LSHSS

Clinical Forum

Cultural Knowledge in African American Children

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Hirsch (1988) defined cultural knowledge (i.e., knowing the culture one lives in) as a shared "network of information that all competent readers possess" (p. 2). Books, newspapers, and magazines are written for the common reader, whom Hirsch defined as "a person who knows the things known by other literate persons in the culture" (p. 13). Cultural knowledge is synonymous with cultural literacy, background knowledge, or general knowledge, which is necessary for contextualizing information, making relevant associations, and adequate comprehension. For Hirsch and his proponents, cultural knowledge embodies the common background knowledge, values, and beliefs that are shared by so-called *mainstream* European Americans. "American cultural literacy has a bias toward English literate traditions. Short of revolutionary political upheaval, there is absolutely nothing that can be done about this…. We have kept and still need to keep English culture as the dominant part of our national vocabulary for purely functional reasons" (Hirsch, 1988, pp. 106–107). Thus, cultural knowledge is also synonymous with mainstream cultural knowledge (Banks, 1993). Therefore, the easiest way to achieve an equitable educational system is to provide *all* children with a core of general cultural knowledge (Bennett, 1988; Hirsch, 1988; Ravitch & Finn, 1987).

ABSTRACT: **Purpose:** This study sought to determine whether typically developing African American children's culturally based mainstream and ethnocultural knowledge increased between grades four and six. Because a lack of mainstream cultural knowledge has been implicated in reduced reading comprehension among many African American children, this study also investigated the degree to which ethnocultural and mainstream cultural knowledge differed.
Method: Fifty-eight African American children in grades four, five, and six responded to the Test of Core Knowledge (Bradford & Harris, 2000), a divergent task that required free associations about topics drawn from both mainstream and African American history, arts, and news events. Responses were audiotape-recorded, orthographically transcribed, and analyzed for accuracy and quantity of information.
Results: Participants' knowledge of both mainstream and African American cultural items increased significantly between grades four and five and their knowledge of history, news events, and African American arts increased significantly between grades four and six. Additionally, significant differences were found between grades five and six for mainstream and African American news events.
Clinical Implications: This sample of African American children demonstrated mainstream cultural knowledge that often surpassed ethnocultural knowledge. Such broadbased mainstream cultural knowledge meets academic expectations and can be used to facilitate further development of language and reading comprehension skills. However, this finding also suggests the need for future investigations of the relationship between mainstream cultural knowledge and literacy, bicultural knowledge in African American children from lower socioeconomic status and/or more ethnocentric backgrounds, and bicultural knowledge in those children who have language and reading comprehension deficits.

KEY WORDS: cultural knowledge, African American children, literacy, reading comprehension, assessment

Researchers agree that children read more fluently and with greater comprehension when they have cultural knowledge of the information being read (e.g., Hirsch, 1988; Langer, 1984; Omanson, Warren, & Trabasso, 1984). For example, Pace (1980) examined the extent to which cultural knowledge and the experiences children bring to a text influence comprehension. In his study, children between the ages of 5 and 12 years listened to a short story and were asked questions by an examiner to test comprehension. Results indicated that younger children had cultural knowledge of commonplace situations (e.g., supermarket shopping), which they used to understand the text. Conversely, they displayed less comprehension of unfamiliar situations (e.g., playing checkers). Even though the required information was provided in the text and children could request to hear portions of the story again, passages concerning unfamiliar events were difficult for younger children to understand. Older children with more cultural knowledge of the subject had better comprehension of the written text.

Langer (1984) demonstrated that cultural knowledge is a significant and reliable predictor of reading comprehension. In his study, sixth graders (N = 161) from a middle-class community of Long Island, New York, were assigned to three prereading conditions—(1) a planned group discussion of key concepts, (2) a discussion of specific questions in small groups, and (3) no activity (i.e., reading without any preparatory discussion)—and a distracter discussion of a nonrelated topic. Children read two passages from a social studies text and completed a 20-question test designed to measure comprehension. The results showed that participation in prereading activities related to the text significantly increased the children's available cultural knowledge and, in turn, their comprehension of more difficult passages.

Cultural knowledge has also been shown to increase with age. Omanson, Warren, and Trabasso (1984) found that developmental differences existed in children's cultural knowledge and reading comprehension. These researchers tested 48 children between the ages of 5 and 8 years on two directed reading activities. Half of the children read a story in its original commercial version and half read an altered version of the same story that was revised to test the effectiveness of both establishing cultural knowledge and directing children toward central story content. Afterward, children recalled the story and answered questions about explicit and implicit story content. Results indicated that older children had more cultural knowledge, demonstrated greater reading comprehension, and retained more information than younger children. Similarly, Lindemer (1982) looked at developmental differences in how children use cultural knowledge to organize their comprehension and memory for stories. In his study, 27 first graders and 27 fourth graders heard and recalled the contents of three stories. One story was well formed according to story grammar expectations, a second story contained actions that violated expectations, and a third story violated normal story organization. Results showed that fourth graders had more cultural knowledge, which facilitated comprehension and recall of more story ideas for all three versions. First graders exhibited significantly less cultural knowledge, comprehension, and recall for stories containing unusual actions compared to well-formed stories. Hence, children begin school with a cultural knowledge base upon which they can build. As they progress through the grades, they acquire new cultural knowledge, linking new information to what they already know and then generalizing that consolidated information to other experiences.

Given the link between relevant cultural knowledge and reading comprehension, children from culturally and linguistically diverse backgrounds may be at risk for poorer reading comprehension performance and subsequent academic failure as a result of their unfamiliarity with the culture-imbued information that majority-culture children bring to reading tasks (Chall, Jacobs, & Baldwin, 1991; Hirsch, 1988; Lee, 1992). However, this concept has not been validated by empirical research. One problem is that existing studies do not specify the cultural–linguistic characteristics of the sample population. The implication is that participants were drawn from the majority population. Therefore, there is no empirical evidence that the link between cultural knowledge and academic success applies to African American children. Nevertheless, scholars have used anecdotal or hypothetical situations to posit the existence of a "cultural knowledge-academic success" relationship (Gadsen & Wagner, 1995; Hirsch, 1988; Patterson, 1980; van Keulen, Weddington, & DeBose, 1998).

CULTURAL KNOWLEDGE AND AFRICAN AMERICAN CHILDREN

The academic underachievement of at-risk African American children is a pervasive, well-documented problem (e.g., Washington & Craig, 2001). Poverty, racial segregation, and the absence of scholarly role models in homes and surrounding communities are among the many factors believed to underlie these children's poor academic performance (Edelman, 1985; Washington & Craig, 2001). Academically at-risk African American children may also lack exposure to the cultural knowledge that facilitates reading comprehension and contributes to academic success (Ravitch & Finn, 1987). Assessments of reading comprehension abilities rest on a presumption of shared cultural information. Such assessment procedures may be inherently biased against at-risk African American children, and others, who lack mainstream cultural knowledge (Campbell, Dollaghan, Needleman, & Janosky, 1997).

Reading difficulties emerge during the early school years. Phillips, Crouse, and Ralph (1998) reported that African American children who started school with the same reading and vocabulary test scores as the average European American student lagged behind their European American peers in overall achievement from fourth to twelfth grade. Chall's (1996) developmental model also incorporated a fourth-grade "slump" for many disadvantaged and minority students. In explanation, Chall asserted

that some minority children do not have the reading skills needed to accommodate the increasing academic demands in grades four through twelve (Chall et al., 1991).

Beginning in fourth grade, reading is expected to become less mechanical and more fluent, with the added expectation that children can comprehend increasingly more complex content (Chall et al., 1991; Hirsch, 1988). Thus, reading comprehension becomes more heavily dependent on a child's store of cultural knowledge. Children who do not acquire relevant cultural knowledge by the fourth grade risk being left behind. These children may find "reading and learning increasingly toilsome, unproductive, and humiliating" (Hirsch, 1988, p. 28). Ultimately, children's ability to comprehend what they hear and read appears to be inescapably linked to the depth of their cultural knowledge.

Durkin (1982), who tested 23 low-income, *academically successful* African American children, defined academic success as scoring at or above grade level on a standardized reading test. Based on observations, review of school records, and interviews with students, teachers, administrators, and caregivers, Durkin found that these children began to acquire mainstream cultural knowledge through exposure to books and literate adults before entering preschool. These children developed an appreciation of reading because they had books at home, made frequent trips to the library, received help with their homework, had contacts with other good readers, and had exposure to challenging materials. These findings suggest that African American children, regardless of socioeconomic status (SES), perform better in school when they are provided with opportunities to develop broadbased cultural knowledge.

OUTCOMES FOR CHILDREN EXPOSED TO A CULTURAL KNOWLEDGE CURRICULUM

Studies show that African American children exposed to a curriculum emphasizing cultural knowledge made substantial gains in academic achievement. For example, after implementation of a cultural knowledge-based curriculum at the Mohegan School in South Bronx, New York, the percentage of children able to read at grade level increased by 57% (Vail, 1997). The Creswell Elementary School in Shreveport, Louisiana, whose students were 67% African American and 33% immigrant, reported similar gains (Vail, 1997). An independent study conducted by the Johns Hopkins University Center for Social Organization of Schools (McHugh & Spingfield, 1999) reported that schools using a cultural knowledge-based curriculum posted 3-year academic achievement gains in reading comprehension. The Oklahoma City Public Schools (1996), where African American children make up 39% of the total student population, reported significant 1-year gains in vocabulary and reading comprehension. These results suggest that the implementation of a cultural knowledge-based curriculum provides a broad spectrum of knowledge that children may use to facilitate literacy acquisition (Hirsch, 1988; McHugh & Springfield, 1999).

THE ROLE OF SPEECH-LANGUAGE PATHOLOGISTS IN CULTURAL KNOWLEDGE ACQUISITION

Currently, literacy is more broadly defined as the ability to speak, understand, read, and write English at proficiency levels sufficient for academic success and lifelong functional independence (e.g., Qualls, 2001). Like educators, speech-language pathologists provide reading comprehension and literacy-based interventions. Both skills are extensions of aural–oral communication and are important to every child's opportunity to achieve at the highest possible level. It is not surprising that children with spoken language difficulties frequently experience problems with reading and writing. Likewise, it is not surprising that intervention for spoken language problems often leads to improved reading and writing skills (Catts & Kamhi, 1999).

A primary responsibility of the speech-language pathologist is to promote opportunities for success in spoken and written language for *all* children, irrespective of their communication abilities (American Speech-Language-Hearing Association, 2001), thus placing literacy-based problems within the scope of practice. In implementing strategies to stimulate children's language and literacy acquisition, speech-language pathologists may inadvertently presume a common core of cultural knowledge across children. It has become increasingly important to recognize that children from culturally and linguistically diverse backgrounds may need support in acquiring relevant cultural information in order to scaffold their communication skills. Therefore, it is important to assess a child's store of relevant cultural knowledge.

The purpose of the present study was to determine whether typically developing African American children demonstrate increasing knowledge of mainstream and ethnocultural information in the domains of history, arts, and news events as they advance through grades four, five, and six. The study also sought to determine the amount of grade-appropriate mainstream and ethnocultural information the children possessed, as demonstrated by the number of relevant associations generated in response to stimulus questions. The research was guided by two questions:

- Are there developmental increases in the accuracy and number of free associations for mainstream and ethnocultural information across grades four, five, and six?
- Are there performance differences in the accuracy and number of associations as a function of mainstream or ethnocultural domain?

METHODS

Participants

This study included 58 African American children in the mid-South (see Table 1 for participant characteristics). Fifty participants (86%) attended the same public elementary school in Memphis, Tennessee; 8 participants (14%)

Table 1. Demographic characteristics of participants.

Characteristics	Grade 4 (n = 16)	Grade 5 (n = 21)	Grade 6 (n = 21)	Total (N = 58)
Age				
9 years	6	–	–	6
10 years	10	7	2	19
11 years	–	14	7	21
12 years	–	–	12	12
Mean age	9.63	10.67	11.48	10.67
Standard deviation	.50	.48	.68	.93
Gender				
Female	11	12	13	36
Male	5	9	8	22
Family income				
<$20,000	1	1	2	4
$20,000–$50,000	9	12	7	28
>$50,000	6	8	12	26

attended a neighboring school in Memphis or a school in North Little Rock, Arkansas. Ethnic identification was based on the self-report of parents or surrogates at the time of school enrollment. All participants were native English speakers, at appropriate grade level, and typically developing based on the following criteria: (a) enrollment in a general education curriculum; (b) negative history of academic retention or special education services; (c) a grade point average (GPA) of 2.5 or better on a 4.0 scale; and (d) judgments of school principals, classroom teachers, parents, or surrogates. All participants were in good general health and had normal hearing and vision, according to parent and/or surrogate responses to a questionnaire. Participants' SES was determined by parents' or surrogates' responses to the same questionnaire. Appendix A displays the questionnaire used in the study.

SES classification was based on the U.S. Department of Commerce, Bureau of the Census, Current Population Reports (1990) criteria of "low income," "middle income," and "high income." Low income referred to families with incomes less than $20,000, which accounted for the families of 4 participants. Middle income characterized families with incomes from $20,000 to $50,000, which accounted for the families of 28 participants. High income characterized families with incomes greater than $50,000, which accounted for the families of 26 participants.

Test Instrument

The Test of Core Knowledge (Bradford & Harris, 2000) was administered to each participant. The test instrument contained 10 items in each of six content domains, namely (1) mainstream history (e.g., the Pilgrims), (2) African American history (e.g., the slave trade); (3) mainstream arts (e.g., Alice in Wonderland), (4) African American arts (e.g., Maya Angelou), (5) mainstream news events (e.g., the Columbine shooting), and (6) African American news events (e.g., Jesse Jackson), for a total of 60 items. The items encompassed both mainstream and ethnocultural knowledge that were drawn from several sources, including the Core Knowledge Foundation's (1993) Core Knowledge Sequence, K-8, and the Baltimore Curriculum Project (1999) Baltimore Curriculum Project Lesson Plans (see Appendix B for a complete list of sources). Test items were arranged hierarchically by grade level, from first through sixth grade, according to the Core Knowledge Foundation's content guidelines. Measures of the instrument's internal consistency yielded Cronbach's alpha of 0.80 for mainstream cultural items and alpha = 0.87 for the ethnocultural items.

Experimental Method and Procedures

A 3 × 6 quasi-experimental design was used to examine the main effects and interaction of grade level and content domain on the performance of the participating African American children on the Test of Core Knowledge. Grade level, the between-subjects grouping variable, included three levels (fourth, fifth, and sixth grades). Content domain, the within-subjects variable, included three topics nested within two cultural categories for a total of six levels: mainstream history, African American history, mainstream arts, African American arts, mainstream news events, and African American news events.

The research design called for the collection of both qualitative and quantitative data. Qualitative data, which were coded and transformed into numerical data, were based on the accuracy and relevance of response associations. Quantitative data were based on the amount of mainstream and African American cultural information generated by each participant.

Each participant's parent or guardian gave informed consent before his or her child was seen for test administration. These adult informants also completed a brief questionnaire that elicited demographic information and judgments about their child's sensory functioning and health status (see Appendix A).

Either the first author or one of two speech-language pathology graduate students administered the Test of Core Knowledge. Each participant was tested individually in a quiet room in the school. Sessions lasted approximately 1 hr. The participant sat across from the examiner, who provided live voice instructions and examples of expected responses.

The Test of Core Knowledge was administered live voice using an open-ended interview format to give the child the opportunity to produce as many associations for each question as possible. The following presentation order was maintained for each participant: mainstream history, African American history, mainstream arts, African American arts, mainstream news events, and African American news events. Each item was presented in the following manner: "Tell me everything you know about _____." All participants were given at least one prompt immediately following a response to elicit additional information on each topic: "Can you tell me anything else about _____?" If the participant did not provide additional information after the first prompt, no further prompts were given. If the participant provided additional information following the first prompt, a second prompt was given to elicit more information. If more information resulted, a third and final prompt was given to elicit more information.

All verbal responses were audiotape-recorded for later analysis using the Olympus Pearlcorder S701 Microcassette Recorder and the Realistic CTR-73 AC/Battery Cassette Recorder (model #14-1053). The first author transcribed all tape recordings orthographically, coded the data, and recorded the coded data on a score sheet.

Scoring

The following criteria were used to score the responses. Each association given in response to a test item was designated as a content unit. An association was defined as a schematic mental unit representing a class of similar thoughts, ideas, or actions evoked by a stimulus (Ormrod, 1999). The content unit could be an event, an act, or an idea to which the topic referred. The length of the unit varied across participants, as it might have taken a child as many as two to ten words or more to express one association. For example, the test item *Abraham Lincoln* could have evoked the following associations: "the 16th President of the United States," "delivered the Emancipation Proclamation," or "assassinated by John Wilkes Booth." Each association represents a content unit that refers to the same person in different ways. It was unimportant to this study whether the association was made directly or indirectly.

Using these criteria, each participant's transcript was analyzed and scored by the first author. The responses to each test item were scored first based on the accuracy of each association. The responses were then analyzed to determine whether extended cultural knowledge was provided. If so, it was judged as either relevant or irrelevant to the topic. A correct or relevant response was given a score of *1* and an incorrect response was given a score of *0*. Each test item was then assigned a raw score. The raw score was calculated by adding the number of correct or relevant responses that the child produced for that test item. The raw score for each test item was then converted to a coded score on a 5-point scale based on the following criteria:

4	correct response plus three or more associations
3	correct response plus one to two associations
2	correct response in the form of a one-word or -phrase factual information without elaboration
1	incorrect response (any response unrelated to the stimulus)
0	no response or "I don't know"

Each test item within a domain could receive an unlimited raw score but could only receive a maximum coded score of *4*. Thus, if a child produced nine relevant responses to a test item, that item would be assigned a raw score of *9* and a coded score of *4*. The coded scores were added for each of the 10 test items to obtain a total coded score for each content domain. Although participants could produce a number of content units to obtain a total raw score, *40* was the maximum allowable total coded score for each content domain. This type of scaling of the raw score was used because of its ease, efficiency, and economy for analysis relative to the more cumbersome raw scores. Additionally, it partitioned the responses along a continuum from the least to the most amount of the stimulus in question (Schiavetti, 1984). See Appendix C for a scored excerpt from one participant's transcript.

Interrater Agreement

Interrater agreement was established by having an independent rater score participants' response transcripts for a random sample of 10% of subjects (2 from each group). A graduate student in speech-language pathology who was blind to the results obtained by the author examined the responses for accuracy and relevance by following the same procedures used by the author. Scores obtained by the author and the independent rater were recorded on a spreadsheet and analyzed based on a point-to-point comparison at the level of the content unit. Interrater agreement for each content domain was determined by counting the number of times the author and the independent rater agreed and dividing that value by the total number of items for the domain, using 100 as the multiplier to determine percent agreement (Bordens & Abbott, 1996). The response accuracy discrepancies were resolved by referring to encyclopedias and other references. Interrater agreement for each content domain was calculated to be 97% for mainstream history, 88% for African American history, 98% for mainstream arts, 87% for African American arts, 92% for mainstream news events, and 93% for African American news events.

RESULTS

Descriptive analyses along with a repeated measures multivariate analysis of variance (MANOVA) were performed to determine the effects of grade and content

domain on participants' knowledge of mainstream and African American cultural information. Content domain served as the within-subjects factor; grade level served as the between-subjects factor. The dependent variables included in the analysis were the informational associations for the six content domains with two nested cultural categories (mainstream culture and African American culture); the independent variables were the three grade levels. Significant *F*s were followed by Tukey's post hoc tests (Winer, 1971), which investigated differences between the means. An alpha of .05 was used for all statistical tests.

Effects of Grade Level on Cultural Knowledge

The first research question analyzed whether there were developmental increases in the accuracy and number of free associations for mainstream and ethnocultural information across grades four, five, and six. Descriptive findings regarding the mean coded scores and standard deviations for the three grade levels across content domains are presented in Table 2. Table 2 shows that as grade level increased, the number of accurate associations also increased for each content domain. Fourth graders maintained the lowest mean coded score across content domains, whereas sixth graders obtained the highest mean coded score in every content domain except mainstream history. In this domain, fifth graders achieved a slightly higher mean score. It should be noted, however, that the differences between fifth and sixth grade means were negligible for both history categories.

A repeated measures MANOVA revealed a significant interaction between content domain and grade level, $F(10, 275) = 3.52$, $p < .000$, indicating that participants performed differently across grade levels in their knowledge of mainstream and African American cultural information.

Table 2. Mean *(M)* coded scores and standard deviations *(SD)* by grade level for each content domain.

Content domain	*Grade*	M	SD
Mainstream history	4	18.36	5.49
	5	24.91	7.48
	6	24.71	7.73
African American history	4	22.79	9.00
	5	29.13	8.58
	6	29.67	6.96
Mainstream arts	4	32.43	4.64
	5	33.61	5.65
	6	34.57	6.25
African American arts	4	21.00	6.24
	5	24.65	6.51
	6	27.81	6.37
Mainstream news events	4	12.64	8.27
	5	19.96	7.75
	6	25.24	9.69
African American news events	4	17.07	5.38
	5	23.00	5.32
	6	26.52	5.43

Although the MANOVA showed that the interaction was significant, the effect size was small. The η_p^2 was .11, which indicated that the interaction between content domain and grade accounted for only 11% of the overall (effect + error) variance. Post hoc comparisons using Tukey HSD indicated that fourth graders produced significantly fewer relevant associations than fifth and sixth graders in all areas except mainstream arts. It was also found that fifth graders produced significantly fewer relevant associations than sixth graders in the mainstream and African American news events domains. These findings are graphically displayed in Figure 1, which shows the mean differences in performance obtained by participants in each grade level for each content domain.

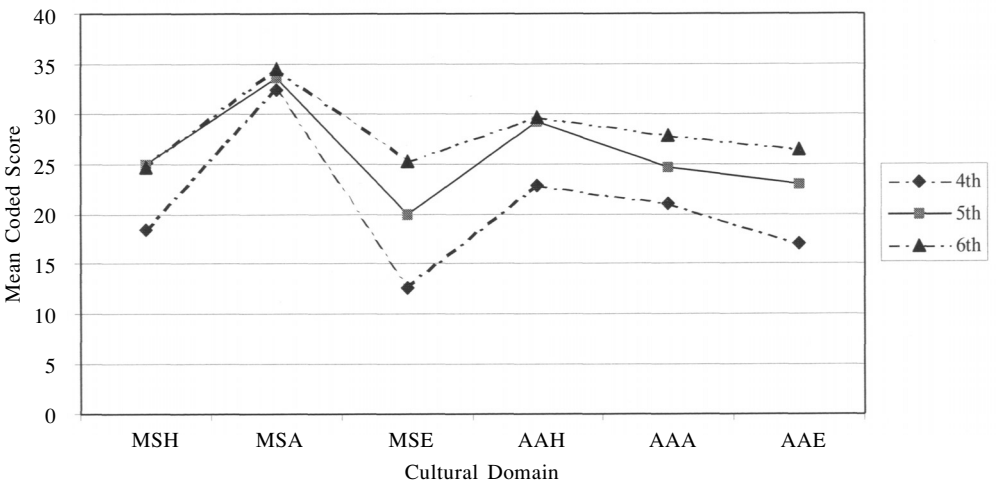
The repeated measures MANOVA revealed a significant main effect of grade, $F(2, 55) = 6.87$, $p < .002$. The effect size was small to modest. The η_p^2 was .20, indicating that the effect of grade level accounted for 20% of the overall variance. Tukey's post hoc comparisons revealed significant differences between fourth and fifth graders and between fourth and sixth graders, with fourth graders producing fewer accurate associations than fifth and sixth graders. The mean coded scores for the three grade levels by cultural category show that although fourth graders received the lowest mean coded score and sixth graders received the highest, fifth and sixth graders performed similarly.

Effects of Content Domain on Cultural Knowledge

The second research question asked whether there were performance differences in the accuracy and number of associations as a function of mainstream or ethnocultural domain. Table 3 contains the mean coded scores and standard errors of measurement obtained by participants across grade level for the six content domains. Qualitative findings indicated that participants across grade levels produced a higher total mean coded score for mainstream cultural information ($M = 25.16$) as compared to African American cultural information ($M = 24.63$). However, participants produced more accurate associations in African American history and news events than in mainstream history and news events. Figure 2, showing the overall mean coded scores across grade level by cultural category and content domain, revealed that, with the exception of mainstream arts, participants produced more accurate associations for African American cultural items than for mainstream cultural items.

To further support this finding, the repeated measures MANOVA revealed a significant main effect for content, $F(5, 51) = 54.43$, $p < .000$, indicating that participants differed in their knowledge of mainstream and ethnocultural information. The η_p^2 was .58, indicating a large effect size and that the effect of content domain accounted for 58% of the overall variance. The type of content had an effect on participants' performance. Participants across grade level produced the smallest number of accurate associations for both mainstream and African American news events domains. Mainstream arts received the highest number of

Figure 1. Mean differences in performance obtained by participants by grade level for each content domain.



Note. MSH = mainstream history, MSA = mainstream arts, MSE = mainstream news events, AAH = African American history, AAA = African American arts, AAE = African American news events.

accurate associations, with participants in all grade levels performing comparably. Excluding mainstream arts, all participants knew more about African American history than they did about the remaining content domains.

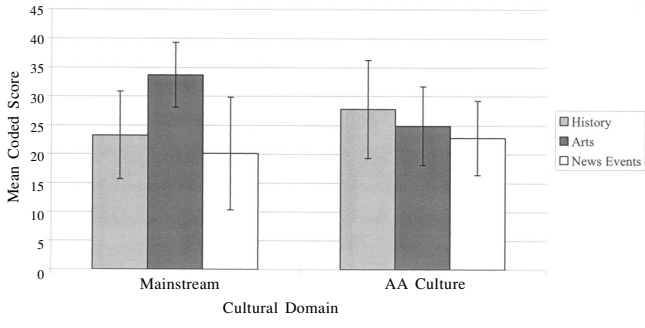
Effect of SES on Cultural Knowledge

Post hoc analyses using a repeated measures MANOVA was performed to determine if differences existed by SES. Content domain served as the within-subjects factor and income level served as the between-subjects factor. Because the lower income level (<$20,000) accounted for only 4 participants, the analysis focused on differences between middle-income ($20,000–$50,000) and high-income (>$50,000) levels. The MANOVA revealed no interaction between content domain and income, $F(4.513, 260) = .563$, $p = .711$. However, a significant main effect was found for income, $F(1, 52) = 5.02$, $p = .029$. The η_p^2 was .09, indicating that the magnitude of difference between the two income groups was small, accounting for 9% of the difference between these groups. The results indicated that participants from high-income backgrounds ($M = 27.49$, $SD = 1.24$) produced a greater number of accurate associations for mainstream and ethnocultural items than did participants from middle-income backgrounds ($M = 23.64$, $SD = 1.19$). A main effect for content domain was also found, $F(4.045, 260) = 60.572$, $p < .001$. This finding indicated that participants from middle- and high-income backgrounds performed differently across content domains. The effect size was moderate to large. The η_p^2 was .54, indicating that the effect of income level on content domains accounted for 54% of the overall variance. The results revealed that participants from high-income backgrounds consistently outperformed participants from middle-income backgrounds across all content domains. With the exception of mainstream arts, participants from both income levels produced more accurate associations for African American cultural

Table 3. Mean coded scores and standard errors across grade level for each content domain.

Content domain	*Mean*	*Standard error*
Mainstream culture		
History	22.66	.962
Arts	33.54	.76
News events	19.28	1.16
Total mean coded score	25.16	
African American culture		
History	27.19	1.09
Arts	24.49	.86
News events	22.20	.722
Total mean coded score	24.63	

Figure 2. Overall mean coded scores across grade level by cultural category and content domain.



items than they did for mainstream items. In mainstream arts, both groups performed similarly. Although the performance of participants from high-income backgrounds was superior to the performance of participants from middle-income backgrounds, the largest mean difference was found in the mainstream and African American news events domains, where participants from high-income backgrounds outperformed participants from middle-income backgrounds.

DISCUSSION

The purpose of this study was to determine whether cultural knowledge increased across grades four through six in a sample of African American children. Further, the study sought to determine if mainstream or ethnocultural knowledge influenced the accuracy and amount of informational associations generated by these children. In the sample of 58 children who participated in the current study, results indicated an increase in both mainstream and African American cultural knowledge between fourth and fifth graders and between fourth and sixth graders across all content domains. Fifth and sixth graders performed similarly in all content domains except mainstream and African American news events, where sixth graders performed significantly better than fifth graders.

The influence of mainstream or ethnocultural knowledge on performance was mixed. That is, the children provided more accurate and detailed information for items designated as African American history and news events as opposed to those designated as mainstream history and news events items. Conversely, the children provided more accurate and detailed information for items designated as mainstream arts than for items designated as African American arts. These results suggest that, overall, cultural knowledge increased as children progressed through the middle elementary grades, irrespective of the information's mainstream or ethnocultural origin. Further, these results suggest that African American children with backgrounds comparable to the sample's may, in some instances, have greater knowledge of mainstream cultural information (i.e., mainstream arts) than ethnocultural information. This latter finding refutes Hirsch's (1988) assertion that children from nonmainstream backgrounds lack mainstream cultural knowledge. However, the question of cultural knowledge as a foundation for reading comprehension remains open to future investigation.

The results of this study are consistent with previous research that showed developmental increases in the amount of cultural knowledge children acquired as they progressed through school (Omanson et al., 1984). For example, in this study, fifth and sixth graders displayed significantly more cultural knowledge of mainstream and African American cultural information than did fourth graders. The fact that the fourth graders provided comparatively fewer associations for mainstream and African American cultural items suggests that the fourth graders had not yet acquired sufficient detailed information, compared to fifth and sixth graders, to elaborate on the themes. As would be expected, more life experience and greater academic exposure to topics increase the store of knowledge, allowing the generation of more associations to the stimulus items. Fifth and sixth graders performed similarly on all content domains except mainstream and African American news events. One explanation for the lack of significant difference in performance might be the fact that the fifth-grade curriculum emphasized American history and literature whereas the sixth-grade curriculum emphasized world history and literature. Because all items in the Test of Core Knowledge were drawn from American culture, those items may have been fresher in the minds of fifth graders than of sixth graders. Another possible reason may be that fifth and sixth graders are often grouped together in various curricular and extracurricular activities. Moreover, many books, children's magazines, and Internet sites organize materials along dichotomous groupings (e.g., third to fourth grade, fifth to sixth grade).

The findings of the current study in part supported Hirsch's (1988) notion that African American children are literate in their own ethnoculture. The children in the present study provided significantly more information on items specific to African American history and news events than on items specific to mainstream history and news events. This finding suggests that ethnocultural items may be more personally meaningful and may have been taught in more meaningful ways. For example, it is likely that these children were exposed to African American history both at school and in the home and broader community. Through repeated exposure to ethnocultural knowledge in history and news events, the learning of this information is mutually reinforced. That is, what is taught in school is also talked about in the homes, as well as in the churches and other community institutions. Repetition and bidirectional reinforcement (Scott & Marcus, 2001) solidify the information, making it available for recall during a divergent association task.

In contrast and contrary to Hirsch's (1988) assertion that African American children may lack core mainstream cultural knowledge, the children in the present study provided significantly more meaningful associations for items in mainstream arts than they did associations for items in African American arts. This is a significant finding because it amplifies the importance of bidirectional information exchange between home and school to achieve optimal learning and literacy development for African American children.

Although a unidirectional model provides knowledge to students by both homes and school, it does not allow for the valuable exchange of information needed to build cultural synchronization between nonmainstream homes and school. The lack of cultural synchronization operates from the position that when teachers do not understand the cultural capital of students in their classrooms (e.g., the language, values, home environment, or learning styles of students), they fail to capitalize on the strengths of the acquired modalities that are brought from home (Scott & Marcus, 2001, p. 85).

It is likely that those items designated as African American arts *are not* discussed in the homes and the

broader community of the African American children who participated in this study. Therefore, the children lacked dual exposure to the information at home and at school. That is, the information likely was not mutually reinforced. Thus, the information store for African American arts was not as rich as that for African American history and news events. Consequently, the number of associations available during a divergent retrieval task was reduced.

The results of this study also revealed a significant effect of income on cultural knowledge. The children from high-income backgrounds in this study outperformed children from middle-income backgrounds in all content domains. This finding supports Hirsch's (1988) speculation that students from higher SES families enjoy greater accessibility and quality of literate resources as compared to students from lower SES families. However, other research suggests that even among middle- and high-income African American children, an achievement gap persists (College Entrance Examination Board, 1999). This opens the door for future research to determine whether African American children from lower SES or more ethnocentric backgrounds show the same pattern of performance as the current sample on the Test of Core Knowledge (Bradford & Harris, 2000). Many minority and low-income children begin to acquire this information only after entry into the academic culture. Therefore, children from nonmainstream cultures may be disadvantaged in school because their backgrounds do not assist them in their academic pursuits (Bourdieu & Passeron, 1990). Just as it will be important in future research to empirically determine the influence of cultural knowledge on reading comprehension, it may be equally important to disentangle the relative influences of SES and the degree of mainstream cultural assimilation (Landrine & Klonoff, 1996).

Overall, the results of this study are positive indicators that among African American children similar in background to those tested, mainstream cultural knowledge may coexist with ethnocultural knowledge and that both increase as children progress through the middle elementary grades. Somewhat surprisingly, mainstream cultural knowledge at times surpasses ethnocultural knowledge. These findings are congruent with the academic expectation that children will become increasingly better able to read and comprehend complex content-rich material (Snow, 2002). By fourth grade and beyond, students are expected to understand the dense text of content-area materials without specific instruction on how to do so (Chall et al., 1991; Snow, 2002). The fifth and sixth graders in the current study demonstrated a growing store of knowledge, as exhibited by the depth of their associations of many topics across content domains.

CLINICAL IMPLICATIONS AND FUTURE DIRECTIONS

The current study illustrates how cultural knowledge is indispensable to learning and language development. It also suggests that mainstream and ethnocultural knowledge may increase together as children progress through school and may be, in some ways, interdependent. Although scholars agree that cultural knowledge is crucial to academic success, there is no empirical support for their claim. The research gap may be explained in part by the inherent complexity of the construct and the lack of agreement about how cultural knowledge should be defined. Rather than posing a deterrent, this dilemma presents an intriguing challenge for a new line of research, one that would identify the types of cultural knowledge that best support grade-specific academic curricula. The need for research-informed direction seems especially critical for students from culturally and linguistically diverse backgrounds.

To ensure bidirectional bridging between home and school (Scott & Marcus, 2001), it is the responsibility of speech-language pathologists and educators to inform parents and concerned others about the cultural knowledge that children are expected to have as they progress through the elementary school curricula. To support the importance of cultural knowledge to academic success, empirical evidence that supports the existence of the relationship between reading comprehension and cultural knowledge must be gathered. Such an ambitious task will undoubtedly require the joint efforts of researchers from multiple disciplines, as well as guidance from members of the ethnocultural groups under study.

Future research should investigate the relationship between cultural knowledge and reading and writing skills, particularly among at-risk African American children. If reading and writing are to become purposeful activities, the link between cultural knowledge and the focus of instruction in schools must be established. The challenge, then, is to identify what knowledge and cultural practices in family and community life have in common with what the schools aim to teach and then combine them in practical ways (Lee, 1992). For example, research could investigate the ways in which background knowledge may be used to improve reading, writing, and oral language abilities. Additionally, research should focus on how to use culturally literate information as well as individual background knowledge and experiences in the assessment and treatment of children from other culturally diverse backgrounds, as well as those children with language delay.

That participants performed similarly on mainstream and ethnocentric cultural knowledge may stem from the fact that the participants in the present study were from predominantly middle- and high-income families. Nevertheless, it is important to determine why African American children who enter school with the same abilities as their peers lose ground as they advance through the grades (Phillips et al., 1998). If African American students from middle- and high-income households have knowledge of mainstream cultural information, as demonstrated in the present study, other explanations for the achievement gap must be considered. For example, it may be that African American students do not transfer their knowledge and skills to higher level applications. Finally, future research should investigate the legitimacy of Hirsch's notion of a literacy gap between economically advantaged and disadvantaged African American children as well as possible

differences in their knowledge of mainstream and African American cultural domains.

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APPENDIX A. QUESTIONNAIRE USED TO ELICIT DEMOGRAPHIC INFORMATION

Cultural Knowledge in African American Children

Investigators: Angela C. Bradford, MS, CCC-SLP
Joyce L. Harris, PhD, CCC-SLP

RP# _____ Date: _____

- Child's Date of Birth: ____/____/____ Age: _____
- How would you rate your child's health?
  Excellent ☐ Very good ☐ Good ☐ Fair ☐ Poor ☐
- How would you rate your child's vision? Adequate ☐ Adequate with correction ☐
- Does your child have a history of ear infections? Yes ☐ No ☐
- Has your child ever failed a hearing screening? Yes ☐ No ☐
- What is your child's current grade level? _____
- Is your child enrolled in a regular education curriculum? Yes ☐ No ☐
- Does your child attend Private School? ☐ Public School? ☐
- Is your child receiving special educational services? (Please check all that apply.)
  Special Education ☐ Speech Therapy ☐ Occupational Therapy ☐
  English as a Second Language (ESL) ☐ Reading Enrichment ☐
- Is your family income: below $20,000 ☐ $20,000–$50,000 ☐ $50,000 and above ☐
- What are your education levels (parents/guardians)?
  Some High School ☐ High School Graduate ☐ Associates Degree ☐ Some College ☐
  Bachelor's Degree ☐ Master's Degree ☐ Some Post-Graduate Studies ☐ PhD ☐
- What are the occupations of the adults in your household?
  Parent/Guardian: _____
  Others (please indicate relationship to child): _____

APPENDIX B. REFERENCES USED TO DEVELOP THE TEST OF CORE KNOWLEDGE

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APPENDIX C. TEST OF CORE KNOWLEDGE SAMPLE TRANSCRIPT

Grade Level: 5

Score	Mainstream History
	1. The Pilgrims
1	The Pilgrims came over on the Mayflower.
1	They landed on Plymouth Rock.
1	The first people they met were the Native Americans.
1	The Native Americans helped them survive their first winter by teaching them to grow different crops.
1	To thank the Indians they had the first thanksgiving.
1	It was a huge feast between the Pilgrims and the Indians.
6	**Raw Score**
4	**Coded Score**
	2. Abraham Lincoln
1	He was the 16th President.
1	He freed the slaves.
1	He was assassinated in a theater.
1	He was known as Honest Abe.
1	They say he grew up in a log cabin.
1	He was killed by John Wilkes Booth.
6	**Raw Score**
4	**Coded Score**
12	**Total Raw Score**
8	**Total Coded Score**