

Family History of Speech and Language Impairment in African American Children

Implications for Assessment

Sonja L. Pruitt, PhD, CCC-SLP;

April W. Garrity, PhD, CCC-SLP; Janna B. Oetting, PhD, CCC-SLP

Purpose: We explored the prevalence of a positive family history of speech and language impairment in African American children as a function of their socioeconomic status (SES), receipt of speech-language services, and diagnosis of specific language impairment (SLI). **Method:** Data were collected in 2 phases. Phase 1 included family questionnaires from 161 kindergartners. Phase 2 included interviews with the primary caregivers of 17 of these kindergartners. **Results:** Overall, the prevalence of a positive family history was 24%. Children receiving services did not present a higher rate of positive family history than children not receiving services, but low-SES children were 2 times more likely than middle-SES children to present positive family histories. Children with SLI were also 2 times more likely to present a positive family history than children with typical development, and after controlling for SES, elevated rates of a positive family history for those with SLI remained. **Conclusions:** Results support studies that have found higher rates of positive family history in children with SLI relative to controls while also highlighting SES as an important variable to consider within family history studies. These findings call for careful consideration of family history and SES information when assessing African American children. **Key words:** African American, family history, socioeconomic status, specific language impairment

Author Affiliations: School of Speech, Language, and Hearing Sciences, San Diego State University, San Diego, California (Dr Pruitt); Department of Communication Sciences and Disorders, Armstrong Atlantic State University, Savannah, Georgia (Dr Garrity); and Department of Communication Sciences and Disorders and Interdepartmental Linguistic Program, Louisiana State University, Baton Rouge, Louisiana (Dr Oetting).

Funding was provided by a graduate student assistantship and Foundation Research Account from Louisiana State University. Gratitude is extended to Beth Wooden for assistance with data collection, Tricia McCully Rodrigue for preliminary analyses of these data as part of an MA thesis, and Janet Bradshaw, Lekeitha Morris, Brandi Newkirk, Karmen Porter, and Christy Moland for feedback on an earlier draft of the work. We also especially thank the children, parents, and teachers who made the research possible.

Corresponding Author: Sonja L. Pruitt, PhD, CCC-SLP, School of Speech, Language, and Hearing Sciences, San Diego State University, 5500 Campanile Dr, San Diego, CA 92182 (spruitt@mail.sdsu.edu)

RESEARCH has shown that a host of variables, including family history of speech and language impairment, autoimmune diseases, gender, and prenatal/perinatal factors, contribute to childhood language impairments, with a positive family history of impairment as the strongest indicator of compromised language development in children (Benasich, 2002; Bishop, 1997; Tallal, Ross, & Curtiss 1989b; Tomblin, 1989, 1996; Tomblin et al. 1997; Van Hulle, Goldsmith, & Lemery, 2004). These findings apply not only to congenital heritable etiologies such as Down syndrome and Williams syndrome, which may affect development across physical and cognitive modalities, but also to specific language impairment (SLI), which, by definition, affects language development without evidence of other clinical conditions (Rice, 1997; Rice, Warren, & Betz, 2005).

Unfortunately, representation of African American (AA) children in previous family history studies has been limited. One reason for this relates to the potential use of African American English (AAE) by AA children. AAE speakers produce some linguistic patterns that are similar to those associated with the grammatical profile of SLI in mainstream American English, and this overlap complicates the diagnosis of AAE-speaking children. In short, family history studies of SLI require valid classification of children with and without language impairments, and if this cannot be done, then the family history information that is collected is difficult to interpret.

Fortunately, recent advances in the assessment of AAE-speaking children are appearing in the literature. These advances have led to a better understanding of the linguistic features of AAE and a better understanding of the linguistic differences between AAE-speaking children with and without SLI. These advances have also made it possible to begin studying the family histories of AA children.

The current work reflects a first step toward completing such a study using methods that have been developed in previous family history studies. The goals of the work were to evaluate the family history data of a sample of AA children who presented a range of socioeconomic status (SES) levels and determine whether findings from previous family history studies of children with SLI generalize to AA children. We reasoned that if we achieved these goals, then we would better understand the role of family history data within our speech and language assessments of AA children, and this would improve our ability to talk to AA caregivers about their family histories. As a long-term goal, we also hoped that with additional studies, clinicians would be better able to use an AA child's positive family history as an important piece of evidence to *rule in* a diagnosis of language impairment when appropriate.

As is evident in our review, researchers of previous family history studies have var-

ied in their criteria and classification of childhood communication disorders, with some using terms such as speech and language impairment and others using a more rigorous classification system and the term SLI or SLI with grammatical impairment. Researchers have also varied in the specificity of their family data, with some referring to a member's profile as indicating general speech, language, and learning difficulties and others listing a range of more narrowly defined impairments, such as spelling, reading, speech, language, stuttering. Regardless of these differences across studies, all show the prevalence of a positive family history to be higher in children with language impairment than in controls.

PREVIOUS FAMILY HISTORY STUDIES

Questionnaires are often used to determine whether children diagnosed with language impairments have higher rates of speech and language disorders among family members than typically developing children. For example, Neils and Aram (1986) used questionnaires to study the family histories of 74 children with language impairment and 36 controls, aged 4 to 5 years. Results showed that the percentage of family members with speech, stuttering, reading, and/or language disorders in the group with language impairment was significantly higher than the percentage of family members in the control group (20% vs. 3%). Tallal, Ross, and Curtiss (1989a) also used questionnaires to examine family histories of language, reading, writing, and academic achievement difficulties of sixty-two 4-year-olds with SLI and 50 controls as part of a larger longitudinal study. Results showed that significantly more children with SLI had a positive family history of impairment than controls (77% vs. 46%). Finally, Tomblin (1989) collected family questionnaire data from one hundred eighty-seven 7- to 9-year-olds and found a significant difference between rates of family members reporting a positive history for children with SLI than for the controls (23% vs. 3%).

Rice, Haney, and Wexler (1998) also used the questionnaire method in their family history study, but they collected data from each child's immediate and extended family members. Within their study, 98 families participated (31 with a child who presented SLI with grammatical impairment and 67 controls), and the number of family members tested totaled 1,838 (307 immediate and 1,531 extended). Results showed higher rates of speech and language difficulties in the family members of the children with SLI than in the family members of the controls (18% vs. 9%). Also, for the children with SLI, rates of a positive family history were higher in their immediate family members (26%) than in their extended family members (16%).

Finally, Tallal et al. (2001) directly assessed the language abilities of immediate family members in their study of 48 children (22 children with language impairments and 26 controls, aged 4–14 years). Tools used for the direct assessments included the primary and intermediate versions of the *Test of Language Development* (Hammill & Newcomer, 1988; Newcomer & Hammill, 1988), the *Test of Adolescent Language* (Hammill, Brown, Larsen, & Wiederhold, 1987), and the child and adult versions of the *TokenTest* (DiSimoni, 1978). For each of these tests, one standard deviation below the normative average was used to determine language impairment. Again, results showed higher rates of impairment in family members of children with language impairments (59%) than in family members of controls (19%).

SES AND PREVALENCE OF A POSITIVE FAMILY HISTORY

At least two studies have examined the relationship between children's SES and their familial aggregation of language impairment. Tallal, Townsend, Curtiss, and Wulfeck (1991) extended an earlier study by Tallal et al. (1989a) to determine whether children with and without a positive family history of SLI showed different phenotypic profiles. In this

case, *phenotypes* were defined as measurable traits or characteristics that could be potentially linked to the underlying genetic influence of the SLI condition. The analysis included 65 children with SLI who had sufficient family history data collected for the full 5 years of the longitudinal study. Forty-two of the participants met the criteria for a positive history, and 23 met the criteria for a negative history. The children's SES level, as measured by parental education and occupation, was the only phenotypic difference between the groups. Specifically, more children with a negative family history were classified at a higher SES level than were the children with a positive family history. Tallal et al. (1991) reasoned that language problems are often linked to poor academic achievement, which in turn leads to lower levels of parental education and lower levels of SES in affected families.

Lahey and Edwards (1995) also examined SES, as measured by parental education, within their family history study of 53 children with expressive-receptive language impairments, aged 4–9 years. Results showed that 60% of the children had at least one immediate family member with a history of speech, language, and/or learning impairment; however, SES was not related to the children's family histories of impairment. These findings are in contrast to those reported by Tallal et al. (1991).

Overall, this review suggests that there is a link between family history and phenotypic expression of childhood language impairment. However, only one of the studies reviewed reported the inclusion of AA children as participants. This study was by Lahey and Edwards (1995), and AA children made up 19% of their participants. For the other studies, information about the children's race was undocumented and/or the authors specifically stated that they excluded children who spoke nonstandard English. From these types of reporting practices, we infer that previous family history studies have included a limited number of AA children, which is unfortunate because without adequate representation,

the generalization of previous studies to AA families is unknown.

Our review also indicates that there is a need to further examine the role of SES as it relates to children's family history data. Recall that only two of the studies reviewed examined this variable directly, and findings from these studies were mixed. Complicating the interpretation of these mixed findings is the use of different indices for estimating SES. Tallal et al. (1991) used a combination of parental education and occupation to index SES, whereas Lahey and Edwards (1995) used parental education only. Also, the index of Tallal et al. involved numerous SES groupings, whereas Lahey and Edwards (1995) divided their participants into two SES groups. In addition to these mixed findings, the study of SES seems particularly important for family history studies of AA children because of the disproportionately high rate of AA individuals relative to other racial groups that live in poverty (DeNavas-Walt, Proctor, & Smith, 2009). Thus, inclusion of SES as an independent variable and/or as a control variable within a family history study allows one to examine potential relationships among an AA child's family history, SES, and language impairment status.

PURPOSE

Given the literature review, we designed the current study to examine the family history data of a sample of AA children who presented a range of SES levels and for whom a small subgroup presented with the clinical condition of SLI. In addition, we examined the prevalence of a positive family history as a function of a child's receipt of services by a speech-language clinician. Although our review of the literature did not highlight receipt of services as an important variable within previous family history studies, some of the children in our study received speech-language services in the schools even though they were not classified as SLI. Given this, we reasoned that we could use these data to examine whether receipt of services leads to a family history rate that mirrors that of children

who meet the more rigorous research classification of SLI.

The study was conducted in two phases. In Phase 1, we used questionnaire data from 161 AA children to answer the question: Is there a difference in the prevalence of a positive family history in children as a function of their SES level (low vs. middle), receipt of speech-language services (\pm), and SLI clinical status (\pm profile consistent with a diagnosis of SLI)? Phase 2 was exploratory in nature and included phone interviews with the primary caregivers of 17 of the children. Questions guiding this aspect of the study were: What is the number of immediate and extended family members who report a history of speech-language difficulties for each child, and What is the nature of their reported speech and language disorders?

METHODS

Participants

Data were collected from AA children who were recruited for potential participation in one of two previous dissertation studies (Garrity, 2007; Pruitt, 2006; see also Garrity & Oetting, in press; Pruitt & Oetting, 2009). Parental consent for each of the participants was obtained following the regulations outlined by the Institutional Review Board at Louisiana State University. Recruitment included disseminating information packets and consent forms through local churches and sending this same information home with children enrolled in local day cares, preschools, and kindergartens. As part of the consent form, the families were asked to provide sociodemographic and family history information.

The participating families were residents of East Baton Rouge Parish, St. Tammany Parish, or Ascension Parish. All three parishes are located in the southeastern region of Louisiana. East Baton Rouge Parish and St. Tammany Parish are communities with 415,000 and 220,000 residents, respectively, and Ascension Parish is a community with

Table 1. Participant characteristics

	N	%
Age (in months) ^a	78.5 (11.8)	—
Gender (% males)	79	49
SES ^b		
Low SES	32	20
Middle SES	128	80
Received speech-language therapy services	29	18
Classified as specific language impairment	10	6
Total	161	

Note. SES = socioeconomic status.

^aMeans reported first with standard deviation in parentheses.

^bOne participant did not report maternal education.

approximately 87,000 residents. A total of 175 consent forms were collected. Of the 175 forms, 13 were omitted from the study because of incomplete information regarding either date of birth and/or status of speech-language therapy services, and one was omitted because two came from siblings. Thus, the resulting number of participants in the study was 161.

The 161 participants ranged in age from 25 to 100 months, and gender was evenly split (see Table 1). Maternal education served as the measure of each child's SES level, and this information was available for all but one child. Of the 160 for which maternal education data were available, 32 were from low-SES families and 128 were from middle-SES families. The low-SES group included mothers who did not graduate from high school ($M = 10.2$ years of education, $SD = 1.1$), and the middle-SES group included mothers who, at a minimum, graduated from high school ($M = 14.2$; $SD = 1.7$). Of the 161 children, 132 were also classified as developing speech and language typically, and 29 were classified as presenting a speech and/or language impairment as measured by receipt of services by a speech-language clinician.

Of the 29 children who received services by a speech-language clinician, 10 were fur-

ther classified as presenting the clinical condition of SLI (see Table 2). Maternal education was available for nine of these children, and using the same maternal education criteria as stated above, five of the children with SLI were classified as low SES and four were classified as middle SES. All of the children classified as SLI scored within the normal range on two nonverbal subtests of the *Leiter International Performance Scale-Revised* (Roid & Miller, 1998). These children also scored more than one standard deviation below the mean on the syntax quotient of the *Test of Language Development-Primary: Third Edition* (Newcomer & Hammill, 1997) and the *Peabody Picture Vocabulary Test: III* (Dunn & Dunn, 1997). Their standard scores on these tools averaged 66.1 ($SD = 8.5$) and 78.0 ($SD = 4.9$), respectively.

Phase 1: Questionnaire data

The data for the first phase of the study came from questions that were collected as part of the parent consent form. Questions requested information about each child's gender, age, race, maternal education, receipt of speech-language therapy services (if any), and information about any family members who presented difficulties with speech,

Table 2. Characteristics of children with specific language impairment ($N = 10$)

	N (%)	M (SD)
Age (in months)	—	84.9 (8.8)
Gender (% males)	4 (40)	—
Maternal education ^a		
Low SES	5 (55)	—
Middle SES	4 (45)	—
Standardized test scores		
Leiter-R	—	20.6 (3.0)
PPVT-III	—	78.0 (4.9)
Syntax quotient on TOLD-P: 3	—	66.1 (8.5)

Note. PPVT-III = Peabody Picture Vocabulary Test: III; SES = socioeconomic status; TOLD-P = Test of Language Development-Primary.

^aOne participant did not report maternal education.

language, reading, or writing. The family history inquiry on the questionnaire was a single question involving a yes/no answer. The question was: Does anyone in your child's family have difficulties with speech, language, reading, or writing?

Phase 2: Phone interview data

For the second phase of the study, phone interviews were conducted with the primary caregivers of the children to gain more information about the number of family members who reported a history of speech and language difficulties as has been collected in previous studies. Specifically, we sought details about each family member's relationship to the child and the nature of the family member's impairment when applicable. These phone interviews were completed 6–9 months after the initial contact was made with the families and after data were collected for the two dissertations. Sixty-nine (43%) caregivers who completed a parental consent form indicated a willingness to be interviewed on the phone. For these caregivers, three phone calls were attempted. Each attempt was made 1 to 3 days apart. The first attempt was made in the evening, the second attempt was in the morning, and the third attempt was in the afternoon. Despite the three attempts, only 17 phone interviews were successfully completed. Thirty-four phone numbers were either disconnected, not in service, incorrect, or without a workable voice mail system. In addition, 18 families did not answer or return messages left.

Descriptive data for the 17 families who completed the phone interviews were relatively similar to those of the larger sample. For example, these families' mean maternal educational level was 12.8 years ($SD = 2.3$), and the average age of their target child was 75.1 months ($SD = 12.8$). Also, six (22%) received services by a speech-language clinician, and one (6%) was classified as SLI. Relative to the larger sample, the phone interview sample contained slightly more families classified as low SES (29% vs. 20%) and more target children who were males (65% vs. 49%).

The phone interviews were guided by a questionnaire adapted from Lewis and Freebairn (1993). If the questionnaire revealed that the target child received speech-language services, additional information about the type of services was gathered. Then, information about the child's blood-related family members, immediate and extended, was collected. Finally, for each family member listed, we collected information about his or her history of speech and language difficulties, reading and writing difficulties, spelling difficulties, learning disabilities (i.e., special education classes), stuttering, and hearing loss. Clarification and examples were provided to the caregivers in cases where they were unsure of the nature of a family member's difficulties.

Reliability and validity

To test the reliability of the data collected from the questionnaires, a graduate student not affiliated with the study independently identified the family history status for the 161 questionnaires. Two disagreements (99% rate of agreement) with the original analysis were found and resolved jointly. A measure of reliability was not collected for the phone interviews. However, the phone interviews were used to evaluate the validity of the information recorded on the questionnaires. There were four participants whose information from the questionnaire and phone interview was not consistent. In two cases, the caregivers reported on the questionnaire that the child did not receive speech and language services, but during the phone interview it was determined that the children did receive services. In the third case, the caregiver did not report a positive family history of language impairment on the questionnaire, but the phone interview revealed that there was a positive history. The final case involved a caregiver who reported a positive family history of impairment on the questionnaire, but during the phone interview it was determined that the impairment was psychological in nature. When these cases are considered, rate of agreement between the questionnaires

and the phone interviews was 88% for both the children's receipt of services (15/17) and their family history of impairment (15/17). Although not ideal, this level of agreement between the questionnaires and phone interviews was considered adequate for the preliminary nature of the work.

RESULTS

Phase 1: Questionnaire data

Of the 161 children for whom there were questionnaires, 39 indicated that someone in the participant's immediate family had difficulties with speech, language, reading, or writing. This reflected an overall positive family history prevalence rate of 24%.

Table 3 presents the rates at which a positive family history was reported as a function of SES and receipt of speech-language services. Recall that of the 161 children, there were 29 who were receiving speech-language services and 132 who were classified as typically developing because they were not

receiving services. As can be seen, children from low-SES backgrounds (44%) were significantly more likely to have a positive family history of speech and language impairment than those from middle-SES backgrounds (20%); $\chi^2 = 8.1, p < .01$. Receipt of speech-language services (\pm), however, did not lead to a statistical difference in the children's rates of a positive family history (+ services = 38%; - services = 21%); $\chi^2 = 3.6, p > .05$. These null findings for receipt of services held even when we reran the analyses for the low- and middle-SES groups separately; middle SES \pm receipt of services, $\chi^2 = 2.58, p > .05$; low SES \pm receipt of services, $\chi^2 = 0.23, p > .05$.

The final analysis compared the family history rates of the 10 children with SLI to the 132 children who did not receive services and were classified as typically developing. As shown in Table 3, 50% of the children with SLI presented a positive family history for language impairment. This prevalence rate was more than twice as high as the 21% positive family history rate of the children classified as typically developing, $\chi^2 = 4.3, p < .05$.

To further explore the effect of the children's SES levels on these results, we examined the maternal education levels of these two groups. When this was done, we found that the SLI group's maternal education level averaged 12.2 years ($SD = 1.9$; range = 11-16) and the typically developing controls' averaged 13.5 years ($SD = 2.2$; range = 6-16). These group means and their accompanying distributions of scores were visually similar to each other. Also, when we examined the positive family history rates of these two groups after controlling for the children's SES levels, elevated rates for those with SLI remained (low-SES SLI = 60% vs. low-SES controls = 41%; middle-SES SLI = 50% vs. middle-SES controls = 17%). Relative to their SES-matched controls, these elevated rates reflected a 50% increase in the rates of a positive family history for the low-SES children with SLI and a 200% increase for the middle-SES children with SLI. Statistical analyses were not run on

Table 3. Prevalence of family history by children's SES, receipt of services, and SLI status^a

	Positive history (%)	Negative history (%)
Low SES ^b (<i>n</i> = 32)	14 (44)	18 (56)
Middle SES (<i>n</i> = 128)	25 (20)	103 (80)
+ SLP services (<i>n</i> = 29)	11 (38)	18 (62)
- SLP services (<i>n</i> = 132)	28 (21)	104 (79)
SLI (<i>n</i> = 10)	5 (50)	5 (50)
Typically developing (<i>n</i> = 132)	28 (21)	104 (79)

Note. SES = socioeconomic status; SLI = specific language impairment; SLP = speech-language pathology.

^aNumber of children reported first with percentages in parentheses.

^bOne participant did not report maternal education.

Table 4. Family members reporting a positive history and nature of impairment

Family members	N	Nature of impairment
Mother	3	Reading, speech
Father	1	Stuttering
Sister	0	—
Brother	5	Reading, speech, stuttering
Aunt	5	Reading, speech
Uncle	3	Reading, stuttering
Female cousin	2	Deaf, unknown
Male cousin	1	Unknown
Total	20	—

these rates given the low numbers of children with SLI in the low- and middle-SES groups (5 and 4, respectively). Nevertheless, visual inspection of these data indicates that the elevated positive family history rate of the SLI group relative to the controls was not an artifact of the children’s SES levels.

Phase 2: Phone interview data

Eleven (65%) of the 17 caregivers who were interviewed reported a positive family history of impairment. Within these families, the total number of members with a positive history was 20, and the number of affected members per family ranged from 1 to 5. As shown in Table 4, half of the affected members were in the children’s immediate families, and the other half were in the children’s extended families. The most common types of difficulty reported for these family members included reading impairment, speech impairment, and stuttering.

DISCUSSION

The goals of the current study were to explore the family history data of a sample of AA children who varied in their SES levels and determine whether findings from previous family history studies generalize to these children. To do this, we examined the prevalence of a

positive family history as a function of the children’s SES levels, receipt of speech and language services, and SLI status. Results showed that the overall prevalence of a positive family history in our sample of AA children was 24%. Children receiving speech and language services in the schools did not report a significantly higher rate of positive family history than children not receiving services, but low-SES children were two times more likely to report a positive family history than middle-SES children. The AA children with SLI were also two times more likely to report a positive family history than children classified as typically developing, and when we controlled for SES effects, elevated rates of a positive family history for those with SLI remained. Relative to SES-matched controls, these elevated rates reflected a 50% increase in the rates of a positive family history for the low-SES children with SLI and a 200% increase for the middle-SES children with SLI.

A higher prevalence rate of positive family history for children with SLI than controls is consistent with previous family history studies. As shown in Table 5, positive family history rates of children with and without SLI have varied across studies, but the general trend has been for the magnitude of the

Table 5. Percentage of children with a positive family history of speech and language impairment

Study	Children with specific language impairment	Controls
Current study (N = 132)	50	21
Rice et al. (1998) (N = 98)	18	9
Tallal et al. (1989a) (N = 112)	77	46
Tallal et al. (2001) (N = 48)	59	19

differences (SLI vs. controls) to approximate 2 (or 200%) when AA children have not been identified as participants, when participants have come from primarily middle-SES families, and/or when the SES of the participants has not been examined. In this regard, we can conclude that findings from previous family history studies generalize to AA children.

Our finding that low-SES AA children present a higher rate of positive family history than middle-SES AA children is also consistent with one of the two other studies that have examined the relation between SES and family aggregation of impairment. Recall that Tallal et al. (1991) examined the SES of children with and without a positive family history and showed that children with a positive history were more likely to be from lower SES families as compared with those with a negative history. Findings from the current study and the study by Tallal et al. indicate the need to seriously consider SES when evaluating family history data in future studies and in clinical practice.

As noted earlier, positive family history rates of children as a function of their receipt of services has not been formally explored in previous studies. Nevertheless, we felt it was important to examine this variable to learn more about the family histories of children who typically receive services by speech-language clinicians. Somewhat surprisingly, results showed that the prevalence of a positive family was not higher for the children who received services than for the children who did not. On one hand, the lack of an effect for receipt of services may reflect the limited role family history information plays in current speech and language assessments. On the other hand, speech-language clinicians provide services to children for a variety of communication disorders that may or may not be familial. Given this, we caution against making too much of this null effect, especially because we did not have detailed information about the nature of all of these children's communication disorders.

The findings of the current study, although preliminary, highlight the need for, and poten-

tial value of, conducting family history studies with AA children and children from other minority groups who are underrepresented in the scientific literature. The findings also underscore the importance of collecting and considering SES as part of any future family history study. Ideally, these future studies should be large in scale ($n > 1,000$) and include children who vary in their ethnicity, race, and SES, because it will be only after these types of large-scale studies are conducted that we will be able to fully understand the role of a positive family history within a child's speech and language development.

CLINICAL IMPLICATIONS

Until then, it is important to consider the clinical implications of the family history studies that have been conducted thus far. Recall that a primary reason we completed our study was to learn more about the role of a positive family history within our childhood speech and language assessments. This is because clinicians routinely collect family history information as part of our assessments, yet until now, the field has lacked data from AA families and explicit guidelines about how best to use family history information to guide our decision-making processes. In light of our findings, we offer the following recommendations to clinicians.

1. Include a positive family history as a risk factor for childhood speech and language impairment. This applies equally to AA and Caucasian children. A positive family history of impairment should be considered an important risk factor when conducting childhood speech and language assessments, even though the prevalence of a positive family history may be higher in low as compared with middle-SES children. When talking to families, a positive or negative family history should be formally discussed along with other factors (e.g., SES, gender, history of ear infections, response to intervention) that increase or decrease the likelihood that a child with weak

language skills presents a clinical condition, such as speech and language impairment and/or SLI.

2. Discuss risk factors as part of an assessment for all children. Such discussions should lay the foundation for additional conversations between clinicians and families about short- and long-term outcomes of treatment and the potential need for future academic accommodations should the child's clinical status remain stable across time.

Clinicians may also want to use the findings of the current study and others to educate families about risk for impairment if and when caregivers are concerned about

other members of their family. Although family history alone should never be used to determine a child's eligibility for services, with additional studies, there may come a time when clinicians can use a positive family history to argue for a more rigorous screening protocol or more frequent screens than is typically recommended. For children with subclinical speech and language weaknesses and a positive family history of speech and language impairment, there may also come a time when clinicians can use a positive family history (along with other measures) to build a case for these children to receive services immediately, rather than following a "wait and see" approach.

REFERENCES

- Benasich, A. A. (2002). Impaired processing of brief, rapidly presented auditory cues in infants with a family history of autoimmune disorder. *Developmental Neuropsychology*, 22(1), 351-372.
- Bishop, D. V. M. (1997). Pre- and perinatal hazards and family background in children with specific language impairments: A study of twins. *Brain and Language*, 56, 1-26.
- DeNavas-Walt, C., Proctor, B. D., & Smith, J. C. (2009). U.S. Census Bureau, Current Population reports, *income, poverty, and health insurance coverage in the United States: 2008*, Washington, DC: U.S. Government Printing Office.
- Dunn, L. M., & Dunn, L. M. (1997). *Peabody Picture Vocabulary Test—III*. Circle Pines, MN: American Guidance Service.
- Garrity, A. W. (2007). *A study of auxiliary BE in African American English: A comparison of children with and without specific language impairment*. Unpublished dissertation, Louisiana State University, Baton Rouge.
- Garrity, A. W., & Oetting, J. B. (in press). Auxiliary BE production by AAE-speaking children with and without specific language impairment. *Journal of Speech, Language, and Hearing Research*.
- Hammill, D. D., Brown, V. L., Larsen, S. C., & Wiederhold, J. L. (1987). *Test of Adolescent Language—2*. Austin, TX: Pro-Ed.
- Hammill, D. D., & Newcomer, P. L. (1988). *Test of Language Development—2, Intermediate*. Austin, TX: Pro-Ed.
- Lahey, M., & Edwards, J. (1995). Specific language impairment: Preliminary investigation of factors associated with family history and with patterns of language performance. *Journal of Speech and Hearing Research*, 38, 643-657.
- Lewis, B. A., & Freebairn, L. (1993). A clinical tool for evaluating the familial basis of speech and language disorders. *American Journal of Speech-Language Pathology*, 2, 38-43.
- Neils, J., & Aram, D. (1986). Family history of children with developmental language disorders. *Perceptual and Motor Skills*, 63, 655-658.
- Newcomer, P. L., & Hammill, D. D. (1988). *Test of Language Development—2, Primary*. Austin, TX: Pro-Ed.
- Newcomer, P., & Hammill, D. (1997). *Test of Language Development—Primary* (3rd ed.). Austin, TX: Pro-Ed.
- Pruitt, S. L. (2006). *Grammatical morphology of children reared in poverty: Implications for specific language impairment*. Unpublished dissertation, Louisiana State University, Baton Rouge.
- Pruitt, S. L., & Oetting, J. B. (2009). Past tense marking by African American English-speaking children reared in poverty. *Journal of Speech, Language, and Hearing Research*, 52, 2-15.
- Rice, M. L. (1997). Specific language impairments: In search of diagnostic markers and genetic contributions. *Mental Retardation & Developmental Disabilities Research Reviews*, 3(4), 350-357.
- Rice, M. L., Haney, K. R., & Wexler, K. (1998). Family histories of children with SLI who show extended optional infinitives. *Journal of Speech, Language, and Hearing Research*, 41, 419-432.
- Rice, M., Warren, S., & Betz, S. (2005). Language symptoms of developmental language disorders: An overview of autism, Down syndrome, Fragile X, specific language impairment, and Williams syndrome. *Applied Psycholinguistics*, 26, 7-28.

- Roid, G., & Miller, L. (1998). *Leiter International Performance Scale-Revised*. Wood Dale, IL: Stoelting.
- Tallal, P., Hirsch, L. S., Realpe-Bonilla, T., Miller, S., Brzustowicz, L. M., Bartlett, C., et al. (2001). Familial aggregation in specific language impairment. *Journal of Speech, Language, and Hearing Research, 44*, 1172-1182.
- Tallal, P., Ross, R., & Curtiss, S. (1989a). Familial aggregation in specific language impairment. *Journal of Speech and Hearing Disorders, 54*, 167-173.
- Tallal, P., Ross, R., & Curtiss, S. (1989b). Unexpected sex ratios in families of language/learning-impaired children. *Neuropsychologia, 27*, 987-998.
- Tallal, P., Townsend, J., Curtiss, S., & Wulfeck, B. (1991). Phenotypic profiles of language-impaired children based on genetic/family history. *Brain and Language, 41*, 81-95.
- Tomblin, J. B. (1989). Familial concentration of developmental language impairment. *Journal of Speech and Hearing Disorders, 54*, 287-295.
- Tomblin, J. B. (1996). Genetic and environmental contributions to the risk for specific language impairment. In M. L. Rice (Ed.), *Toward a genetics of language* (pp. 191-210). Mahwah, NJ: Erlbaum.
- Tomblin, J. B., Records, N. L., Buckwalter, P., Zhang, X., Smith, E., & O'Brien, M. (1997). Prevalence of specific language impairment in kindergarten children. *Journal of Speech, Language, and Hearing Research, 40*, 1245-1260.
- Van Hulle, C. A., Goldsmith, H. H., & Lemery, K. S. (2004). Genetic, environmental, and gender effects on individual differences in toddler expressive language. *Journal of Speech, Language, and Hearing Research, 47*, 904-912.



Lippincott Williams and Wilkins is approved by the Continuing Education Board of the American Speech-Language-Hearing Association (ASHA) to provide continuing education activities in speech-language pathology

and audiology. **See course information for number of ASHA CEUs, instructional level and content area.** ASHA CE Provider approval does not imply endorsement of course content, specific products or clinical procedures.

INSTRUCTIONS FOR EARNING CONTINUING EDUCATION CREDIT FROM ASHA

This program is offered for 0.5 CEUs (Various levels, Professional area).

To participate in the continuing education activity, subscribers to the journal pay a nominal processing fee of \$6.95. Nonsubscribers pay an enrollment and processing fee of \$20.00 per test. Your check should be made payable to the LWW CE Group and enclosed with your enrollment form. These fees are for the processing of tests and CE certificates and do not represent income to ASHA.

An annual ASHA CE Registry fee is required to register ASHA CEUs. ASHA CE Registry fees are paid by the participant directly to the ASHA National Office. The ASHA CE Registry fee allows registration to an unlimited number of ASHA CEUs for a calendar year. Contact the ASHA staff at 800-498-2071 ext. 4219 for CE Registry fee subscription information.

A test answer sheet, course evaluation form, and registration form are printed in the back of each issue. To enroll, you should send the completed forms, a check for your processing fee, and your completed test(s) to Lippincott Williams & Wilkins. Once processed, LWW will mail verification of your enrollment and a report of your score(s) to you. The graded test answer sheet is not returned, so you may wish to make a copy of your answers before submitting your tests for grading. A score of 80% is the minimum score required to receive CEUs.

Allow 4–6 weeks for LWW to process your enrollment fees, grade your tests, and send verification of test scores to you. If you must complete CEUs by a licensing renewal deadline you should submit your tests to LWW 4–6 weeks in advance of your deadline.

IMPORTANT: We must receive your test for Volume 30, Issue 2, by November 30, 2012. LWW prepares and submits a report to ASHA (quarterly) concerning all participant activity in the volume.

Please send registration forms, fees, tests, and correspondence regarding this continuing education activity to: Lippincott Williams & Wilkins, CE Group, 333 7th Avenue, 19th Floor, New York, NY 10001. For questions about this test, please call 1.800-787-8985.

Continuing Education Questions

The following questions make up the test items for participants for this activity. They are based on the articles presented in this issue of *Topics in Language Disorders*. The answer sheet is at the end of the issue. Please read the important note on the course evaluation form.

Purpose: To provide speech language pathologists with information about language assessment of young children learning African American English (AAE) as a first dialect, when a language disorder is suspected.

I. Fast Mapping Verb Meaning From Argument Structure

- This study was designed to approximate measurement of word knowledge in culturally and linguistically diverse populations by using a**
 - knowledge-dependent language measure.
 - processing-dependent language measure.
 - standardized language test.
 - nonword repetition task.
- The questions posed to the participants in this study were used to determine if they could understand the meaning of**
 - the novel argument structures.
 - the novel nouns in the sentences.
 - dialect-neutral morphology.
 - the novel verb to its arguments.
- This study used which additional argument structure contrasts that were not used in previous studies?**
 - Intransitive/complement contrasts
 - Dative/complement contrasts
 - Intransitive/transitive contrasts
 - Intransitive/dative contrasts
- Based on the current study, which of the following is true?**
 - AAE- and General American English (GAE)-speaking participants could fast map novel verb meaning from a variety of argument structures.
 - Overall no significant differences were found between the two dialect groups in their ability to fast map novel nouns.
 - Researchers found significant differences between the two dialect groups in their ability to fast map.
 - AAE- and GAE-speaking participants performed equally on a knowledge-based measurement task.
- Which of the following statements is most accurate?**
 - AAE- and GAE-speaking children demonstrated age differences in the fast mapping task.
 - The GAE-speaking participants in this study are more knowledgeable about the role of the novel nouns for the transitive argument structure than the AAE-speaking children.
 - The findings of the present study do not promote using linguistic context to determine word meaning.
 - The findings of the present study imply that a possible option for measuring semantic knowledge in AAE- and GAE-speaking children is to use fast mapping tasks.

II. Expressive and Receptive Language Effects of African American English on a Sentence Imitation Task

- The main focus in this study was on what subtest of the Clinical Evaluation of Language Fundamentals-3 (CELF-3)?**
 - Formulated sentences
 - Recalling sentences
 - Sentence assembly
 - Word structure
- In the current study, narratives were used to**
 - assess articulation skills.
 - establish the participants' overall language level.
 - establish AAE-speaking status.
 - assess complex syntax.
- All of the following morphological features were analyzed in this study *except***
 - third person singular -s.
 - counterfactual conditional *if + ed*.
 - negation.
 - undifferentiated pronoun.
- Third person singular -s**
 - has been identified as a point of divergence between AAE and GAE.
 - may have an educationally significant effect on fourth-grade AAE-speaking students' performance on the WJ-R Applied problems subtest.
 - creates online disturbances and misreadings further downline from the feature itself for GAE-speaking readers.
 - may affect GAE speakers' reading performance.
- The results of the current study suggest all of the following *except***
 - third person singular -s has a significant effect on AAE-speaking second graders' scores on the CELF-3 subtest used in this study.
 - morphosyntactic mismatches between AAE and GAE have word-level effects and broader sentence level effects on sentence recall.
 - third person singular -s has a significant effect on AAE-speaking fourth graders' scores on the CELF-4 subtest used in this study.
 - using a list of alternate AAE responses does not eliminate the effect of third person singular -s on scores of the CELF-3 subtest used in this study.

III. Variable Use of Features Associated With African American English by Typically Developing Children

11. **Noncontrastive morphosyntactic features**
- A. differ in pronunciation between AAE and GAE.
 - B. are sometimes the same and sometimes different in usage in AAE and GAE.
 - C. have different usage rules in AAE and GAE.
 - D. have the same usage rules in AAE and GAE.
12. **An example of a noncontrastive feature is the**
- A. past tense *-ed*.
 - B. copula *is*.
 - C. past tense copula *was*.
 - D. possessive *'s*.
13. **Variable contrastive feature use in AAE is**
- A. relatively rare in adults.
 - B. a characteristic feature at all ages.
 - C. primarily in younger children.
 - D. primarily in older children.
14. **Across all age groups in this study, the primary marking pattern used was**
- A. GAE-equivalent marking.
 - B. overt marking.
 - C. mixed marking.
 - D. zero-marking.
15. **Which of the following forms is more likely to be zero-marked both at younger and older ages in the speech of typically developing AAE first dialect speakers?**
- A. Third person singular agreement on verbs
 - B. Past tense /-ed/
 - C. Possessive /-s/
 - D. Zero "are" auxiliary

IV. A Preliminary Investigation of Second- and Fourth-Grade African American Students Performance on the Gray Oral Reading Test—Fourth Edition

16. **The GORT was developed**
- A. as a measure of receptive language.
 - B. to neutralize effects of variations from mainstream American English on a child's test performance.
 - C. to determine if children are AAE speakers.
 - D. to assist in determining students' specific reading strengths and limitations.
17. **Based on Harber's (1982) study with AAE speakers, when AAE productions were not scored as errors students obtained**
- A. higher scores on the GORT.
 - B. higher scores on the Diagnostic Evaluation of Language Variation-Screening Test.
 - C. lower scores on the GORT.
 - D. lower scores on the Diagnostic Evaluation of Language Variation-Screening Test.
18. **The Harber (1982) study found that the higher the student scored on the GORT, the more likely the student**
- A. spoke more AAE.
 - B. spoke little English.
 - C. spoke more standard English.
 - D. was a fluent bilingual speaker.
19. **The findings from the current study concluded that the GORT-4**
- A. is a useful instrument for identifying the oral reading proficiency skills of low-income urban English language learner students.
 - B. might not be a useful instrument for identifying the oral reading proficiency skills of low-income urban AA elementary grade students who use varying levels of AAE.
 - C. is a useful instrument for identifying the oral reading proficiency skills of low-income urban AA elementary grade students who use varying levels of AAE.
 - D. might not be a useful instrument for identifying the oral reading proficiency skills of low-income urban English language learner students.
20. **In the current study, regardless of the students' AAE usage, the majority of the participants earned scores on the GORT-4 that were**
- A. average.
 - B. below the mean.
 - C. above the mean.
 - D. above the mean for third graders but below the mean for fifth graders.

V. Family History of Speech and Language Impairment in African American Children: Implications for Assessment

21. **A positive family history of speech and language impairment is**
- A. the strongest indicator of compromised language development in children.
 - B. second only to prenatal/perinatal factors as a contributor to childhood language impairments.
 - C. a significant risk factor but not as significant as gender in determining language impairments.
 - D. the third strongest indicator of compromised language development in children.
22. **In the study by Rice et al. (1998) for children with specific language impairment (SLI), rates of a positive family history were higher in**
- A. middle socioeconomic status (SES) families.
 - B. lower SES families.
 - C. their immediate family members.
 - D. their extended family members.
23. **Phenotypes are measurable traits that**
- A. are solely derived from a person's heredity.
 - B. cannot be linked to the underlying genetic influence of the SLI condition.
 - C. potentially can be linked to the underlying genetic influence of the SLI condition.
 - D. exist exclusive of environmental influences.
24. **In the current study, a positive family history of speech/language impairment was significantly related to**
- A. low SES.
 - B. middle SES.
 - C. receipt of speech and language services.
 - D. paternal education level.
25. **The authors recommend that a family history of speech/language impairment should be**
- A. used as part of a screening protocol for AAE speakers only.
 - B. considered the sole criterion for determining SLI.
 - C. used solely to screen for childhood speech impairments.
 - D. included as part of an assessment for all children.

CONTINUING EDUCATION CREDIT

Dear Subscriber:

We are pleased to offer this continuing education activity to you. By reading the journal articles and completing the multiple choice questions furnished, you can earn valuable credit.

To participate in the continuing education activity, complete the form below. Subscribers should submit a check or credit card information for a processing fee of \$6.95. Nonsubscribers should submit payment of \$20.00. All checks are made payable to LWV.

Send your payment along with this registration form/answer sheet, and the completed evaluation form to:

Lippincott Williams & Wilkins
CE Group
333 7th Avenue, 19th Floor
New York, NY 10001

Two Easy Ways to Pay:

- Check or money order enclosed (Payable to Lippincott Williams & Wilkins)
 Charge my MasterCard Visa American Express

Card # _____ Exp. date _____

Signature _____

Research With Implications for Assessing the Language of African American English Speakers

TLD, 30:2, April–June 2010

Registration deadline: November 30, 2012

YES, I am a *TLD* subscriber.

NO, I am not a *TLD* subscriber. Enclosed is my enrollment fee of \$20.00.

Enclosed is my processing fee of \$6.95.

Name First Middle initial Last

Mailing address

City State ZIP code

ASHA account number Daytime phone number

If your name has changed since your last submission to the Registry, print your former name above.

Professional specialty area and employment facility

ANSWER SHEET

Circle the correct answer to each question.

I. Fast Mapping Verb Meaning From Argument Structure

- 1. A B C D
- 2. A B C D
- 3. A B C D
- 4. A B C D
- 5. A B C D

II. Expressive and Receptive Language Effects of African American English on a Sentence Imitation Task

- 6. A B C D
- 7. A B C D
- 8. A B C D
- 9. A B C D
- 10. A B C D

III. Variable Use of Features Associated With African American English by Typically Developing Children

- 11. A B C D
- 12. A B C D
- 13. A B C D
- 14. A B C D
- 15. A B C D

IV. A Preliminary Investigation of Second- and Fourth-Grade African American Students Performance on the Gray Oral Reading Test—Fourth Edition

- 16. A B C D
- 17. A B C D
- 18. A B C D
- 19. A B C D
- 20. A B C D

V. Family History of Speech and Language Impairment in African American Children: Implications for Assessment

- 21. A B C D
- 22. A B C D
- 23. A B C D
- 24. A B C D
- 25. A B C D

Cut here

CONTINUING EDUCATION EVALUATION

Note to Participants: To receive credit for this activity, you must complete this course evaluation and submit it with your answer sheet.

NAME: _____

Read each statement carefully, then select one of the following alternatives:

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4),

STRONGLY DISAGREE (5).

Circle one.

- | | | | | | |
|--|---|---|---|---|---|
| 1. The authors' content and level of difficulty were appropriate for this topic. | 1 | 2 | 3 | 4 | 5 |
| 2. This issue had clearly stated objectives (see below). | 1 | 2 | 3 | 4 | 5 |
| 3. The authors demonstrated a thorough knowledge of the topic. | 1 | 2 | 3 | 4 | 5 |
| 4. The organization of this issue facilitated learning. | 1 | 2 | 3 | 4 | 5 |
| 5. The articles and their references were current. | 1 | 2 | 3 | 4 | 5 |
| 6. This issue contributed to effective and efficient learning. | 1 | 2 | 3 | 4 | 5 |
| 7. This issue increased my interest in this topic. | 1 | 2 | 3 | 4 | 5 |
| 8. This issue gave me new and/or useful information. | 1 | 2 | 3 | 4 | 5 |
| 9. I will apply the knowledge and/or skills gained from this issue to my current or future work. | 1 | 2 | 3 | 4 | 5 |
| 10. This issue has/will contribute to my professional growth. | 1 | 2 | 3 | 4 | 5 |
| 11. Several authors provided implications for SLP services. | 1 | 2 | 3 | 4 | 5 |
| 12. This issue helped me understand research to practice complexities. | 1 | 2 | 3 | 4 | 5 |

OBJECTIVES OF *TOPICS IN LANGUAGE DISORDERS*

Vol. 30, No. 2

After reading these articles and taking the post-test, the speech-language pathologist will be able to:

1. discuss word-learning abilities in children from culturally and linguistically diverse populations via a fast mapping task.
2. analyze the extent to which giving credit for African American English (AAE) responses on a General American English (GAE) sentence imitation test mitigates dialect effects.
3. discuss the patterns of overt-, zero-, and mixed-marking of verbs among typically-developing AAE speaking children ages 4-12.
4. identify tools for assessing dialect and reading abilities of 2nd and 4th grade children who speak AAE.
5. discuss the rationale for including family history data in the language assessment process.