowledge, phonological awareness, and naming (letters and digits). Results indicated that a composite score of higher grade attainment combined with occupation provided an explanation for a significant portion of growth in the children's reading and oral language

abilities. In another study (Adult Literacy and Basic Skills Unit [ALBSU], 2003), participants between the ages of 5 and 18 were assessed on word recognition. A parent indicated his or her highest attained educational level and any reading difficulties. The children of parents who reported having difficulties with reading and had the lowest educational level obtained the lowest reading assessment scores. Parents' educational level and parents' use of print were found to be related in Lynch's (2008) study. The ways in which the parents used print (which was indicative of parents' educational level), had an impact on their 4-year-old children's understanding of and uses of print.

Korat (2009)'s study focused on the relationship between mothers' educational level and emergent literacy skills. Mothers were considered to have a low-educational level if they possessed a high school diploma or less and were considered to have a high-educational level if they possessed a Bachelor's degree or higher. The children (ages 5 to 6) were assessed on measures of print concept, phonological awareness, receptive vocabulary, emergent word writing, word recognition, and emergent reading. Korat indicated a positive association between mothers' educational level and children's oral and written language skills. Children of mothers in the high-education group scored significantly higher than children of mothers in the low-education group in print concept, word recognition, receptive vocabulary, emergent word writing, and emergent book reading, but not phonological awareness. Finally, in another study, Magnuson et al. (2009) found a positive relationship between mother's educational level (highest grade or level of education completed) and preschool children's emergent oral language skills (vocabulary comprehension and expressive language). As maternal educational level increased, the preschooler's emergent language skills increased.

Altogether, studies that examined the relationship between parents' educational level and their children's oral and written language levels found positive associations (ALBSU, 2003; Hecht et al., 2000; Korat, 2009; Magnuson et al. 2009). Parents who have higher educational levels have children with higher oral and written language levels. Parents' low educational levels tend to correspond with their children's lower oral and written language levels. These findings are critical, as these relationships may ultimately be connected to intergenerational patterns of academic achievement (Tracey & Young, 2002).

Despite the aforementioned relationship between parents' educational level and children's oral and written language levels, research is lacking relative to the specific nature of the relationship. When studies investigate the relationship between parents' educational level and their children's emergent literacy skills, parents' educational level does not provide a complete picture of their academic ability. For example, Greenberg (1995) found that 24% of her adult participants who read at a third to fifth grade level graduated high school. Another 63% completed up to 11th grade. Therefore, it is important to go beyond parental self report of highest grade completed, and investigate the relationship between adults' oral and written language skills and their children's oral and written language skills by not only assessing the children's skills but by also assessing the parents' skills. This is important in light of the data that show a prevalence of low adult literacy levels in the United States. Specifically, the 2003 National Assessment of Adult Literacy (NAAL) survey reported approximately 63 million American adults (29% of the adult population) read and understood at a basic level of literacy. The data indicate that the adults were only able to perform simple everyday

literacy tasks (e.g., searching a short pamphlet to find out information). Another 30 million American adults (14% of the adult population) read and understood at a below basic level of literacy, possessing no more than the most simple and concrete literacy skills. These adults exhibited limited literacy capabilities and had difficulty with tasks such as filling out an application, reading news stories, reading labels, or reading instructional materials (National Center for Educational Statistics, n.d).

Oral and Written Language Skills of Low Literate Adults

Researchers are concerned about the intergenerational transmission of low literacy skills from parents to their children (e.g., Bus, van Ijzendoorn, & Pellegrini, 1995; Hecht et al., 2000; Korat, 2009). It is suggested that children of low educated parents are at greater risk for reading failure compared to children of parents with higher levels of education (Korat, 2009). To further understand the oral and written language skills of parents with low literacy, the following section provides a review of research about struggling adult readers and their oral vocabulary, decoding, word recognition, and fluency skills.

Oral Vocabulary

Historically, it was thought that adults who struggled with reading would not necessarily have deficits in oral language due to their accumulated years of oral language experiences (Sticht, 1982). However, some research has emerged indicating adults who struggle with written language also struggle with oral language. For struggling adult readers, oral vocabulary skills appear to be poor. In terms of receptive vocabulary, Greenberg, Ehri, and Perin (1997) found that their sample of adult learners (reading between the third and fifth grade levels) had very poor receptive vocabulary skills, as

they scored in the 1st percentile of the norming adult population. Similarly, Davidson and Strucker (2002) found that their struggling adult reader participants who read between the fourth and sixth grade levels possessed receptive vocabulary skills below the 10th percentile of the norming adult population. Finally, Greenberg and colleague's (2011) adult participants with reading levels between the third and fifth grade performed two standard deviations below the mean on a receptive vocabulary measure.

Studies about struggling adult readers' oral vocabulary skill have also focused on their expressive vocabulary. In an early study, Gold and Johnson (1982) found the expressive vocabulary skills of low literate adults to be at a sixth grade level. Cantwell and Rubin (1992) also assessed a group of adults with written language difficulties along with a control group. Results indicated the adults with written language difficulties performed worse than the adults without written language difficulties on a measure of expressive vocabulary. In another study, Dietrich and Brady (2001) found differences among the expressive vocabulary skills of skilled adult readers, less skilled adult readers, and an adolescent reading-matched group (7th and 8th grade reading level). The less skilled adult readers performed significantly poorer than the adult skilled readers and equivalent to the reading-matched adolescent group. Also, Sabatini, Sawaki, Shore, and Scarborough (2010) reported that their adults demonstrated expressive vocabulary skills similar to their reading ages (6 to 12 years) as opposed to their chronological ages which ranged between 16 to 76 years. Overall, results of previous research indicate that struggling adult readers' oral vocabulary matches more to their reading age than to their chronological age. These findings are important to consider since it was previously

thought (e.g., Sticht, 1982) that adults who struggled with written language would not struggle with oral language due to their years of exposure to and use with oral language.

Word Recognition

It is clear from studies of struggling adult readers that this group possesses poor word recognition skills. For example, Greenberg et al.'s (1997) struggling adult readers recognized words at the third to fifth grade levels and adults enrolled in Adult Basic Education classes in Davidson and Struckers' (2002) study recognized words at a fourth grade level, while MacArthur and colleague's (2010) adult learners recognized words at a fifth grade level. Compared to adults with higher word recognition, adults with low word recognition perform poorer and slower on related reading measures (e.g., passage comprehension, sentence processing, decoding) (Davidson & Strucker, 2002).

Decoding

Struggling adult readers often have challenges in many areas of reading including decoding which many consider an indication of a core phonological issue (Sabatini, 2002; Strucker, Yamamoto, & Kirsch, 2007). Sabatini (2002) examined the decoding skills of two groups of adults: a group of adults with high word recognition ability, and a group of adults with low word recognition ability. He found the pattern of responses between the high ability and low ability groups differed. Specifically, the high group on average missed only one item on each of the decoding tasks while the low group performed poorly as they struggled with decoding 1, 2, and 3 syllable real words and nonwords. Greenberg, Ehri, and Perin (2002) found that adult struggling readers compared to reading matched children at the third to fifth grade levels were less apt to use phonological knowledge to help them decode nonsense words and spell real words.

When reading real words, Binder and Borecki (2007) found adults reading below the sixth grade level used phonological skills less efficiently during word recognition and during activation of word meanings compared to adult skilled readers. Finally, Sabatini and colleagues (2010) assessed the decoding skills of adults reading at or below the seventh grade level and found their skills to be low (1.8 grade equivalent).

Fluency

Research suggests that adults with low literacy have difficulty with reading fluency. For example, Mellard, Fall, and Mark (2008) assessed the reading abilities of low literate adult learners. Compared to the general adult population, most of the adult learners scored below the 15th percentile on a measure of reading fluency. Sabatini and colleagues (2010) evaluated adult learners who recognized words at a seventh grade level and below and found adults' reading fluency on average was assessed at a second grade level.

Aims of the Study

The emergent literacy of preschool children has been studied extensively (e.g., NELP, 2008; NRP, 2000). The oral and written language skills of low literate adults have also been studied, though not as extensively (e.g., Dietrich & Brady, 2001; Greenberg et al., 2010). Even though low literate adults are experienced language users with many years of exposure to written and oral language, many struggle with both oral and written language tasks (MacArthur, Greenberg, Mellard, & Sabatini, 2010). Researchers such as Hecht et al. (2000) and Korat (2009) have found parents' educational level to have an impact on children's oral and written language skills. Specifically, the studies have discussed a trend of parents with higher education having children with higher skill levels

and parents with lower education having children with lower skills. Therefore, it is important for us to understand the extent of the relationship of adults' skill levels on their children's skills especially during the preschool period when young children are developing concepts about oral and written language that may affect their subsequent achievement.

Research Questions and Hypotheses

Research Question: 1. What are the relationships among parents' educational level, their oral (receptive and expressive vocabulary) and written (decoding, word recognition, fluency) language skills and their children's related oral (receptive and expressive vocabulary, phonological awareness) and written (letter knowledge, print awareness) language skills?

Hypothesis: It was hypothesized that parents' educational level and their oral and written language skills would be positively correlated to their children's oral and written language skills.

Rationale: Studies that investigated the relationship between parents' educational level and their children's oral and written language attainment describe a positive relationship (e.g., Korat, 2009). Even though these studies discussed parents' educational level instead of specific skills, it was hypothesized that a similar relationship would also be found between parents' specific literacy skills and their children's specific literacy skills.

Research Question: 2. After accounting for the child's age and parents' educational level, do parental receptive and expressive vocabulary skills account for variance in the child's receptive and expressive vocabulary skills?

Hypothesis: It was hypothesized that parents' receptive and expressive vocabulary skills would account for variance in their children's receptive and expressive vocabulary skills.

Rationale: The way in which parents communicate with their children is said to have direct influences on their oral language development (Paris et al., 2006). Research also has found that the overall amount and complexity of parental speech to children predicts their vocabulary (Evans & Shaw, 2008). Therefore it was hypothesized that parents' receptive and expressive vocabulary skills would account for variance in their children's receptive and expressive vocabulary skills.

Research Question: 3. After accounting for the child's age and parents' educational level, does parental decoding skill account for variance in the child's phonological awareness?

Hypothesis: It was hypothesized that parents' decoding skill would account for variance in their children's phonological skills.

Rationale: Parents' literacy skills have an impact on the way in which they interact with their children when teaching them specific literacy skills (Bus et al., 1995). Parental teaching of specific literacy skills is predictive of children's literacy skill levels (e.g., Tracey & Young, 2002). Since researchers often consider decoding an indication of phonological abilities, it was hypothesized that parents' decoding skills will predict their children's phonological awareness.

Research Questions: 4. After accounting for the child's age and parents' educational level, does a combination of parental written language skills (word identification, decoding, fluency) account for variance in the child's letter knowledge? 5.

After accounting for the child's age and parents' educational level, does a combination of parental written language skills account for variance in the child's print awareness? Due to the lack of literature in this area, these questions are exploratory in nature and there are no hypotheses associated with them.

Method

Participants

The participants in this study consisted of 96 primary caregiver-child dyads. The children were enrolled in two different urban prekindergarten programs in a large metropolitan city in the southeastern United States. According to the school descriptions available to the public, the majority of the households served by these programs are low income households. The prekindergarten classrooms are state funded and they participated in an Early Reading First Project (ERF). ERF supports the academic development of early childhood centers and focuses on early language, literacy, and prereading development. The participants involved in this study were associated with programs that focused on developing key literacy skills and high-quality literacy environments while fostering family involvement.

As Table 1 indicates, 99% of the adult participants were African American, 80% were female, and their average age was 32 years old. Mothers were the majority of the primary caregivers who participated in the study (i.e., 75%), with others self-identifying as grandparents, fathers, or other guardians. All participants were native English speakers. As Table 2 indicates, the educational levels of the adults varied as 44% had some high school and or graduated high school while 56% had some college or above. Specifically, 20% completed some high school or technical school, 24% graduated from

either high school or technical school, 28% completed some college or earned an Associate's degree, 17% earned a Bachelor's degree, 10% completed some Master's level courses or earned a Master's degree, and 1% earned a Professional degree. The caregivers' (herein referred to as *parent)* children (n = 96) were native English speakers, African American, 60% female, and were an average age of four and a half years (see Table 1).

Table 1

Descriptive Statistics for Demographic Characteristics for Adults and Children Participants[a]

Characteristic	Adults	Children
Ethnicity		
African American	95(99.0%)	96 (100%)
Caucasian	1 (1.0%)	
Gender		
Female	77(80.2%)	58 (60.4%)
Male	19(19.8%)	38 (39.6%)
Age		
Range	19-78	3.26-5.43
Mean	32.00	4.61
Standard deviation	8.85	.37
Caregiver role		
Mother	72(75%)	
Father	16(16.7%)	
Foster Parent	1(1.0%)	
Grandfather	1 (1.0%)	
Grandmother	4 (4.2%)	
Other	2 (2.1%)	

Note. [a] n = 96 parent-child dyads

Table 2

Description of Adult Participants by Educational Level

	Number	Percent
Educational Level		
Some High School	17	17.7
Some Vocational/Tech School	2	2.1
Graduated from HS	21	21.9
Graduated from Voc/Tech School	2	2.1
Some College	25	26
Associates Degree	2	2.1
Bachelors Degree	16	16.7
Some Graduate School	5	5.2
Master's Degree	5	5.2
Professional Degree	1	1
Total	96	100

Measures

Each measure was selected based on its psychometric properties, age range of intended examinees, and relevance to the study's aims. It is important to mention that this study included struggling adult readers and while each test has excellent psychometric properties for its norm group, none of the norm groups included samples of struggling adult readers.

The following oral and written language assessments were administered to the adult participants:

Oral receptive vocabulary. *Peabody Picture Vocabulary Test-PPVT (PPVT; Dunn & Dunn, 1998).* The PPVT assessed the extent of the participants' knowledge of word meanings. This test was normed on people ages 2 to 90+, with reliability of .97.

Designed for use as a measure for receptive vocabulary, this test required participants to look at a template with four pictures, listen to the word orally presented by the examiner, and chose the picture that best represents the word. Testing was discontinued when participants reached a ceiling of eight consecutive errors.

Oral expressive vocabulary. *Expressive Vocabulary Test-EVT (EVT; Williams, 2007).* The EVT tested expressive vocabulary and word retrieval. This assessment was normed on people ages 2 to 90+, with a reliability of .97. In this assessment, participants were shown a picture and asked to provide a single word to label a picture (e.g., a picture of a cow and the examinee is asked 'what do you see?') or to provide a single word synonym for the target word (e.g., a picture of someone cleaning and the examinee is asked to 'tell me another word for busy'). Testing was discontinued when participants reached a ceiling of five consecutive incorrect answers.

Word recognition. *Woodcock-Johnson III Tests of Achievement- WJ III (Letter-Word Identification; Woodcock, McGrew, & Mather, 2001).* The Letter-Word Identification measured the participant's word identification skills. This subtest was normed on people ages 5 to 80+, with a reliability of .94. This subtest required participants to identify words of increasing difficulty. A ceiling was reached when the participant responded incorrectly to six consecutive items or when the last test item had been administered.

Decoding. *Woodcock-Johnson III Tests of Achievement- WJ III (Word Attack; Woodcock et al., 2001).* The Word Attack subtest measured the adults' decoding skills. This subtest was normed on people ages 4 to 80+, with a reliability of .87. This subtest required participants to read aloud pseudo words (of increasing difficulty) that are

phonetically consistent or regular patterns in English orthography. A ceiling was reached when the participant responded incorrectly to six consecutive items or the last item had been administered.

Reading fluency. *Woodcock-Johnson III Tests of Achievement- WJ III (Reading Fluency; Woodcock et al., 2001).* The Fluency subtest was normed on people ages 6 to 80+, with a reliability of .90. This subtest assessed the participants' reading speed and rate within a 3-minute time limit. The task required the participants to quickly read and comprehend simple sentences. During test administration, the difficulty level of the sentences gradually increased.

The following oral and written language measures were administered to the child participants:

Oral receptive vocabulary. *Peabody Picture Vocabulary Test-PPVT (PPVT; Dunn & Dunn, 1998).* The PPVT assessed the extent of the participants' knowledge of word meanings. This test was normed on people ages 2 to 90+, with reliability of .97. Designed for use as a measure for receptive vocabulary, this test required participants to look at a template with four pictures, listen to the word orally presented by the examiner, and chose the picture that best represents the word. Testing was discontinued when participants reached a ceiling of eight consecutive errors.

Oral expressive vocabulary. *Expressive Vocabulary Test-EVT (EVT; Williams, 2007).* The EVT tested expressive vocabulary and word retrieval. This assessment was normed on people ages 2 to 90+, with a reliability of .97. In this assessment, participants were shown a picture and asked to provide a single word to label a picture (e.g., a picture of a cow and the examinee is asked 'what do you see?') or to provide a single word

synonym for the target word (e.g., a picture of someone cleaning and the examinee is asked to 'tell me another word for busy'). Testing was discontinued when participants reached a ceiling of five consecutive incorrect answers.

Phonological awareness. *Beginning Sounds subtest of Phonological Awareness Literacy Screening (PALS PreK)(PALS PreK; Invernizzi, Sullivan, Meier, & Swank, 2004).* PALS is a criterion referenced instrument that measured preschooler's developing knowledge of important literacy fundamentals. This assessment was intended for preschoolers, with a reliability of .93. The phonological awareness subtests measured the children's beginning sound skills. The Beginning Sounds subtest was a 10 item test that required children to orally produce the beginning sounds of words that were first spoken aloud by the examiner.

Alphabet knowledge. *Letter Knowledge subtest of the Phonological Awareness Literacy Screening (PALS PreK)(PALS PreK; Invernizzi et al., 2004).* Alphabet knowledge was assessed by the Letter Knowledge subtest. This assessment was designed for preschoolers and no information regarding reliability is available for this subtest. The test administrator asked children to name the 26 upper-case letters of the alphabet presented in random order.

Print awareness. *Print and Word Awareness subtest Phonological Awareness Literacy Screening (PALS PreK)(PALS PreK; Invernizzi et al., 2004).* The Print Awareness task included measures of print identification, concepts of print, and concepts of word. This subtest was designed for preschoolers with a reliability of .75. This subtest contained 10 items and mimicked a naturally occurring book reading event. The examiner read a familiar nursery rhyme printed in a book format and asked the child to

point to different text components to demonstrate awareness of directionality, and the difference between pictures, letters, and words.

The following demographic information was obtained on the participants:

Demographics. Parents provided the following demographic information about themselves: age, gender, ethnicity, educational level, language spoken in the home, and caregiver role. Parents also reported demographic information about their child (e.g., gender, age, and ethnicity).

Procedure

Parents were assessed by the investigator in a quiet location at their child's school. The following tasks were administered to the adult participants in the following order: Demographics Survey (administered orally), WJ Letter-Word Identification subtest, WJ Word Attack subtest, WJ Fluency subtest, PPVT, EVT. All participants started with item number 15 on the WJ Letter-Word Identification subtest. This item is the first word reading item which does not have letter identification items following it, and is at the k.7 grade level (therefore it was anticipated that all parents would be able to easily read the first few words). The age level equivalencies obtained on this subtest forecasted the starting points for the PPVT and EVT tests. As directed by the WJ test manual, all participants started with the first item on the WJ Word Attack and Fluency subtests. Testing was completed in one session lasting 25 to 40 minutes, during the months of November to March.

As part of another study, trained data collectors tested children individually in the fall (November to December) of the prekindergarten year at their schools. The investigator was provided access to the child test database with parental consent.

Since it is unclear whether standard scores are appropriate for struggling adult readers and because one of the child assessments (PALS) does not have standard scores available, raw scores were used for all the analyses. It is important to note that within this study, reference to phonological awareness only includes beginning sounds since that is the skill that the PALS subtest assessed. In all regression analyses the children's ages and parents' educational levels were entered before the parental oral and written language skills. The rationale for entering the children's ages first is based on the recognized importance of accounting for age differences in children when assessing emergent literacy skills (e.g., Bingham, 2007; Evans, Shaw, & Bell, 2000; Hood, Conlon, & Andrews, 2008). For parents' educational level the rationale for entering it prior to other variables results from investigations which indicate that parents' educational level impacts children's emergent literacy skills (e.g., ALBSU, 2003; Hecht et al., 2000; Korat, 2009).

Results

Descriptive Analyses

Descriptive analyses were conducted to provide information about the adult and child participants' performances on the oral and written language measures.

Adult. Table 3 presents descriptive statistics pertaining to the adults' performance in word identification, decoding, fluency, receptive vocabulary, and expressive vocabulary. As the data in Table 3 show, there was a fair amount of variability in performance on each of the main variables as indicated by the standard deviations and range statistics. However, based on the average reported educational level of the parents (close to 80% high school graduates, with 56% having attended some college) the data

demonstrate that the adults performed lower than expected. Specifically, their mean grade equivalency level on word identification was 9.85, on word attack was 8.21, and on fluency was 10.00. Their mean age equivalency level on receptive vocabulary was 15.30 and on expressive vocabulary was 15.24.

To further explore the variability of the adults' performance on the assessments, analyses were conducted to determine the percentage of adults who were one standard deviation above and below the mean and two or more standard deviations above and below the mean on all the assessments. Within the analyses, educational level was considered to determine if there were differences between low-educated adults (some high school and or graduated high school) and high-educated adults (some college and above). Results indicated that the high-educated group included a greater percentage of participants than the low-educated group who performed one standard deviation above the mean on the assessments (79.7% vs. 66.7%, respectively). Similar results were obtained when looking at the performance of the adults at two or more standard deviations above the mean. The high-educated group included a greater percentage of participants than the low-educated group (55.6% vs. 23.8%, respectively). Likewise, the low-educated group included a greater percentage of participants than the high-educated group who performed one standard deviations below the mean (78.6% vs. 64.9%, respectively) and two or more standard deviations below the mean (35.7% vs. 18.6%, respectively).

Table 3

Raw Score and Standard Score Performance of Pre-K Parents[a] on Oral and Written Language Measures

	Raw score		Standard Score
Test	Range	*M (SD)*	*M (SD)*
PPVT	83-188	154.03 (24.48)	82.90 (17.35)
EVT	65-186	124.32 (30.92)	84.55 (24.50)
WJ Word ID	23-76	61.25 (10.47)	89.98 (14.27)
WJ Word Attack	4-32	22.85 (7.60)	92.25 (14.59)
WJ Fluency	2-95	62.91 (18.63)	92.94 (10.78)

Note. PPVT-III= Peabody Picture Vocabulary Test; EVT = Expressive Vocabulary Test; WJ = Woodcock Johnson; [a] n = 96.

Child. Table 4 presents descriptive statistics pertaining to the children's performance in receptive vocabulary, expressive vocabulary, phonological awareness, alphabet knowledge, and print awareness. As the data in Table 4 show, there was a fair amount of variability in performance on each of the main variables as indicated by the standard deviations and range statistics. Age equivalency means demonstrated that the children performed lower than expected (the average age of the children was four and a half years) on receptive vocabulary (M = 3.12) and expressive vocabulary (M = 3.87).

According to the PALS-PreK manual (Invernizzi et al., 2004), by the end of PreK children's subtest scores should range between 12 and 21 on alphabet knowledge, between 5 and 8 on beginning sounds, and between 7 and 9 on print awareness. There are no developmental ranges provided for how children should perform in the Fall, which is when the children in this study were tested. The children's mean performance on alphabet knowledge (M = 15.60) showed that in November/December, many of the children were

already at the expected development range performance for what they should know by the end of Pre-K. The children's performances on phonological awareness (*M* = 4.70) and print awareness (*M* = 3.93) demonstrated they were below the developmental range expected for the end of PreK. However, since these scores are an indication of the children's performance at the beginning of PreK, it is unclear whether or not their Fall phonological awareness and print awareness scores were within an appropriate developmental range.

Table 4

Raw Score and Standard Score Performance of Pre-K Children[a] on Oral and Written Language Measures

	Raw score		Standard Score
Test	Range	*M (SD)*	*M (SD)*
PPVT	8-86	44.37 (16.65)	88.38 (13.71)
EVT	25-65	40.46 (8.00)	93.42(10.41)
Sounds	0-10	4.70 (3.43)	n/a
Alphabet	0-26	15.60 (9.30)	n/a
Print Awareness	0-9	3.93 (2.16)	n/a

Note. PPVT = Peabody Picture Vocabulary Test; EVT = Expressive Vocabulary Test; Sounds = Phonological awareness; Alphabet = Alphabet Knowledge; [a] n = 96

Site Differences

Several analysis of variances (ANOVA) were conducted to determine if there was variation based on school site among the adult and child participants' demographics and oral and written language skills.

Adult demographic site differences. A one way ANOVA was conducted to determine if the adult participants' demographic characteristics differed by site. Significant differences were found between the gender of the adult participants, $F(1, 94) = 7.23$, $p < .05$ and parent educational level, $F(1, 94) = 21.07$, $p < .05$. Site 2 included a higher proportion of males than Site 1. Also, the parents' from Site 1 demonstrated significantly higher educational levels than those at Site 2. No other significant differences were found between the adults' demographic characteristics (see Table 5).

Adult literacy skills by site. A one way ANOVA was conducted to determine if the adult participants differed by site on their oral (PPVT, EVT) and written (word identification, word attack, fluency) skills. Significant differences were found between the adults' word identification, $F(1, 94) = 13.59$, $p < .05$ and reading fluency skills, $F(1, 94) = 16.88$, $p < .05$. Results indicated that Site 1 had significantly higher scores than Site 2 on measures of word identification and reading fluency. No other significant differences were found between the adult participants' skills (see Table 6).

Table 5

Comparison of Adult Demographics by Site

Characteristic	Site 1 (n = 46)	Site 2 (n = 50)
*Gender		
Female	42	35
Male	4	15
Ethnicity		
African American	45	50
Caucasian	1	0
Age		
Range	21-78	19-52
Mean	32.46	31.58
Standard deviation	9.43	8.34
*Parents' educational level		
Range	3-13	3-10
Mean	7.65	5.54
Standard deviation	2.53	1.96
Caregiver role		
Mother	40	32
Father	4	12
Grandmother	1	3
Foster Parent	1	0
Grandfather	0	1
Other	0	2

Note. Parents' educational level: 1 = elementary school, 2 = middle school, 3 = some high school, 4 = some technical school, 5 = High School diploma 6=Technical School diploma 7= some college, 8 = Associates degree, 9 = Bachelors degree, 10 = some graduate school, 11 = Master's degree, 12 = Doctoral degree 13= Professional degree; * indicates a significant difference was found between the site participants.

Table 6

Comparison of Adult Skills by Site

	Site 1			Site 2		
Test	*n*	Range	*M(SD)*	*n*	Range	*M(SD)*
PPVT	46	87-187	157.61(23.32)	50	83-188	151.26(25.35)
EVT	46	65-182	123.41(31.37)	50	68-185	125.16(30.80)
*WJ Word ID	46	45-76	65.11(8.16)	50	23-76	57.70(11.15)
WJ Word Attack	46	6-32	23.67(7.87)	50	4-32	22.10(7.11)
*WJ Fluency	46	44-95	70.45(15.15)	50	2-85	55.98(18.96)

Note. PPVT = Peabody Picture Vocabulary Test; EVT = Expressive Vocabulary Test; WJ = Woodcock Johnson; * Indicates a significant difference was found between the site participants.

Child demographics by site. There were no significant differences found between the children's demographic characteristics (see Table 7).

Child literacy skills by site. A one way ANOVA was conducted to see if the child participants differed by site on their oral (PPVT, EVT, phonological awareness,) and written (alphabet knowledge, print awareness) language skills. Significant differences were found between the children's receptive vocabulary (PPVT), $F(1, 94) = 9.51$, $p < .05$, expressive vocabulary (EVT), $F(1, 94) = 6.71$, $p < .05$, and phonological awareness skills, $F(1, 94) = 12.57$, $p < .05$, with the children at Site 1 possessing significantly higher scores than the children at Site 2. No other significant differences were found between the child participants' skills (see Table 8).

Table 7

Comparison of Child Demographics by Site

Characteristic	Site 1 (n = 46)	Site 2 (n = 50)
Gender		
Girl	25	33
Boy	21	17
Ethnicity		
African American	46	50
Age		
Range	3.36-5.43	3.26-5.28
Mean	4.58	4.64
Standard deviation	.39	.36

Table 8

Comparison of Child Skills by Site

	Site 1			Site 2		
Test	*n*	Range	*M(SD)*	*n*	Range	*M(SD)*
*PPVT	46	8-86	49.61(18.55)	50	13-75	39.56(13.11)
*EVT	46	28-65	42.61(8.52)	50	25-65	38.50(7.00)
Alphabet	44	1-26	16.97(9.01)	50	0-26	14.40(9.40)
*Sounds	44	1-10	5.93(2.56)	50	0-10	3.56(3.73)
Print Awareness	44	0-8	3.59(2.02)	50	0-9	4.24(2.26)

Note. PPVT= Peabody Picture Vocabulary Test; EVT = Expressive Vocabulary Test; Alphabet = Alphabet Knowledge; Sounds = Phonological awareness; * Indicates a significant difference was found between the site participants.

Relationship among Parents' Educational Levels, their Oral and Written Language Skills and their Children's Related Oral and Written Language Skills

Research Question 1. What are the relationships among parents' educational levels, their oral (receptive vocabulary, expressive vocabulary) and written (decoding, word recognition, fluency) language skills and their children's related oral (receptive and expressive vocabulary, phonological awareness) and written (letter knowledge, print awareness) language skills?

Correlational data for the relationships among parents' educational levels, their oral and written language skills and their children's oral and written language skills are presented in Table 9. Even though positive correlations are indicated among many of the parent and child variables, the strength of associations are small to moderate (r = .21 to .45). Parents' educational level positively correlated to all the tested parental literacy skills, and to all of the children's literacy skills with the exception of phonological awareness and print awareness. Parents' word identification skills correlated with all of the children's literacy skills with the exception of print awareness. Parents' decoding skills correlated with all of the children's literacy skills with the exception of phonological awareness. Parents' fluency skills correlated with all of the children's literacy skills with the exception of print awareness. Parents' receptive vocabulary skills correlated with all of the children's literacy skills with the exception of phonological awareness. Parents' expressive vocabulary skills correlated with all of the children's literacy skills with the exception of phonological awareness.

Table 9

Correlations among Parents' Educational Level, Parental Oral and Written Language Skills, and Child Oral and Written Language Skills

	1	2	3	4	5	6	7	8	9	10	11
1. Parent Education Level	--										
2. Adult Word ID	.40**	--									
3. Adult Word Attack	.23*	.76**	--								
4. Adult Fluency	.46**	.79**	.70**	--							
5. Adult PPVT	.30**	.61**	.70**	.64**	--						
6. Adult EVT	.23*	.46**	.57**	.53**	.76**	--					
7. Child PPVT	.38**	.31**	.21*	.37**	.43**	.27**	--				
8. Child EVT	.39**	.32**	.23*	.36**	.43**	.37**	.82**	--			
9. Child Alphabet	.34**	.31**	.27**	.36**	.45**	.43**	.49**	.55**	--		
10. Child Phonological	.20	.28**	.16	.27**	.16	.05	.41**	.43**	.39**	--	
11. Child Print Awareness	.16	.14	.21*	.18	.25*	.31*	.35**	.41**	.50**	.24*	--

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

Prediction of Children's Receptive Vocabulary, Expressive Vocabulary, and Phonological Awareness

Research Questions 2. After accounting for the child's age and parents' educational level, do parental receptive and expressive vocabulary skills account for variance in the child's receptive and expressive vocabulary skills? 3. After accounting for the child's age and parents' educational level, does parental decoding skill account for variance in the child's phonological awareness?

To examine the unique contribution of the parents' oral vocabulary skills on their children's receptive vocabulary skills, a hierarchical regression analysis was conducted. Child age was entered in the first step, followed by parents' educational level in the second step, and receptive vocabulary (PPVT) and expressive vocabulary (EVT) in the third step. Parents' educational level accounted for the largest amount of variance (15%) followed by the child's age (11%) and parental oral vocabulary skills (5%) (see Table 10).

To examine the unique contribution of parents' oral vocabulary skills on their children's expressive vocabulary skills, a hierarchical regression analysis was conducted. Child age was entered in the first step, followed by parents' educational level in the second step, and expressive vocabulary (EVT) and receptive vocabulary (PPVT) in the third step. Child age accounted for the largest amount of variance (20%) followed by parents' educational level (17%) and parental oral vocabulary skills (6%) (see Table 11).

To examine the unique contribution of parents' decoding skill on their children's phonological awareness, a hierarchical regression analysis was conducted. Child age was entered in the first step, followed by parents' educational level in the second step, and

decoding (WJ Word Attack) in the third step. None of the variables were found to account for variance in the regression equation (see Table 12).

Table 10

Hierarchical Regression Assessing Prediction of Child Receptive Vocabulary

	Receptive Vocabulary (PPVT)		
Step and Predictor	*F* change	r^2 change	*β*
1. Child Age	11.05	.11*	.32*
2. Parent educational level	19.15	.15*	.39*
3. Adult PPVT	3.37	.05*	.26*
Adult EVT			-.02

Note. * $p < .05$

Table 11

Hierarchical Regression Assessing Prediction of Child Expressive Vocabulary (EVT)

	Expressive Vocabulary (EVT)		
Step and Predictor	*F* change	r^2 change	*β*
1. Child Age	23.50	.20*	.45*
2. Parent educational level	24.15	.17*	.41*
3. Adult EVT	5.12	.06*	.22*
Adult PPVT			.06

Note. * $p < .05$

Table 12

Hierarchical Regression Assessing Prediction of Child Phonological Awareness

	Phonological awareness		
Step and Predictor	*F* change	r^2 change	β
1. Child Age	2.75	.03	.17
2. Parent educational level	3.87	.04	.20
3. WJ Word Attack	1.07	.01	.11

Note. * $p < .05$

Prediction of Children's Alphabet Knowledge and Print Awareness

Research Questions 4. After accounting for the child's age and parents' educational level, does a combination of parental written language skills (word identification, decoding, fluency) account for variance in the child's alphabet knowledge skills? 5**.** After accounting for the child's age and parents' educational level, does a combination of parental written language skills (word identification, decoding, fluency) account for variance in the child's print awareness?

To examine the unique contribution of parents' written language skills on their children's alphabet knowledge, a hierarchical regression analysis was conducted. The child's age was entered in the first step, followed by parents' educational level in the second step, and parental written language skills (word identification, decoding, fluency) in the third step. Parental written language skills accounted for the most variance (14%) followed by parents' educational level (12%) (see Table 13).

To examine the unique contribution of parents' written language skills on their children's print awareness, a hierarchical regression analysis was conducted. The child's

age was entered in the first step, followed by parents' educational level in the second step, and parental written language skills (word identification, decoding, fluency) in the third step. None of the variables were found to account for variance in the regression equation (see Table 14).

Table 13

Hierarchical Regression Assessing Prediction of Child Alphabet Knowledge

	Alphabet Knowledge		
Step and Predictor	*F* change	r^2 change	β
1. Child Age	1.75	.02	.14
2. Parent educational level	12.28	.12*	.34*
3. WJ Word ID	3.47	.14*	.07
WJ Word Attack			.16
WJ Fluency			.02

Note. * $p < .05$

Table 14

Hierarchical Regression Assessing Prediction of Child Print Awareness

	Print Awareness		
Step and Predictor	*F* change	r^2 change	β
1. Child Age	1.98	.02	.14
2. Parent educational level	2.41	.02	.16
3. WJ Word ID	1.65	.03	-.14
WJ Word Attack			.24
WJ Fluency			.06

Note. * $p < .05$

Discussion

This study examined the relationship among parents' oral (receptive and expressive vocabulary) and written (decoding, word recognition, fluency) language skills and their preschool children's oral (receptive and expressive vocabulary, phonological awareness) and written (letter knowledge, print awareness) language skills. It was conducted because previous studies have not been found that examined this specific relationship. In this section, specific research questions and hypotheses are discussed, followed by conclusions, limitations, and implications for future research.

Research Questions

Research Question 1. What are the relationships among parents' educational levels, their oral (receptive vocabulary, expressive vocabulary) and written (decoding, word recognition, fluency) language skills and their children's related oral (receptive and expressive vocabulary, phonological awareness) and written (letter knowledge, print awareness) language skills? It was hypothesized that a positive relationship would be found between parents' educational levels, their oral and written language skills and their children's oral and written language skills. With two exceptions, results of this study support the hypothesis that children's oral and written skills are related to parents' educational levels.

This study's findings that parents' educational level on the whole is related to children's emergent and oral language skills corresponds to findings reported in the literature (e.g., Hecht et al., 2000; Korat, 2009; Magnuson et al., 2009; Tracey & Young, 2002). The exceptions that were found included the lack of a relationship between parents' educational levels and children's phonological awareness and print awareness

skills. These exceptions may be related to the PALS beginning Sounds and Print and Word Awareness subtests that were used to assess these skills. These subtests are criterion-based and not standardized measures, and may not be sensitive enough to fully capture the children's skills.

The results of this study also support the hypothesis that on the whole, there is a relationship between parents' oral and written language skills and their children's oral and written language skills (see results section for details on the exceptions). These results provide information about the specific nature of the relationship between parental oral and written language skills and their children's emergent oral and written language skills. Since this is the first known study to examine this relationship, this study contributes to the field by showing that a relationship exists between specific parental literacy skills and children's specific literacy skills.

Research Question 2. After accounting for the child's age and parents' educational level, do parental receptive and expressive vocabulary skills account for variance in the child's receptive and expressive vocabulary skills? It was hypothesized that parents' receptive and expressive vocabulary skills would account for variance in their children's receptive and expressive vocabulary skills. The results of this study support the hypothesis and align with existing literature by supporting the thought that the way parents communicate with their children has direct influences on their children's emergent oral language development (Paris et al., 2006). For example, Paris et al. (2006) describe how children's vocabularies are dependent upon the frequency and quality of the interactions between parents and their children.

Research Question 3. After accounting for the child's age and parents' educational level, does parental decoding skill account for variance in the child's phonological awareness? It was hypothesized that parents' decoding skills would account for variance in their children's phonological skills. This hypothesis was not supported by this study. There are a few possible reasons for this finding. Assuming that a child gains his or her phonological skills from someone teaching these skills, it is possible that the parents' ability to decode may not impact their children's beginning sound awareness. In other words, parents' decoding skill levels may not indicate whether or not they actually teach their children phonological skills. This is supported by Hood et al. (2008) and Sénéchal and LeFevre (2002) who found that parental teaching of literacy skills, was not a significant predictor of preschool children's phonological awareness. It is also important to acknowledge that there are different ways to assess phonological awareness (e.g., tests of beginning sounds, rhymes, elision, segmentation), and therefore other phonological awareness tests may have shown a different pattern of results. Also according to Anthony and Lonigan (2004) children's performances on phonological tasks may be heavily influenced by aspects such as their other oral language skills (i.e., receptive and expressive vocabulary) and developmental differences in phonological processing abilities as children progress from prereaders to skilled readers.

Future research may want to look at the possibility that phonological awareness may be mediated by another variable such as letter knowledge (Blaiklock, 2004; Foy & Mann, 2006) or that this relationship may not be significant until children become older and exhibit more maturity in their reading and other language skills (e.g., Anthony & Lonigan, 2004; Hood et al., 2008). Schooling could have an impact on this finding since

the children were enrolled in a preschool setting that focused on the development of prereading skills including phonological awareness. All of the mentioned factors may be considered as a rationale for why parental decoding skill failed to predict children's phonological awareness.

Research Question 4. After accounting for the child's age and parents' educational level, does a combination of parental written language skills (word identification, decoding, fluency) account for variance in the child's letter knowledge? This question was exploratory in nature, therefore no hypothesis was associated with it. The results indicated that parental written language skills (word identification, decoding, fluency) and parents' educational level accounted for variance in their children's alphabet knowledge. This study contributes to an area that lacks research and demonstrates that it is important to look at parents' literacy skills to understand the literacy skills of their children.

Research Question 5. After accounting for the child's age and parents' educational level, does a combination of parental written language skills (word identification, decoding, fluency) account for variance in the child's print awareness? This question was exploratory in nature, therefore no hypothesis was associated with it. This study indicated that parental written language skills failed to predict children's print awareness skills. Further research is warranted to examine the exact parental variables that influence children's print awareness. For example, Justice and Ezell (2000) found that parental training in shared book reading facilitated preschool children's print awareness. Therefore, it may not necessarily be parental skills alone that contribute to

children's print awareness but training in parental teaching skills that promotes print awareness in children.

Conclusions

The results of this study further our understanding of factors involved in parental transmission of literacy skills. While previous research shows the importance of parents' educational level, this study shows the importance of parental literacy skills as related to their children's literacy skills. It is important to address these findings in light of intergenerational transmission of literacy skills from parents to their children (e.g., Bus et al., 1995; Hecht et al., 2000; Korat, 2009). For example, the sites with higher parental skill levels had higher child skill levels, whereas the sites with lower parental skill levels had lower child skill levels.

Generally, this study demonstrates that there is a relationship between parents' literacy skills and their children's literacy skills. These findings demonstrate that it is important to look at parents' literacy skills to understand the literacy skills of their children.

Limitations

There are two limitations in this study. First, the school sites that were chosen were involved in a larger intervention study which stressed the importance of emergent literacy skill development and parental involvement in their preschoolers' emergent literacy learning. It is possible that these factors may have influenced the parents' and children's oral and written language skills.

Second, lack of diversity in the sample may be seen as a strength and a possible restriction. Participants were primarily African American from urban preschool

programs, and therefore the results of this study provide information on a population that has not been studied as extensively as other populations. However, based on the lack of diversity of the sample, the results of this study are only generalizable to this particular population. Future research should investigate if the relationships found in this study are true of other participant samples.

Future Research

Altogether, the present study indicated a positive relationship among parents' educational level, their oral and written language skills, and most of the children's emergent literacy skills (receptive vocabulary, expressive vocabulary, alphabet knowledge). However more research is warranted to further understand factors involved in parental transmission of literacy skills. Specifically, future research should investigate if the relationships found in this study are true of participant samples that may be more diverse. Future investigations should also look into the different factors that may impact the relationship between parents' decoding and their children's phonological awareness. It is necessary to further examine the exact parental variables that influence children's print awareness. Finally, parent-child language interaction should be studied further as this study found the way parents' communicate with their children has direct influences on their emergent oral language development.

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CHAPTER 2

THE RELATIONSHIP AMONG THE HOME LITERACY ENVIRONMENT, PARENTAL CHARACTERISTICS AND CHILDREN'S EMERGENT LITERACY SKILLS

Introduction

The home literacy environment plays a critical role in the development of children's emergent literacy skills (Evans & Shaw, 2008; Evans, Shaw, & Bell, 2000; Wasik & Hindman, 2010). Although investigators have demonstrated positive relationships between the Home Literacy Environment (HLE) and children's emergent literacy skills, further research is needed to understand the exact nature of the factors that explain the HLE and its relationship to specific emergent literacy skills (Burgess, Hecht, & Lonigan, 2002). The current study extends the previous study (Chapter 1) by discussing parents' responses to a home literacy environment survey (HLES) and a Title Recognition test (TRT) of children's books. The relationships among parents' responses to the HLES and TRT, parents' characteristics (parents' educational level and oral and written language skills), and their children's emergent literacy skills are examined.

Predictors of Emergent Literacy

In the previous study (described in Chapter 1) results indicated that parents' educational level and their oral and written language skills were on the whole related to their children's emergent oral (receptive and expressive vocabulary) and written (alphabet knowledge) language skills. Two exceptions were the relationship between various parents' skills and the children's phonological awareness and print awareness (see Chapter 1 for more details). The study also found that parents' skills uniquely

contributed to the children's skills. Specifically, parental oral vocabulary (receptive and expressive) skills accounted for variance in the child's receptive (5%) and expressive (6%) vocabulary skills, and parental written language skills (word identification, decoding, fluency) accounted for variance in the child's alphabet knowledge (14%). However, parental decoding skills failed to account for variance in the child's phonological awareness and parental written language skills (word identification, decoding, fluency) failed to account for variance in the child's print awareness. The current study adds to the previous study by investigating the contribution of parents' responses to the HLES and TRT as predictors of preschoolers' emergent literacy skills. The intention of this study was to capture a wider range of potentially important influences on preschoolers' emergent literacy development.

Importance of the Home Literacy Environment and Parental Characteristics on the Development of Children's Skills

Children's emergent literacy skills are influenced by their HLE (Burgess et al., 2002). The HLE can be characterized by a variety of aspects including shared reading, library visits, direct teaching of literacy skills, parental reading habits, and parents' recognition of children's book titles (Phillips & Lonigan, 2009; Wasik & Hindman, 2010). Additional factors include parental characteristics such as parents' educational level (Evans et al., 2000; Umek, Podlesek, & Fekonja, 2005) and parental literacy skill levels (as indicated in Chapter 1).

Similar to the study described in Chapter 1, the present study focused on children's five emergent oral and written language skills that are well-established precursors for their reading attainment (Adams, 1990). Oral-related elements include

receptive vocabulary (e.g., the vocabulary an individual understands the meaning of; National Early Literacy Panel [NELP], 2008), expressive vocabulary (e.g., the vocabulary used to communicate in speaking; Gettinger & Stoiber, 2008) and phonological awareness (e.g., the ability to detect and manipulate the sounds of spoken language independent of meaning; Whitehurst & Lonigan, 1998). Written- related elements include letter knowledge (e.g., identifying and naming letters in the alphabet; Molfese, Modglin, et al., 2006) and print awareness (e.g., knowing that writing goes from left to right; Whitehurst & Lonigan, 1998). To further understand the relationships between the HLE and children's emergent literacy skills and the relationships between parental characteristics and children's emergent literacy skills, the following section will describe the literature on the HLE and parental characteristics.

Home Literacy Environment

The HLE can be characterized by a variety of aspects including shared reading, library visits, direct teaching of literacy skills, parental reading habits, and parental recognition of children's book titles (Phillips & Lonigan, 2009; Wasik & Hindman, 2010). Shared reading is an interactive process which takes place between an adult and a child during book reading. It is often measured by frequency of reading between the adult and child and has positive implications towards the development of children's emergent literacy (Bus, van Ijzendoorn, & Pellegrini, 1995). Studies investigating the associations between shared reading and children's emergent literacy skills have found this practice to be related to different child skills. For example, shared book reading has been found to be positively associated to phonological awareness and print knowledge with preschoolers and kindergarteners (Levy, Gong, Hessels, Evans, & Jared 2006;

Sonnenschein & Munsterman, 2002). Studies also have indicated a positive relationship between shared reading and the oral vocabulary of preschoolers (Bingham 2007; Bus et al., 1995; Hood, Conlon, & Andrews, 2008). Finally, parent engagement in shared reading also has been found to be positively related to their preschool children's letter knowledge (Davidse, de Jong, Bus, Huijbregts, & Swabb, 2011; Hood et al., 2008).

Another aspect of the HLE often studied is the frequency of library visits. When comparing the frequency of library visits and emergent literacy skills, previous research has demonstrated a positive relationship between the variables. For instance, how often parents take their preschool or kindergarten children to the library is positively correlated to children's receptive oral vocabulary knowledge (Sénéchal, LeFevre, Hudson, & Lawson, 1996) phonological awareness (Frijters, Barron, & Brunello, 2000) and letter knowledge (Frijters et al., 2000).

When parents engage in the teaching of literacy skills, they may engage in activities such as teaching their child the alphabet, beginning sounds, or print recognition. Parental teaching of literacy skills has been recognized as an important contributor to specific child emergent literacy skills (Haney & Hill, 2004; Hood et al., 2008; Sénéchal & LeFevre, 2002). However studies have found mixed results in terms of the specific skills that are impacted by parental teaching. For instance, Sénéchal and LeFevre (2002) reported parental teaching that occurred in the home during kindergarten had a predictive relationship with emergent literacy skills such as print awareness, alphabet knowledge, and decoding but not receptive vocabulary. Similarly, Hood and colleagues (2008) found that parental teaching practices with preschool children were predictive of letter-word identification but not receptive vocabulary, during the preschool years. However, Haney

and Hill (2004) found that parents' teaching of literacy skills predicted their preschool children's oral receptive and expressive vocabulary. The inconsistencies in these findings may be due to the different ages of the samples (mean age = 5.36 years in Hood et al.'s study and 4-5 years in Sénéchal & LeFevre's study compared with 3-5 years in Haney & Hill's study). The different results may also be due to the fact that the studies assessed parental teaching differently (e.g., Hood et al. and Sénéchal & LeFevre used a questionnaire which asked parents to answer based on the frequency of parental teaching of skills while Haney & Hill used a questionnaire which asked parents to answer "yes" or "no" to whether or not they engaged in teaching of literacy skills in the home).

Studies also have assessed the relationship between parents' own literacy habits and their children's literacy skills. For example, Burgess et al. (2002) looked at the relationships between parents' literacy habits (e.g., how many books per month the parent reads, how often the child observed the parent reading) and their preschoolers' oral vocabulary, letter knowledge, and phonological awareness. The results of this study demonstrated positive relationships between the parents' literacy habits and their children's oral vocabulary and phonological awareness, but not their children's letter knowledge. As another example, Farver et al. (2006) found that parents' literacy habits (e.g., about how often do you read for fun or pleasure, about how often does your spouse read for fun or pleasure, how often does your child see you or your spouse reading for enjoyment) were related to their preschool children's receptive vocabulary. Finally, Bracken and Fischel (2008) demonstrated that parents' reading interest (i.e., daily duration of parent reading for pleasure, and how much the parent enjoys reading for pleasure) was related to their preschool children's receptive vocabulary but not to their

alphabet knowledge, letter-word identification, print awareness, and phonological awareness.

Studies that focus on the relationship between parents' recognition of children's books and children's emergent literacy skills, have found positive relationships between parents' recognition of children's books and their children's oral vocabulary skills. For example, Sénéchal et al. (1996) indicated that parental recognition of children's book titles and authors accounted for variance in children's receptive vocabulary above and beyond the home literacy practices. Additionally, Frijters et al. (2000) found parents' knowledge of children's books predicted their children's oral receptive and expressive vocabulary. Evans et al. (2000) found that even though parental recognition of children's books was correlated to kindergartner's receptive vocabulary scores, it did not predict any other emergent literacy skills such as phonological awareness and letter knowledge.

Parental Characteristics

In this study, parental characteristics are defined as parents' educational level and parental literacy skills. These characteristics may need to be considered when understanding the predictors of children's emergent literacy.

Several investigators have found parents' educational level (highest grade or level of education completed) to be positively associated to children's emergent literacy skills. For example, Bracken and Fischel (2008) found that parents' educational level significantly predicted preschoolers' emergent literacy skills such as oral receptive vocabulary, print awareness, emergent writing skills, and sound awareness. Korat (2009) indicated a positive relationship between mothers' educational level and their kindergarten and first grade children's emergent literacy (print awareness, phonological

awareness, receptive vocabulary, word writing, word recognition) skills. Children of mothers in the high-education group (Bachelors degree or higher) performed better than the children of mothers in the low-education group (high school diploma or lower) on all the emergent literacy measures except for phonological awareness. Magnuson, Sexton, Davis-Kean, and Huston's (2009) study also portrayed a positive relationship between maternal educational level and preschool children's emergent oral language skills (vocabulary comprehension and expressive language).

Not much is known about the associations between parents' oral and written language skills and their children's emergent oral and written language skills. Unfortunately, no studies were found that examined this relationship. However, the study described in Chapter 1 examined the relationships between parents' oral (receptive vocabulary, expressive vocabulary) and written (decoding, word recognition, fluency) language skills and their children's related oral (receptive and expressive vocabulary, phonological) and written (letter knowledge, print awareness) language skills. Even though strengths of the associations were small to moderate (r = .21 to .45), correlational data found many of the parents' skills to be positively related to their child's skills. For instance, parents' word identification skills correlated to all of the children's literacy skills with the exception of print awareness. Parents' decoding skills correlated to all of the children's literacy skills with the exception of print awareness. Parents' fluency skills correlated to all of the children's literacy skills with the exception of phonological awareness. Parents' receptive vocabulary skills correlated to all of the children's literacy skills with the exception of phonological awareness. Parents' expressive vocabulary skills

correlated to all of the children's literacy skills with the exception of phonological awareness.

Assessing the Home Literacy Environment

Home Literacy Environment Survey

Home literacy environments are usually measured by self-report questionnaires that ask parents about the literacy activities they engage in with their children in the home (Hood et al., 2008; Sénéchal et al.,1996; Umek et al., 2005). Traditional measures of the HLE have focused on shared reading (i.e., the frequency of reading to children) with less emphasis on other factors (Bus et al., 1995). However in order to extend our understanding of the potential role of the HLE, researchers suggest that measures must attend to a variety of literacy activities that will address its extensive nature (Boudreau, 2005; Umek et al., 2005). For example, Boudreau (2005) described the importance of accurately measuring the HLE through parental self-report by obtaining information related to reading books, responses to print, and language awareness.

Recent investigations have used measures which assess different aspects of the HLE such as teaching of explicit skills (Haney & Hill, 2004; Hood et al., 2008). These types of questions ask parents to report the frequency of teaching literacy skills such as alphabet knowledge and reading words. Another important aspect to measure is parents' modeling of literacy activities. This can be addressed by questions such as "how often do you read for fun and pleasure" (Farver, Xu, Eppe, & Lonigan, 2006). Parental involvement in literacy activities is another essential area addressed by home literacy environment surveys (e.g., how many times per week do you read to your child, how often do you take your child to the library) (Umek et al., 2005).Through the use of HLE

surveys, researchers strive to ascertain the importance of the diverse home literacy interactions between parents and their children.

Title Recognition Test

The Title Recognition Test (TRT) was originally developed by Stanovich and West (1989) in response to concern about the validity of self-reported HLE questionnaires. The TRT involves checking off the titles of popular books from among foils that are plausible but not actual book titles. Response bias is controlled by subtracting false positive responses to the foils from correct responses to the actual book titles (Hood et al., 2008).

Sénéchal et al. (1996) argued that conventional measures of the HLE may not be reliable due to social desirability biases or because it is difficult for parents to interpret the questions and to make reliable estimates. To obtain more reliable and objective information about parent reading activities, the authors employed measures of storybook exposure in which parents were asked to recognize titles of children's book and children's authors from lists containing plausible foils. The study found that parents' knowledge of storybooks predicted children's receptive vocabulary scores.

Similarly, Hood et al. (2008) assessed shared reading based on a composite of reading frequency and a parental title recognition test (TRT) of children's books. The TRT included 20 children's book titles (and 10 foils) which were considered popular and age-appropriate children's books. Their argument in using both measures was that more variance could be accounted for when multiple measures were used. Consequently, the results of their study indicated there was a stronger correlation between the parent-child reading composite and vocabulary (r = .30), than just the TRT alone (r = .18). The

parent-child reading composite was also found to be related to the preschoolers' letter-word identification, but not to their phonological awareness.

Aims of the Study

This study explored parents' home literacy practices and their relation to preschool children's emergent oral and written language skills. Specifically, this study assessed the relationships between parents' responses to a HLES and TRT and parents' characteristics (educational level, oral and written language skills), and preschoolers' emergent literacy skills. It also addressed whether or not parents' responses to a HLES and TRT uniquely contributed to preschoolers' emergent literacy skills.

Research Questions and Hypotheses

Research Question: 1.What are the relationships between parents' educational level, their oral and written language skills, and their responses to the HLES and TRT?

Hypothesis: It was hypothesized that the HLES and TRT would be positively related to the parents' educational level and their oral and written language skills.

Rationale: The relationship between HLE components and parents' educational level has been addressed in previous literature (e.g., Bracken & Fischel, 2008). Bracken and Fischel (2008) found a positive association between components of their HLE questionnaire and parents' educational levels. In their study, their HLE questionnaire included child reading interest (e.g., how often the child asks to be read to, how much child enjoys being read to, how often child looks at books by himself or herself), parental reading interest (number of minutes parent reads per day, how much parent enjoys reading), and parent-child reading interaction (frequency of shared–book reading, number of minutes parent read to child yesterday, how often parent takes child to the library).

Positive associations were found between all of the variables and parental education levels. The highest correlations were found between parents' educational levels and parent-child reading interactions, where higher levels of parent education were associated with greater parent involvement in the HLE. Based on this literature, it was hypothesized that in this study significant correlations would be found between the responses to the HLES and TRT, parents' educational level, and their oral and written language skills.

Research Question: 2. What are the relationships between parents' responses to the HLES and TRT and their children's emergent oral and written language skills?

Hypothesis: It was hypothesized that the parents' responses to the HLES and TRT would be positively related to their children's emergent oral and written language skills.

Rationale: Existing research (e.g., Burgess et al., 2002; Frijters, et al., 2000; Hood et al., 2008) demonstrates positive associations between home literacy practices and children's oral and written language skills. For example, Burgess et al. (2002) indicated that the HLE was significantly related to preschool children's oral vocabulary, phonological awareness, and word decoding. Likewise, Frijters et al. (2000) and Hood et al (2008) both found preschool and kindergartner's oral and written language skills to be related to HLE components (HLES and TRT). For this study, it was hypothesized that significant relationships would be found between parents' responses to the HLES and children's emergent oral and written language skills as well as between parents' responses to the TRT and children's emergent oral and written language skills.

Research Questions 3. Do parents' responses to the HLES and TRT account for variance in their children's receptive and expressive vocabulary? **4.** Do parents' responses to the HLES and TRT account for variance in their children's alphabet

knowledge? 5. After accounting for age, do parents' responses to the HLES and TRT account for variance in their children's phonological awareness? 6. After accounting for age, do parents' responses to the HLES and TRT account for variance in their children's print awareness?

Hypothesis: These questions are exploratory and no hypotheses are associated with them.

Rationale: These questions are exploratory since previous research has indicated that responses to surveys of the HLE are associated with different children's emergent oral and written language skills. For instance, Bingham (2007) found the HLE (after child age was accounted for) to be related to preschool children's receptive vocabulary but not to print awareness and letter knowledge. Similarly, Hood et al. (2008) found (after age was accounted for) differential predictors (i.e., parental teaching of literacy skills, shared reading) of preschool children's emergent oral and written language skills. For example, parental teaching of literacy skills predicted preschool letter knowledge and subsequent vocabulary in first grade, while a shared reading composite (based on frequency of reading and TRT) predicted vocabulary and reading in first grade.

Method

Participants

Participants in this study included 96 primary caregiver- child dyads. The children were enrolled in two different urban prekindergarten programs in a large metropolitan city in the southeastern United States. According to school descriptions available to the public, the overwhelming majority of households served by these programs are low-income households. The prekindergarten classrooms are state funded and they

participated in an Early Reading First Project (ERF). ERF supports the academic development of early childhood centers that focus on early language, literacy, and prereading development. The participants involved in this study were associated with programs that focused on developing key literacy skills and on high quality- literacy environments while fostering family involvement.

The adult participants in this study consisted of 96 primary caregivers of the children included in this study. As Table 15 indicates, 99% of the adult participants were African American, 80% were female, and their average age was 32 years old. Mothers were the majority of the primary caregivers who participated in the study (i.e., 75%), with others self-identifying as grandparents, fathers, or other guardians. All participants were native English speakers. As Table 16 indicates, the educational levels of the adults varied as 44% had some high school and or graduated high school while 56% had some college or above. Specifically, 20% completed some high school or technical school, 24% graduated from either high school or technical school, 28% completed some college or earned an Associate's degree, 17% earned a Bachelor's degree, 10% completed some Master's level courses or earned a Master's degree, and 1% earned a Professional degree. The caregivers' (herein referred to as *parent)* children (n = 96) were native English speakers, African American, 60% female, and were an average age of four years and six months (see Table 15).

Table 15

Descriptive Statistics for Demographic Characteristics for Adults and Child Participants[a]

Characteristic	Adults	Child
Ethnicity		
African American	95 (99.0%)	96 (100%)
Caucasian	1 (1.0%)	
Gender		
Female	77 (80.2%)	58 (60.4%)
Male	19 (19.8%)	38 (39.6%)
Age		
Range	19-78	3.26-5.43
Mean	32.00	4.61
Standard deviation	8.85	.37
Caregiver role		
Mother	72 (75%)	
Father	16 (16.7%)	
Foster Parent	1 (1.0%)	
Grandfather	1 (1.0%)	
Grandmother	4 (4.2%)	
Other	2 (2.1%)	

Note. [a]n = 96

Table 16

Description of Adult Participants by Educational Level

	Number	Percent
Educational Level		
Some High School	17	17.7
Some Vocational/Tech School	2	2.1
Graduated from HS	21	21.9
Graduated from Voc/Tech School	2	2.1
Some College	25	26
Associates Degree	2	2.1
Bachelors Degree	16	16.7
Some Graduate School	5	5.2
Master's Degree	5	5.2
Professional Degree	1	1
Total	96	100

Measures

A Home Literacy Environment Survey (HLES), a Title Recognition Test (TRT) of children's books, oral and written language tests, along with a demographic questionnaire were administered. Each oral and written language measure was selected based on its psychometric properties, age range of intended examinees, and relevance to the study's aims. It is important to mention that this study included struggling adult readers and while each test has excellent psychometric properties for its norm group, none of the norm groups described in the technical manuals included samples of struggling adult readers.

The following assessments were administered to the adult participants:

Home literacy environment survey. Parents were orally administered a Home Literacy Environment survey (HLES). Questions were based on those previously used by Hood et al. (2008). The survey assessed aspects of shared-book reading (e.g., about how many times per week do you read to your child at home?), library visits (e.g., about how often do you go to the library with your child?), parental teaching of literacy skills (e.g., about how often would you say you try to teach your child the letters of the alphabet?) and parental reading habits (e.g., about how often do you read for fun or pleasure?) (see Appendix A).

Title recognition test. Parents were orally administered a Title Recognition Test (TRT) of children's books created by Hood et al. (2008). The TRT is a checklist in which parents indicate whether they are familiar with the name of a particular popular children's book by indicating "yes" or "no". The list consisted of 30 titles, 10 of which were foils randomly interspersed. The TRT was scored by taking the total number of real book titles

identified minus the number of foils identified. To calculate the overall TRT score, this study followed previously reported procedures (e.g., Evans et al., 2000; Hood et al., 2008) (see Appendix B).

Oral receptive vocabulary. *Peabody Picture Vocabulary Test-PPVT (PPVT; Dunn & Dunn, 1998).* The PPVT assessed the extent of the individual's knowledge of word meanings. This test was normed on people ages 2 to 90+, with reliability of .97. Designed for use as a measure for receptive vocabulary, this test required participants to look at a template with four pictures, listen to the word orally presented by the examiner, and chose the picture that best represents the word. Testing was discontinued when participants reached a ceiling of eight consecutive errors.

Oral expressive vocabulary. *Expressive Vocabulary Test-EVT (EVT; Williams, 2007).* The EVT tested expressive vocabulary and word retrieval. This assessment was normed on people ages 2 to 90+, with a reliability of .97. In this assessment, participants were shown a picture and asked to provide a single word to label a picture (e.g., a picture of a cow and the examinee is asked 'what do you see?') or to provide a single word synonym for the target word (e.g., a picture of someone cleaning and the examinee is asked to 'tell me another word for busy'). Testing was discontinued when participants reached a ceiling of five consecutive incorrect answers.

Word recognition. *Woodcock-Johnson III Tests of Achievement-WJ III (Letter-Word Identification; Woodcock, McGrew, & Mather, 2001).* The Letter-Word Identification subtest measured the participant's word identification skills. This subtest was normed on people ages 5 to 80+, with a reliability of .94. This subtest required participants to identify words of increasing difficulty. A ceiling was reached when the

participant responded incorrectly to six consecutive items or when the last test item had been administered.

Decoding. *Woodcock-Johnson III Tests of Achievement-WJ III (Word Attack; Woodcock et al., 2001).* The Word Attack subtest measured the adults' decoding skills. This subtest was normed on people ages 4 to 80+, with a reliability of .87. This subtest required participants to read aloud pseudo words (of increasing difficulty) that are phonetically consistent or regular patterns in English orthography. A ceiling was reached when the participant responded incorrectly to 6 consecutive items or the last item had been administered.

Fluency. *Woodcock-Johnson III Tests of Achievement-WJ III (Reading Fluency; Woodcock et al., 2001).* The Fluency subtest was normed on people ages 6 to 80+, with a reliability of .90. This subtest assessed the participant's reading speed and rate within a 3-minute time limit. The task required the participants to quickly read and comprehend simple sentences. During test administration, the difficulty level of the sentences gradually increased.

The following oral and written language measures were administered to the child participants:

Oral receptive vocabulary. *Peabody Picture Vocabulary Test-PPVT (PPVT; Dunn & Dunn, 1998).* The PPVT assessed the extent of the individual's knowledge of word meanings. This test was normed on people ages 2 to 90+, with reliability of .97. Designed for use as a measure for receptive vocabulary, this test required participants to look at a template with four pictures, listen to the word orally presented by the examiner,

and chose the picture that best represents the word. Testing was discontinued when participants reached a ceiling of eight consecutive errors.

Oral expressive vocabulary. *Expressive Vocabulary Test-EVT (EVT; Williams, 2007).* The EVT is a test of expressive vocabulary and word retrieval. This assessment was normed on people ages 2 to 90+, with a reliability of .97. In this assessment, participants were shown a picture and asked to provide a single word to label a picture (e.g., a picture of a cow and the examinee is asked 'what do you see?') or to provide a single word synonym for the target word (e.g., a picture of someone cleaning and the examinee is asked to 'tell me another word for busy'). Testing was discontinued when participants reached a ceiling of five consecutive incorrect answers.

Phonological awareness. *Beginning Sounds subtest Phonological Awareness Literacy Screening(PALS PreK)(PALS PreK; Invernizzi, Sullivan, Meier,& Swank, 2004).* PALS is a criterion referenced instrument that measured preschooler' developing knowledge of important literacy fundamentals. This assessment was intended for preschoolers, with a reliability of .93. The phonological awareness subtest measured the children's beginning sound skills. The Beginning Sounds subtest was a 10 item test that required children to orally produce the beginning sounds of words that were first spoken aloud by the examiner.

Alphabet knowledge. *Letter Knowledge subtest of Phonological Awareness Literacy Screening (PALS PreK)(PALS PreK; Invernizzi et al., 2004).* Alphabet knowledge was assessed by the Letter Knowledge subtest. This assessment was designed for preschoolers and no information regarding reliability is available for this subtest. The

test administrator asked the child to name the 26 upper-case letters of the alphabet presented in random order

Print awareness. *Print and Word Awareness subtest of Phonological Awareness Literacy Screening (PALS PreK)(PALS PreK; Invernizzi et al., 2004).* The Print Awareness task included measures of print identification, concepts of print, and concepts of word. This subtest was designed for preschoolers with a reliability of .75. This subtest contained 10 items and mimicked a naturally occurring book reading event. The examiner read a familiar nursery rhyme printed in a book format and asked the child to point to different text components to demonstrate awareness of directionality, and the difference among pictures, letters, and words.

The following demographic information was obtained on the participants:

Demographics. Parents were asked to provide the following demographic information: age, gender, ethnicity, educational level, language spoken in the home, and caregiver role. Child background data (gender, age, and ethnicity) was provided by the parents. This survey was administered orally.

Procedure

Parents were assessed by the investigator in a quiet location at their children's schools. The following tasks were administered to the adult participants in the following order: Demographic survey, HLES, TRT, WJ Letter-Word Identification subtest, WJ Word Attack subtest, WJ Fluency subtest, PPVT, and EVT. All participants started with item number 15 on the WJ Letter-Word Identification subtest. This item is the first word reading item which does not have letter identification items following it, and is at the k.7 grade level (therefore it was anticipated that all parents would be able to easily read the

first few words). The age level equivalencies obtained on this subtest forecasted the starting points for the PPVT and EVT tests. As indicated in the WJ test manual, all participants started with the first item on the WJ Word Attack and Fluency subtests. Testing was completed in one session lasting 25 to 40 minutes, during the months of November to March.

As part of another study, trained data collectors tested children individually in the fall (November to December) of the prekindergarten year at their schools. The investigator was provided access to the child test database with parental consent.

Since it is unclear whether standard scores are appropriate for struggling adult readers and because one of the child assessments (PALS) did not have standard scores available, raw literacy test scores were used for all the analyses. It is important to note that within this study, reference to phonological awareness includes only beginning sounds since that is the skill that the PALS subtest assessed. In the regression analyses (research questions 3 to 6) the order of and inclusion of the predictor variables were determined based on the findings of the previous study (Chapter 1).

Results

Site Differences

Several analysis of variances (ANOVA) were conducted to determine if there was variation based on school site among the adult and child participants' demographics, responses to the HLES and TRT, and oral and written language measures.

Adult demographic site differences. As described in Chapter 1, a one way ANOVA was conducted to determine if the adult participants' demographic characteristics differed by site. Significant differences were found between the gender of

the adult participants, $F(1, 94) = 7.23$, $p < .05$ and parents' educational level, $F(1, 94) = 21.07$, $p < .05$. Site 2 had proportionally more males than Site 1. Also, the parents' from Site 1 demonstrated significantly higher educational levels than those at Site 2. No other significant differences were found between the adults' demographic characteristics (see Table 17).

Adult literacy skills by site. As described in Chapter 1, a one way ANOVA was conducted to see if the adult participants differed by site on their oral (PPVT, EVT) and written (word identification, word attack, reading fluency) skills. Significant differences were found between the adults' word identification, $F(1, 94) = 13.59$, $p < .05$ and reading fluency, $F(1, 94) = 16.88$, $p < .05$. Results indicated that Site 1 had significantly higher scores than Site 2 on measures of word identification and reading fluency. No other significant differences were found between the adult participant's skills (see Table 18).

Child demographics by site. As indicated in Chapter 1, no significant differences were found between the children's demographic characteristics (see Table 19).

Child literacy skills by site. As described in Chapter 1, a one way ANOVA was conducted to see if the child participants differed by site on their oral (PPVT, EVT, phonological awareness,) and written (alphabet knowledge, print awareness) language skills. Significant differences were found between the children's receptive vocabulary (PPVT), $F(1, 94) = 9.51$, $p < .05$, expressive vocabulary (EVT), $F(1, 94) = 6.71$, $p < .05$, and phonological awareness, $F(1, 94) = 12.57$, $p < .05$, with the children at Site 1 possessing significantly higher scores than the children at Site 2. No other significant differences were found between the child participants' skills (see Table 20).

Table 17
Comparison of Adult Demographics by Site

Characteristic	Site 1 (n = 46)	Site 2 (n = 50)
*Gender		
Female	42	35
Male	4	15
Ethnicity		
African American	45	50
Caucasian	1	0
Age		
Range	21-78	19-52
Mean	32.46	31.58
Standard deviation	9.43	8.34
*Parents' educational level		
Range	3-13	3-10
Mean	7.65	5.54
Standard deviation	2.53	1.96
Caregiver role		
Mother	40	32
Father	4	12
Grandmother	1	3
Foster Parent	1	0
Grandfather	0	1
Other	0	2

Note. Parents' educational level: 1 = elementary school, 2 = middle school, 3 = some high school, 4 = some technical school, 5 = High School diploma, 6=Technical School diploma , 7= some college, 8 = Associates degree, 9 = Bachelors degree, 10 = some graduate school, 11 = Master's degree, 12 = Doctoral degree, 13= Professional degree; * Indicates a significant difference was found between the site participants.

Table 18

Comparison of Adult Skills by Site

	Site 1			Site 2		
Test	*n*	Range	*M(SD)*	*n*	Range	*M(SD)*
PPVT	46	87-187	157.61(23.32)	50	83-188	151.26(25.35)
EVT	46	65-182	123.41(31.37)	50	68-185	125.16(30.80)
*WJ Word ID	46	45-76	65.11(8.16)	50	23-76	57.70(11.15)
WJ Word Attack	46	6-32	23.67(7.87)	50	4-32	22.10(7.11)
*WJ Fluency	46	44-95	70.45(15.15)	50	2-85	55.98(18.96)

Note. PPVT = Peabody Picture Vocabulary Test; EVT = Expressive Vocabulary Test; WJ = Woodcock Johnson; Significance is noted by an * by the variable.

Table 19

Comparison of Child Demographics by Site

Characteristic	Site 1 (n = 46)	Site 2 (n = 50)
Gender		
Girl	25	33
Boy	21	17
Ethnicity		
African American	46	50
Age		
Range	3.36-5.43	3.26-5.28
Mean	4.58	4.64
Standard deviation	.39	.36

Table 20

Comparison of Child Skills by Site

	Site 1			Site 2		
Test	*n*	Range	*M(SD)*	*n*	Range	*M(SD)*
*PPVT	46	8-86	49.61(18.55)	50	13-75	39.56(13.11)
*EVT	46	28-65	42.61(8.52)	50	25-65	38.50(7.00)
*Sounds	44	1-10	5.93(2.56)	50	0-10	3.56(3.73)
Alphabet	44	1-26	16.97(9.01)	50	0-26	14.40(9.40)
Print Awareness	44	0-8	3.59(2.02)	50	0-9	4.24(2.26)

Note. PPVT= Peabody Picture Vocabulary Test; EVT = Expressive Vocabulary Test; Sounds = Phonological awareness; Alphabet = Alphabet Knowledge; Significance is noted by an * by the variable.

HLES and TRT differences. A one way ANOVA was conducted to determine if the parents' responses to the HLES and TRT differed by site. Significant differences were found in the TRT responses, $F(1, 95) = 7.28$, $p < .05$. Parents at Site 1 were more accurate in identifying correct children's book titles than parents at Site 2. No other significant differences were found between the sites.

HLES and TRT Descriptive Analyses

Descriptive analyses were conducted to provide information about the adult participants' performances on the HLES and the TRT.

Cronbach's alpha was .63 for the HLES. Tables 21, 22, 23, and 24 indicate the percentages of responses to the survey. Close to 72% of the parents reported reading to their child three or more times per week. Out of those who reported reading to their child,

only 15% of the parents indicated they had read to their child the previous day with episodes lasting 3 to 45 minutes

(*M* = 20.9). The majority of the parents (83%) indicated that another person such as a parent, grandparent, older sibling, or other relative read to their child on a daily or weekly basis.

Approximately 53% of parents reported they never took their child to the library. Some parents reported that they sometimes or often taught their child the alphabet (7%), rhyming words (30%), and how to read words (48%). Additionally, 37% of the parents indicated that they engaged in leisure reading sometimes while another 37% reported they engaged in leisure reading often or very often. Parents also reported that their child observed these reading habits sometimes (35%), often (18%) or very often (18%).

Table 21

Percentages and Frequencies of Parent Responses to Engaging in Weekly Reading

Characteristic	**never**	**one**	**2**	**3**	**4**	**5**	**6**	**7**
How many times per week do you read to your child	(4.2%) 4	(7.3%) 7	(16.7%) 16	(26.0%) 25	(19.8%) 19	(9.4%) 9	(6.2%) 6	(10.4%) 10

Note. n = 96

Table 22

Percentages and Frequencies of Parent Responses to Question about Another Person Reading to Child

Characteristic	**Never**	**Monthly**	**Less than Monthly**	**Weekly**	**Daily**
How often does another person read to your child	11%(11)	2.1%(2)	4.2%(4)	59.4%(57)	24.0%(23)

Note. n = 96

Table 23

Percentages and Frequencies of Parent Responses to Question about Library Visits

Characteristic	**Never**	**Monthly**	**Less than Monthly**	**Weekly**	**Daily**
Library Visits	53.1%(51)	22.9%(22)	17.7%(17)	4.2%(4)	2.1%(2)

Note. n = 96

Table 24

Percentages and Frequencies for Parents Responses to Questions about Teaching of Literacy Skills and Reading Habits

Characteristics	**Never**	**Rarely**	**Sometimes**	**Often**	**Very Often**
Caregiver teaches alphabet to child	89.6%(86)	3.1%(3)	7.3%(7)	0.0%(0)	0.0%(0)
Caregiver teaches rhyming words to child	59.3%(57)	10.4%(10)	29.2%(28)	1.0%(1)	0.0%(0)
Caregiver teaches words to child	41.6%(40)	10.4%(10)	42.7%(41)	5.2%(5)	0.0%(0)
Caregiver reads for pleasure	20.8%(20)	4.2%(4)	37.5%(36)	15.6%(15)	21.9%(21)
Child sees caregiver engaged in reading for pleasure	23.8%(23)	5.2%(5)	35.4%(34)	17.7%(17)	17.7%(17)

Note. n = 96

To calculate the overall TRT score, the total number of real book titles the participant recognized was subtracted from the number of foils the participant incorrectly recognized. Parents recognized on average 8 real book titles (ranged between 0 and 20), and incorrectly recognized on average 7 foils (ranged between 0 and 10). Since the total possible score is 20, this indicates that on average, the parents recognized fewer than half

of the real book titles. Table 25 demonstrates the percentage of parents indicating correct recognition for real book titles and incorrect recognition of foil titles on the TRT.

Table 25

Percentage of Parents[a] *Indicating Recognition for Real and Foil Titles on the TRT*

Percentage			
Correctly Recognized		Incorrectly Recognized	
Real Title		**Foils**	
Are You My Mother?	50.0	Are You My Father?	21.9
Corduroy	57.3	Dairy Wood	11.5
Green Eggs and Ham	86.5	Elephant Magic	18.8
Saggy Baggy Elephant	4.2	Hello Morning, Hello Day	32.3
Hairy McLary from…	11.5	How Andrew Saved the Day	24.0
Harry the Dirty Dog	32.3	Old Fox	18.8
Just Me and My Dad	16.7	Postman Pat at the Beach	4.2
Koala Lou	12.5	The Very Naughty Fairy	16.7
Mike Mulligan and His…	21.9	Thomas the Tank Engines…	25.0
Possum Magic	4.2	Toby the Terrible Tip Truck	14.6
The Cat in the Hat	85.4		
The Complete Adve…	2.1		
Where's Spot?	44.8		
The Very Hungry…	37.5		
Tooth Fairy	33.3		
The Velveteen Rabbit	40.6		
We're Going on A Bear..	25.0		
Where the Wild Things..	41.7		
Who Sank the Boat?	20.8		
Winnie the Pooh	80.2		

Note. TRT = Title Recognition Test; [a]n = 96

Relationship among Parental Characteristics (Educational Level, Oral and Written Language Skills), and the HLES and TRT

Research question 1. What are the relationships among parents' educational level, their oral and written language skills, and their responses to the HLES and TRT? As indicated in Table 26, parents' responses to the HLES and TRT, and all of the parent variables were related with one exception. Parents' expressive vocabulary skills were not related to responses to the HLES and TRT.

Relationship among Child Oral and Written Language Skills, the HLES and TRT Responses

Research question 2. What are the relationships among parents' responses to the HLES and TRT and their children's emergent oral and written language skills? As indicated in Table 27, Parents' TRT responses correlated to all child variables except for phonological awareness and print awareness. However, there was only one significant correlation between parents' HLES responses and children's skills. Specifically, a small association was found between the HLES total score and children's expressive vocabulary skills (r = .22).

Table 26
Correlations among Parent Oral and Written Language Skills, and the HLES and TRT

	1	2	3	4	5	6	7	8
1. Parent Education Level	--							
2. Adult Word ID	.41**	.--						
3. Adult Word Attack	.23*	.76**	--					
4. Adult Fluency	.46**	.79**	.70**	--				
5. Adult PPVT	.30**	.61**	.70**	.64**	--			
6. Adult EVT	.23*	.46**	.57**	.54**	.75**	--		
7. HLES	.25*	.26**	.27**	.27**	.21*	.16	--	
8. TRT	.25*	.29**	.23*	.30*	.21*	.17	.23*	--

Note. PPVT = Peabody Picture Vocabulary Test; EVT = Expressive Vocabulary Test; HLES = Home Literacy Environment survey; TRT = Title Recognition Test responses; ** $p < .01$. *$p < .05$.

Table 27

Correlations among Child Skills, and the HLES and TRT

	1	2	3	4	5	6	7
1. PPVT	--						
2. EVT	.82**	--					
3. ALPHABET	.49**	.54**	--				
4. SOUNDS	.41**	.43**	.39**	--			
5. PRINT	.35**	.41**	.50*	.24*	--		
6. HLES	.20	.22*	.01	.04	.04	--	
7. TRT	.29**	.22*	.24*	.15	.04	.23*	--

Note. PPVT = Peabody Picture Vocabulary Test; EVT = Expressive Vocabulary Test; ALPHABET = Alphabet Knowledge; SOUNDS = Phonological awareness; PRINT = Print Awareness; HLES = Home Literacy Environment survey; TRT = Title Recognition Test responses; ** $p < .01$. *$p < .05$.

The Home Literacy Environment and Prediction of Child Skills

Research question 3. Do parents' responses to the HLES and TRT account for variance in their children's receptive and expressive vocabulary? Hierarchical regression analysis was conducted with receptive vocabulary as the dependent variable and parents' educational level (step 1), the child's age (step 2), parental receptive and expressive vocabulary skills (step 3), and parents' responses to the HLES and TRT (step 4) as predictor variables. Table 28 presents the regression results. Parents' educational level accounted for the largest amount of variance (14%) followed by the parents' oral vocabulary skills (10%). A second hierarchical regression analysis, was conducted with expressive vocabulary as the dependent variable and the child's age (step 1), parents' educational level (step 2), parental expressive vocabulary and receptive vocabulary (step 3), and parents' responses to the HLES and TRT (step 4) as predictor variables. Table 29

presents the regression results. The child's age accounted for the largest amount of variance (20%), followed by parents' educational level (17%) and adult oral vocabulary skill (6%).

Table 28

Regression Assessing Prediction of Child Receptive Vocabulary

	Receptive Vocabulary (PPVT)		
Step and Predictor	*F* change	r^2 change	β
1. Parent educational level	15.57	.14*	.38*
2. Child age	.20	.00	-.04
3. Adult PPVT	5.97	.10*	.40*
Adult EVT			-.10
4. HLES	.67	.01	.05
TRT			.09

Note. * $p < .05$

Table 29

Regression Assessing Prediction of Child Expressive Vocabulary

	Expressive Vocabulary (EVT)		
Step and Predictor	*F* change	r^2 change	β
1. Child Age	23.54	.20*	.45*
2. Parents' educational level	24.15	.17*	.41*
3. Adult EVT	5.12	.06*	.21*
Adult PPVT			.06
4. HLES	.09	.01	-.02
TRT			.03

Note. * $p < .05$

Research question 4. Do parents' responses to the HLES and TRT account for variance in the children's alphabet knowledge? Hierarchical regression analysis was conducted, with alphabet knowledge as the dependent variable and parent written language skills (word identification, decoding, fluency) (step 1), parents' educational level (step 2), the child's age (step 3), and parents' responses to the HLES and TRT (step 4) as predictor variables. Table 30 presents the regression results. Parental written language skills accounted for the largest amount of variance (13%) followed by parents' educational level (4%).

Table 30

Regression Assessing Prediction of Child Alphabet Knowledge

	Alphabet Knowledge		
Step and Predictor	*F* change	r^2 change	β
1. WJ Word ID	4.56	.13*	.05
WJ Word Attack			.00
WJ Fluency			.32
2. Parents' educational level	4.18	.04*	.23*
3. Child age	.28	.00	.05
4. HLES	1.93	.04	-.17
TRT			.15

Note. * $p < .05$

Research question 5. After accounting for the child's age, do parents' responses to the HLES and TRT account for variance in their children's phonological awareness? Multiple regression analysis, with forward stepwise selection was conducted with phonological awareness as the dependent variable and the child's age, parents' educational level, parental decoding skill, and parents' responses to the HLES and TRT as predictor variables. The child's age was entered into the regression as step 1. The

remaining variables were then entered stepwise into the model. Table 31 presents the regression results. Parents' educational level was the only variable that accounted for variance (12%).

Table 31

Regression Assessing Prediction of Child Phonological Awareness

	Phonological awareness		
Step and Predictor	*F* change	r^2 change	β
1. Child Age	1.76	.02	.14
2. Parents' educational level	12.23	.12*	.34*

Note. Excluded Variables: WJ Word Attack; HLES= Home Literacy Environment survey; TRT = Title Recognition Test; * $p < .05$.

Research question 6. After accounting for the child's age, do parents' responses to the HLES and TRT account for variance in children's print awareness? Multiple regression analysis, with forward stepwise selection was conducted with print awareness as the dependent variable and the child's age, parents' educational level, parental written language skills (word identification, decoding, fluency), and parents' responses to the HLES and TRT as predictor variables. The child's age was entered into the regression as step 1. The remaining variables were then entered stepwise into the model. Table 32 presents the regression results. Parents' decoding skill was the only variable that contributed variance (4%).

Table 32

Regression Assessing Prediction of Child Print Awareness

	Print Awareness		
Step and Predictor	*F* change	r^2 change	β
1. Child Age	1.99	.02	.14
2. WJ Word Attack	3.99	.04*	.20*

Note. Excluded Variables: Parents' educational level; WJ Word ID; WJ Fluency; HLE= Home Literacy Environment; TRT = Title Recognition Test; * $p < .05$.

Discussion

This study examined the relationship between the HLE, parental characteristics, and preschool children's emergent literacy skills. It was conducted as a continuation of the study described in Chapter 1 which examined the relationship between parents' oral and written language skills and their preschool children's oral and written language skills. The current study intended to capture a wider range of potentially important influences on preschool children's emergent literacy development by including parents' responses to the HLES and TRT. In this section, specific research questions and hypotheses are discussed, followed by additional findings, conclusions, limitations, and implications for future research.

Research Questions

Research question 1. What are the relationships among parents' educational level, their oral and written language skills, and their responses to the HLES and TRT? It was hypothesized that parents' responses to the HLES and TRT would be positively related to their educational levels and to their oral and written language skills. The results

support the hypothesis as positive correlations were found between parents' responses to the HLES and TRT, and all of the parent characteristics except for expressive vocabulary skills. The finding of an association between parents' educational level and the HLE factors is consistent with other studies indicating a similar relationship (e.g., Bracken & Fischel, 2008; Roberts, Jurgens, & Burchinal, 2005). As no other studies were found that have assessed the relationship between parents' responses to the HLES and TRT and specific parental oral and written language skills, the finding of a positive association among these variables contributes to an area that is lacking in current research.

Research question 2. What are the relationships among parents' responses to the HLES and TRT and their children's emergent oral and written language skills? It was hypothesized that parents' responses to the HLES and TRT would be positively related to their children's emergent oral and written language skills. The results of this study only partially supported this hypothesis. In terms of the TRT, previous research has shown a positive relationship between parents' recognition of children's books and their children's oral vocabulary skills (e.g., Evans et al., 2000; Frijters et al., 2000; Sénéchal et al., 1996). This study confirmed such a relationship. This study also showed a relationship between parents' TRT responses and their children's alphabet knowledge, a finding not reported in other studies. In terms of the HLES, only one significant correlation was found between parents' responses to the HLES and their children's literacy skills. Specifically, parents' responses to the HLES were positively related to their children's expressive vocabulary skills. This correlation finding is similar to other studies which have found aspects of the HLE related to children's expressive oral vocabulary skills (Bingham, 2007; Hood et al., 2008, Sénéchal et al., 1996). However, previous literature (Frijters et

al., 2000; Levy et al., 2006; Sonnenshein & Munsterman, 2002) also found aspects of the HLE to be related to children's phonological awareness, print knowledge, and letter knowledge, which this study's findings did not replicate. Further research is warranted to investigate the individual items of the HLES to indicate whether individual home literacy activities are associated with children's literacy skill levels.

Research questions 3. Do parents' responses to the HLES and TRT account for variance in their children's receptive and expressive vocabulary? 4. Do parents' responses to the HLES and TRT account for variance in their children's alphabet knowledge? 5. After accounting for age, do parents' responses to the HLES and TRT account for variance in their children's phonological awareness? 6. After accounting for age, do parents' responses to the HLES and TRT account for variance in their children's print awareness? This study found that parents' responses to the HLES and TRT failed to uniquely contribute to the children's emergent oral and written language skills. Instead, variables such as parents' educational level and parental oral and written language skills were found to account for variance in the children's specific skills. For example, parents' educational level and parent oral vocabulary contributed variance to their children's oral vocabulary. Parents' educational level also uniquely contributed to their children's phonological awareness. Furthermore, parents' written language skills and parents' educational level contributed variance to their children's alphabet knowledge while, parents' decoding skills contributed variance to their children's print awareness. These results indicate that it is important to consider parental characteristics when assessing the relationships between the HLE and children's emergent literacy skills. Perhaps the HLE is mediated through parental characteristics such as educational levels or parental literacy

skill levels. These findings also should be interpreted in light of the fact that the HLES had a low alpha level (.63). The participants' performances on the TRT also were minimal, and may not have been enough to make a difference in the analyses. These factors may have contributed to the findings of a lack of significance in the regression models. Based on these results, further research is warranted.

Additional Findings

The frequency with which the parents read to their children (approximately 72% read three or more times per week) was consistent with previous studies (Hood et al., 2008; Phillips & Lonigan, 2009; Sénéchal et al., 1996). However, the parents in this study on average recognized fewer than half of the real book titles on the TRT which is lower than what has been reported in other studies (Frijters et al., 2000; Hood et al., 2008). In addition, fewer parents in this study than in previous studies (Hood et al., 2008; Haney & Hill, 2004), reported engaging in teaching activities often or very often. Finally, half (53%) of the parents in this study indicated that they never took their children to the library. This finding was different from other reported findings that found that most parents took their children to the library at least occasionally (e.g., Sénéchal et al., 1996). The exact cause of these differences is not known.

This study found a positive relationship between parents' educational levels, their oral and written language skills, and the HLE. Perhaps, one reason for the differences in findings may be that level of parental involvement may be predicated by their educational level and literacy skills. For example, Evans et al. (2000) found parental education level to be positively related to whether or not parents initiated literacy activities in the home with their children. This study included struggling adult readers, and therefore it may be

possible that these parents did not engage in home literacy activities as often as the parents who did not struggle with reading. Supportive of this possibility are the correlation results which indicate that parental characteristics (with the exception of expressive vocabulary skills) were positively correlated to the HLES and TRT responses.

Conclusions

Altogether, the present study found different strengths of associations among parents' responses to a HLES and TRT, parental characteristics, and preschooler's emergent literacy skills. The HLE components (HLES and TRT) did not account for variance in the children's emergent literacy skills but other parental characteristics (i.e., parents' educational level, parental oral and written language skills) did. The findings of this study have relevance for the field by providing preliminary information on an area (relationships between HLE factors, specific parental skills, and children's emergent literacy) that is lacking. These findings also provide evidence that when looking at home literacy practices, it may be helpful to include parental literacy skills.

Limitations

There are limitations of this study which should be mentioned. First, the school sites that were chosen were involved in a larger intervention study which stressed the importance of parental involvement in the development of preschoolers' emergent literacy skills. It is possible that this may have influenced the parents' home literacy involvement and the children's literacy skills.

Second, lack of diversity in the sample may be seen as a strength and a possible restriction. Participants were primarily African American from urban preschool programs, and therefore the results of this study provide information on a population that

has not been studied as extensively as other populations. However, based on the lack of diversity of the sample, the results of this study are only generalizable to this particular population. Future research should investigate if the relationships found in this study are true of other participant samples.

Future Research

Further research should be conducted to examine the mediating effects of the HLE on children's emergent literacy skills. When assessing the HLE future studies should investigate the different factors of the HLES and perform analyses with those factors to gain more of an understanding of potential relationships between the HLE and children's emergent literacy skills. Future research should also address questions such as

- what is the best way to assess the HLE?;
- is it necessary to consider the educational opportunities the children are receiving?;
- what are the interactive and meditational impacts of parental characteristics such as educational levels, specific literacy skills, perceptions of reading, and biological and family influences on the child's emergent literacy skills?;

Answers to these types of questions may provide a clearer picture of the relationships between the HLE and children's emergent oral language skills.

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APPENDIXES

APPENDIX A

Parent Home Literacy Environment Survey

1. Do you read to your child? □Yes □No

2. Did you read to your child yesterday? If YES, do you remember for how long? _____

3. About how many times per week do you read to your child at home?

   □ once □ 2 times □ 3 times □ 4 times □5 times □6 times □ 7 times

4. Does another person besides yourself (e.g., spouse, older sibling, baby sitter, grandparent) read to your child? □Yes □No If yes, how often?

   □ Monthly □ Less than Monthly □ Weekly □ Daily

5. Do you take your child to the library? □ Yes □ No

6. About how often do you go to the library with your child?

   □ Monthly □ Less than Monthly □ Weekly □ Daily

7. About how often would you say you try to teach your child the following? (1 means *never* and 5 means *very often*. If you don't teach an activity because your child already knows how to do it already, 6 = NA for *not applicable*)

I teach (child's name):	*Never*	*Rarely*	*Sometimes*	*Often*	*Very often*
1. letters of the alphabet	1	2	3	4	5
2. rhyming words	1	2	3	4	5
3. how to read words	1	2	3	4	5

	Never	*Rarely*	*Sometimes*	*Often*	*Very often*
8. About how often do you read for fun or pleasure?	1	2	3	4	5
9. How often do you think (child's name) sees you reading for enjoyment?	1	2	3	4	5

Questions adapted from :

Hood, M., Conlon, E., & Andrews, G. (2008). Preschool home literacy practices and children's literacy development. *Educational Psychology*, *100*, 252-271

APPENDIX B

Title Recognition Test

		Children's Title			**Children's Title**
1.		Are You My Mother?	16.		Postman Pat at the Beach
2.		Are You My Father?	17.		Saggy Baggy Elephant
3.		Courduroy	18.		The Cat in the Hat
4.		Dairy Wood	19.		The Complete Adventures of Blinky Bill.
5.		Elephant Magic	20.		The Velveteen Rabbit
6.		Green Eggs and Ham	21.		The Very Hungry Caterpillar
7.		Hairy MacLary from Donaldson's Dairy	22.		The Very Naughty Fairy
8.		Harry the Dirty Dog	23.		Thomas the Tank Engine's White Christmas
9.		Hello Morning Hello Day	24		Toby the Terrible Tip Truck
10.		How Andrew Saved the Day	25.		Tooth Fairy
11.		Just Me and My Dad	26.		Where's Spot
12.		Koala Lou	27.		We're Going on a Bear Hunt
13.		Mike Mulligan and His Steam Shovel	28.		Where the Wild Things Are
14.		Old Fox	29.		Who Sank the Boat?
15.		Possum Magic	30.		Winnie the Pooh

Title Recognition Test from:

Hood, M., Conlon, E., & Andrews, G. (2008). Preschool home literacy practices and children's literacy development. *Educational Psychology*, *100*, 252-271.