

African American and Caucasian Preschoolers' Use of Decontextualized Language: Literate Language Features in Oral Narratives

Stephanie M. Curenton

Society for Research in Child Development, Washington, DC

Laura M. Justice

University of Virginia, Charlottesville

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he preschool years are a critical period for the development of emergent literacy (Teale & Sulzby, 1986). There are several precursors to later reading achievement that are evident during this time, such as letter knowledge, phonological awareness (see Hecht, Burgess, Torgesen, Wagner, & Rashotte, 2000), and advances in oral language (see Snow, Burns, & Griffin, 1998). In the present study, a less-frequently studied aspect

of preschool children's oral language was examined, namely their use of decontextualized discourse in oral narratives. The specific form of decontextualized discourse investigated in this study was preschool children's use of literate language features, which are viewed as key indices of later literacy skill (Westby, 1991).

DECONTEXTUALIZED LANGUAGE

In decontextualized discourse, meaning is conveyed through specific linguistic devices, primarily grammar and vocabulary. This may be contrasted with contextualized discourse, in which meaning is conveyed through extra-linguistic devices (e.g., gesture, intonation, facial expression), contextual cues within the environment, and knowledge shared among discourse participants (Pellegrini, 1985; Scott, 1994; Westby, 1991). Contextualized discourse predominates when there is shared knowledge or context among participants; decontextualized discourse occurs in situations in which shared knowledge or context is unavailable.

Westby (1991, 1994) depicted the language used in the two types of discourse styles as occurring along a continuum. The two extremes use linguistic features that contrast both functionally and structurally. Functionally, contextualized language is used primarily to regulate social interactions of the present and to share information about the "concrete and the practical" (Westby, 1991, p. 337). In contrast, decontextualized language is used to talk about the past or future and to share information about abstract objects, events, and situations that are removed from the

ABSTRACT: Purpose: Low-income preschoolers' use of literate language features in oral narratives across three age groups (3-, 4-, and 5-year-olds) and two ethnic groups (Caucasian and African American) was examined. Method: Sixty-seven preschoolers generated a story using a wordless picture book. The literate language features examined were simple and complex elaborated noun phrases, adverbs, conjunctions, and mental/linguistic verbs. Results: Literate language features occurred at measurable rates for 3- to 5-year-old children. Conjunction use was positively associated with the use of complex elaborated noun phrases and adverbs, and the use of complex and simple elaborated noun phrases was inversely related. There were no differences between African American and Caucasian children's usage rates. Age-related differences were observed in the use of mental/linguistic verbs and conjunctions. Clinical Implications: The importance of supporting decontextualized language skills during the preschool period is discussed.

KEY WORDS: literate language, narration, preschoolers, emergent literacy

immediate context. Structurally, the syntax and vocabulary of decontextualized language requires use of a more precise vocabulary and formal syntactic marking of the temporal and causal nature of events. These decontextualized language features verbally elaborate and render explicit those events or ideas that are displaced from the immediate context. Children presumably acquire much of their decontextualized language through interactions with print (see Wallach & Butler, 1994); however, other types of verbal interactions also may facilitate acquisition, such as listening to sermons, speeches, or oral stories that refer to events in the past or future.

LITERATE LANGUAGE FEATURES

The unique linguistic features that are used in decontextualized discourse situations are collectively referred to as *literate language features*. Literate language features increase explicitness and reduce ambiguity during decontextualized discourse. The four structural indices of language that are most commonly associated with literate language are elaborated noun phrases, adverbs, conjunctions, and mental and linguistic verbs (Greenhalgh & Strong, 2001; Pellegrini, 1985). Collectively, these four structures permit the linguistic rendering of meaning in situations with restricted contexts. Elaborated noun phrases, in which general or specific nouns are modified through the addition of determiners (e.g., articles, possessives, demonstratives, and quantifiers) and/or adjectives, increase the explicitness of character, object, and event descriptions. Simple and compound adverbs (e.g., almost, now, nowhere, often, quickly, right there) enhance the explicitness of time, manner, and place references. Coordinating (e.g., and, or, but, so) and subordinating conjunctions (e.g., because, since, until, when) organize information into causal and temporal sequences to clarify relationships among story elements. Mental and linguistic verbs (e.g., think, know, tell, call) provide explicit and elaborated information about the mental and linguistic processes of story characters.

Facility with decontextualized language has been identified as critical for language, literacy, and academic success (e.g., Dickinson & Snow, 1987; Heath, 1983; Nippold, 1988; Snow et al., 1998). The mastery of literate language features is often associated with academic success because school is an environment that emphasizes flexibility in decontextualized discourse (see Edwards & Mercer, 1986; Gillam, Pena, & Miller, 1999; Greenhalgh & Strong, 2001; Nippold, 1988; Tannen, 1984). Further, children having difficulties with use or comprehension of literate language features are generally viewed as being at risk for problems with literacy and academic achievement (e.g., Gillam & Johnston, 1992; Snow, 1991). Such difficulties may be associated with an oral language impairment influencing acquisition of specific linguistic forms and functions (Gillam & Johnston, 1992), but can also occur when the discourse style of the child's home environment differs dramatically from the discourse of the academic environment. As noted by Michaels (1981), academic

achievement may be particularly challenging for children whose discourse style is "at variance with the teacher's own literate style and expectations" (p. 424).

Despite suggestions in the literature indicating that language skills that are important to literacy development are acquired in early childhood, few studies have examined the use of literate language features by preschool children. The limited research is particularly surprising given the perceived importance of literate language features to academic success and the possibility of using literate language features as an index of competency in oral language and/or literacy.

Preschoolers' Use of Literate Language Features

The preschool period provides an opportunity to investigate decontextualized discourse because of the advancement in mental representation skills within this age group. McGillicuddy-DeLisi and Sigel (1991) suggested that decontextualized language requires children to mentally represent objects and events that are absent from the immediate context. A large body of literature on children's social-cognitive reasoning details developments in mental representation from infancy through preschool, indicating that children become proficient in mentally representing objects and the internal states of people or story characters around age 4 (see Flavell & Miller, 1998, for review). Hence, if comprehension and production of decontextualized discourse requires mastery of mental representation, perhaps age-related changes in the use of literate language features will be evident when studying age groups that have not yet fully mastered mental representation.

For the most part, studies of literate language features in spoken or written discourse have focused on describing the abilities of school-age children (e.g., Heath, 1983; see Tannen, 1984). A recent study by Greenhalgh and Strong (2001) examined age-related differences in the use of literate language features for 104 seven- to ten-year-old Caucasian children, all of whom were native English speakers residing in Utah. These researchers compared the use of literate language features for 52 typically developing children and 52 children exhibiting language impairment (LI). Results revealed that the rate of occurrence for literate language features differentiated children with LI from their typically developing peers, particularly the use of elaborated noun phrases and conjunctions. However, there were no gender- or age-related differences in the use of literate language features. The absence of age-related differences in Greenhalgh and Strong's work raises the question of whether the developmental trajectory of literate language features is evident at earlier ages, before children begin receiving formal instruction in reading and language during elementary school. Perhaps the developmental trajectory for children's acquisition of decontextualized language skills could be explored by examining literate language use in preschool children.

The only known study to have examined preschool children's use of literate language features was conducted

by Pellegrini (1985). Pellegrini studied the relationship between the use of literate language features and symbolic play in 20 Caucasian middle-class preschoolers, hypothesizing that children would employ literate language features in sociodramatic play "to define symbolic transformations so as to avoid and clarify ambiguity" (p. 83). Consistently high correlations (ranging from .62 to .93) were observed between categories of play and children's use of literate language features. The findings indicated that preschool children had the ability to create decontextualized language, and that such features occurred frequently in play-based interactions with peers. Pellegrini and colleagues (Pellegrini, Galda, Bartini, & Charak, 1998; Pellegrini, Galda, Flor, Bartini, & Charak, 1997) subsequently conducted several studies showing that kindergarten children also frequently use literate language features within the context of friendship interactions.

THE PRESENT STUDY

Viewing the use of literate language as a developmental process of emergent literacy suggests that early forms of literate language may be evident during preschoolers' play interactions. The purpose of the present study was to explore and characterize preschool children's use of literate language features to determine if these features were present in the preschoolers' narratives, and to determine whether usage varied as a function of age and/or ethnicity. The research questions included:

- Are literate language features present in preschoolers' oral narratives?
- Are age-related changes evident when examining preschoolers' use of literate language features?
- Are differences in literate language feature use evident when comparing African American and Caucasian children?

Presence of Literate Language Features in Preschoolers' Narratives

The first research question examined the extent to which literate language feature use was evident within the context of preschoolers' oral narratives. Production of a narrative (e.g., a fictional story, event retelling) is viewed as a complex language task requiring integration of the varied domains of language, including grammar, vocabulary, and morphology (McCabe & Rollins, 1994).

Preschoolers show gradual increases in the sophistication of their oral narratives. Their narratives are linguistically (Craig, Washington, & Thompson-Porter, 1998; Shapiro & Hudson, 1991) and social-cognitively more complex (Benson, 1997; Curen-ton, 2004) than the narratives that are characteristic of the toddler years. Given the noted advances in the linguistic and social-cognitive elements of narratives, preschool children's narratives may be useful for reliably and explicitly examining children's narratives for literate language use. Consistent with emergent literacy

theory asserting the preschool years as a critical period for the emergence of literacy precursors (Kaderavek & Sulzby, 2000), it was hypothesized that literate language features would be evident and measurable in the oral narratives of preschoolers.

Age-related Changes in the Use of Literate Language Features

The second research question investigated age-related changes in preschool children's use of the four literate language features studied. It was anticipated that higher rates of use would be observed in older children's narratives. This expectation was garnered by the considerable research base showing gradual but consistent growth over the preschool years for each of the four structural indices under consideration: elaborated noun phrases (Brown, 1973; de Villiers & de Villiers, 1973; Gathercole, 1985; Miller, 1981), adverbs (Bowerman, 1978; Nippold, 1988), conjunctions (Brown, 1973; French & Nelson, 1985; Peterson & McCabe, 1987), and mental and linguistic verbs (Bartsch & Wellman, 1995; Moore, Furrow, Chiasson, & Patriquin, 1994). Of the four features studied, it was anticipated that rate of conjunction use would be most discriminating in terms of age-related changes. Recent studies, such as works by McGregor (2000) and Shapiro and Hudson (1991), have shown conjunction use to be a particularly sensitive index of increasing language proficiency. For instance, McGregor found that 4- and 5-year-old low-income, African American children were more likely than 3-year-old children to use temporal conjunctions. Segal and Duchan (1997) argued that conjunctions are particularly important features of literate language because conjunctions allow the listener to determine meaning from the text, particularly causal and temporal relationships. As preschoolers mature, they become better at understanding the causal and temporal structuring of narratives; hence, older children were expected to be more likely than younger children to use conjunctions in their narratives (McGregor, 2000).

Comparison of African American and Caucasian Preschoolers

The third question compared literate language features for African American and Caucasian preschoolers. Analyses of children's oral narratives are increasingly being advocated as one of the most valid and culturally sensitive means for examining children's language use (Stockman, 1996), particularly for children whose culture or dialect may differ from that of the mainstream. The comparison of African American and Caucasian children's use of literate language features was motivated by three salient issues in the literature: (a) the need for more information on the language and literacy ability of African American children, (b) variations in the literacy socialization practices of African American and Caucasian cultures, and (c) differences in African American and Caucasian children's narrative skills.

Need for more information concerning the language and literacy of African American children. When

summarizing her 1970's work on the language and literacy socialization practices of southern communities, Heath (1994) proclaimed, "We have [little] information about the variety of ways children from non-mainstream homes learn about reading, writing, and using oral language to display knowledge in the preschool environment" (p. 98). Craig and her colleagues (Craig et al., 1998) echoed Heath's sentiment: "Very little information is available concerning the language and development of the African American child" (p. 433). Although a number of recent studies have focused attention on the oral language and literacy achievements of African American children (e.g., Bradford & Harris, 2003; Craig, Connor, & Washington, 2003), no study has documented the emergence of literate language features in this population. The present study contributes to the small, yet growing, body of research on low-income, African American children's language and literacy development by providing information about the link between oral narrative skills and literacy-related language skills.

Poverty is a well-known risk factor exerting considerable influence on literacy achievement, regardless of ethnicity (e.g., Lonigan et al., 1999). However, African American children are particularly vulnerable for difficulties in early and later literacy achievement because of both the disproportionate number of African Americans in poverty and the distinct language and literacy socialization practices of African Americans (see Craig et al., 2003). Therefore, studies examining developmental skills in samples of ethnically diverse low-income children are needed in order to discern which risks (or resiliencies) are related to poverty and which are related to sociocultural customs. The validity of cross-cultural comparisons of children's literacy abilities has often been questioned because ethnicity has frequently been confounded by poverty status for African American children. In the present study, so as to avoid confounding ethnicity and socioeconomic status, all participants were sampled from preschools serving low-income families. Thus, in terms of socioeconomic status and educational participation, all children were similar.

Variations in sociocultural practices. The second motivating factor for the comparison of African American and Caucasian children was the opportunity to examine literate language features in two groups with reportedly distinct literacy socialization practices. Literacy socialization practices are important to consider when examining children's skills because families' literacy practices predict children's oral and written language skills (Payne, Whitehurst, & Angell, 1994; Senechal, LeFevre, Thomas, & Daley, 1998). Furthermore, it has been well established that children's oral narratives reflect individual differences associated with sociocultural beliefs and practices (see Gutierrez-Clellen & Quinn, 1993). Linguistic, thematic, and stylistic features of children's narratives are influenced by sociocultural factors, such as the frequency and style of narratives heard within children's cultural communities and the frequency and style of verbal and nonverbal narrative scaffolding used by adults (Berman, 1995; John-Steiner & Panofsky, 1992; Payne et al., 1994; Senechal et al., 1998). In addition, the amount of decontextualized language that

parents use has been associated with the amount of decontextualized language that children produce (Peterson & McCabe, 1994).

Research has demonstrated variations between African Americans and Caucasians in terms of literacy socialization. Heath's (1994) ethnographic depiction of two working-class communities, one African American and one Caucasian, suggested that these two groups had distinct methods for socializing preschoolers' literacy skills. The Caucasian preschoolers, according to Heath, acquired literacy skills through adults' intentional coaching using storybooks and alphabet letters. In contrast, the African American preschoolers acquired literacy skills indirectly and implicitly through their participation in narrative talk. For instance, both Heath and Sperry and Sperry (1996) reported that African American children were often encouraged to tell, and praised for telling, oral stories. Nevertheless, Heath reported that neither African American nor Caucasian adults encouraged decontextualized language skills in children.

Heath's (1994) work examined spontaneous, unstructured interactions between parents and their children, but similar sociocultural variations have been found for other structured literacy interactions as well. Anderson-Yockel and Haynes (1994) examined joint book-reading interactions for 20 working-class African American and Caucasian mother-toddler dyads. They found that Caucasian mothers asked more *What* questions and *Yes/No* questions during storybook reading relative to African American mothers. Caucasian children produced more responses to questions, whereas African American children produced more spontaneous vocalizations during the interaction. Similar findings have been reported by Scheffner Hammer (2001) and Washington and Craig (2002).

Differences in narrative skills. Sociocultural differences in the early literacy experiences of African American and Caucasian preschoolers may contribute to differences between African American and Caucasian children's narrative skills. Bliss, Covington, and McCabe (1999) explained that African American children's narratives typically contain more descriptions and subjective evaluations of events, whereas Caucasian children's narratives contain more factual and objective statements. Michaels (1981) reported that African American children were more likely to produce topic-associating narratives, whereas Caucasian children were more likely to produce topic-centered narratives. *Topic-associating* narratives are stories in which a series of loosely related episodes containing multiple shifts in temporal, locative, and character references are woven around a single theme. In contrast, *topic-centered* narratives are ordered chronologically and contain a single episode. Hyon and Sulzby's (1994) work examining African American children's narratives supported Michael's findings, but it also highlighted the within-group variation among African American kindergartners' narrative skills. For instance, Hyon and Sulzby reported that 33% of the narratives that children told were classified as topic-associating and 58% were topic-centered.

Much of the literature regarding African American children's narrative skills pertains to children's narrative

structure (i.e., narrative style); however, this study examined children's narratives for linguistic features. Despite the differences in narrative style, African American and Caucasian children may be more similar in terms of the linguistic properties of their narratives because syntactic features of language are less likely to be affected by sociocultural factors. Whitehurst (1997) explained that syntactic abilities reflect the neurological structures underlying human language acquisition, and findings from his research with ethnically diverse Head Start children demonstrated that syntactic measures were less affected by poverty than other aspects of language development, such as vocabulary. Similarly, Craig and Washington (1994) found that the low-income African American preschool children in their sample who spoke African American English vernacular used complex syntax skills. Furthermore, African American children's syntactic complexity was the best predictor of children's utterance length (Craig et al., 1998).

Thus, it appears that socialization practices may be a stronger influence on children's narrative style than on the syntactic structure of their narratives. Therefore, it is not clear whether sociocultural differences may influence African American and Caucasian children's use of literate language features. This study compared usage rates of literate language features for African American and Caucasian children to determine if early decontextualized language skills differed for children from diverse sociocultural backgrounds. Because there has been no prior work comparing the literate language features of African American and Caucasian preschoolers, no *a priori* hypothesis was advanced.

Clinical and Theoretical Significance

Researchers and clinicians in speech-language pathology and related disciplines are interested in understanding the developmental pathways associated with successful language and literacy achievement and in applying this understanding to the design and delivery of prevention and intervention models. Given the integrative links between literate language and literacy achievement, characterizing developmental trajectories is worthwhile both theoretically and clinically. Studying the emergence of literate language will refine current theoretical models of oral language and literacy achievement, which has implications for understanding risk and resiliency in language and literacy development. In terms of clinical practice, the characterization of emergent literate language will provide descriptive-developmental indicators, which may be used for interventions and comparisons between typically and atypically developing populations (Naremore, 1980; Paul, 2001).

METHOD

Participants

Seventy-two children from a small southern city were recruited via letter and parent meetings to participate in a larger study of preschool children's narrative and

social-cognitive skills. Children were recruited from six Head Start classrooms, two preschools designed to serve low-income children (viz., the Salvation Army and a local preschool that has historically served urban African American children), a preschool classroom at the YMCA, and several private preschools. Those children attending private preschools received income-based child care subsidies from Temporary Aid for Needy Families. Forty-six percent of the children attended Head Start and 54% attended private or other preschool programs. All of the children were from lower socioeconomic status homes as determined by community demographics and low-income preschool eligibility.

The Language and Cognition subscale of the Early Screening Inventory-Revised (ESI-R; Meisels, Marsden, Wiske, & Henderson, 1997) was administered to each child to broadly examine language and cognitive skills. There are two age-normed versions of the ESI-R—the ESI-Kindergarten (ESI-K) and the ESI-Preschool (ESI-P). The subscale contains four content areas—number concepts, verbal expression, verbal reasoning, and auditory sequential memory. Children's performance on the subscale was not used for screening or classification purposes; it was used merely to provide information regarding whether children's language and cognitive skills were generally comparable to those of their typically developing age-matched peers. Children's performance on the items was compared with the performance of children from the norming sample. With the exception of 2 African American children (mean age = 47 months; 1 male, 1 female), each child received a score on the ESI-R that was within 1 *SD* of the score for his or her chronological age. Because the purpose of this work was to examine literate language features in typically developing children, those with low scores were excluded. Additionally, 3 African American children (mean age = 45 months; 1 female, 2 males) who did not produce an oral narrative using the narrative task were excluded from participation.

The remaining sample consisted of 67 preschoolers. There were twenty-two 3-year-olds ($M = 43$ months, $SD = 3.39$, range 36–47), twenty-one 4-year-olds ($M = 53$ months, $SD = 2.72$, range 49–58), and twenty-four 5-year-olds ($M = 63$ months, $SD = 2.60$, range 60–69). There were more females ($n = 38$) than males ($n = 29$), and there were fewer African Americans ($n = 31$) than Caucasians ($n = 36$). Table 1 depicts the participants' mean age by race, age group, and gender.

General Procedures

Schedule and setting. The narratives analyzed in the present study were collected during two waves of data collection spanning approximately 1 year. The procedures used for collecting narrative samples were identical for all participants; however, the total number of tasks and testing sessions varied across the two waves. During the first wave, 36 children were tested in two 20- to 30-min sessions per child. The time between sessions ranged from 1 to 3 weeks. One of three trained female undergraduate psychology students tested children individually at a table

Table 1. Mean age of participants by race, age group, and gender ($N = 67$).

Age group (n)	Gender (n)	Mean age in months (SD)
African American		
3-year-old (10)	Male (4)	45.30 (1.50)
	Female (6)	43.17 (4.54)
4-year-old (9)	Male (2)	52.00 (0.0)
	Female (7)	52.43 (3.05)
5-year-old (12)	Male (7)	62.58 (1.40)
	Female (5)	62.60 (3.78)
Caucasian		
3-year-old (12)	Male (4)	43.75 (1.50)
	Female (8)	42.00 (3.70)
4-year-old (12)	Male (6)	54.33 (1.75)
	Female (6)	52.33 (3.45)
5-year-old (12)	Male (6)	63.17 (2.32)
	Female (6)	64.50 (3.02)

in a quiet area within the preschool center. The first session included administration of the ESI-R as well as several social-cognitive measures; the second session included administration of additional social-cognitive measures followed by collection of an oral narrative. During the second wave, an additional 36 children were tested in a single 30- to 40-min session. Again, the examiner tested children individually at a table in a quiet area within the preschool center. This session included administration of the ESI-R and several social-cognitive measures followed by collection of an oral narrative. The social-cognitive measures administered to participants in both waves consisted of emotional and social perspective-taking tasks, such as false belief tasks and emotion explanation tasks. Only the results for the ESI-R and analyses of the oral narratives were used in the present study. Children's completion of these tasks before collection of the oral narrative may have helped to create a familiarity between the children and the examiner, thus increasing the likelihood of obtaining a representative sample.

Narrative collection procedures. The examiner presented the child with the wordless picture book, *Frog, Where Are You?* (Mayer, 1969). Procedures for collecting the spoken narratives were modeled after a protocol that was described in Shapiro and Hudson (1991), in which children are asked to view the entire book before generating their story. The sequenced illustrations of the book provide a map for developing and structuring a self-generated fictional narrative. Without sequenced illustrations, preschoolers produce short and unelaborated stories (Kaderavek & Sulzby, 2000; Shapiro & Hudson, 1991). *Frog, Where Are You?* has frequently been used as a stimulus for eliciting narratives from children throughout the world (see Berman & Slobin, 1994), and has been used in prior research assessing literate language features (Greenhalgh & Strong, 2001).

In eliciting the spoken narrative, the examiner instructed the child, "Now I want you to tell me a story. Here is my special storytelling book. This book has lots of pictures, but it doesn't have any words. Take a look at all the

pictures in my book." The examiner then showed the children the entire book by pointing out each illustration. If a child looked away from the book at any point, the examiner said, "Look at this page" to refocus the child's attention to the book. The child was then asked to produce a narrative using the book. The instructions were as follows: "Tell me a make-believe story using the pictures in this book. You can make up a story about anything you want. Use the pictures in this book to tell me a story." If children were hesitant during the narrative production task, the experimenter provided story-eliciting prompts as needed, such as "Tell me about this page" and "What about this page?" Children's narratives were audiotaped using a traditional full-size Panasonic cassette recorder.

Narrative Transcription and Coding

Transcription. Trained research assistants transcribed each narrative interaction verbatim. Transcription included all child and experimenter utterances. The interactions were transcribed orthographically using the conventions of the Children's Data Exchange System (CHILDES; MacWhinney, 1994). A second psychology student research assistant then independently reviewed each transcript while listening to the audiotaped interaction, at which point corrections were made to the transcript when discrepancies were observed. After the typed transcripts were verified for accuracy, the first author reviewed and modified each transcript based on a set of deletion rules (see Appendix A).

Segmentation. The transcripts were then segmented into communication units (C-units; Loban, 1976). C-unit segmentation is a common way to organize and analyze children's narrative productions (see Retherford, 2000). A C-unit consists of a single main clause and any dependent constituents, including clauses and phrases. Hence, children's utterances lacking clausal structure or a finite verb were omitted. Children's sentences comprising a series of successive main clauses, linked by coordinating or subordinating conjunctions, were thus segmented accordingly. For instance, "and the boy who was in the water

yelling and he slide down the water" was segmented into two C-units: (a) "and the boy who was in the water yelling," and (b) "and he slide down the water." Descriptive indices for each narrative were calculated by Child Language Analysis (CLAN; MacWhinney, 1994), including the total number of C-units per narrative and the mean length of C-units in morphemes (MLCU).

Coding literate language features. The frequency of occurrence for children's use of five mutually exclusive literate language features was coded for each narrative. Four main categories were adopted from Greenhalgh and Strong (2001) and included: (a) elaborated noun phrases (ENP), (b) adverbs, (c) conjunctions, and (d) mental and linguistic verbs. Elaborated noun phrases were divided into two exhaustive categories of simple versus complex phrases. As a result, five types of literate language features were analyzed—simple ENP, complex ENP, adverbs, conjunctions, and mental and linguistic verbs. Appendix B provides further description and examples for each. To control for variation in narrative length, frequency counts for all literate language features were tallied and then divided by the number of C-units in each child's narrative. Thus, scores for use of a particular literate language feature represented mean rate of usage per C-unit.

Coding of two of the categories, conjunctions and mental and linguistic verbs, was conducted using CLAN. Computer coding was possible for these categories because of the relatively small number of units comprising each category. A computer file listing all possible conjunctions and mental/linguistic verbs that could be observed in children's narratives was created, drawing from compendia provided in Justice and Ezell (2002) for conjunctions and Pellegrini et al. (1997) for mental and linguistic verbs. The computer program conducted a frequency count of both conjunctions and mental and linguistic verbs for each transcript.

The second author coded simple and complex ENP and adverbs by hand. This was necessary because the possible permutations of items comprising each of these two categories are expansive. In addition, hand coding controlled for the occurrence of functional differences across words of the same form (e.g., *here* and *there* can serve as demonstrative pronouns or adverbs depending on their function in a particular clause).

Interrater Reliability

To assess the reliability of narrative deletion, segmentation, and coding procedures, two trained coders independently followed the procedures for a subset (25%) of the total narratives that were used in the analyses. Item-by-item comparisons were made to determine scoring agreement. To obtain an interrater agreement score, the total number of agreements was divided by the total number of item comparisons and multiplied by 100. Interrater reliability was 98% (ranging from 94% to 100%) for deletion procedures and 99% (ranging from 96% to 100%) for segmentation. As for the literate language features coded by hand, the mean reliability score for ENP coding was 98% (ranging from 94% to 100%). Categorizing of ENP into

simple versus complex phrases was conducted with 99% agreement (ranging from 96% to 100%). The score for adverbs was 92% (ranging from 50% to 100%). Although the mean interrater reliability score for adverbs was high, the range contained a low score of 50%, which occurred for a transcript that contained only two adverbs, in which a single disagreement resulted in a reliability score of 50%. Overall, the coders agreed on 33 of 36 adverbs that occurred across the 17 narratives used for reliability procedures. Any disagreements were resolved through discussion before data analysis.

RESULTS

Preliminary analyses of variance (ANOVAs) revealed no differences between boys and girls for either of the two descriptive characteristics of the narratives. Specifically, there was no significant effect for MLCU, $F(1, 66) = .17$, $p = .68$, or number of C-units, $F(1, 66) = .08$, $p = .78$. Similarly, there was no gender effect for any of the five literate language features: simple ENP, $F(1, 66) = 3.02$, $p = .09$; complex ENP, $F(1, 66) = 1.61$, $p = .21$; adverbs, $F(1, 66) = 2.63$, $p = .11$; conjunctions, $F(1, 66) = .01$, $p = .91$; or mental/linguistic verbs, $F(1, 66) = .84$, $p = .36$. Therefore, gender was not included as an independent variable in any further analyses.

Descriptive Characteristics of Narratives

The descriptive characteristics of children's narratives (i.e., MLCU and number of C-units) were examined using a Race (African American vs. Caucasian) \times Age (3-, 4-, 5-year-olds) multivariate analysis of variance (MANOVA). Results revealed no multivariate effect for Race, indicating that the narratives of African American and Caucasian children were equivalent in terms of number of C-units and MLCU.

There was, however, a multivariate main effect for Age, Wilk's $\lambda = .79$, $F(4, 120) = 3.73$, $p = .01$, $\eta^2 = .11$, in which Age accounted for 11% of the variance. To control for Type I error, a traditional Bonferroni procedure was used to test each ANOVA at the .025 level. The ANOVA for number of C-units (i.e., length of narratives) revealed a difference between age groups, $F(2, 61) = 4.37$, $p = .02$. Tukey multiple comparisons indicated that 3-year-old children ($M = 18.27$, $SD = 10.89$) had significantly fewer C-units than 5-year-old children ($M = 26.75$, $SD = 10.07$), whereas 4-year-old children ($M = 25$, $SD = 9.86$) did not differ significantly from either group. The ANOVA for MLCU revealed that C-unit length varied by age, $F(2, 61) = 6.82$, $p < .001$. Results of the Tukey multiple comparisons showed that the mean length of C-units for 3-year-old children ($M = 4.79$, $SD = 1.20$), 4-year-old children ($M = 5.77$, $SD = 1.22$), and 5-year-old children ($M = 6.05$, $SD = 1.10$) were all significantly different from each other.

Age-related changes in narrative length were anticipated based on the extant literature (e.g., Gutierrez-Clellen & Hofstetter, 1994). To control for the differences in narrative

length, all of the following analyses for feature use were based on rate of occurrence.

Literate Language Features

The primary purpose of this study was to examine literate language features in low-income preschoolers' oral narratives. Table 2 shows the mean rate of usage and interclass correlations for the features. The correlations show that the rate of conjunction use was correlated with usage rates for complex ENP ($r^2 = .06$) and adverbs ($r^2 = .08$), and that complex ENP use was negatively associated with use of simple ENP ($r^2 = .06$). The r^2 statistic indicates a small effect size for these associations (Rosnow & Rosenthal, 1996). None of the other literate language features were significantly correlated.

The mean rates of usage showed that preschoolers incorporated each of the five features into their oral narratives. The highest usage rate occurred for simple ENP, averaging nearly one per C-unit ($M = .85$, $SD = .34$). Conjunctions averaged approximately one per two C-units ($M = .49$, $SD = .41$), and adverbs averaged approximately one per three C-units ($M = .29$, $SD = .22$). Mental and linguistic verbs ($M = .10$, $SD = .10$) averaged approximately one per ten C-units. The lowest rate of occurrence was for complex ENP ($M = .07$, $SD = .10$), averaging less than one per ten C-units.

A within-subjects repeated measures ANOVA was used to examine the usage rates across the features. Results indicated that the usage rates were distinct, $F(4, 264) =$

104.02, $p < .001$, $\eta^2 = .61$, and accounted for 61% of the variance. Follow-up paired-samples t tests were conducted using the Holm's sequential Bonferroni procedure to control for Type I error across the comparisons. The usage rate for nearly all of the features was distinct except for the comparison between the rate of mental and linguistic verbs and complex ENP. Children used mental and linguistic verbs and complex ENP at the same rate, whereas the other features were used at significantly different rates. Table 3 lists the t values for the pairwise comparisons.

Two-way, between-subjects ANOVAs were conducted to determine the effect of Race and Age on the usage rate for each specific feature. Results revealed no Race or Age effects for simple ENP, complex ENP, or adverbs. Likewise, there were no Race effects for children's use of conjunctions or mental and linguistic verbs. There was, however, a main effect for Age for children's use of conjunctions, $F(2, 61) = 5.15$, $p = .01$, $\eta^2 = .15$. Tukey multiple comparisons indicated that 3-year-olds had a lower rate of conjunction use as compared to 4- and 5-year-olds. Additionally, there was an Age effect for mental and linguistic verbs, $F(2, 61) = 3.13$, $p = .05$, $\eta^2 = .09$. Tukey multiple comparisons indicated that 3-year-olds used mental and linguistic verbs less frequently than 5-year-olds, but 4-year-olds were not significantly different from either group. Tables 4 and 5 list the means and standard deviations of each feature by ethnicity and age, respectively.

A narrative example from each age cohort is presented in Appendix C. These narratives were chosen because they

Table 2. Descriptive statistics and correlations for literate language features.

Feature	1	2	3	4	5
Simple elaborated noun phrases	—				
Complex elaborated noun phrases	-.24*	—			
Adverbs	.05	-.08	—		
Conjunctions	.03	.24*	.27**	—	
Mental and linguistic verbs	-.08	-.07	-.17	.11	—

** $p = .03$, * $p = .05$

Table 3. Pairwise comparison t values for literate language features.

Comparison	t value	df	p value
Simple ENP vs. complex ENP	17.17	66	<.001
Simple ENP vs. conjunctions	-5.56	66	<.001
Simple ENP vs. adverbs	-11.68	66	<.001
Simple ENP vs. mental and linguistic verbs	-17.18	66	<.001
Complex ENP vs. conjunctions	8.97	66	<.001
Complex ENP vs. adverbs	7.27	66	<.001
Complex ENP vs. mental and linguistic verbs	1.67	66	.10
Conjunctions vs. adverbs	4.09	66	<.001
Conjunctions vs. mental and linguistic verbs	7.89	66	<.001
Adverbs vs. mental and linguistic verbs	-6.08	66	<.001

Note. ENP = elaborated noun phrase.

Table 4. Mean rate (and standard deviation) of literate language feature use by ethnicity.

Feature	African American (n = 31)	Caucasian (n = 36)
Simple elaborated noun phrases	.80 (.32)	.88 (.34)
Complex elaborated noun phrases	.08 (.13)	.06 (.07)
Adverbs	.28 (.27)	.30 (.17)
Conjunctions	.42 (.38)	.55 (.42)
Mental and linguistic verbs	.11 (.11)	.09 (.10)

Note. None of the rates for the two groups are significantly different.

Table 5. Mean rate (and standard deviation) of literate language feature by age.

Feature	3-year-olds (n = 22)	4-year-olds (n = 21)	5-year-olds (n = 24)
Simple elaborated noun phrases	.73 (.36)	.86 (.22)	.93 (.36)
Complex elaborated noun phrases	.06 (.10)	.08 (.12)	.07 (.08)
Adverbs	.31 (.31)	.27 (.17)	.28 (.15)
Conjunctions**	.28 (.30) ^A	.58 (.45) ^B	.61 (.39) ^B
Mental and linguistic verbs*	.06 (.12) ^C	.11 (.07)	.13 (.09) ^D

Note. A < B and C < D

** $p = .01$, * $p = .05$

approximate the average usage for each age group in terms of conjunctions and mental and linguistic verbs, which were the two features that distinguished between the age groups. Each example has been presented in a narrative format, rather than in C-units, and has been edited for punctuation in order to facilitate narrative cohesion. The conjunction rate for the 3-year-old children was .27 and the rate of the mental and linguistic verbs was .00. For the 4-year-old children, the conjunction rate was .68 and .12 for mental and linguistic verbs. For the 5-year-old children, the rates were .70 and .10, respectively. These examples not only demonstrate quantitative differences in storytelling skills but also qualitative differences.

DISCUSSION

The results of this study demonstrated that literate language features were present in preschool children's narratives, and that the usage rate for two specific features varied significantly across the age groups. For instance, the oral narratives of 3-year-old children contained fewer conjunctions than the oral narratives of 4- or 5-year-old children. Additionally, the narratives of 3-year-olds contained fewer mental and linguistic verbs than those of 5-year-olds. The usage rate of other measures of literate language (viz., simple and complex ENP, adverbs) did not vary across the age groups. The results of the cross-cultural investigation showed no difference between African American and Caucasian preschoolers for narrative characteristics (i.e., number of C-units and MLCU) or literate language features.

Presence of Literate Language Features

The present research examined the associations among literate language features during the preschool years. Results indicated that most of the measures of literate language features that were employed in this study were distinct entities, but there were positive associations between children's conjunction and adverb use and their use of conjunctions and complex ENPs. The most frequently used literate language feature was the simple ENP, followed by conjunctions, adverbs, mental and linguistic verbs, and finally complex ENP. This pattern of usage was consistent for every age studied and was similar for both Caucasian and African American children. The finding that preschool children, even those as young as 3 years of age, use literate language features in their oral narratives suggests that the foundation for decontextualized language skill emerges during the preschool years.

Age-Related Changes in Feature Use

Of interest were the findings showing conjunctions and mental and linguistic verbs to be indicators of age-related changes in children's use of literate language features. With respect to conjunction use, the findings contribute to an emerging body of literature suggesting that conjunction use is a key feature of oral language skills. Greenhalgh and Strong (2001) found that conjunctions were one of the two most robust literate language features for differentiating school-age children with language impairment (LI) from their typically developing peers; children who were typically developing used more conjunctions than children with LI. McGregor (2000) found that low-income 4- and

5-year-old African American children used a greater number of temporal conjunctions as compared to 3-year-old children. The present findings provide converging evidence by further demonstrating the sensitivity of conjunction use for demonstrating age-related changes in preschool children's oral narratives.

These results also contribute to the body of work pertaining to children's use of cognitive-based mental state terms (e.g., know, think, forgot). The present findings mirror those of other studies that have found children's use of cognitive-based mental state terms to increase throughout the preschool years (Bartsch & Wellman, 1995; Moore et al., 1994). However, few studies have examined how children's use of linguistic verbs increases throughout preschool. Tager-Flusberg (1997) argued that both mental and linguistic verbs are particularly important markers of syntactic complexity because they allow one clause to be embedded within another (e.g., "He said, 'I want my frog,'" in which *said* [a linguistic verb] and *want* [a mental verb] provide the means for clausal embedding). Mastery of this level of syntactic complexity, referred to as complementation, demonstrates that children are able to understand the internal psychological states of story characters (see Tager-Flusberg [1997] and de Villiers & Pyers [1997] for an explanation of mental and linguistic verbs in relation to children's theory of mind). The present findings suggest that children's use of mental and linguistic verbs serves as age-related markers of literate language during the preschool years.

Comparison of African American and Caucasian Preschoolers

The results of this study revealed no significant differences in African American and Caucasian preschool children's use of literate language features. This null result may be because the children were from similar socioeconomic backgrounds and education environments. All children were experiencing the same risk factors associated with poverty, and these socioeconomic risk factors may have been more robust than ethnic differences. Additionally, ethnic differences may have been muted because of children's exposure to early care and education experiences. Several studies have indicated that African American children experience greater benefits from early care and education environments than their Caucasian counterparts (Burchinal, Campbell, Bryant, Wasik, & Ramey, 1997; Burchinal et al., 2000; Wu & Campbell, 1996).

Yet another explanation for the null result may be that the language task used was particularly amenable to capitalizing on the skills of all participants. Narrative assessment is viewed as an ecologically valid yet sensitive index of oral language proficiency (e.g., Craig et al., 1998). Research examining narrative production has found that low-income African American children perform according to age-appropriate norms on narrative measures (Craig & Washington, 1994; Craig et al., 1998). In fact, prior literature indicates that African American children may have a special talent for creating oral stories. They begin to tell fictional narratives sooner than their Caucasian,

middle-class counterparts (see Sperry & Sperry, 1996), and their narrative abilities are associated with their social perspective-taking abilities, whereas Caucasian preschoolers' narratives are not (Curenton, 2004). Thus, when given the opportunity to demonstrate their language proficiency via narratives, African American children may perform better than they would have on standardized tests.

Although several studies have observed differences between African American and Caucasian mothers' use of decontextualized talk during joint book reading (Anderson-Yockel & Haynes, 1994; Scheffner Hammer, 2001), Heath (1994) reported that neither ethnic group encouraged decontextualized talk. Based on the results of the present study, one could assume that the African American and Caucasian children in this sample did not experience a difference in exposure to decontextualized language. However, the extent to which the children actually experienced distinct sociocultural practices was not documented because children's socialization experiences were not examined. Research examining children's literate language use in conjunction with observational or self-reported measures of literacy socialization is needed to determine how the emergence of literate language may be linked to children's sociocultural experiences in their homes and communities.

Comparison of literate language features across children from diverse sociocultural backgrounds may provide some insights into the variance and invariance of the development of particular literacy skills. Presumably, skills that are highly variant are fostered by specific types of sociocultural experiences, whereas those that are invariant are not. Preschool children's alphabet knowledge, which is a highly variant skill (Justice & Ezell, 2001), is predicted by the quantity and quality of home literacy experiences (Bennett, Weigel, & Martin, 2002). On the other hand, many oral language accomplishments are relatively invariant across children. Whitehurst (1997) reported a number of studies showing specific syntactic accomplishments to be invariant when comparing low-income preschoolers from culturally diverse backgrounds. Thus, the present findings suggest that use of literate language features may be an invariant aspect of literacy development, at least from a sociocultural perspective. The developmental findings reported in this manuscript may be useful for future research to identify the causes of risk and resilience in literacy achievement from children from diverse sociocultural backgrounds. Because our moderately sized sample consisted only of low-income children, all of whom were currently attending local preschool programs, these results may not be representative of more affluent children or low-income children who are not attending preschool.

CLINICAL AND PRACTICAL IMPLICATIONS

Decontextualized language ability is reported to be critical for academic success and an important marker of conventional literacy ability (Pellegrini, 1985; Scott, 1994; Westby, 1991). The observation that the preschool years

serve as a foundation for decontextualized language ability contributes to the growing research base demonstrating young children's remarkable prowess with respect to literacy (e.g., Dickinson & DeTemple, 1998; Dickinson & Snow, 1987; Justice & Ezell, 2001).

The present findings may be applied to a descriptive-developmental model of preschool language intervention to promote decontextualized language skills in the earliest stage of development for children who may have difficulty in the comprehension or use of decontextualized language. Application of this model (e.g., Paul, 2001) involves deriving goals for children from the normal developmental sequence. The results of the present study are particularly relevant for children from low-income households, a population that appears particularly vulnerable for difficulties in literacy development (Justice & Ezell, 2001). Children who do not appear to be using literate language features at the rates described in this report may receive targeted assistance to support their use of these features. By promoting literate language use in the earliest stages of development, speech-language pathologists may prevent later difficulties from occurring.

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Contact author: Stephanie Curenton, 8715 First Avenue #310-D, Silver Spring, MD 20910. E-mail: smcurenton@rcn.com

APPENDIX A. DELETION RULES

Transcripts were modified to include only child utterances that were directly relevant to the story. All irrelevant remarks were deleted.

1. Utterances that were responses to experimenter questions or requests for elaboration/clarification were excluded, except for those statements that were responses to the standard probes. For example:

Child: I like froggy.
 EXP: Hmm?
 Child: I like froggy.
2. False starts and retraces were deleted.

Child: ~~The boy~~ I mean the dog is trying to find the frog.
3. Filler words (e.g., hmm, uh-huh, huh) were deleted when they were the only words in the utterance.
4. Unintelligible utterances were deleted.
5. Denials ("I don't know") and refusals to read were deleted.
6. Children's questions and discussion about task procedures (e.g., "Do you want me to read this page?") were deleted.

APPENDIX B. DESCRIPTIONS AND EXAMPLES OF LITERATE LANGUAGE FEATURES

(see Greenhalgh & Strong, 2001; Justice & Ezell, 2002; Pelligrini, Galda, Bartini, & Charak, 1998)

- 1. Elaborated Noun Phrases (Simple and Complex):** An elaborated noun phrase is a group of words comprising a noun at its head and one or more modifiers providing additional information about the noun. Modifiers may include articles (e.g., a, an, the), possessives (e.g., my, his, their), demonstratives (e.g., this, that, those), quantifiers (e.g., every, each, some), wh-words (e.g., what, which, whichever), and true adjectives (e.g., tall, long, ugly).
 - a. Simple elaborated noun phrase:** Simple phrases consist of a single modifier and a noun. Examples include *big doggy* (adjective + noun), *that girl* (determiner + noun), and *those ones* (demonstrative + noun).
 - b. Complex elaborated noun phrase:** Complex phrases consist of two or more modifiers and a noun. Examples include *big red house* (adjective + adjective + noun), *a tall tree* (article + adjective + noun), and *some mean boys* (quantifier + adjective + noun).
- 2. Adverbs:** Adverbs are a particular syntactic form that are used to modify verbs. These modifiers increase the explicitness of action and event descriptions. Adverbs provide additional information about time (e.g., suddenly, again, now), manner (e.g., somehow, well, slowly), degree (e.g., almost, barely, much), place (here, outside, above), reason (therefore, since, so), and affirmation or negation (e.g., definitely, really, never).
- 3. Conjunctions:** Conjunctions are used in discourse to organize information and clarify relationships among elements. They can be categorized as either coordinating or subordinating. Coordinating conjunctions include *and, for, or, yet, but, nor, and so*. Subordinating conjunctions are more numerous and include the following examples: *after, although, as, because, for, if, how, since, still, that, though, unless, when, where, while, and why*.
- 4. Mental and Linguistic Verbs:** This relatively small group of verbs refers to various acts of thinking and speaking. Mental verbs include *think, know, believe, imagine, feel, consider, suppose, decide, forget, and remember*. Linguistic verbs include *say, tell, speak, shout, answer, call, reply, and yell*.

APPENDIX C. EXAMPLES OF NARRATIVES

3-year-old

It looks like a animal. It looks like a frog. It is a frog! And here's a little . . . [trails off].

And the dog looking in the water. Him playing in the sand. The dog's playing in the sand. Look at the reindeer. It's done. Look. This page's the dog's on the man's shoulder. And the dog's running around like the man.

4-year-old

A frog was in there, and the dog was looking in there, and the little boy was looking. The frog got out when he was sleep. He saw them when he got out. He didn't see where he was at. He was lost. He was mean to the dog. He hollered at the frog. And that was the mouse. He—and the dog—he up the tree. And the mouse hurt his nose. He was gonna climb up that tree from the bees. And the little boy was going in there, and the dog was running. And he fell. The frog, he climbed the rock. He climbed on the rock and thought that the frog was there. So that reindeer go on him. And he's going to fall down off the reindeer. And they got in the water, and he was mad. He got up there to see the frog. They have baby frogs. And he said, "Bye."

5-year-old

Once upon a time there was a boy who was...had a dog and a frog. He was showing it. And the frog was looking at it. And he went asleep. And the frog came out. And he wake up, and there no frog in there. He wasn't there. He drop it, and he got mad. He said, "Bumpy, Bumpy, where are you?" He probably up in the beehive. But he's not. He's probably up. But he dropped—they really drop the beehive. And they gonna fix the steamed dog. He's looking there. And there's a owl that's chasing after the dog bees. And he called, "Willy, where are you?" and "Where did you go?" There was a moose. And he knocked him down in the pond. And where is froggy? He's probably there. He look. He said, "Ssh." And he found them, "My babies!" and "Come everybody let's go home." The end.