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Pronoun Marking in African American English-Speaking Children With and Without Specific Language Impairment

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PRONOUN MARKING IN AFRICAN AMERICAN ENGLISH-SPEAKING CHILDREN WITH AND WITHOUT SPECIFIC LANGUAGE IMPAIRMENT

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ABSTRACT

The present study was designed to describe and quantify patterns of pronoun use by African American English (AAE)-speaking children with specific language impairment (SLI) relative to their AAE-speaking typically developing (TD) peers. Pronouns were of interest because: they are produced frequently in everyday speech, they are often targeted when a child's language abilities are evaluated by a speech-language pathologist, and limited pronoun data exists for AAE-speaking children. The data were language samples that had been elicited from 96 children (35 SLI, 61 TD) enrolled in kindergarten. The samples were searched for 11 different pronoun forms, and these were coded as either mainstream or nonmainstream forms. In addition, the children's use of different types of appositive pronouns was examined.

Results showed that the majority of the children's pronouns reflected mainstream forms that were consistent with General American English (GAE). Of those classified as nonmainstream, three patterns (i.e., *subjective for genitive, objective for genitive,* and *objective for subjective*) were classified as productive because they were produced by more than 10% of the children. Although both groups of children produced these three pronoun patterns, those with SLI produced them at higher rates, and higher rates of *objective for genitive* pronouns accounted for the group difference. Specifically, the patterns *them for their* and *him for his* were produced more frequently per target context by children with SLI than TD children. Both groups also produced appositive pronouns; the frequency of these were low (.5%), and the most frequent were appositives involving *she, he,* and *they*.

These findings suggest that both TD children and children with SLI who speak AAE produce various pronoun patterns that can be considered nonmainstream. However, the majority of their pronouns reflect mainstream forms. Differences between those with and without SLI were minimal, with the former producing more *objective for genitive* pronouns than the latter. If

replicated, the findings suggest that current assessment tools should be modified to specifically target genitive forms. If this is done, multiple items targeting genitive pronouns should be included to capture rate-based differences in their use between children with and without SLI.

CHAPTER 1
INTRODUCTION

A dialect is defined as a variation of a language shared by a group of people. Dialects differ from each other because groups of people who speak them differ on a number of social factors like geography, age, race, or social class (Wolfram, 1991). There are two broad categories of dialects: "standard" or "mainstream" and "nonstandard" or "nonmainstream." Mainstream dialects in the United States are typically spoken by individuals classified as Caucasian or white and in professional settings such as school or the workplace. Although there are likely many mainstream dialects of English in the United States, collectively they are often referred to as General American English (GAE). Nonmainstream dialects tend to be spoken by individuals from minority backgrounds, and these dialects typically contain socially stigmatized features.

One nonmainstream dialect that is prevalent throughout the United States is African American English (AAE). According to the U.S. Census Bureau in 2014, African Americans comprised 13.2% of America's population. Not all African Americans speak AAE, and one does not need to be African American to speak AAE. Given this, it is unknown how many people speak AAE currently. Nevertheless, scholars such as Rickford (2002) consider it one of the most widely spoken and studied nonmainstream dialects in the United States.

AAE has been studied for its phonological, syntactic, morphological, semantic, and pragmatic differences to GAE (Paul & Norbury, 2012). It may be argued, however, that some aspects of AAE have been studied extensively for their differences from GAE while little information is known about others. One under-studied grammatical structure is the pronominal system. Pronoun use in AAE differs from GAE, but only limited research has been done to quantify the differences. Pronouns are produced frequently in everyday speech. According to

Biber, Johansson, Leech, Conrad, and Finegan (1999), pronouns occur in conversational speech at a rate of about 165 thousand per one million words, or about 16.5% of all words spoken. Given the frequency of pronouns in everyday speech, they are often produced or targeted when a child's language abilities are evaluated by a speech-language pathologist (SLP). Thus, it is unfortunate that more is not known about the AAE pronominal system.

Specific language impairment, or SLI, is a childhood developmental impairment in language that affects approximately 7% of kindergartners (Tomblin, et al., 1997). The SLI profile has been studied in children across a wide variety of languages, but in English, there is limited literature available to clinicians about the manifestations of SLI within different nonmainstream dialects of English (Leonard, 2014). Most research to date that is concerned with describing the grammar profile of children with SLI has been conducted with children who speak GAE. Given this, there is a need to extend the study of SLI to children who speak different nonmainstream English dialects, such as AAE.

The present study was designed to examine differences between the patterns of pronoun use by child AAE speakers with and without SLI. The literature review for this study is divided into four sections. First, I review research that has been done on the AAE dialect and discuss structures of language that have been well documented in contrast to that of pronouns. Next, I review studies that have been conducted on children with SLI and TD controls to establish differences in language use across these two groups. It should be noted that terminology to describe patterns of language use within the dialect literature often uses the terms "mainstream overt marking," "nonmainstream overt marking," and "nonmainstream zero-marking" (*He is working vs. Him and Amahad are working vs. He ___ working*) to denote the variable ways in which a structure can be felicitously produced within a dialect (Lee & Oetting, 2014). In the SLI

literature, researchers tend to use the terms overt marking, error of commission, and omission to describe forms that are correctly produced, incorrectly produced, or absent using the grammar of GAE as the reference; Cleave & Rice, 1997). In the current work, terms used in the dialect and SLI literature are maintained when describing previously published findings, and the terms mainstream and nonmainstream are used to describe the data analyzed.

The third section of the literature review examines two well-known and widely used child language assessments, the *Preschool Language Scales – Fifth Edition* (PLS-5; Zimmerman, Steiner, & Pond, 2011) and the *Clinical Evaluation of Language Fundamentals Preschool – Second Edition* (CELF-P 2; Semel, Wiig, & Secord, 2004) to showcase the prevalence of pronouns in assessments. The fourth section again examines these two popular assessments to review scoring modifications that are recommended for children who speak AAE. As will be evident, limited information about pronoun usage patterns in AAE is provided within the examiner manuals of these two tests.

Variations between AAE and GAE

It is well known that AAE differs from GAE in numerous ways, and scholars have been studying and documenting these differences for decades. Wolfram (1991) describes this interest for dialectical knowledge by stating, "Virtually all fields of education related to primary language activity (e.g., reading, composition, language arts) and language service professions such as speech and language pathology have recognized the need to understand both general principles and specific descriptive details about dialects" (pg. 15). Wolfram goes on to state that the motivation behind this search for dialectical knowledge lies in its usefulness to important activities such as teaching and language assessment.

Differences between AAE and GAE exist in all features of language. Phonology is the aspect of language concerned with the organization of sounds. Just as different languages around the world have differing patterns of usage for phonemes, so too can different dialects of the same language. One such phonological pattern that is prevalent in AAE but absent in GAE is final consonant reduction, or the deletion of the last consonant in certain words. Specifically, the final consonant can be dropped in word final clusters */nd/*, */sk/*, */sp/*, */ft/*, */ld/*, */st/*, */sd/*, and */nt/* (Paul & Norbury, 2012). Differences between AAE and GAE in phonological patterns may also be seen in the production of sounds in the initial and medial positions of words. One phoneme in AAE that exhibits considerable variation from its use in GAE is */th/*. At the beginning of words, the fricative */th/* may be pronounced as a stop, such as in */dey/* for */they/* and */ting/* for /*thing/* (Wolfram, 1991). Wolfram also notes that */th/* may be pronounced word-finally or intervocalically as */f/* or */v/* such as in */toof/* for */tooth/* and */brover/* for */brother/*. These examples are but a few of the numerous phonological differences that exist between AAE and GAE.

Some of the most studied dialectical differences between AAE and GAE are morphological and syntactic in nature. Morphology refers to the study of the smallest units of meaning within a language and include words and functional morphemes (i.e., plural /s/), while syntax describes sentence structure. AAE and GAE differ in the use of many morphological forms. One such form is known as *completive done*, in which the word *done* is used to add emphasis to expressions of past tense (*"I done told you not to mess around."*); it may also be used to mark an action or event as complete (*"There was one in there that done rotted away";* Wolfram, 1991). Another morphological structure that shows differences between AAE and GAE is plurals. Plural marking in AAE is variable. The variable marking occurs because in AAE, speakers can overtly mark with a mainstream overt form, zero mark, or mark with an overt

nonmainstream form. An example of an overtly marked mainstream plural includes *"Boys play baseball."* Overtly marked plurals in AAE are similar to those produced in GAE. A zero marked plural may take two forms in AAE: general zero marking of the plural suffix (*"Boy play baseball"*) and word-specific zero marking of the plural suffix that is restricted to nouns of measures (*"five mile"*) or weights (*"six pound"*). Finally, overtly marked nonmainstream forms often involve regularization of irregular plural noun forms (*"The firemans liked the convention";* Wolfram, 1991).

The form *be* is considered by many to be "one of the oldest and most frequently examined variables in the paradigm of quantitative sociolinguistics" (Rickford, Ball, Blake, Jackson, & Martin, 1991, p. 103). In AAE, *be* may serve several different functions. Given this, *be* is described as a camouflaged form. Camouflaged forms appear on the surface to be the same in two dialects but they serve different functions and express different meanings. *Be* may be used as a nonfinite verb of an embedded clause in AAE just as it is in GAE, like in the sentence, *"I want to be a banker."* In AAE but not GAE, *be* can also be used to express a habitual state or to denote an activity or event that occurs frequently and across time, such as in the sentence, "*My ears be itching*." A third form of *be* in AAE expresses the iconic and equative nature of something. This form of *be* has been extensively studied by Alim (2004). Equative *be* differs from habitual *be* because it expresses an equative meaning rather than a habitual one, it has situational and semantic restrictions, and it often enhances the meaning of an utterance. A recent example of this form by Oetting and Berry (in press) is, *"She be LSU linguistics"* (she is the iconic symbol of the linguistics program), which was used to describe a beloved linguist at LSU.

The copular and auxiliary forms of *be* can also be variably marked in AAE in ways that differ from GAE. For example, an AAE speaker could say, *"She's eating lunch"* or *"She eating*

lunch," whereas an GAE speaker can only say *"She's eating lunch."* Literature on AAE-speaking adults has frequently shown that mainstream overt marking and zero marking of copular and auxiliary *be* are probabilistic in nature rather than categorical. In particular, rates of overt marking and zero making of *be* varies across several linguistic contexts and/or constraints (Baugh, 1980; Green, 1993; Labov, 1969; Wolfram, 1974). The direction of these constraints for overt marking by AAE-speaking adults has been found to be: *am* and *was/were* > *is* > *are*; uncontractible > contractible; copular > auxiliary. In other words, rates of overt marking are higher (and zero marking lower) in uncontractible and copular *am* and *was/were* contexts than in contractible and auxiliary *is* or *are* contexts.

Children who speak AAE mark copular and auxiliary *be* in ways that are similar to AAE-speaking adults. One study conducted by Wyatt (1991) included AAE-speaking children, aged 3-5 years. She studied overt marking of *is* and *are* and found that these forms were also overtly marked by children at variable rates. Specifically, the study found that overt marking of *is* was greater than overt marking of *are*, with these forms being marked 81% and 55% of the time, respectively. Another study, conducted by Garrity and Oetting (2010) examined the rate at which AAE-speaking 4- and 6-year-olds overtly marked *am*, *is*, and *are*. The results of this study also showed that children overtly marked *am* at a higher rate than they overtly marked *is* and *are*.

Roy, Oetting, and Moland (2013) examined the following three linguistic constraints for their effect on AAE-speaking children's variable marking of copular and auxiliary *be*: the person, number, and tense of the *be* form; the contractibility of the *be* form; and, the grammatical function of the *be* form. Results of the study for the AAE-speaking children are presented in Table 1, with the standard deviation presented in parenthesis for each form.

Table 1. Mean percentage of overt marking of *BE* (Roy, et al., 2013)

	AAE group (%)	
Variable	**4 Year Olds**	**6 Year Olds**
Person/Number		
Am	100 (0)	91 (26)
Is	38 (31)	57 (32)
Are	34 (38)	31 (40)
Was/were	94 (17)	94 (19)
Contractibility		
Contractible	56 (39)	53 (40)
Uncontractible	62 (42)	76 (36)
Grammatical function		
Copular	62 (37)	72 (34)
Auxiliary	55 (43)	57 (43)
Total	58 (44)	64 (39)

These results for AAE-speaking children mirror the results previously found for adult AAE speakers and for the child speakers studied by Wyatt (1991) and Garrity and Oetting (2010). Specifically, the current study found that *am* and *was/were* contexts are overtly marked at a higher rate than *is* and *are* contexts, and uncontractible and auxiliary contexts are overtly marked more than contractible and auxiliary contexts. These findings show that variable marking of copular and auxiliary *be* is relatively consistent across different groups of AAE speakers.

In comparison to the numerous phonological and morphological forms that have been studied in AAE, pronoun usage patterns have received little attention. However, enough information is documented on AAE pronoun usage to suggest that it varies from GAE. As such, pronoun marking is typically listed as a dialect-specific feature of AAE (Paul & Norbury, 2012). Some authors, such as Washington and Craig (1994) describe AAE as allowing pronouns to be undifferentiated for case, whereas others such as Wolfram (1991) list specific pronoun patterns that occur frequently in AAE. Wolfram notes at least five different pronoun patterns that do not occur in GAE. For example, regularization of reflexive pronoun forms with genitive case (*"He*

hit hisself on the head") occurs in AAE whereas in GAE, the reflexive is produced with objective case. In AAE, the object pronoun form can also be produced as a "personal dative" (*"I got me a new car"*). Another pronoun usage variation that is seen in AAE involves the pronoun *them*, which can be used in place of the pronouns *these* or *those* as an extension of object forms to demonstratives (*"Them cars are broken"*). Pronouns with objective case, such as *him, her,* and *me*, also can be used to mark the subject of a sentence, especially in compound noun phrases (e.g*., Me and Laura did it*). Finally, appositive pronominal use (*"My mom she gave me that"*) is considered a feature of AAE because, although appositive pronouns occur in all dialects of English, it occurs in AAE at rates higher than it does in GAE.

As shown by these examples, pronoun usage between AAE and GAE involves many different pronoun forms. Missing from the dialect literature, however, is information about the frequencies and contexts in which these different pronouns occur in AAE so that a better understanding of AAE pronouns may be achieved. Knowledge about these differing patterns of pronoun use is important when a SLP administers a speech and language assessment or provides intervention to an AAE-speaking child.

Specific Language Impairment

SLI is a childhood developmental impairment that is not due to neurological damage, hearing loss, or low nonverbal intelligence (Leonard, 2014). SLI affects approximately 7% of kindergartners and is usually diagnosed during the preschool years. Although language intervention can prove beneficial for these children, SLI often leads to academic and social problems that persist throughout a lifetime. In contrast to typically developing children, language development is slow and laborious for those with SLI. Research has shown that children with

SLI exhibit weaknesses with all aspects of language, including grammatical morphology (Schwartz, 2008).

In the area of grammatical morphology, studies investigating GAE-speaking children have shown that those with SLI consistently mark certain grammatical morphemes less than age- and language-matched controls. Recall that "overt-marking" is the terminology used in the SLI literature to describe children's production of these forms. Cleave and Rice (1997) found that overt marking of auxiliary *be* was higher for language-matched controls (81%) than for children with SLI (50%). Leonard, et al. (2003) also examined auxiliary *is/are* and *was/were* production by children with SLI and their age and language-matched controls. Results again showed the highest rate of overt marking by the age-matched controls (>89%), followed by the language-matched controls (79%), and then by children with SLI (50%). The results from these studies support the idea that children with SLI overtly mark auxiliaries at a lower rate than age- and language-matched controls.

As previously noted, English studies of SLI have focused almost exclusively on mainstream dialects of the language. Studies of SLI within other dialects of English are needed because children from minority backgrounds, some of which may produce a nonmainstream dialect, are at risk for being under-identified for services (Oetting, Gregory, & Rivière, 2016). Although past research (Artiles & Trent, 1994; Russo & Talbert-Johnson, 1997) has shown that AAE-speaking children have been historically over-identified for special education services, recent studies have shown under-identification. For example, Morgan, et al. (2016) examined factors associated with the receipt of speech/language services during early childhood. One factor they examined was race; they sought to determine whether minority children receive services at the same rate as otherwise similar Caucasian children. The study concluded that

African American children were 45-60% less likely to receive speech/language services than their Caucasian counterparts at the ages of 24, 48, and 60 months. Another study by Morgan, et al. (2015) examined whether or not minority children were disproportionately underrepresented in special education during elementary and middle school. Again, results of this study revealed that African American children were 58% less likely to be identified as having a learning disability than otherwise similar Caucasian children, 63% less likely to be identified as having speech or language impairments, 57% less likely to be identified as having intellectual disabilities, 77% less likely to be identified as having health impairments, and 64% less likely to be identified as having emotional disturbances. This under-identification of minorities was found to occur across the entire elementary and middle school time periods examined in the study.

Fortunately, researchers are beginning to examine the grammatical profile of SLI within the context of different nonmainstream dialects such as AAE. Wynn and Oetting (2000) examined productions of copular and auxiliary *be* in a study consisting of 40 AAE-speaking children, aged 4 to 6 years. Out of the 40 children, one third were classified as having SLI while the remaining children served as typically developing age or language controls. Percent of overt marking of *am*, *are*, *is*, and *was/were* were examined. Results were that AAE-speaking children with SLI overtly marked *be* at a lower rate than age- and language-matched controls.

Table 2. Percentage overt marking from Wynn and Oetting (2000)

Variable	SLI	Age-Matched	Language-Matched
Am	75 (32)	86 (32)	100 (0)
Are	25 (35)	25 (28)	29 (25)
Is	43 (20)	63 (16)	49 (17)
Was/were	90 (14)	97 (4)	92 (16)

Garrity and Oetting (2010) also examined rates of overtly marked auxiliary *be* by AAE-speaking children with and without specific language impairment (SLI). In order to elicit

productions of auxiliary *am, is,* and *are*, an elicitation probe was created. Six training items with verbs were presented to the children before the experimental items. During this training phase, children received corrective feedback for using a verb form other than the targeted verb, but not for the nature of their *be* productions. After the training phase, 30 experimental items with verbs were presented. Each experimental verb was used three times within the probe for each of the three *be* forms.

Table 3. Rates of overt marking: elicitation probe (Garrity & Oetting, 2010)

Variable	SLI	Age-Matched	Language-Matched
Am	74 (40)	70 (48)	87 (25)
Is	49 (44)	70 (48)	79 (35)
Are	44 (48)	70 (48)	90 (28)
Collapsed *BE*	57 (39)	70 (48)	85 (24)

Results from this study are consistent with the previous study by Wynn and Oetting (2000) and show that AAE-speaking children with SLI overtly mark *be* at lower rates than age- and language-matched controls. Results of these studies motivate an examination of pronoun use by children with and without SLI in AAE. Although copular and auxiliary *be* forms differ from pronoun forms, they are both considered features of grammatical morphology.

Further support for the study of pronouns in AAE-speaking children with language impairment comes from work by Seymour, Bland-Stewart, and Green (1998) who studied 14 children aged 5-8 years. Specifically, they found that AAE-speaking children without language impairment produced a significantly greater proportion of pronouns in the mainstream, GAE manner (M = .98; *SD* = .02) than did the AAE-speaking children with language impairment (M = .93; *SD* = .04), suggesting a difference in the types of pronouns produced by these two groups of children.

Frequency of Pronouns in Two Assessment Tools

A review of two assessment tools in child language also helps motivate the current study by showing the frequency at which pronouns occur within these tools. A pronoun is a word that is used to refer to a noun (e.g., person, place, thing, idea/concept). Pronouns may be described by the person (first, second, and third) of the noun. According to Quirk, Greenbaum, Leech, and Svartvik (1985), first person pronouns are *I*, *we*, *me*, *us*, *my*, *mine*, *our*, and *ours*. Second person pronouns are *you*, *your*, and *yours*. Lastly, third person pronouns are *he*, *she*, *it*, *they*, *him*, *her*, *them*, *his*, *her*, *hers*, *its*, *their*, and *theirs*. Another way pronouns may be categorized is by case (Quirk, et al., 1985). More specifically, pronouns may either be subjective (i.e., *I, we, you, he, she, it, they*), objective (i.e., *me, us, you, him, her, it, them*), or genitive (i.e., *my, mine, our, ours, your, yours, his, her, hers, its, their, theirs*). Finally, pronouns can either be singular (i.e., *I, you, he, she*), or plural (i.e., *we, they, us, them*).

The PLS-5 is a standardized, norm-referenced assessment used to identify children with a language delay or disorder. It may be used to test children from birth to 7;11 years of age. The PLS-5 may be administered, scored, and interpreted by professionals with training in individual assessment and with experience working with children; these professionals may include SLPs, educational diagnosticians, psychologists, and early childhood specialists. Administration time of the PLS-5 ranges from 25-50 minutes depending upon the age of the child.

The PLS-5 assesses prelinguistic communication, receptive and expressive language (i.e., semantics, morphology, syntax, and pragmatics) and integrative language skills. Given that the PLS-5 is a test of both expressive and receptive language, pronouns can be found in the prompts as well as in the required answers. Item 41a poses the question, *"What would you do if you felt sick?"* This is an example of one prompt that includes a pronoun; in this case, it includes the

second person singular pronoun *you*. Items on the PLS-5 may also require the production of a pronoun, as is the case for item 43a, which states, *"This is her picture. This is ____."* The child is asked to fill in the blank with the pronoun *his* or the phrase *his picture* for the item to be counted as correct. An example of an item that requires both the comprehension and production of a pronoun is item 62b, which states, *"Her can eat cookies."* In this item, the child must determine if the sentence sounds "right or wrong." For items that are wrong, the child is asked to say the sentence correctly. For this item, the correct sentence is, *"She can eat cookies."*

To examine the PLS-5, all items were reviewed for use of pronouns. Frequencies of all pronouns identified in the items are listed in Tables 4 and 5. Table 4 lists the frequency of each pronoun in parenthesis. Table 5 sums the frequencies by placement within the test and by type of knowledge required from the child.

Table 4. Frequency of pronouns in the PLS-5

	Subjective		**Objective**		**Possessive**	
	Singular	**Plural**	**Singular**	**Plural**	**Singular**	**Plural**
1st Person	*I* (21)	*We* (7)	*Me* (45)	*Us* (0)	*My* (15)	*Our* (0)
	I'm (6)				*Mine* (0)	*Ours* (0)
2nd Person	*You* (49)					*Your* (13)
						Yours (0)
3rd Person	*He* (20)	*They* (5)	*Her* (14)	*Them* (0)	*His* (15)	*Their* (0)
	**It* (19)		*Him* (5)		*Hers* (0)	*Theirs* (0)
	She (13)				*Its* (0)	

*Appeared in both subjective and objective cases throughout the assessment.

Table 5. Distribution of pronouns in the PLS-5

	In Prompt	**In Response**	
		Comprehension Required	**Production Required**
# of Pronouns	124	11	6

As is evident in the tables, the second person singular pronoun *you* appears most frequently in the PLS-5 in the item prompts or as a required response for comprehension or production. The

first person singular pronouns *me* and *I* follow *you* in terms of frequency of occurrence in this assessment. Most of the pronouns present in the PLS-5 occur in the prompts, followed by items requiring comprehension or production of a pronoun by the child.

The CELF-P 2, like the PLS-5, is a standardized, norm-referenced assessment. The CELF-P 2 is an individually administered test that may be given by those trained and experienced in the administration and interpretation of standardized tests, including SLPs, diagnosticians, school psychologists, and special educators. Administration time ranges from 15 to 20 minutes. The CELF-P 2 consists of eleven different subtests, including: sentence structure, word structure, expressive vocabulary, concepts and following directions, recalling sentences, basic concepts, word classes, recalling sentences in context, phonological awareness, pre-literacy rating scale, and descriptive pragmatics profile. To examine the PLS-5, pronouns were counted in three contexts: in the prompts, when comprehension of a pronoun was required, or when production of a pronoun was required. Frequencies of all pronouns identified in the items are listed in Tables 6 and 7. Table 6 lists the frequency of each pronoun in parenthesis. Table 7 sums the frequencies by placement within the test and by type of knowledge required from the child.

Table 6. Frequency of pronouns in the CELF-P 2

	Subjective		**Objective**		**Possessive**	
	Singular	**Plural**	**Singular**	**Plural**	**Singular**	**Plural**
1st Person	*I* (0)	*We* (1)	*Me* (1)	*Us* (1)	*My* (1)	*Our* (1)
	I'm (0)				*Mine* (0)	*Ours* (0)
2nd Person	*You* (11)					*Your* (1)
						Yours (0)
3rd Person	*He* (23)	*They* (11)	*Her* (3)	*Them* (0)	*His* (2)	*Their* (0)
	She (10)		*Him* (0)		*Hers* (0)	*Theirs* (0)
	**It* (3)				*Its* (0)	

*Appeared in both subjective and objective cases throughout the assessment.

Table 7. Distribution of pronouns in the CELF-P 2

	In Prompt	In Response	
		Comprehension Required	Production Required
# of Pronouns	47	1	6

As is evident in the tables, *he*, the third person singular pronoun, appears most frequently in the CELF-P 2, followed by second person singular *you* and third person plural *they*. Based on the frequency data collected, singular subjective pronouns appear more frequently in the CELF-P 2 than plural, objective, or possessive pronouns. Similar to the PLS-5, most of the pronouns found within the CELF-P 2 are located in the prompts. However, the CELF-P 2 requires the production of pronouns more often than the comprehension of pronouns in response to items.

In summary, the PLS-5 contains 247 pronouns, while the CELF-P 2 contains 69. In both assessments, subjective pronouns are the most common, followed by objective and genitive pronouns. First person pronouns are most frequent in the PLS-5, while third person pronouns are most frequent in the CELF-P 2. Despite differences in the frequency of pronouns found in the two assessments, both contained a variety of pronouns.

Scoring Modifications for the Two Assessment Tools

Assessments of language are typically designed to test those who speak GAE. However, many children speak nonmainstream dialects. To ensure that assessments are free from bias against children from various backgrounds, a bias review is typically conducted on test items as part of a test's development. This type of review is conducted by a panel of experts in the field who examine the test items and determine if they are appropriate and fair for children from different ethnic backgrounds, regions of the country, and socioeconomic statuses. According to the examiner manuals, the panel members who were selected to review the test items for the PLS-5 were six professionals with a Ph. D or Ed. D, including five who were also certified SLPs

(Zimmerman, Steiner, & Pond, 2011). Experts chosen to conduct the bias review for the CELF-P 2 included four professionals with a Ph. D or Ed. D and one with a M.S.; out of the six experts, five were certified SLPs (Semel, Wiig, & Secord, 2004). Panel members reviewed the stimuli and response targets of the PLS-5 and CELF-P 2 before pilot testing to ensure the items were appropriate for children from different backgrounds.

Along with a bias review of test items, test developers often provide scoring guidelines for dialectal variations. These scoring guidelines provide the examiner general principals to follow when administering and scoring a test given to a child who speaks a nonmainstream dialect. The following scoring guidelines are provided on page 18 of the PLS-5 examiner manual. As is evident, authors of the PLS-5 use the acronym MAE (i.e., mainstream American English to refer to GAE).

- Do not assume that a child is a dialect speaker because of his or her background or ethnicity.
- Children who speak a dialect other than MAE may not apply all of the dialect rules consistently. Unless a child is immersed in an environment in which everyone speaks the dialect, the child will be exposed to individuals who model the dialect pattern and individuals who model MAE. A typical scenario is that a child will use the dialect pattern at home and MAE in school. Inconsistent use of dialect rules does not mean that the child has a language disorder. In such cases, evaluate the child's exposure to both dialects.
- If you are not a dialect speaker, the child may be uncomfortable using dialect patterns with you and may attempt to switch to MAE, in which he or she may be less proficient.
- If a child speaks a dialect other than MAE, it is not appropriate to refer a child for special education services for the purpose of teaching MAE (ASHA, 2003). A dialect is not a disorder. If there are educational concerns related to a child speaking a dialect of English, those concerns should be addressed in the context of the school's language arts curriculum

The examiner is then referred to Appendix E in the PLS-5 manual for scoring specific items for dialectal variations; here, the test developers provide information on how to score specific test items for children who speak AAE, Southern English, Appalachian English, English

influenced by Spanish, and English influenced by Chinese. As an example, item 62b in the PLS-5 requires the child to judge the pronoun in the sentence, *"Her can eat cookies"* as grammatically incorrect and subsequently produce the sentence as *"She can eat cookies."* This item is specified as one of the items the examiner may receive a different response if the child is an AAE speaker. Interestingly, for this particular item, the manual states only two possible AAE dialectal variations for a correct response: "Auxiliary verbs (e.g., is, can) may be omitted (*She eating* (or *eatin'*) *the cookies*) and, "Plural *–s* endings may be omitted (*The girl can eat cookie*.) These two possible responses focus on the variable marking of auxiliary *be* and the omission of the plural suffix. However, the test developers do not consider the possibility that the pronoun may be the part of the sentence that is being judged differently due to a child's dialect. Based on the dialect literature previously reviewed, it is possible that the pronoun *her* is acceptable in AAE, therefore, leading the AAE-speaking child to say that this item is grammatically correct. It is also possible that the AAE-speaking child may judge the sentence to be grammatically incorrect. However, upon providing the "correct" sentence, the child may respond, *"Her is eating cookies"* or *"Her eating cookies."*

The general scoring guidelines for dialectal variations for the CELF-P 2 are similar to those for the PLS-5, but they focus more on how to score children's dialectal responses. Again, the authors of the CELF-P 2 use the acronym MAE to refer to GAE.

- Responses to the Word Structure, Recalling Sentences, and Recalling Sentences in Context subtests may contain regional and cultural patterns or variations that reflect dialectal differences from Mainstream American English (MAE). Count a variation as correct if it is appropriate given that child's language background. You must be familiar with the language used in the child's home and community to be able to determine whether or not a response is an appropriate variation for the child you are testing.

Appendix A of the CELF-P 2 manual provides the test administrator with a table of selected dialectal patterns suggested by several professionals when assessing a child from a

linguistically different background than GAE, and some pronoun variants are listed. In this way, the CELF-P 2 manual provides the administrator more than just item-specific information regarding the types of dialectal responses that may be provided by a child and how to score them. The CELF-P 2 manual also provides more information about possible pronoun variations in dialectal responses than the PLS-5. Specifically, the CELF-P 2 provides possible AAE pronoun variants for five items in the Word Structure Subtest. For example, item 14 requires the child to fill in the blank at the end of the sentence, *"Who is sitting? She is sitting. Who is standing? ____."* The correct GAE response to this question is *"He is standing;"* however, the CELF-P 2 manual recognizes that the AAE-speaking child may substitute the pronoun *him* for *he* in this case. Item 20 may elicit a dialectal pronoun variant as well because the AAE-speaking child may substitute the pronoun *her* for *she*, and the CELF-P 2 manual recognizes this possibility.

Summary

Although extensive research has been conducted to describe the phonological, morphological, and syntactic similarities and differences between GAE and AAE, more research needs to be directed towards describing and quantifying the patterns of pronoun use between these dialects. Many studies of SLI have been conducted with GAE-speaking children with SLI, but large numbers of similar studies with children who speak AAE have not been conducted. Those that have been done with AAE-speaking children have found that children with SLI overtly-mark grammatical structures at lower rates than their typically developing peers. Examining the patterns of pronoun use in AAE is supported by the abundance of pronouns in current child language assessments, such as the PLS-5 and CELF-P2. These assessments contain pronouns in the items as well as in the responses required by a child. At present, limited

dialectical information is available to the examiner in the manuals of these tests, again as evidenced by a review of the PLS-5 and CELF-P 2.

Research Questions

The purpose of the current study was to describe and quantify the patterns of pronoun use by AAE-speaking children with SLI and AAE-speaking TD children. In addition, the rates at which the two groups produce mainstream and nonmainstream pronouns were compared. The following questions guided the study.

(1) Do AAE-speaking children with SLI and TD controls differ in the types of pronouns that they produce?

(2) Do AAE-speaking children with SLI and TD controls differ in their rates of mainstream and nonmainstream pronouns?

(3) If group differences are found, are these differences related to particular types of pronouns?

Clinical status was the first independent variable studied. Two groups who varied in their clinical status, including children with SLI and TD children, were included. The second independent variable was pronoun type. More specifically, pronouns that varied in person, number, and gender were studied to see if these characteristics of pronouns contribute to a higher rate of nonmainstream pronoun marking than other types. For the first research question, the dependent variable was pronoun type. For the second and third research questions, the dependent variable being measured was the percent of nonmainstream pronouns out of total utterances or out of total pronouns produced.

CHAPTER 2
METHODS

Participants

Data were taken from an archival database of language samples that had been collected for a larger study. The data included examiner-child language samples from 96 African-American children who spoke AAE at the time of data collection. All of the participants attended a public kindergarten and lived in a rural area in southeastern Louisiana. The participants ranged in age from 60-74 months (M = 65.74; SD = 3.65). Maternal education was reported for 92 of the 96 participants, and ranged from 6 years to 16+ years of school (M = 12.65; SD = 2.59).

Thirty-five children (14 boys, 21 girls) were included in the group with SLI, and 61 children (29 boys, 32 girls) were included in the TD group. The *Primary Test of Nonverbal Intelligence* (PTONI; Ehrler & McGhee, 2008), *Goldman-Fristoe Test of Articulation—Second Edition* (GFTA-2; Goldman & Fristoe, 2000), and the syntax subtest of the *Diagnostic Evaluation of Language Variation—Norm Referenced* (DELV-NR; Seymour et al., 2005) were used to classify participants into the two groups. The PTONI provides a quick and accurate assessment of a child's nonverbal intelligence. The GFTA-2 provides descriptive information about an individual's articulation skills in sounds in words. The DELV-NR is an assessment designed to identify speech and language disorders in children who speak a variety of dialects, including AAE. The PTONI and GFTA-2 each have a mean score of 100 and a standard deviation of 15, and the DELV-NR has a mean of 10 and a standard deviation of 3. With this test battery, children with SLI should ideally earn scores in the average range (> 85) on the PTONI and GFTA-2 and low scores (≤ 7) on the DELV-NR, confirming language as their only impairment. Children classified as TD should ideally earn scores in the average range on all three tests, confirming their development as typical.

As shown in Table 8, most of the children earned scores as expected. Children included in the SLI group earned standard scores > than -1 standard deviation on the GFTA-2 and ≥ to -1 standard deviation on the DELV-NR. Children in the typically developing group earned standard scores ≥ -1 standard deviation on the GFTA-2 and > -1 standard deviation on the DELV-NR. Although the majority of the participants earned average scores on the PTONI, as expected, 11 children earned scores below 85, including 4 TD children and 7 children with SLI (5 earned a standard score of 82, while 6 earned a standard score of 84). However, these 11 children were not excluded from the study given that the 90% confidence interval of each child's score at age 6 is 8. If the standard error of measurement is taken into consideration, all children earned scores within normal limits (82 + 8 = 90; 84 + 8 = 92).

Table 8. Participant characteristics: group means

Group	PTONI	GFTA-2	DELV-NR Syntax Subtest
SLI (n = 35)	93.69[a] (9.6)[b] 82-125[c]	104.49 (5.7) 89-113	4.83 (1) 3-7
TD (n = 61)	101.7 (61) 82-139	107.38 (4.4) 92-114	9.77 (1.5) 8-14
Combined (n = 96)	98.78 (11.9) 82-139	106.32 (5.1) 89-114	7.97 (2.7) 3-14

a: Average standardized score
b: Standard deviation
c: Range

Additional descriptive information collected from the participants included whether there was a positive family history of speech, language, spelling, or reading deficits, and receipt of speech-language services (see Table 9). Out of the 35 children in the SLI group, 16 of them, or 46%, reported having a positive family history of speech, language, spelling or reading deficits. Out of the 60 children in the TD group who reported this information, only 11, or 18%, reported

having a positive family history of these deficits. None of the TD children were receiving speech-language services, while 4, or 11%, of the children in the SLI group were receiving these services at school. Both of these findings are consistent with others that show a higher rate of a positive family history in children with SLI relative to TD controls and low rates of receipt of services by children with SLI (for review, see Leonard, 2014).

Table 9. Participant characteristics: group percentages

Group	Positive Family History	Receipt of Services
SLI	46% n = 35	11% n = 35
TD	18% n = 60	0% n = 61

Data

The examiner-child language samples were collected during play. To facilitate the children's conversations, the play kit included a toy gas station, baby doll materials, a picnic set, and three Apricot pictures (Arwood, 1985). During the play, the examiners followed the child's lead and provided prompts to encourage the child to talk about past events (e.g., "*I bet you've been in a car wreck before" or "I bet you've helped your mom change a diaper before"*). Systematic Analysis of Language Transcripts (SALT; Miller & Iglesias, 2012) was used to transcribe the language samples, which were then coded for morphemes and nonmainstream grammar structures according to Oetting et al. (2014).

There were a total of 22,659 complete and intelligible (C&I) utterances, averaging 236 (SD = 52.7) C&I utterances per language sample. Pausing by the child was used to determine utterance boundaries (Miller, Andriacchi, & Nockerts, 2011). Given this, an utterance could include a word or a phrase if it represented a recognizable speech act or conversational turn (e.g., Examiner: "Did you eat breakfast?" Child: "Yes"). Utterances also included independent clauses along with the dependent clauses that accompany it (e.g., Child: "He was sad (independent

clause) because his dad yelled at him (dependent clause) because he spilled the baby's food (dependent clause)"). For longer strings of words and phrases within a conversational turn, no more than two independent clauses, if conjoined, were allowed in an utterance (e.g., Child: "Me and my dad drank juice (independent clause) and mom drank milk (independent clause)"). If three independent clauses were produced, even if they were conjoined, the first two were included within an utterance and the third independent clause became a new utterance (e.g., Child: "She played outside (independent clause) and he played inside (independent clause). And they stayed home from school (independent clause).").

Table 10. Average and sum of C&I utterances by clinical status

Group	Average C&I Utterances	Sum of C&I Utterances
SLI (n = 35)	243.3[a] (57.8)[b] 103-434[c]	8,516
TD (n = 60)	231.9 (49.7) 105-342	14,143

a: Average number of C&I utterances
b: Standard deviation
c: Range

Procedure

IRB approval and parental consent were obtained prior to participation in the study. Testing took place during three 30-minute sessions in a small, quiet room at the child's school. The administration of the tests took place throughout the course of two days, and occurred prior to the collection of the language samples. The samples were audio recorded for later transcription and coding.

Data Coding

Three graduate students searched the language samples for eleven pronouns using SALT. The pronouns included *he, she, his, her, him, they, them, their, I, me,* and *my*. Once identified,

each pronoun was first coded as either mainstream or nonmainstream. Pronouns coded as mainstream were judged to have been used in a way that was consistent with mainstream English (*"She is going to the store")*. Pronouns (*"Her is going to the store."*) that were not produced in a mainstream way received a [flg] code. This code was used to find these pronouns so that they could be further analyzed. As will be evident in the results, pronouns identified as [flg] were classified as a productive nonmainstream forms or as unproductive nonmainstream forms depending upon the percentage of children who produced them. Pronoun patters produced by 10% or more of the children were classified as productive and those produced by less than 10% of the children were classified as unproductive. Finally, although appositives (*"My mom she is going to the store"*) occur in both GAE and AAE, these also were coded as their own category because they have been described as occurring more frequently in AAE than in GAE.

Following coding, the data were entered into Microsoft Excel. To do this, pronouns were summed for their target context. For example, if the target pronoun was *she*, all contexts in which the pronoun *she* was the target were identified and quantified. Table 11 provides an example of one child's production of the target pronoun *she*.

Table 11. Data coding: *she*

Child Number	**Target: *she***				
	She	appositive	her [flg]	he [flg]	it [flg]
107	30	2	2	1	0

As shown in the table, of the 35 instances in which the child produced a pronoun with the target *she*, 30 were the mainstream pronoun *she*. The child produced two instances of appositive *she*. The child produced *her* to denote *she* twice and the pronoun *he* once in this context.

Reliability

To examine the inter-rater reliability of the data, 10% of the 243 language samples from the larger study were examined. A random number generator was used to select the 25 samples included in the reliability check. Because there were three students who coded the language samples in the larger study, one third of the language samples in the reliability check were from each of the students. The 25 language samples were independently coded and checked against the original data. As shown in Table 12, the most common error occurred with the coding of

Table 12. Inter-rater reliability check

ALPHA	NUM	# OF DISAGREEMENTS	# OF CHANCES FOR DISAGREEMENT	PRONOUN WITH DISAGREEMENT
KHARR	764	1	51	he
MDONH	975	0	94	
GDORS	902	0	68	
MGRAY	996	3	75	them
JMAYF	891	1	146	them
KTALB	886	1	65	them
VHEBE	957	0	41	
JTHOM	722	0	129	
TCURT	810	0	82	
BBRAD	989	3	96	them
MBROU	746	0	60	
KLOVE	721	0	94	
WGROS1	871	0	76	
MTHOM1	784	1	75	She
LGREE	846	2	129	He
RCART	936	0	47	
CRIVE	817	0	84	
BCLAR	884	0	181	
BCAVA1	867	0	67	
GRICH1	980	0	23	
CBOUT	887	0	28	
JBARB	995	0	63	
DANDE	864	0	144	
GCAVA	963	0	74	
XSTEL	821	0	101	
TOTAL		**12**	**2093**	**0.006%**

pronoun contexts involving *them*. Nevertheless, out of the 2,093 possible chances for error, only 12 coding disagreements occurred; this indicates an error rate of only 0.006% (Table 12). These results suggest that data coding was reliable.

Data Analysis

The data were analyzed in two ways. First, the number of children who produced the various pronouns were examined. The frequency data were then converted into averages and average percentages (i.e., the percent of time a child produces mainstream *she* when *she* is the target pronoun) and analyzed using ANOVAs. In addition to examining differences between the SLI and TD groups' production of pronouns, differences among pronouns were examined. Specifically, analyses were performed to determine if a certain type of pronoun (e.g., the third person singular pronoun *she*) was more susceptible to [flg] coding than other types. All analyses were completed using Statistical Program for the Social Sciences (SPSS; IBM Corporation, 2013).

CHAPTER 3
RESULTS

Frequency of Pronouns

To examine the types of pronouns produced by both groups (i.e., children with SLI and TD children), frequency counts of all pronouns that were produced within the target pronoun contexts were completed. The total number of pronouns produced by all of the children in the study was 16,592, out of which 5,738 were produced by the SLI group and 10,854 were produced by the TD children. To determine the rate at which children in both groups produced pronouns, the total number of pronouns produced by each child was divided by the total number of complete and intelligible utterances in each sample. The average rate of pronoun production per utterance for children with SLI was .68 (*SD* = .23), while the average rate for TD children was .77 (*SD* = .24). A one-way ANOVA was completed to examine these rates of use by group. The difference between the groups in their rates of pronoun productions was marginally significant, $F(1,94) = 3.488$, $p = .065$, $\eta^2 = .036$.

Classification of Pronouns as Consistent or Inconsistent with GAE

Next, all of the pronouns that were not appositives were classified as either consistent (e.g., *she is walking*) or inconsistent (e.g., *her is walking*) with a form produced in GAE. Recall that pronouns considered inconsistent with GAE were marked with [flg] during coding of the language samples, as they were not used in the standard, or mainstream, way by the child. As reported in Table 13, the majority of the pronouns produced by the children were consistent with GAE. Specifically, 96% (15,917 / 16,592) of the pronouns produced in the study were consistent with GAE, while only 3.3% (554 / 16,592) were inconsistent with GAE.

Table 13. Distribution of pronouns consistent and inconsistent with GAE (groups combined)

# of Pronouns Consistent with GAE	15,917
# of Pronouns Inconsistent with GAE	554
Total Pronouns Produced in Target Contexts	16,592

Table 14 reports the same information as Table 13, except the data are presented for the SLI and TD groups separately. To compare the rates of mainstream (i.e., pronouns consistent with GAE) and nonmainstream (i.e., pronouns inconsistent with GAE) pronoun production for the two groups, average rates of production of both types of pronoun for each individual child were examined. The average rate of mainstream pronoun production per utterance for children with SLI was .65 (*SD* = .22), while the average rate for TD children was .75 (*SD* = .23). A one-way ANOVA revealed that the difference in average rate of mainstream pronouns per utterance for the two groups was statistically significant, $F(1,94) = 4.134$, $p = .045$, $\eta^2 = .042$. Specifically, the TD children produced mainstream pronouns at a significantly higher rate than the children with SLI. Marginally significant results were also found when the percentage of mainstream pronouns was considered in relation to the total mainstream and nonmainstream pronouns produced (i.e., mainstream pronouns / mainstream pronouns + nonmainstream pronouns), $F(1,94) = 3.459$, $p = .066$, $\eta^2 = .035$. The average percentage of mainstream pronoun production per context for children with SLI was 95.6% (*SD* = 5.4%), while the average percentage for TD children was 97.4% (*SD* = 3.9%).

Table 14. Distribution of pronouns consistent and inconsistent with GAE by group

Pronoun Pattern Type	**SLI** (*n* = 35)	**TD** (*n* = 61)
# of Pronouns Consistent with GAE	5,447	10,470
# of Pronouns Inconsistent with GAE	260	294
Total Pronouns Produced in Target Contexts	5,738	10,854
Average Mainstream Rate per Utterance	.65 (*SD* = .22)	.75 (*SD* = .23)
Average Mainstream Rate per Context	95.6% (*SD* = 5.4%)	97.4% (*SD* = 3.9%)

Pronouns that were Consistent with GAE

Eleven pronouns consistent with GAE were produced by both groups of children, including mainstream forms of *he, she, his, him, her, they, them, their, I, me,* and *my*. As previously noted, the majority (i.e., 96%) of the pronouns produced in the study consisted of the mainstream productions of these eleven pronouns. Table 15 displays the production frequencies of these pronouns.

Table 15. Frequency and percentage of pronouns consistent with GAE (groups combined)

Target Pronoun	Frequency
He	96 children[a] 2,875 / 2,985 = 96.3%[b]
She	90 children 1,149 / 1,578 = 72.8%
His	93 children 608 / 649 = 93.7%
Him	94 children 535 / 536 = 99.8%
Her	93 children 721 / 725 = 99.4%
They	95 children 1,542 / 1,607 = 96%
Them	93 children 543 / 543 = 100%
Their	38 children 97 / 204 = 47.5%
I	95 children 4,445 / 4,445 = 100%
Me	93 children 717 / 725 = 98.9%
My	92 children 2,385 / 2,457 = 97%

a: Number of children who produced at least one exemplar
b: Percentage of pronoun pattern use per total contexts per group

As shown by Table 15, the majority of the 96 children in the study produced at least one instance of each of the mainstream pronouns consistent with GAE, with the exception of *their*. Only 38 out of the 96 children, or 39.5%, produced the mainstream form of *their*. Also, the

frequency and percentage with which children produced the mainstream pronouns *their* (i.e., 47.5% of the time) and *she* (i.e., 72.8% of the time) were much lower than the frequencies and percentages of the other standard pronouns, which were produced more than 90% of the time when targeted.

Pronouns that were Inconsistent with GAE

The next analysis was conducted to examine the types of pronoun patterns that were classified as inconsistent with GAE. As shown in Table 16, the samples included 6 different pronoun patterns that were inconsistent with GAE. These included: *subjective for genitive pronouns, objective for genitive pronouns, objective for subjective pronouns, subjective for objective pronouns, genitive for objective pronouns, alternative gender (subjective case).*

Table 16. Pronoun patterns inconsistent with GAE

Pronoun Variation Type	Examples
Subjective for Genitive	*He for His, They for Their*
Objective for Genitive	*Him for His, Them for Their, Me for My*
Objective for Subjective	*Him for He, Her for She, Them for They, Me for I*
Subjective for Objective	*I for Me*
Genitive for Objective	*My for Me*
Alternative Gender (subjective case)	*She for He, He for She*

Given that the 6 pronoun patterns listed in Table 16 were inconsistent with GAE, it was important to examine these pronoun patterns in detail. Some of these pronoun patterns may have reflected a child's use of an appropriate AAE dialect form while others may have reflected the child producing a dialect inappropriate error. As was evidenced by the literature review, minimal information exists about the specific types of pronoun patterns that are or are not appropriate for AAE. Without literature to guide the analysis, an empirical approach was taken here. This approach involved classifying the children's nonmainstream pronoun patterns as productive or

unproductive based on the number of children that produced the pattern. For this study, pronoun patterns that were classified as productive were produced by at least 10% (n = 10) of the children from both groups, and pronoun patterns that were classified as unproductive (and potentially reflective of a dialect inappropriate error) were produced by less than 10% of the children.

As shown in Table 17, the patterns that were classified as productive for AAE included: *subjective for genitive, objective for genitive,* and *objective for subjective.* The patterns classified as unproductive included: *subjective for objective, genitive for objective,* and *alternative gender (subjective case)*.

Table 17. Productive pronoun patterns vs. unproductive pronoun patterns

Productive (at least 10% of the children produced at least one exemplar)	Subjective for Genitive	*He for His, They for Their*
	Objective for Genitive	*Him for His, Them for Their, Me for My*
	Objective for Subjective	*Him for He, Her for She, Them for They, Me for I*
Unproductive (less than 10% of the children produced at least one exemplar)	Subjective for Objective	*I for Me*
	Genitive for Objective	*My for Me*
	Alternative Gender (subjective case)	*She for He, He for She*

Table 18 lists the frequency at which the productive pronoun patterns were produced by children, while Table 19 describes the frequency at which the unproductive pronoun patterns were produced. In each table, the number of children who produced each particular pronoun pattern is also presented. The percentage of each pronoun pattern was calculated with the numerator reflecting the number of occurrences of that particular pattern and the denominator reflecting the total number of target contexts (i.e., for the *subjective for genitive* variation, there were 108 total productions of a subjective pronoun for a genitive pronoun out of 855 target genitive pronoun contexts). As seen in Table 18, the *subjective for genitive* pronoun pattern was the most frequent, followed by *objective for genitive* and *objective for subjective* patterns. While

all three pronoun patterns were considered dialect appropriate and productive, the *subjective for genitive* pronoun pattern was produced almost four times more frequently than the *objective for genitive* or *objective for subjective* patterns.

Table 18. Frequency of productive pronoun patterns (groups combined)

Pronoun Pattern Type	Frequency
Subjective for Genitive *He for His, They for Their*	42 children[a] 108/855 = 12.6%[b]
Objective for Genitive *Him for His, Them for Their, Me for My*	13 children 109/3313 = 3.3%
Objective for Subjective *Him for He, Her for She,* *Them for They, Me for I*	56 children 271/10,724 = 2.53%

a: Number of children who produced at least one exemplar
b: Percentage of pronoun pattern use per total contexts per group

As shown by Table 19, although the unproductive pronoun variations were produced by multiple children, the frequency at which they occurred was much lower than that of the productive pronoun patterns. For example, the most frequently occurring unproductive pronoun pattern, *subjective for objective*, was produced nearly eighteen and a half times less often by children than the most frequently occurring productive pronoun pattern, *subjective for genitive*.

Table 19. Frequency and percentage of unproductive pronoun errors (groups combined)

Pronoun Pattern Type	Frequency
Subjective for Objective *I for Me*	5 children[a] 5/737 = .68%[b]
Genitive for Objective *My for Me*	3 children 3/737 = .41%
Alternative Gender (subjective case) *She for He, He for She*	7 children 11/4,564 = .24%

a: Number of children who produced at least one exemplar
b: Percentage of pronoun pattern use per total contexts per group

Productive Nonmainstream Pronoun Patterns: Group Differences

Table 20 reports the frequencies at which each group produced the three productive, nonmainstream patterns. Based on these data, the most frequent pronominal pattern for both

groups was *subjective for genitive*. The *objective for genitive* variation was the second most frequent variation for children with SLI, while for TD children, the *objective for subjective* variation was the next most frequent pronoun variation. As can be seen, it appears the *subjective for genitive* pronoun pattern was produced with a similar frequency by both groups of children (i.e., 12.4% for children with SLI and 12.8% for TD children), while the frequencies of the other pronominal patterns were more varied.

Table 20. Frequency and percentage of productive nonmainstream pronoun patterns by group

Pronoun Pattern Type	**SLI** (n = 35)	**TD** (n = 61)
Subjective for Genitive *He for His, They for Their*	32/259 = 12.4%[a] M = 10.89%[b] (17.7%)[c]	76/596 = 12.8% M = 12.88% (6.7%)
Objective for Genitive *Him for His, Them for Their, Me for My*	86/1091 = 7.9% M = 6.4% (17.4%)	23/2222 = 1.04% M = 1.14% (6.7%)
Objective for Subjective *Him for He, Her for She, Them for They, Me for I*	115/3836 = 3% M = 2.76% (4.4%)	156/6888 = 2.3% M = 1.1% (5.9%)
Total	233/5186 = 4.5% M = 4.27% (6.5%)	255/9706 = 2.6% M = 1.93% (4.5%)

a: Percentage of pronoun pattern use per total contexts per group
b: Average percentage of pronoun pattern use per total contexts per group
c: Standard deviation

To determine if the rates at which the children produced these pronoun patterns differed between the two groups, a series of one-way ANOVAs were conducted. To accomplish this, the rate at which each child produced the nonmainstream (i.e., inconsistent with GAE) pronouns instead of the standard, mainstream pronoun was calculated. The groups differed in their rates at which they produced the productive pronoun patterns as a set (i.e., M = 4.27% SLI vs. 1.93% TD), $F(1,94) = 4.314$, $p = .041$, $\eta^2 = .044$. The groups also differed in the rates at which they produced *objective for genitive* pronouns patterns (i.e., M = 6.4% SLI vs. 1.14% TD), $F(1,94) =$

4.515, $p = .036$, $\eta^2 = .046$. For both comparisons, the children with SLI produced a higher rate than did the TD group.

The *objective for genitive* pronoun pattern was explored further to see if any individual pattern accounted for these significant findings (see Table 21). The three *objective for genitive* pronoun patterns produced by the children included: *him for his* (e.g, *He likes him car*)*, them for their* (e.g., *They wear them jackets*)*,* and *me for my* (e.g., *I read me book*)*.* A significant difference between the groups was found for the *them for their* pronoun pattern (i.e., M = 27.3% SLI vs. 4.84% TD), $F(1,40) = 4.866$, $p = .033$, $\eta^2 = .108$. Also, a marginally significant difference was found between the groups on their *him for his* pronoun pattern production (i.e., M = 9.4% SLI vs. 1.19% TD), $F(1,93) = 3.551$, $p = .063$, $\eta^2 = .037$.

Table 21. Frequency and percentage of *objective for genitive* pronoun patterns by group

Pronoun Pattern Type	**SLI** (*n* = 35)	**TD** (*n* = 61)
Them for Their	7/47 = 14.9%[a] M = 27.3%[b] (46.7%)[c]	2/157 = 1.27% M = 4.84% (19.8%)
Him for His	23/212 = 10.85% M = 9.4% (27.7%)	6/437 = 1.37% M = 1.9% (10.2%)
Me for My	56/832 = 6.73% M = 5.71% (23.6%)	15/1626 = .92% M = 1.67% (12.9%)
Total	86/1091 = 7.9% M = 6.4% (17.4%)	23/2220 = 1.04% M = 1.14% (6.7%)

a: Percentage of pronoun pattern use per total contexts per group
b: Average percentage of pronoun pattern use per total contexts per group
c: Standard deviation

Unproductive Nonmainstream Pronoun Patterns: Group Differences

As reported in Table 22, the most frequent unproductive pronoun pattern was *subjective for objective*, although all patterns were produced less than 1% of the time. Only one child

produced each of the unproductive pronoun patterns that were observed, which contrasts greatly with the numbers of children who produced each of the productive pronoun patterns. Nevertheless, the unproductive pronoun patterns were further examined to determine if the two groups differed in their rates of production. As before, the rate at which each child produced a nonmainstream pronoun instead of the standard, mainstream pronoun was calculated

Table 22. Frequency and percentage of unproductive pronoun patterns by group

Pronoun Variation Type	**SLI** (n = 35)	**TD** (n = 61)
Subjective for Objective *I for Me*	2/270 = .74%[a] M = .52%[b] (2.1%)[c]	3/467 = .64% M = .83% (4.53%)
Genitive for Objective *My for Me*	2/270 = .71% M = .88% (3.78%)	1/467 = .21% M = .21% (1.6%)
Alternative Gender (subjective case) *She for He, He for She*	8/1709 = .47% M = .32% (1.1%)	3/2855 = .11% M = .11% (.52%)
Total	12/2249 = .53% M = .45% (1.14%)	7/3789 = .18% M = .35% (1.25%)

a: Percentage of pronoun pattern use per total contexts per group
b: Average percentage of pronoun pattern use per total contexts per group
c: Standard deviation

to determine the average rate for that group. As expected, a significant group difference was not found for the rate of the unproductive pronouns as a set, or for each pattern individually.

Appositive Pronouns

Recall that appositive pronouns are known to occur in many dialects of English. For this reason, all of these pronouns were considered consistent with GAE and AAE. As shown in Table 23, five appositive pronoun patterns were produced by the children, including appositive *he, she, his, her,* and *they*, and these appositive pronouns accounted for .7% (121 / 16,592) of the

pronouns produced. Children in both groups produced appositives (e.g., *My mom she is happy*) for many different target pronouns.

Table 23. Most productive and least productive appositive pronoun patterns

Most Productive (at least 10% of the children produced at least one exemplar)	Appositive She	*My mom she went to the store.*
	Appositive He	*My brother he likes baseball.*
	Appositive They	*My friends they went to the park.*
Least Productive (less than 10% of the children produced at least one exemplar)	Appositive Her	*That girl her hair is red.*
	Appositive His	*That boy his shirt is blue.*

Table 24 displays the frequencies of the five different appositive pronoun patterns, listed from most productive to least productive. The number of children who produced each appositive pronoun pattern is also reported. As can be seen, appositive pronoun use was most frequent for the target pronoun *she*, followed by *he* and *they*. Although each of these appositive pronoun patterns were produced by many children (n = 27, 35, 21 respectively), the frequency with which the children produced these patterns was fairly low, as the most frequent pattern was only produced 2% of the time. Appositive pronoun use with the target pronouns *her* and *his* occurred only .27% and .22% of the time and were produced by only two children and one child, respectively. This is a stark contrast to the most productive appositive pronouns. In fact, the frequency of appositive *she,* the most frequently occurring appositive pronoun, was produced eight and a half times more than appositive *her.*

The frequencies at which each group produced the appositive pronouns are reported in Table 25. The most frequent appositive pronoun occurred with the target pronoun *she* for both the SLI and TD groups. *He* was the second most frequent target of appositive pronoun use for TD children, followed by *they*. Table 25 also shows that the TD children produced slightly more appositive pronouns than the children with SLI; however, the groups did not differ in their rates

Table 24. Frequency and percentage of appositive pronouns (groups combined)

Target Pronoun	Frequency
She *"My mom she went to the store."*	27 children[a] 37/1579 = 2.3%[b]
He *"My brother he likes baseball."*	35 children 54/2985 = 1.8%
They *"My friends they went to the park."*	21 children 27/1609 = 1.68%
Her *"That girl her hair is red."*	2 children 2/729 = .27%
His *"That boy his shirt is blue."*	1 child 1/438 = .22%
Total	121/16,592 = .7%

a: Number of children who produced at least one exemplar
b: Percentage of pronoun pattern use per total contexts per group

Table 25. Frequency and percentage of appositive pronouns by group

Target Pronoun	SLI (*n* = 35)	TD (*n* = 61)
She *"My mom she went to the store."*	9/520 = 1.73%[a] M = 1.23%[b] (2.6%)[c]	28/1059 = 2.64% M = 2.32% (4%)
He *"My brother he likes baseball."*	13/1189 = 1.1% M = 1.63% (2.9%)	41/1796 = 2.28% M = 2.72% (4.6%)
They *"My friends they went to the park."*	8/515 = 1.55% M = 4.02% (17.1%)	19/1094 = 1.74% M = 1.91% (4.1%)
Her *"That girl her hair is red."*	1/216 = .46% M = .21% (1.23%)	1/513 = .19% M = .07% (.54%)
His *"That boy his shirt is blue."*	0	1/438 = .22% M = .33% (2.6%)
Total	31/2440 = 1.27% M = .35% (.57%)	90/4900 = 1.84% M = .61% (.75%)

a: Percentage of pronoun pattern per total contexts per group
b: Average percentage of pronoun pattern use per total contexts per group
c: Standard deviation

CHAPTER 4
DISCUSSION

The purpose of the current study was to describe and quantify patterns of pronoun use by AAE-speaking children and to explore the clinical usefulness of this grammatical feature to identify AAE-speaking children with language impairment. Pronouns were chosen for study due to their high frequency in everyday speech as well as their prevalence in child language assessments. The following three research questions guided the study: 1) Do AAE-speaking children with SLI and TD controls differ in the types of pronouns that they produce?; 2) Do AAE-speaking children with SLI and TD controls differ in their rates of mainstream and nonmainstream pronouns?; 3) If group differences are found, are these differences related to particular types of pronouns?

First Research Question

The two groups of AAE-speaking children did not differ in the types of pronouns they produced. In fact, every pronoun pattern identified in the study was produced by children in both groups. Eleven of these patterns were consistent with GAE, including standard, mainstream productions of *he, she, his, him, her, they, them, their, I, me,* and *my*. In addition, six patterns were produced that were inconsistent with GAE. These patterns included *subjective for genitive* (e.g., *they for their*)*, objective for genitive* (e.g., *me for my*)*, objective for subjective* (e.g., *me for I*)*, subjective for objective* (e.g., *he for him*)*, genitive for objective* (e.g., *his for him*)*,* and *alternative gender (subjective case)* (e.g., *he for she*). Both groups of children also produced appositive pronouns. The TD group produced appositive pronouns *she, he, they, her*, and *his*. The children with SLI also produced all of these appositive pronouns, with the exception of appositive *his*.

Second Research Question

Although children in both groups produced the same types of pronoun patterns, the rates at which they produced the pronouns differed. Specifically, the TD children produced mainstream (i.e., consistent with GAE) pronouns at a significantly higher rate (M = .75; *SD* = .23) than children with SLI (M = .65; *SD* = .22) when rate was calculated as a function of the number of utterances produced by a child. This group difference remained marginally significant when rate was calculated as the percentage of the children's number of pronoun contexts (SLI = 95.6%,; *SD* = 5.4% vs. TD = 97.4%; *SD* = 3.9%). However, the majority (96%) of the children's pronouns were consistent with GAE, and this likely made it difficult to find group differences in the children's pronoun data.

Third Research Question

To answer the final research question, the six pronoun patterns that were inconsistent with GAE were further explored. Of the six patterns, *subjective for genitive* was the most frequent; this pattern occurred in 12.6% of the targeted contexts, and it was being produced by 42 (i.e., 44%) of the 96 children in the study (30 TD; 12 SLI). The least frequent was the *alternative gender* pronoun pattern; this pattern occurred in only .24% of the targeted contexts, and it was produced by only 7 children (3 TD; 4 SLI). To examine these data statistically, the six pronoun patterns were grouped into two categories, productive vs. unproductive, as a function of the percentage of children who produced them. Three of the pronoun patterns (i.e., *subjective for genitive, objective for genitive,* and *objective for subjective*) were classified as productive, and three patterns (i.e., *subjective for objective, genitive for objective,* and *alternative gender*) were classified as unproductive.

The SLI and TD groups differed in the rate at which they produced the three productive patterns as a set (SLI average rate = 4.27% > TD average = 1.93%) and in the rate at which they produced the *objective for genitive* pattern (SLI average rate = 6.4% > TD average rate = 1.14%). Out of the three *objective for genitive* pronoun patterns (i.e., *him for his, them for their*, and *me for my*), a significant difference between the groups was found for *them for their* (SLI average rate = 27.3% vs. TD average rate = 4.8%) and a marginally significant difference was found between the groups for *him for his* (SLI average rate = 9.4% SLI vs. TD average rate = 1.19%). A significant difference was not found for the *me for my* pronoun pattern.

Findings as Related to Previous Studies

The current study contributes to the literature by providing both qualitative and quantitative data regarding pronoun use by child AAE-speakers with and without SLI. It is well known that AAE-speaking children differ in the way in which they use pronouns when compared to GAE-speaking children. However, the field lacks information about the relative frequencies at which AAE-speaking TD children produce different types of mainstream and nonmainstream pronoun patterns. Moreover, there is only limited research that explores the possibility of using children's marking of pronouns to distinguish between those with and without SLI within the dialect of AAE.

The one previous study on pronouns that exists was by Seymour et al. (1998). Recall that Seymour et al.'s participants were 14 AAE-speaking children, aged 5-8 years (7 with SLI, 7 without SLI). As in the current study, language samples were obtained through conversation and play, centering around various toys and pictures. Also similar to the current study, the language samples were analyzed and coded for forms that were consistent and inconsistent with GAE. Seymour et al.'s results revealed that the AAE TD group produced a significantly higher

proportion of pronouns consistent with GAE than the AAE SLI group, which is supported by data of the current study. The current study also extends work by Seymour et al. by providing information about the types of pronoun patterns produced by both groups of children as well as the frequency with which each pattern was produced. It was found that the children with SLI produced *subjective for genitive, objective for genitive,* and *objective for subjective* pronouns as a set at a significantly higher rate per context than the TD children, which was largely accounted for by an increased use of the *objective for genitive* pronouns by the children with SLI.

Findings as Related to the PLS-5 and CELF-P 2

As previously reviewed, scoring modifications listed in the examiner's manuals of popular language assessment tools such as the PLS-5 and the CELF-P 2 do not adequately provide the test administrator with detailed information about pronoun differences between AAE-speaking TD children and those with SLI. Recall, in the analysis of the pronouns present in the PLS-5 and the CELF-P 2, objective and genitive pronouns were fairly common, especially in the PLS-5. As shown in Tables 26 and 27, the PLS-5 includes 64 objective and 43 genitive pronouns, and the CELF-P 2 includes 5 and 5 of these, respectively. Within these two tables, shading is used to highlight the pronoun targets that led to group differences between those with and without SLI. Specifically, the pronoun patterns *them for their, him for his,* and *me for my* are highlighted because these patterns fall under the *objective for genitive* pronoun pattern that was produced significantly more frequently by the children with SLI than the TD children. Under the 'genitive' column, the AAE pronoun substituted for the target GAE genitive pronoun is presented underneath the target in italics.

Table 26. Frequency of pronouns in the PLS-5

	Subjective		Objective		Genitive	
	Singular	**Plural**	**Singular**	**Plural**	**Singular**	**Plural**
1st Person	*I* (21)	*We* (7)	*Me* (45)	*Us* (0)	*My* (15) (*Me*)	*Our* (0)
	I'm (6)				*Mine* (0)	*Ours* (0)
2nd Person	*You* (49)					*Your* (13)
						Yours (0)
3rd Person	*He* (20)	*They* (5)	*Her* (14)	*Them* (0)	*His* (15) (*Him*)	*Their* (0) (*Them*)
	It (19)		*Him* (5)		*Hers* (0)	*Theirs* (0)
	She (13)				*Its* (0)	

Table 27. Frequency of pronouns in the CELF-P 2

	Subjective		Objective		Genitive	
	Singular	**Plural**	**Singular**	**Plural**	**Singular**	**Plural**
1st Person	*I* (0)	*We* (1)	*Me* (1)	*Us* (1)	*My* (1) (*Me*)	*Our* (1)
	I'm (0)				*Mine* (0)	*Ours* (0)
2nd Person	*You* (11)					*Your* (1)
						Yours (0)
3rd Person	*He* (23)	*They* (11)	*Her* (3)	*Them* (0)	*His* (2) (*Him*)	*Their* (0) (*Them*)
	She (10)		*Him* (0)		*Hers* (0)	*Theirs* (0)
	**It* (3)				*Its* (0)	

As is evident in the tables, the frequency of the target genitive pronouns are greater in the PLS-5 (total = 43) than the CELF-P 2 (total = 5). However, in both tests, the target pronoun *their* does not occur, and this is one pronoun pattern that showed group differences between AAE-speaking children with and without SLI. Recall that out of the three *objective for genitive* pronoun patterns, *them for their* was produced significantly more frequently by the language impaired children. For this reason, it is unfortunate that neither language test has items that target the genitive pronoun *their*. Marginally significant results were also found for the pronoun pattern *him for his*. The PLS-5 has 15 instances of the target pronoun *his*, while the CELF-P 2 has only

2. Note that this is another context in which rate-based differences between children with and without SLI could be identified if a sufficient number of targets were included within the tests.

Clinical Implications

For clinical practice, Table 28 reports the different pronoun patterns, both mainstream and nonmainstream, that were produced by the children; the pronouns are ordered from most frequently produced to least frequently produced. This table may serve as a guide to clinicians to help them understand which pronoun patterns they are most and least likely to hear produced by an AAE-speaking child. Table 28 also indicates the patterns where significant group differences were found, possibly providing useful diagnostic information when assessing the language abilities of AAE-speaking children.

In general, the current study provides two important clinical implications, which are listed below.

1. Clinicians, while administering language assessments like the PLS-5 and CELF-P 2, should not expect to hear AAE-speaking children with SLI produce qualitatively different pronoun patterns than their TD peers. However, they may expect rate differences between children with and without SLI for certain pronoun patterns. These patterns included *objective for genitive* pronouns as a set, which were largely accounted for by the patterns *them for their* and *him for his*.
2. The current findings also have clinical implications for test scoring and test development. Regarding test scoring, scoring modification is not recommended because this would lead to clinicians missing the subtle, but clinically relevant, pronoun production rate differences between AAE-speaking TD children and those with SLI. Regarding test development, publishers of existing tests or new tests should be encouraged to add items

Table 28. Pronoun patterns produced by the children, listed from most to least frequent

Pronoun Pattern	Example	Groups Combined	SLI Group	TD Group
Mainstream Pronouns				
I	***I*** *like my shirt.*	100% 4445/4445	100%	100%
Them	*He has friends. He likes* ***them****.*	100% 543/543	100%	100%
Him	*Mike has a ball. I gave it to* ***him****.*	> 99% 535/536	100%	> 99%
Her	*Anne needed a pencil. I gave one to* ***her****.*	> 99% 721/725	> 99%	99%
Me	*I want that. Give it to* ***me****.*	99% 717/725	99%	99%
My	*I like* ***my*** *shirt.*	97% 2385/2457	93%	99%
He	***He*** *asked his dad for help.*	96% 2875/2985	96%	97%
They	***They*** *washed their hands.*	96% 1542/1607	92%	98%
His	*He asked* ***his*** *dad for help.*	94% 608/649	87%	97%
She	***She*** *gave her mom a hug.*	92% 1449/1578	93%	92%
Their	*They washed* ***their*** *hands.*	48% 97/204	28%	54%
Productive Nonmainstream Pronoun Patterns				
Subjective for Genitive	*They washed* ***they*** *hands. [target = their]*	13% 108/855	12%	13%
Objective for Genitive	*They washed* ***them*** *hands. [target = their]*	3% 109/3313	8%[a]	1%
Objective for Subjective	***Him*** *asked his dad for help. [target = he]*	3% 271/10,724	3%	2%
Unproductive Nonmainstream Pronoun Patterns				
Subjective for Objective	*I want that. Give it to* ***I****. [target = me]*	1% 5/737	1%	1%
Genitive for Objective	*I want that. Give it to* ***my****. [target = me]*	< 1% 3/737	1%	< 1 %
Alternative Gender	***He*** *gave her mom a hug. [target = she]*	< 1% 11/4564	< 1%	< 1%

a: Pronoun pattern produced with a significantly higher frequency for the SLI group than for the TD group

to tests that lead to rate-based differences between children with and without language impairment. For example, based on the current findings, genitive pronoun targets should be added to the PLS-5 and the CELF-P 2. Publishers should also be encouraged to collect normative samples of children who speak different nonmainstream dialects of English. These norms are needed to identify children who present with language impairments.

Limitations

There were several limitations in the way the current study was conducted. First, only one nonmainstream dialect (i.e., AAE) was chosen for study. Many other nonmainstream dialects are spoken in the US and elsewhere, and studies of these dialects are needed. Second, only a small number of children, all sampled from one rural area of Louisiana, participated in the study. For this reason, the results of this study may not generalize to all groups of AAE-speaking children. Third, only one age group (i.e., kindergarteners) was studied. It is possible that more group differences in pronoun pattern production rates may be detected in younger groups of children. The children in the study were also never analyzed individually; instead, only group averages (i.e., SLI vs. TD) were examined. A study of individual differences is needed to see if a group or subgroup of the SLI and/or TD children were more likely to produce some of the pronoun patterns more often than the others. The final limitation concerns the nature of the data. The children's use of pronouns was examined in language samples only. Having the children's responses on the PLS-5, CELF-P 2, or some other language test could have provided another context with which to examine their productions of pronouns.

Future Directions

Future studies of AAE-speaking children's pronoun systems could take several different directions. For example, additional language assessments could be studied in a similar fashion as

the PLS-5 and CELF- P 2. This would provide more comprehensive information on the types of pronouns targeted in different child language assessments. Further, probes specifically targeting pronoun patterns most susceptible to nonmainstream marking by children with SLI could be developed and tested for their diagnostic usefulness. If deemed useful for differentiating children with and without SLI in AAE, then these probes could be provided to clinicians as supplemental materials for screening and/or diagnostic assessments.

Conclusion

In conclusion, the current study found that although qualitative differences do not exist between AAE-speaking children with and without SLI in the types of pronoun patterns they produce, there are some significant differences between the two groups in the production rates of certain pronoun patterns. Specifically, the TD children produced a significantly higher percentage of mainstream pronouns per context than children with SLI. Although the children's pronoun productions were overwhelmingly mainstream for both groups of children, a statistically significant difference was also found for the AAE *objective for genitive* pronoun pattern. The children with SLI produced this pronoun pattern with a significantly higher frequency than their TD peers. Given the results of the current study, SLPs should be aware that differences in pronoun pattern production rates exist between AAE-speaking children with and without SLI. These rate differences should be considered, in addition to other established diagnostic criteria, during the screening and assessment of AAE-speaking children.

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