Language Use and Development in Third Person Singular Contexts: Assessment Implications

Brandi L. Newkirk-Turner
Department of Communicative Disorders
Jackson State University
Jackson, Mississippi

Lisa Green
Department of Linguistics
University of Massachusetts
Amherst, Massachusetts

Corresponding Author:
Brandi L. Newkirk-Turner
Department of Communicative Disorders
350 W. Woodrow Wilson Suite 2260
Jackson, MS 39213
601-979-8832
Brandi.L.Newkirk@jsums.edu

Language Use and Development in Third Person Singular Contexts: Assessment Implications

Purpose: The purpose of this assessment-focused clinical paper is to increase familiarity with African American English (AAE)-speaking children's pattern of language use in third person singular contexts and to discuss implications for speech-language assessments of developing AAE-speaking children.

Methods: The clinical focus draws on descriptive case study data from four typically developing child speakers of AAE who are between the ages of three and five. The children's data from three different sources – sentence imitation, story retell, and play-based language samples, sentence – were subjected to linguistic analyses.

Results: The three sources of linguistic data offered different insights into the children's production of *-s* and other linguistic patterns in third person singular contexts.

Conclusions: This study underscores the importance of exploring developing child AAE from a descriptive approach to reveal different types of information about patterns of morphological marking in different linguistic contexts, which is crucial in assessing developing AAE. Implications for language assessment are discussed.

Considerable gains have been made over the past five decades in research in areas related to assessment; however, there remains a need to translate research findings into practical resources that provide clinicians with information that they need to assess child speakers of African American English (AAE), a linguistic variety with set syntactic/morpho-syntactic, phonological, semantic, pragmatic, and lexical patterns that are intertwined with structures of general American English (Green, 2011; Green, 2019). Since early research on the linguistic variety in the 1960's, one major goal has been to communicate that AAE is systematic, not haphazard use of general English structures or a reflection of cultural and linguistic deficiency expressed by the deficit hypothesis. In sociolinguistic research, systematic characteristics of AAE have been compiled as lists of features (e.g., grammatical structures, phonological patterns) that are maximally different from and in opposition to corresponding features in general American English. For example, one typical feature on AAE lists is zero copula/auxiliary *be* (e.g., Sue here/running vs. Sue's here/running). Going beyond listing the feature zero copula/auxiliary *be*, many studies (e.g., Labov (1969), Holm (1976), Baugh (1979), Rickford, Ball, Blake, Jackson, and Martin (1998)) have shown that the story about properties of copula/auxiliary *be* extends beyond what can be captured in a list.

Descriptions of AAE presented in the form of such feature lists are readily available in the speech-language pathology literature and can be quite useful in helping to identify some of the patterns that are used by AAE speakers but are not acceptable in general American English. (See the AAE feature lists in Horton & Apel, 2014 and Roseberry-McKibben, Hedge, & Tellis, 2019 for examples.) These lists usually lack the detail and specificity needed to characterize the syntactic, semantic, morphological, pragmatic and phonological properties associated with features and the role that they play in the overall AAE system (Green, 2011). Additionally, these

lists are largely developed from research that was based on analyses of adult – not child – AAE. As such, the lists typically do not reflect developmental aspects of AAE feature use. For instance, they reflect morphological properties, such as zero inflection marking, but it is not clear how these morphological properties are manifested along the developmental path of child AAE. Green (2019) argued that in child AAE, zero inflection (e.g., zero *-s* in third person singular contexts, such as *Sue run*) may stem from at least three sources: development in early stages, variable production in later stages stemming from patterned and systematic use of AAE, or the absence of a grammatical inflection from the AAE grammar.

Feature lists do not tease apart these important distinctions and given their limitations, they are typically not robust enough to provide clinicians with the information that they need to make assessment decisions for children who are speakers of AAE. For instance, both copula/auxiliary *be* and third person singular marking are both characterized as zero-marked morphemes on feature lists, but the zero-marked morphemes associated with copula/auxiliary *be* and those associated with third person singular contexts are very different from the angle of variable production and stages of development. One important characteristic of copula/auxiliary *be* in AAE is that its zero form is completely ungrammatical in some contexts, and children developing AAE acquire this general principle early on without explicit instruction. That is, while children developing AAE might begin by indiscriminately producing zero copula/auxiliary *be* in all environments, including following the 1st person singular pronoun, they progress along a path in which they replace the zero form (*I finished*) with the overt form (*I'm finished*). On the other hand, there is no similar grammaticality restriction on the production of overt forms of *-s* in third person singular, and, in fact, speakers show a propensity for zero marking in third person singular contacts regardless of the aspectual property of the verb, the phonological property of

the final segment of the preceding verb or other factors. It is important to distinguish types of zero marking in assessing speakers. Accurate linguistic description of AAE is crucial to the understanding of the developmental path of the variety and to providing resources for clinicians.

Research on child AAE in speech-language pathology has been largely based on methods borrowed from sociolinguistic work on adult AAE. In this type of research, which typically focuses on patterns of variation in adult AAE, the assumption is that child AAE should match that of the adult variety (Green, 2007). The overarching questions in those studies are about the extent to which young children's developing language matches what has been reported in the literature for fully matured adult speakers. For example, Cleveland and Oetting (2013) compared the pattern of third person singular *-s* marking of AAE-speaking children to findings for AAE-speaking adults. They observed that they were surprised to find that their children "did not produce higher rates of overt marking in habitual contexts than in nonhabitual context" (p. 611) given the report in the literature that adult AAE speakers use *-s* overtly in habitual contexts. This statement reflects an unfounded assumption that children who are developing AAE should also display patterns of morphological marking that are established in adult AAE speakers. In contrast, the view presented in the current paper based on case studies is simply that child AAE is not the same as adult AAE; children acquiring AAE exhibit developmental patterns.

Child AAE studies that use ~~qualitative or~~ case examples are more frequently used in the field of linguistics but are relatively absent in the speech-language literature (Horton, Johnson & Koonce, 2018). One notable exception is McGregor, Williams, Hearst, and Johnson (1997). In that study, three case examples were used to illustrate a contrastive analysis procedure for assessing the speech and language of AAE-speaking children such that grammatical structures that are reflective of a dialect difference were distinguished from those that are indicative of a

language disorder. Case study-based research that presents and discusses the data of individual children can be useful in translating research findings into practical resources for clinicians.

In this study, we present real developing AAE-speaking children and extensive excerpts of their language data, not just quantitative results of children's language production. We use linguistic-based analyses to increase pre-service and in-service clinician's familiarity with AAE-speaking children's patterns of language use in third person singular contexts by illustrating that a number of factors, in addition to quantitative results of the production of *-s* on verbs in agreement with third person singular subjects (e.g. *He jumps*), must also be considered in understanding the path that children take in acquiring the target properties in language use in third person singular contexts. In addition, by examining overt and zero verb morphology, we begin to learn more about when AAE speakers use verbal morphology or inflectional marking on verbs (e.g., *run*/*runs*) versus freestanding verbal markers preceding verbs (e.g., *He <u>be</u> running*) to encode information about events. (Preverbal markers are not addressed in this paper, but see Green (2011) for further discussion.)

Third Person Singular Contexts in Child AAE

Some of the earliest information about the emergence of third person singular *-s* by developing AAE speaking children was presented in dissertations from the 1970s to 1980. Steffensen (1974) collected language samples in the homes of two African American families, both who each had a young child. For one child, language samples were regularly collected between 17-26 months and for the other child, language samples were collected between 20-26 months. Findings showed that in the earliest developmental stages, there were few tokens that could be identified as requiring the third person singular *-s* marker on the basis of linguistic context. In other words, Steffensen (1974) reported that at the earliest stages of development,

young children who are developing AAE appear to produce verbs, either spontaneously or in imitation, in their neutral or unmarked forms (e.g., *there it go*; *here come Mama car*). At 26 months, instances of overt production of third person singular -*s* were few in both children's language samples, prompting Steffensen to argue that third person singular -*s* emerges relatively late in typically developing children who are acquiring AAE. Further, Steffensen concluded that the earliest language samples of AAE-speaking children did not reflect dialectal differences but instead reflected a stage of development that is found in the speech of all children acquiring English.

Building on the findings of Steffensen (1974), Reveron (1979) included an examination of third person singular -*s* production by 80 typically developing AAE-speaking children between the ages of two and six. To do this, she presented 21 nonsense words, ranging from three to five phonemes in length, with a carrier phrase in both AAE and general American English. Results showed that of all the grammatical morphemes tested (e.g., plural -*s*, possessive -*s*, past tense -*ed*), third person singular -*s* was least productive. Despite increasing in overt production from ages three to six, the children's production never significantly exceeded chance (50%). Based on these findings, Reveron (1979) concluded that the AAE-speaking children developed zero morphological marking of third person -*s* by age four, and at age six their production ranged from 0% to 16%. Cole (1980) examined the AAE grammatical forms, including third person singular -*s*, used by 60 typically developing African American children who were three- , four- , and five-years-old using a structured task. Color photographs were presented to the children along with a verbal prompt (e.g., direct questions, description requests, lead words, incomplete sentence frames) to elicit the grammatical structures. Coles' results showed children's zero morphological marking of third person singular -*s* was fully developed

at ages three, four, and five which meant 90% zero marking in the three age groups. As such, overt production of -*s* was rare at all three ages.

Horton-Ikard (2002) and Horton-Ikard and Weismer (2005) also report on children's earliest uses of third person singular -*s*. These studies included comparison groups of general American English (GAE)-speaking children and AAE-speaking children at ages 2 ½ and 3 ½. The results showed the difference between GAE speaking and AAE speaking children's average percentage of zero morphological marking of third person singular -*s*. For GAE-speaking children, it was 9% at 2 ½ and 20% at 3 ½, and for AAE speakers, it was 45% at 2 ½ and 55% at 3 ½. Horton-Ikard (2002) interpreted these findings as evidence that as early as 2 ½ years old, the developmental language paths of children who were speakers of AAE and GAE are beginning to diverge and show differences.

Other studies have corroborated the findings that young children who are developing AAE speakers have high rates of zero morphological marking in third person singular contexts. For example, Oetting and Pruitt (2005) reported findings consistent with Horton-Ikard's showing that a majority of three-year-olds in their study (76%) used zero morphological marking of third person singular -*s* in their language samples. In another study, using sentence repetition and retell tasks, Newkirk-Turner and Green (2016) reported even higher rates of zero marking for three-year-old developing AAE-speaking children. They reported that 77% of third person singular -*s* contexts were zero marked by three-year olds. Findings such as these support the conclusion that of Brown's 14 morphemes, third person singular -*s* is the least frequently observed in the language of African American children at age three (Stockman, 2010).

Studies have also shown that the third person singular -*s* marker is not readily produced in the language of children beyond the age of three who are developing AAE. For example,

Oetting and McDonald (2001) reported frequency counts (or tokens) for three AAE features related to third person singular -*s*: Ø regular third person singular -s (e.g., *she run to the store*), Ø irregular third person singular -*s* on verbs such as *say* and *do* (e.g., *she say hi to the man at the store*), and subject/verb agreement with *don't* (e.g., *she don't go to the store*). Of these, they found zero morphological marking of third person singular -*s* on regular verbs to be most frequent at ages four and six. They showed that the use of Ø third person singular -*s* increased between ages four and six. Oetting and Garrity (2006) presented percentages of marking that showed that the overt third person singular -*s* marker is not readily produced in the language samples of four- and six-year-old AAE-speaking children. They reported that 78% (SD = 19) of third person singular contexts were zero marked in their language samples. Similarly, Cleveland and Oetting (2013) reported an overall average rate of zero morphological marking of 0.85 for four- and six-year-olds in third person singular contexts.

Other studies that used structured tasks have also found high rates of zero morphological marking of -*s* in third person singular contexts by children who are between the ages of four and six. For example, using a sentence repetition task, Newkirk-Turner and Green (2016) found the percent of zero third person singular -*s* for four-year-olds to be 72% and 54% for five- and six-year-olds. Similar high percentages of ~~Ø~~ zero morphological marking of third person singular -s were shown in a story retell task: 71% for four-year-olds~~,~~ and 53% for five- and six-year-olds. In another study that used a structured task to investigate 5 ½ year old AAE-speaking children's production of third person singular -*s*, Oetting, Berry, Gregory, Riviere, and McDonald (2019) found that five-year-olds used zero morphological marking of third person singular -*s* in 64% of habitual contexts and in 43% of nonhabitual contexts. Finally, studies that have included children who are age six and older have shown that high rates of zero morphological marking of third

person singular -*s* persist beyond the age of six. Seymour, Bland-Stewart, and Green (1998) documented a .56 rate of zero morphological marking (reported as a 0.44 rate of overt marking) in the language samples of six- and seven-year-old children. Moreover, when applying a 90% criterion of overt marking, they found that none of the typically developing AAE children met that productivity criterion.

Linguistic Factors Associated with Third Person Singular Contexts

A few studies have investigated linguistic factors that are associated with overt or zero morphological marking of third person singular -*s*. Cleveland and Oetting (2013) examined negative and non-negative auxiliary verbs, and verbs in habitual contexts to determine whether these properties influence morphological marking of third person singular -*s*. Data from their typically developing six-year-old AAE-speaking children showed that no effects were found for negation or habituality although the data trends showed that negative and habitual verbs were more commonly zero morphologically marked. Newkirk-Turner and Green (2016) also examined different verb types to determine whether the nature of the events they denoted influenced morphological marking of third person singular -*s*. Verbs that denoted both accomplishment type events (e.g., *She go/goes to the washbowl*) and achievement type events (e.g., *She buy/buys syrup*), favored zero morphological marking In addition, third person singular allomorphs (i.e. [z], [s], and [ɪz]) were examined to determine whether they influenced morphological marking and it was found that third person singular -*s* did not differ in verbs ending in allomorphs [s], [z], or [ɪz] although the number of [ɪz] allomorphs may have been too small to measure its effects. Marking also was not influenced by the initial sound of the word following the verb.

Assessing Third Person Singular -*s* in AAE-Speaking Children's Language: Case Examples

We present four case examples of AAE-speaking children from our corpus, with focus on data from elicitation and spontaneous tasks that reflect children's language use in third person singular contexts. In presenting the data in the form of case studies, we take a descriptive, linguistic approach with the goal of helping clinicians become more familiar with assessing children who are speakers of AAE.

The case examples are part of a larger ~~mixed-methods~~ study on third person singular *-s* in child AAE and illustrate features of third person singular *-s* and other related properties at the level of individual children. These case examples were selected for use because they are representative of the larger sample's group findings. The children (referred to in this article by pseudonyms) presented here are from predominately AAE-speaking communities in the southern United States. Within these communities, the children are being raised in African American homes, educated in African American schools or childcare centers, and they predominately communicate and interact with African American speakers. Based on this information, we make the reasonable assumption that the children presented here are developing the language patterns of their communities (Green, 2011).

Methods

After obtaining approval from Institutional Review Boards at Jackson State University and the University of Massachusetts Amherst, we collected linguistic data for each child to learn more about his/her language. Data collection for each child included (a) *Preschool Language Scales-5 Screening Test* (PLS-5; Zimmerman, Steiner & Pond, 2012), (b) a sentence repetition task based on the wordless picture book *Pancakes for Breakfast* (dePaola, 1978), (c) a story retell, and (d) a 20- to 25-minute play-based language sample. Additionally, a language sample was collected from each child's parent. Before presenting the data for each child, we briefly

describe the methods of data collection that were used to learn about the children's use of language in third person singular contexts.

To confirm the absence of signs and symptoms of indications of risks for language disorders, each child was administered the *PLS-5 Screening Test.* The *PLS-5 Screening Test* includes African American children in its normative sample (14.2%), briefly screens six language and speech areas, and yields "pass" or "need more information" outcomes. Following a passing outcome on the screening test, each child participated in three tasks, which varied in their naturalness. The first task was a sentence repetition task. Repetition exercises are useful in that they can target specific structures and provide multiple opportunities for a child to produce them. In addition, such exercises are also useful in providing a reflection of the child's grammar. According to Daniel, Mckee, and Cairns (1996, p, 56), "Much research has replicated the paradoxical finding that in order for the child to 'imitate' a structure, the structure must apparently be part of the child's grammatical competence…". Without assuming that a child's imitated production of third person singular *-s* means that it is part of his grammar, we used a repetition exercise to provide information about the child's production of third person singular marking in certain environments and about the child's recognition of the morpheme.

The repetition task used in this study was based on the wordless picture storybook *Pancakes for Breakfast* (dePaola, 1978). A storyline that consisted of sentences that corresponded to the pictures in the book was created by the authors of this article. (See Newkirk-Turner and Green, 2016 for a version of the storyline.) The story was written in present tense and included 64 instances of third singular *–s* verbs that varied by allomorph (i.e., [-s], [-z], [ɪz]). Instructions for the task were adapted from Charity (2007). The examiner instructed the child by saying, "Here's how we do this. First I will read a bit and then you will try to say it exactly the

way I said it. It's like a game of copycat. Sometimes it may be hard to remember everything, but if you can't say it all, do the best you can, okay?" Two practice items that did not include the target form preceded the task to ensure that the child understood what to do. After the practice items, the examiner presented each page of the picture book while presenting the corresponding sentences for repetition.

Following the sentence repetition task, the child was instructed to retell the story to the examiner and was permitted to use the pictures in the book to facilitate recall. This activity was designed to be more natural than the repetition task in that the children had some choice of the words and sentences that they chose to use. During the retell, the examiners provided minimal prompting as needed such as, "anything else?" but mainly positive reinforcement such as "good," nonverbal cues such as head nods. The nature of a story retell task places speech time occurring after the time of the event. So even if the story is presented in present tense, as it was in our study, the tense of the child's retell may be past, present, or a combination of both. Because the children were to retell the story using their own words, there was no control of the words, utterances or tense (i.e., past or present) that they used. Given this, the number of third person *–s* contexts as well as the tense varied from child to child.

The third task was a play-based spontaneous language sample that lasted 20- to 25-minutes and involved three playsets: (a) a car and garage set, (b) a wooden dress-up bear set, and (c) puzzles. While playing with the child, the examiner facilitated conversation, to the greatest extent possible, that was framed in present tense and involved third person subjects (e.g., the mom, he, the green car) while following the natural flow of the interaction. The spontaneous language sample was the activity that provided the most natural view of the child's language in that the children were not tied to the examiner's words but rather, were free to choose their

words and sentences during play with the toys. Finally, to have information about input from the child's home environment, the examiners elicited retell data from the child's parent based, in part, on the storyline and a short conversational interview. All tasks were audio-recorded, orthographically transcribed, and electronically stored for analyses using the Systematic Analysis for Language Transcripts 18 Software.

Illustrative Analyses

We use pseudonyms to refer to the children, and their ages and gender are indicated in parentheses. We begin with a short description of the child and information about influences from the home linguistic environment. We provide excerpts of the parents' language to make the point that developing AAE speakers are not using features haphazardly or simply mimicking adults. Rather, they, like all children, are on a developmental path to the target variety that is used in their linguistic and social environments.

Case Example 1: Three-Year-Old Boy

Background and Parental Input

Jason (3M) is a three-year-old boy who attends an inner-city childcare center in southern United States. He passed a standardized speech and language screening. His parent and teacher have no concerns about his communication skills, and he is not currently enrolled in speech/language therapy. An Index of Productive Syntax (IPSyn, Scarborough, 1990) analysis was conducted on his language sample to determine if his grammatical language skills were within normal limits of IPSyn scores reported for ~~same-dialect speaking~~ other children who also spoke AAE. His total IPSyn score was 78 which is consistent with scores reported for typically developing AAE-speaking three-year-olds (cf. Stockman, Newkirk-Turner, Swartzlander & Morris, 2016). (See Table 1 for IPSyn subscale scores.)

Jason enjoys school and looks forward to telling his mother about what happened at school each day. He likes to play video games, play at Chuck E. Cheese, watch videos on YouTube, read books, and do educational activities with his mother. A language sample collected from his mother suggested that he has input from a mature AAE speaker in his home environment. An excerpt is below:

Examiner: *Has Jason ever been to the fair?*

Mother: *Yes.*

Examiner: *And what does he like to do?*

Mother: *He ride all the rides, honey. He is not scared. Do you understand me? I'm scared. He not scared. I'm like, Jason you gon ride that? He like yes. Baby, you and your wristband money is not going to waste. Every ride he can ride he gon ride it.*

Examiner: *Well that's good. He gets on the rollercoasters?*

Mother: *Any ride they let him get on, Jason getting on it.*

In the excerpt of the mother's language sample, it is noted that the mother's AAE patterns are indicated in the systematic copula/auxiliary *be* patterns, such as obligatory production in first person singular contexts (i.e. *I'm*) and full forms (i.e. *is*), on the one hand, and instances of zero copula/auxiliary *be* preceding the marker *gon,* on the other. The orthographic representation *gon* was used to distinguish the pronunciation of the marker from past participle *gone* [gõn] and because it captures the pronunciation of the marker [gɔ̃] without using phonetic symbols. In addition, she uses ~~an~~ unmarked verbs (e.g., *he ride*) in third person singular present contexts.

<u>Child Data</u>

Jason willingly approached the sentence repetition task and was easily conditioned to it by the practice items. Of the 64 sentences with third person singular *-s* verbs, he repeated the

target verb phrase in all but seven of them (89%). Of the 58 sentences repeated, 36 (62%) of the verbs in third person singular contexts were overtly marked with allomorphs produced by the examiner and 22 (38%) were unmarked (Table 2). An analysis of the sentences that he repeated showed that the only linguistic condition that favored his overt production of third person singular verbs was allomorphonic variation. As shown in Table 3, third person singular *-s* verbs that had the allomorph [ɪz] (e.g., *washes, wishes, dresses*) had the lowest rate of zero marking compared to verbs with the allomorph [s] (e.g., *walks, waits, scoops*) and [z] (e.g., *stays, reads, opens*. The allomorph [ɪz], which creates an additional syllable on verbs, appeared to support his repetition. Other linguistic conditions such as succeeding context, either a word that began with a vowel (e.g., *the dog waits outside*) or a consonant (*she checks for milk*), and sentence length did not play a role in whether Jason overtly marked third person singular *-s* verbs or left them unmarked. Also, he used unmarked verbs equally in short sentences (i.e., 4 or 5 words) and sentences that were longer (i.e., 6 or 7 words).

As a way of adding to the story, Jason ad libbed present tense utterances in between the verb stimuli during the sentence repetition task. A traditional, large group, quantitative study that focused exclusively on the scoring of the items might have overlooked this source of linguistic data but we used the transcriptions of the child's spontaneous sentences to gain more insight into his verbal morphology use in third person singular contexts. The excerpt below from pages 4-7 of *Pancakes for Breakfast* illustrates this. In this excerpt, the adlibbed sentences are underlined.

Examiner: *She wishes she could make pancakes.*

Child: *She wishes she could make pancakes.*

Examiner: *So she dresses up.*

Child: *So she dresses up.*

Examiner: *She reaches for the book.*

Child: *She reaches for the book. And she sitØ down on the couch.*

Examiner: *She touches the page.*

Child: *She touches the page.*

Examiner: *She reads about making pancakes.*

Child: *She reads about making pancakes. She turnØ the page. She turnØ the page back.*

Examiner: *She gets the bowl.*

Child: *She getØ the bowl. And eatØ it.*

Examiner: *She opens the bag.*

Child: *She opens the bag.*

Examiner: *She adds flour in the bowl.*

Child: *She addØ flour in the bowl. And she pourØ it.*

As shown from the previous examples, Jason perceived the third singular allomorphs in the examiner's sentences and repeated them in many instances. However, his ad libbed sentences showed that when he was allowed to choose his own words, he used unmarked verbs in third person singular *-s* contexts. The data from his story retell and his language sample show that when the tasks became more natural, there was a greater propensity for him to unmarked verbs in third person singular contexts.

Table 2 shows Jason's rate of zero third person singular morphology as a function of task, such that as the task's naturalness increased, Jason's production of unmarked verbs increased. As shown, Jason's rate of zero marking of *-s* in third person singular morphology increased to 63% in the story retell task. Whereas in the sentence repetition task where the majority of

Jason's verbs in third person singular contexts were overtly marked, the majority of his verbs in the retell task were bare forms or unmarked, as illustrated in the excerpt below:

Jason: *But she ain't have no eggs. She's so sad. But she got some milk. She pourØ the milk. She stirØ the milk. She mixØ it up with butter. But she so not sad. 'Cause she getØ a lot of eggs.*

As also shown in this excerpt, Jason's tendency in the sentence repetition task to overtly produce the third person singular allomorph [ɪz] did not carry over to the retell task. In his retell, he used two verbs that would take the allomorph [ɪz] in third singular contexts (e.g., *mix, use*), but these verbs were produced in their bare forms.

It is important to note that zero morphological marking can also occur in past tense contexts, as in *She pour the milk* ("She poured the milk"), so in some cases, it might be difficult to determine whether present or past tense is intended. In Jason's narrative, however, zero marking is construed as 3rd person singular present contexts given the child's use of sentences such as *She's so sad* (present) and *She got milk* (present perfect). It should also be noted that third singular *-s* morphological marking can also occur in historical present or narrative present in English to narrate events in the past. The tasks were not designed to distinguish the child's semantic uses of morphological marking in present and historical present.

Finally, there was one instance in Jason's retell where he used *-s* marking on a noun but not on the verb in the third person singular context as in *The dogs hide on the table*; the *-s* ended up on the subject (the dogs) and not on the verb (hide). On page 17 of the storybook, one dog is shown hiding under the table, and the verbal prompt was *The dog hides under the table*. As argued in Green (2019), it appears that Jason's production of *-s* on the noun was induced by the *-s* on the third person singular verb produced by the examiner in the sentence repetition task.

Jason's language sample provided 31 third person singular contexts for analysis. Twenty-four (81%) of these were unmarked as shown in Table 2 and illustrated below in an excerpt from the section of the language sample where Jason and the examiner are playing with the cars and the parking garage:

Examiner: *Does your police car need anything?*

Child: *Yes.*

Examiner: *What does it need? Tell me again.*

Child: *It needØ to slide down here*.

Examiner: *Is it dirty?*

Child: *Yeah.*

Examiner: *What does it need if it's dirty?*

Child. *Yeah. It needØ to go to the car wash.*

A smaller proportion of Jason's verbs in third person singular contexts were overtly marked compared to his verbs in story retell and sentence repetition tasks. Less than 20% of Jason's verbs in third person singular contexts in his spontaneous language sample were morphologically marked, but interestingly, nearly half of the instances of morphologically marked verbs were imitations of the examiner's previous utterances, as shown below:

Examiner: *Does this fit?*

Child: *No.*

Child: *Does this fit.*

Examiner: *She has a skirt so she needs a what?*

Examiner: *She needs this.*

Child: *Shirt.*

Examiner: *Yep she needs a shirt.*

Child: *This one needs the boy shirt.*

Examiner: *Does it fit here?*

Child: *Yes.*

Examiner: *It matches.*

Child: *It matches.*

Taken together, Jason's high rate of zero third person singular morphological marking, the tendency for his overt productions to occur in imitation of the examiner's preceding utterance, the over-generalization of *-s* on verbs in third person plural contexts, and the misplacement of the *-s* on subjects rather than the verbs provide evidence that third person singular *-s* is not a part of three-year-old Jason's developing grammar.

Case Example 2: Four-Year-Old Boy

Background and Parental Input

Joseph (4M) is a four-year-old boy who attends an inner-city childcare center in southern United States. He passed a standardized speech and language screening. His parent and teacher have no concerns about his communication skills, and he is not currently enrolled in speech/language therapy. An IPSyn analysis was conducted on his language sample to determine if his grammatical language skills were within normal limits of IPSyn scores reported for same-dialect speaking peers. His total IPSyn score was 90, which is consistent with scores reported for typically developing AAE-speaking four-year-olds (cf. Oetting et al., 2010). (See Table 1 for IPSyn subscale scores.)

Joseph enjoys singing, attending church, eating pizza, and playing with dogs. A language sample collected from his mother suggests that he is exposed to AAE in his home environment. An excerpt is below:

Mother: *But he like to go to my brother house.*

Examiner: *Oh ok. And what does he do? Does he just play?*

Mother: *No girl they be outside like working.*

Examiner: *Oh.*

Mother: *Like little men. Doing the yard. Working on cars. (Uhm) just boy stuff.*

Examiner: *Yeah.*

Mother: *Uhhuh* (meaning yes).

Examiner: *Well that's good that he likes to be outside. Tell me what does Joseph likes to eat.*

Mother: *Pizza.*

Examiner: *Pizza?*

Mother: *Pizza his favorite food. Uhhuh*.

Examiner: *What doesn't he like to eat?*

Mother: *Fish. He told me he don't like my catfish.*

In this short exchange, Joseph's mother uses tense and aspect properties to discuss Joseph's food preferences and habitual activities. For instance, the mother uses aspectual *be* to note the general activity of working outside (i.e. …*they be outside like working*). In addition, she uses unmarked verbs (e.g., *he like*) in third person singular present contexts.

<u>Child Data:</u>

Joseph willingly approached the sentence repetition task and was easily conditioned to the task by the practice items, and he repeated the target verb phrases in the majority of the sentences presented (80%). Of the 52 sentences that he repeated, 18 (35%) included verbs that were overtly marked with third person singular morphology and 34 (65%) included verbs that were zero marked. He zero marked [ɪz] less often that [s] and [z], as shown in Table 3. An excerpt from Joseph (4M) is below and as shown, *shine* and *stay* are in their unmarked forms, whereas morphological marking is overtly produced on *stretches,* a verb that takes the allomorph [ɪz].

Examiner: *The sun shines bright.*

Joseph: *The sun shineØ bright.*

Examiner: *The dog stretches on the rug.*

Joseph: *(The) the dog stretches on the rug.*

Examiner: *The cat stays on the bed.*

Examiner: *The cat stayØ on the bed.*

Other linguistic conditions such as succeeding context, either a word that began with a vowel or a consonant, and sentence length did not play a role in overt or zero marking.

Following the repetition task, Joseph retold the story by beginning in present tense but later switching to past tense. His story included 16 third person singular verb contexts, and each of these were bare or unmarked forms. In most instances, Joseph used the default case-marked pronoun *her* in subject position with the zero morphologically marked third person singular verbs, as shown in the last utterance in the following excerpt: *And the dog he rubØ the floor and the cat sleepØ on the bed. And her wipeØ her face.*

Joseph also used default pronouns in his spontaneous language sample, which occurred as subjects of overtly marked and zero morphologically marked third person singular verbs, as shown in the examples below:

Examiner: *Tell me what the mama wears.*

Joseph: *(Um) Her wears.*

Examiner: *Tell me what the mama wears.*

Joseph: *Her wears. The daddy wears these and her going. So he gon change like that.*

Examiner: *Looks like the mommy needs her clothes.*

Joseph: *Her needØ this.*

Examiner: *Okay.*

Joseph: *And her needØ this.*

From Joseph's spontaneous speech and the examples presented, it is suggested that *-s* is not realized as a tense and agreement marker indicative of nominative case because the marker has no effect on the case marking of subject. That is, Joseph's subject remains in default case although the verb is overtly *-s* marked.

Joseph's spontaneous language sample provided another 59 third person singular contexts for analysis. Of these, 86% verbs were unmarked. In all but one instance of overt marking, Joseph's third person singular *-s* came directly after the examiner's production of the marked verb. It was also observed that in several instances, Joseph spontaneously switched from a third person singular morphologically marked verb to a zero marked verb. In the example below, Joseph initially overtly produces *-s* following the examiner's use of it, however, without the infinitival *to*. In his next utterance, he uses an unmarked verb followed by infinitival *to*.

Examiner: *Tell me what the taxi needs.*

Child: *It needs race. It need to race.*

Similarly, in two other instances shown below, following the examiner's production of the marked verb, Joseph begins his utterance with marked verbs and then revises to use a different grammatical structure that includes the marker preverbal *gon*.

Examiner: *Tell me what the dad wears.*

Child: *(He wears) He can wear this one.*

Examiner: *Tell me what he wears.*

Child: *(He wears) He gon wear this one.*

Joseph's productions in these examples suggest that third person singular morphological marking has not yet been established or stabilized in his grammar, so the examiner's use of the marker in the preceding utterance does not trigger Joseph's use of the marker.

Case Example 3: Five-Year-Old Boy

Nicholas (5M) is a five-year-old boy who is in kindergarden in an inner-city school in southern United States. He passed a standardized speech and language screening. His parent and teacher have no concerns about his communication skills, and he is not currently enrolled in speech/language therapy. An IPSyn analysis was conducted on his language sample to determine if his grammatical language skills were within normal limits of IPSyn scores reported for same-dialect speaking peers. His total IPSyn score was 85 which is in line with scores reported for typically developing AAE-speaking four- and six-year-olds (cf. Oetting et al., 2010). (See Table 1 for IPSyn subscale scores.)

Nicholas enjoys being active, doing flips, going to the store to buy snacks, playing at Chuck E. Cheese, exploring music, watching television, and going to the fair. A language sample collected from his mother indicates that she uses patterns of AAE, so Joseph has input from a mature AAE speaker in his home environment. An excerpt is below:

Examiner: *So what places does he like to go?*

Mother: *He like to go (um) he love to go to the store to get snacks. He like Chuck E Cheese and [name of local place]. He like to jump.*

Examiner: *I've never been to [name of local place]. Is it neat?*

Mother: *It's nice.*

Examiner: *What kind of snacks does he usually like to get?*

Mother: *He mostly like chips. He like chips. And juice. He likes chips and juice. But when it comes to candy, like, he don't really eat too much candy*.

In this exchange, Nicholas' mother responds to the examiner's questions, and the pattern that is obvious here is the mother's zero morphological marking on verbs in third person singular contexts (e.g., *he like*, *he don't*). The mother clearly knows that something like third singular marking can occur, given her production in "he likes juice"; however, overt marking is the exception in the speech sample as it is in AAE.

Nicholas willingly approached the sentence repetition task and was easily conditioned to it. He repeated the target verb phrase in all of the sentence repetition items. Nicholas' percentage of overt third person singular marking in the repetition task was 70% and the repetition task revealed his ability to repeat the examiner's words, including the inflectional marking on verbs. There were, however, some instances in which he deviated from the examiner's sentences by producing zero morphologically marked verbs, as shown below:

Examiner: *She leaves out her house.*

Nicholas: *She leave out of her house.*

Examiner: *She follows the smell.*

Nicholas: *She (she) follow the smell.*

Examiner: *She focuses on the smell of pancakes.*

Nicholas: *She (she) focus on the smell on pancakes.*

It was also observed that another way that Nicholas deviated from the presented sentences was by changing the bound morpheme while maintaining the tense of the sentence as shown in the example below, where Nicholas produced *pushing* rather than *pushes.*

Examiner: *She puts her hands on her tummy.*

Nicholas: *She put her hand on her tummy.*

Examiner: *She pushes herself slowly.*

Nicholas: *She pushing herself slowly.*

Examiner: *The dog raises his legs.*

Nicholas: *The dog raises his legs.*

In this example two of the verbs end in sibilants, which take the singular allomorph [ɪz] (e.g., *pushes* and *raises*). As shown, Nicholas repeats *raises*, but produces "push*ing* herself slowly" instead of "push*es* herself slowly." Without further analysis, it is not clear whether Nicholas chooses *pushing* because the progressive matches the in-progress state of the lady's pushing herself or because given the status of third singular morphological marking in the grammar, he actually hears or processes [ɪz] on *pushes* as -*ing*. It is worth noting that a frequency count of third singular allomorph production is insightful to some extent, but questions such as the one about -*ing* production in the repetition tasks is also another indication of the tenuous status of third singular morphological marking in the AAE grammar and that frequency counts do not give the entire story.

One other way that Nicholas deviated from the presented sentences in the repetition task involved a displacement of the -*s* morpheme. Page 17 of the storybook in the task shows one cat watching one dog and the sentence presented for repetition is, *The cat watches the dog*. Nicholas' imitation was~~,~~ *The cats watches the dog* where he pluralizes the subject in addition to marking the third person singular verb with -s. As discussed by Green (2019), it appears that the production of -*s* on the noun is induced by the -*s* on the third person singular verb modeled by the examiner. This placement of -*s* provides additional evidence of the tenuous status of morphological marking of third person singular -*s* in his grammar.

Like the other children, Nicholas produced zero third person singular marking at a lower rate on verbs that took the [ɪz] allomorph in the repetition task, as shown in Table 3. This preference for overt marking on verbs ending in sibilants and that would take [ɪz], however, did not hold up in the story retell task. The utterance pairs below are from Nicholas' sentence repetition and his retell. As can be seen, Nicholas' overt marking of verbs that take the [ɪz] allomorph did not carry over to overt marking in the retell task, even when he used the same verbs from the repetition task:

Examiner (Sentence Repetition): She squeezes the cow's body.
Nicholas (Sentence Repetition): She squeezes the cow's body.
Nicholas (Story Retell): The lady squeeze the cow.

Examiner (Sentence Repetition): The lady dances at the door.
Nicholas (Sentence Repetition): The lady dances at the door.
Nicholas (Story Retell): The lady dance at the door.

The higher rate of marking of verbs that take the [ɪz] allomorph that was seen in the sentence repetition task did not carry over to Nicholas' spontaneous language sample. Nicholas used two instances of the unmarked form of the verb *match,* which would take~~s~~ the [ɪz] allomorph, twice in his language sample: *Maybe this one match; I know that this one match.* Finally, consistent with the findings for other children, Nicholas' zero marking of -*s* in third person singular contexts in his story retell and language sample were considerably higher than his zero marking in the sentence repetition task (Table 2).

Case Example 4: Five-Year-Old Girl

Background and Parental Input

Tasha (5F) is a five-year-old girl who attends an inner-city childcare center in the southern United States. She passed a standardized speech and language screening. Her parent

and teacher have no concerns about her communication skills, and she is not currently enrolled in speech/language therapy. An IPSyn analysis was conducted on her language sample to determine if her grammatical language skills were within normal limits of IPSyn scores reported for same-dialect speaking peers. Her total IPSyn score was 95, which is in line with scores reported for typically developing AAE-speaking four- and six-year-olds (cf. Oetting et al., 2010). (See Table 1 for IPSyn subscale scores.) A language sample collected from her father suggests that she is exposed to AAE in her home environment as evidenced by her father's language sample, which included instances of Ø zero morphological marking on verbs in third person singular contexts and other patterns of AAE. An excerpt is below:

Examiner: *Does she like to go to the fair? Or has she been to the fair?*

Father: *Yeah she like to go but she was at that point that, you know, she got tired of riding the kiddie stuff. And she want to ride the other stuff. So it became more like, you know, it is what it is. So I like that though. She like what she know she want. So I like that.*

Examiner: *You don't have to guess.*

Father: *Yeah.*

The father's responses to the examiner's questions is in present tense, as indicated by unmarked verbs in third person singular contexts. Note that in conveying the child's interest in riding "the other stuff", the verb *want* is not marked for tense/agreement, so the time of the event, whether the event is situated in the present or past, has to be determined from the context. In AAE, context and other types of clues versus morphological marking on verbs are commonly used to determine whether an event is in the present or past.

Tasha willingly participated in the sentence repetition task and was easily conditioned to it. She repeated the target verb phrases in all of the sentences presented. It is clear from the

repetition task that Tasha is quite adept at repeating the examiner's words. Take, for example, the following instances of verbs ending in the [ɪz] morpheme:

Examiner: *She rushes back out to get milk.*

Tasha: *She rushes back out to get milk.*

Examiner: *The cat goes with her.*

Tasha: *The cat goes with her.*

Examiner: *She milks the cow.*

Tasha: *She milks the cow.*

Examiner: *She squeezes the cow's body.*

Tasha: *She squeezes the cow's body.*

Examiner: *She marches all the way back home.*

Tasha: *She marches all the way back home.*

Examiner: *She pours the milk into the pitcher.*

Tasha: *She pours the milk into the pitcher?*

The following example shows that Tasha also produced an *-ing* verb (i.e., *searchin*) instead of a third person singular marked verb.

Examiner: *She adds flour in the bowl.*

Tasha: *She adds flour in the bowl.*

Examiner: *Oh no!*

Tasha: *Oh no!*

Examiner: *She searches for eggs.*

Tasha: *She searchin' for eggs.*

Examiner: *But she doesn't have any.*

Tasha: *But she don't have any.*

Without further analysis, it is not clear why Tasha produces *searchin* instead of *searches,* but one possible explanation is that Tasha produces a sentence that is more consistent with AAE grammar than the one that is presented to her. In the AAE grammar, it is felicitous to say, *she searchin' for eggs* where the auxiliary BE verb is zero marked. In addition, the morpheme -*in* (-*ing*) might have been used because to the child, the woman's searching for eggs might be portrayed being in progress.

When her story retell and language sample are considered, it is noted that Tasha leans more toward zero morphological marking in more natural activities than she did in the sentence repetition task (Table 2). It was observed that her adeptness at repeating sentences in the repetition task did not necessarily mean that she would produce marked forms of the same words when used in her more natural, spontaneous language. The examples below show Tasha's production of *washes, gets,* and *fixes* first in the sentence repetition task and then in retell task*:*

Examiner (Sentence Repetition): *She washes her face.*

Tasha (Sentence Repetition): *She washes her face.*

Tasha (Story Retell): *The lady wash~~Ø~~ her face.*

Examiner (Sentence Repetition): *She gets the bowl.*

Tasha (Sentence Repetition): *She gets the bowl.*

Tasha (Story Retell): *She get~~Ø~~ the book.*

Examiner (Sentence Repetition): *The lady fixes a plate of pancakes.*

Tasha (Sentence Repetition): *The lady fixes a plate of pancakes.*

Tasha (Story Retell): *And she fix~~Ø~~ pancakes.*

Tasha also used *get* and *fix* in third person singular contexts in her language sample, allowing for a comparison of her production of these words in the retell task. All instances of *get* and *fix* in her language sample were zero marked: *Now this one get into the spot; When she get done from work, she can wash her car; No the daddy wear this because the dad fix it.* Tasha's data raises

the question about whether children's discernment of third person singular marking necessarily indicates that third person singular -*s* is an integral part of the grammar. For instance, Tasha can certainly hear and imitate the marker -*s*, but the marker is less likely to be present in non-repetition contexts even if the verb ends in a sibilant. Such unstable production of the marker -*s* strongly suggests that it is not part of the child's developing grammar. The focus was on production, so the child is characterized as "hearing" the marker. No claims are being made here about processing or comprehension.

Discussion/Clinical Implications

Inspired by practices in linguistics and the few existing case study articles in the field of speech-language pathology, we presented case examples of four children who are developing speakers of AAE to provide clinicians with illustrative examples of properties that developing AAE speakers exhibit in production of structures in third person singular contexts. We started by establishing that the children come from AAE-speaking communities and have input in their environments from mature AAE speakers. Given this input, children who are developing AAE are exposed to the rules and patterns of the AAE system. Naturally, as other children do, AAE-speaking children go through general developmental stages as they acquire the linguistic system to which they are exposed. Given previous research (e.g., Labov, 1972) and information from our case studies, we believe that part of the acquisition of AAE is a path that leads to a fully mature grammar in which overt morphological marker -*s* in third person singular contexts is not a critical component of the tense and agreement system.

We have considered the observations from our four case studies and have organized them in this section to discuss four questions that are relevant to assessing AAE-speaking children's language and understanding more holistically what they do in third person singular contexts. These are questions that can also be asked by clinicians during assessments.

1. Can and to what extent do children who are developing AAE imitate third person singular *-s* in a repetition task? More specifically, how is the third person singular *-s* morpheme "imitated"?
2. What happens to subjects that occurs in third person singular *-s* contexts?
3. Are all third person singular *-s* allomorphs treated equally in production?
4. What do the three language assessment activities reveal about the children's use of third person singular *-s*? More specifically, what do language assessment activities that vary in naturalness reveal about the status of third person singular *-s* in the grammar of developing AAE-speaking children?

1. Developing AAE Speakers Imitate -s in Third Person Singular Contexts with Exceptions

Based on the data, it is very clear that the children can imitate third person singular *-s* following an adult's model. The children's utterances in the sentence repetition task revealed that while they were able to imitate the lines of the story, there were also a number of ways in which they deviated from the presented lines. The most common deviation was the production of zero morphological marking in third person singular contexts, but other deviations, such as changing the bound morphemes of the verb while maintaining the tense of the sentences, were observed. In some instances, children in this case study and in the larger corpus produced words like *pushing* in response to the examiner's presented verbs such as *pushes*. We speculate that there are different reasons for this. One explanation is that owing to their understanding of tense and aspect, children may produce the progressive form because it is a clearer match to the in-progress activity of the visual presented in the story retell picture (e.g., the lady character in the book who is in the process of pushing herself) for the developing child. Another explanation may be that the progressive morpheme was more perceptually clearer to them. A final explanation could be

753 that given the status of third singular in the grammar, the children actually hear the [ɪz] as *-ing*
754 and go on to produce an utterance that is more consistent with AAE grammar.

755 **2. Pluralized Singular Nouns and Default Case Marking May be Observed**

756 Some of the children's deviations from the examiner's lines related to the third person
757 singular subjects. Some younger and older children in the study pluralized the singular subject,
758 linking of *-s* to the noun rather than to the verb or in addition to the verb. As argued in Green
759 (2019), it appears that when children do this, the production of *-s* on the noun is induced by the -
760 *s* on the third person singular verb modeled by the examiner in the sentence repetition task.
761 These displacements are taken as indications that at this stage of development, third person
762 singular *-s* is not a stable part of the developing grammar.

763 Another observation was that a child studied here as well as children in the larger corpus
764 used default case marking on third person singular pronominal subjects. When noun phrases
765 consisting of the determiner *the* and a common noun were presented, in some instances, children
766 rendered the pronominal subject as the default case-marked pronominal subject, so *her* instead of
767 *she*. Joseph (4M), for example, did this in the repetition task as well as in his retell. In some
768 cases, the third person singular verb was marked with *-s* and in other instances, it was not. When
769 AAE-speaking children use default case with and without *-s* in third person singular contexts,
770 this is an indication that *-s* marking is not yet realized as a tense/agreement marker, so the subject
771 is in default case instead of nominative case.

772 **3. Developing AAE Speakers Do Not Treat All Allomorphs Equally**

773 In thinking about the children's development of variable rules associated with third
774 person singular *-s*, we asked whether all third singular allomorphs (i.e., [s], [z], and [ɪz]) are
775 treated equally by the children. Data from the children's sentence repetition tasks revealed that of

776 the three allomorphs of third person singular *-s*, the allomorph [ɪz] is treated differently. For each
777 child, a higher percentage of the overtly marked verbs were those in which the bare verb ends in
778 a sibilant, so the singular verb form takes the [ɪz] allomorph. This observation strongly suggests
779 that children can indeed imitate third person singular marking and that perhaps the perceptual
780 saliency of the additional syllable, [ɪz] supports children to do so. Careful consideration of the
781 data also leads to another observation: the children might be imitating a 3rd singular allomorph
782 without really comprehending 3rd singular meaning. That is, if [ɪz] is more salient, then the child
783 picks up on it, not because it agrees with the subject, but because it easy to distinguish.

784 **4. Language Task Affects Developing AAE Speakers' Use of *-s* in Third Person Singular**
785 **Contexts**

786 Three sources of linguistic data were collected for each child and each added to a more
787 complete picture of the children's morphological marking of verbs in third person singular *-s*.
788 For each child presented here, we observed that zero morphological marking – including
789 morphological marking for verbs ending in sibilants – increased significantly in the language
790 tasks that were less structured and more closely associated with natural contexts (i.e., story retell
791 and sentence repetition). When the children were able to choose their own words and sentences,
792 there was a greater propensity for them to produce Ø third person singular *-s*. However, we also
793 saw that when children borrowed words modeled by the examiner in the sentence repetition task,
794 there was a greater propensity for them to produce them as Ø even if they overtly marked them
795 after the presented sentence in the repetition task.

796 The differences in marking by task were striking for each child, particularly between the
797 sentence repetition task and the story retell and/or language sample, so it was clear that we could
798 only get the complete picture of the children's use of *-s* in the third person singular contexts

when we considered all three language activities. The repetition task, by nature, was structured to provide multiple opportunities to observe the children's production. Using the repetition data alone, one might conclude that the high rates of morphological marking that most of these children produced in the task indicate that they are on their way to developing a grammar that includes third person singular *-s* as an essential component of the tense and agreement system. However, when data from children's ad libbed lines and responses in other tasks were taken into consideration, it became clearer that third person singular *-s* had not yet been established or stabilized in their grammar as a marker of tense and agreement. Without the story retell data, it might be tempting to suggest that AAE-speaking children are more inclined to produce third singular marking when the target verb ends in a sibilant; however, this might simply be an effect of repetition. That is, children might be more inclined to repeat the verbs with the [ɪz] allomorph if it is indeed the case that the final syllable is more salient and easier for them to hear. On their own in the retells, for instance, it is not clear that the [ɪz] allomorph is a factor in production. These divergent findings support the use of various types of data in assessment to get the most complete understanding of children's use of third person singular *-s* and patterns of morphological marking.

Expectations of Production of Morphological Marking in Third Person Singular Contexts

Based on the findings of the case studies, clinicians should expect that children who are developing AAE receive rich input about AAE from adults in their communities such as their parents. From their language models, children are learning about *-s* in third person singular contexts. Specifically, they are learning that *-s* may not appear as verb endings in third person singular contexts but instead appear in its zero form. When AAE-speaking children are presented sentences to imitate, clinicians should expect them to imitate third person singular *-s*

following an adult model. However, deviations from the model are likely to be observed. In imitation tasks and spontaneous language activities, clinicians can expect that children who are developing AAE may:

- Directly imitate the model (e.g., *she pushes herself slowly* in response to *she pushes herself slowly*)
- Produce zero *-s* or unmarked verbs (e.g., *she push herself* in response to *she pushes herself*)
- Maintain the tense of the sentence but change the morphological ending on the main verb (e.g., *she pushing herself* versus *she pushes herself*)
- Link the *-s* to a neighboring singular noun rather than to the verb (e.g., *the cats drink the milk* versus *the cat drinks the milk*)
- Use default case marking with pronominal subjects (e.g., *her* versus *she* as in *her milk the cow*) with an overt *-s* or zero morphological marking
- Produce overt morphological marking on verbs in third person singular contexts when the verb ends in a sibilant, thereby taking the [ɪz] allomorph (e.g., *washes, pushes, mixes*)
- Show a greater propensity for zero *-s* in third person singular contexts during spontaneous task compared to structured imitative tasks

Suggestions for Assessment

Based on the findings of our study and our discussion of them, we offer the following suggestions for assessment.

1. Don't overinterpret repetition: When assessing child speakers of AAE using sentence repetition tasks, clinicians should expect AAE-speaking children to be able to hear and

repeat morphemes to varying degrees. Repetition of the morphemes, though, should not be interpreted to mean that the morpheme is a part of the child's grammar.

2. Keep in mind optionality over correctness: If assessment procedures involve calculating percentages or rates of use, be mindful of what these rates mean. For a child who is developing AAE, rates lower than a different-dialect speaking peer likely reflect the development of a linguistic system that allows for optionality, not incorrectness. Lower rates of *-s* in third person singular contexts should be interpreted in a way that acknowledges that in child AAE, both *she milks the cow* and *she milk the cow* are felicitous with the latter being more expected.
3. Do more than count: Analyses for assessments should go beyond counting the frequency of occurrence and non-occurrence. ~~Qualitative,~~ Descriptive analyses add rich information to the child's linguistic profile. When using sentence repetition tasks for assessments, in addition to marking the sentences correct and incorrect based on the child's production, clinicians should also consider spontaneous language that children produce in between the target sentences. To facilitate this, clinicians should record the administration of the sentence repetition task for further analyses. Analyses can include a comparison of children's elicited productions and their spontaneous, unplanned productions. Clinicians can replicate some of the analyses that we have done here. ~~or others~~.
4. Consider allomorphs: Clinicians should include third person singular *-s* verbs that end in voiced and voiceless sounds and sibilants to provide an opportunity for production of different third person singular allomorphs. It can be expected that children's frequency of imitation of third person singular morphological marking on verbs that take the

allomorph [ɪz] will be higher than marking on verbs then end in voiced and voiceless sounds and would take allomorphs [z] and [s].

5. Go beyond the verb phrase: Analyses of children's third person singular morphological marking should go beyond the verb phrase and should also include analysis of case marking of pronouns in the subject noun phrase. The use of default (objective) pronouns in utterances in which the verb in the third person singular context is either marked or unmarked may be indicative that the child does not understand the morpheme *-s* as a marker of tense and agreement, especially if the marker is not part of the grammar. Clinicians may also expect that some children may displace the *-s* from third person singular verbs to the noun. This may be indicative that third person singular *-s* is not stabilized in the child's grammar.
6. Use a variety of linguistic tasks: To get the most comprehensive picture of a child's morphological marking in third person singular contexts, clinicians should aim to measure production in various linguistic tasks, ranging from those that are structured (e.g., sentence repetition task) and those that are more naturalistic (e.g., story retells and play-based language samples). Of these three, play-based language samples will likely provide the most authentic view of the child's production of morphological marking in third person singular contexts. In collecting the play-based language samples, clinicians should be mindful to select activities that lend themselves to conversations about third person subjects and present tense states and actions.

Implications for Future Research on AAE-Speaking Children

In recent decades, much of the research on child AAE has taken a quantitative approach and has commonly focused on a dialect density measure (DDM; Washington & Craig, 2006), a measure of AAE that is derived by calculating the number of AAE features from a pre-

891 determined list of features and dividing the total number of tokens by the number of utterances or
892 words in a child's language sample. The resulting value represents a measure of the denseness
893 or thickness of a child's nonmainstream dialect with higher values indicating a speaker whose
894 language sample has more AAE features (or a higher percentage of one or more features) and
895 lower values indicating a speaker whose language sample has fewer AAE features (or a lower
896 percentage of one or more features). For example, a word-based DDM of 0.050 (calculated from
897 number of tokens divided by the number of words) corresponds to the production of one AAE
898 feature every 20 words in a language sample (Craig, Zhang, Hensel, & Quinn, 2009).
899 From a research perspective, quantitative measures such as DDM provide a way for
900 researchers to apply statistical techniques such as hierarchical linear modeling (HLM) to the
901 study of AAE to make predictions or to account for the role of AAE in other areas of
902 development such as literacy (e.g., Craig, Kolenic & Hensel, 2014) or to track longitudinal
903 changes in language (Van Hofwegen & Wolfram, 2010). Although DDM and these statistical
904 procedures have added to what we know about AAE, the practical utility of DDM in a clinical
905 setting such as a school remains unclear. This is because clinicians are not typically provided
906 with a DDM for a given child, and it is highly unlikely that most clinicians are trained to or have
907 time to calculate one, leaving clinicians without important information about the child's
908 grammar. Furthermore, it is not clear how to translate DDM into information about the
909 acquisition path of AAE. That is, are some DDM ranges more closely associated with young
910 developing AAE speakers and others more closely associated with older speakers?
911 IPSyn is another language sample analysis procedure that has been used in studies that
912 include child speakers of AAE (e.g., Horton-Ikard, Weismer & Edwards, 2005; Oetting, 2005;
913 Oetting, Newkirk, Hartfield, Wynn, Pruitt & Garrity, 2020; Stockman, Newkirk-Turner,
914 Swartzlander & Morris, 2016). IPSyn was used in the current study in the case studies as a
915 language measure because collectively, findings of past studies that included AAE-speaking
916 children have suggested that IPSyn scores are sensitive to development (i.e., age changes) and
917 are not negative impacted by AAE-speaking children's use of AAE grammatical patterns. A

noted drawback of using IPSyn in clinical and research settings is the time that it takes to manually complete the analysis of 60 grammatical constructions even with the use of digital software (Stockman et al. 2016). The scoring procedures involve a search for two exemplars of each grammatical constructions so each construction receives a score of 0 (no exemplars found), 1 (one exemplar found), or 2 (two exemplars found). Third person singular -s is among the constructions considered in an IPSyn analysis. However, at most, an IPSyn analysis can only reveal if a child's language sample includes at least two exemplars of third person singular *-s*

The approach that we have taken here of considering data from different tasks provides a number of different opportunities to consider patterns of language use. In addition, this approach provides an opportunity to go beyond frequency counts. Information about frequency of occurrence of third singular morphological marking is important, and it is certainly relevant for answering questions about the status of the marker in the AAE grammar. Nonetheless, what the case studies with a focus on language patterns in third person singular contexts presented here have demonstrated is that it is important to get a holistic picture of grammatical patterns beyond frequency. We have taken steps to provide some information about patterns that occur in typically developing child AAE in the language use in third person singular contexts.

Research on child AAE that is descriptive and developmental should be continued. Developmental research is needed to provide insight into the acquisition and developmental path of variable marking from child AAE to adult AAE, particularly in the areas of tense and agreement. Over the years, progress has been made in cross-linguistic research on the child language development of tense, aspect, and agreement (e.g., Wexler, 2011 and references therein); however, research on issues in that area on child AAE continues to lag although it would be beneficial for those in engaged in practical application and theoretical research in child AAE. Research in this area can include examining the role of linguistic input from parents and other adult AAE speakers in the child's speech community on the child's development of variable marking. Developmental AAE research should also focus on comprehension to investigate what children understand about tense and agreement. Finally, while quantitative,

large group research studies on child AAE should continue, it must be complemented by ~~qualitative~~ descriptive, linguistic-based research. ~~Qualitative~~ Studies that use case studies can provide clinicians with practical information that they can use when assessing children who are speakers of AAE.

Conflict of Interest

The authors do not have any conflicts of interest.

Funding

This work is supported by a grant from the National Science Foundation (Award #1744503) awarded to Brandi Newkirk-Turner (Jackson State University) and Lisa Green (University of Massachusetts), co-PIs.

Acknowledgements

The authors extend sincere gratitude to the children and families who participated in this study. We are grateful to our graduate and undergraduate research assistants from Jackson State University and the University of Massachusetts-Amherst: Morgan Mays, LaShaun Ramsey, Kyra Johnson, Ashley McCallister, Najla Muhammad, Kaelyn Conley, Thuy Bui, Rodica Istvan, Jaieun Kim, Rong Yin, Fadjy St. Fleur, Samantha Sims, Emily Smith, and Amari Thomas.

References

Charity, A. H. (2007). Regional differences in low SES African-American children's speech in the school setting. *Language Variation and Change*, *19*(3), 281-293.

Cleveland, L. H., & Oetting, J. B. (2013). Nonmainstream English dialect and clinical status. *American Journal of Speech-Language Pathology,* 22, 604-614.

Cole, L. T. (1980). *Developmental analysis of social dialect features in the spontaneous language of preschool black children.* Unpublished doctoral dissertation, Northwestern University-Evanston.

Craig, H. K., Kolenic, G. E., & Hensel, S. L. (2014). African American English-Speaking students: A longitudinal examination of style shifting from kindergarten through second grade. *Journal of Speech, Language, and Hearing Research,* 57, 143-157.

Craig, H. K., & Washington, J. A. (2006). *Malik goes to school: Examining the language skills of African American students from preschool-5th grade*. Psychology Press.

Craig, H.K., Zhang, L., Hensel, S. L., & Quinn, E. J. (2009). African American English-Speaking students: An examination of the relationship between dialect shifting and reading outcomes. *Journal of Speech, Language, and Hearing Research,* 52, 839-855.

dePaola, T. (1978). *Pancakes for breakfast.* New York, NY: Houghton Mifflin Publishing Company.

Green, L. J. (2002). *African American English: a linguistic introduction*. Cambridge, NY: Cambridge University Press.

Green, L. (2007). Syntactic variation. In R. Bayley & C. Lucus (Eds.(*Sociolinguistic variation: Theoroes, methods, and applications* (pp. 24-44). Cambridge, NY: Cambridge University Press.

Green, L. J. (2011). *Language and the African American child*. Cambridge, NY: Cambridge University Press.

Green, L. (2019). All zeros are not equal in African American English. In D.W. Lightfoot & J. Havenhill (Eds.) *Variable properties in language: Their nature and acquisition* (pp. 183-193). Georgetown University Press: Washington, D.C.

Hamilton, M., Angulo-Jimenez, H., Taylo, C., & DeThorne, L. S. (2018). Clinical implications for working with nonmainstream dialect speakers: A focus on two Filipino kindergartners. *Language, Speech, and Hearing Services in Schools*, 49, 497-508.

Henry, A. (2003). Variation and syntactic theory. In J.K. Chambers, P. Trudgill, & N. Schilling-Estes (Eds.) *The handbook of language variation and change* (pp.267-282). Oxford: Blackwell.

Horton-Ikard, R. (2002). *Developmental and dialectal influences in early child language. Unpublished doctoral dissertation,* University of Wisconsin-Madison.

Horton, R., & Apel, K. (2014). Examining the use of spoken dialect indices with African American children in the southern United States. *American Journal of Speech-Language Pathology,* 23, 448-460.

Horton, R., Johnson, V., & Koonce, N. (2018). From here to there and back again: Forty years of research on African American children's language. *Perspectives of the ASHA special interest groups: 14 cultural and linguistic diversity*, 3, 57-70.

Horton–Ikard, R., & Weismer, S. E. (2005). Distinguishing African American English from developmental errors in the language production of toddlers. *Applied Psycholinguistics*, *26*(4), 597-620.

Johnson, V. E. (2005). Comprehension of third person singular /s/ in AAE-speaking children. *Language, Speech, and Hearing Services in Schools*, 36, 116-124.

McDaniel, D., McKee, C., & Cairns, H. S. (Eds.). (1996). *Methods for assessing children's syntax*. Mit Press.

McGregor, K. K., Williams, D., Hearst, S., & Johnson, A. C. (1997). The use of contrastive analysis in distinguishing difference from disorder. *American Journal of Speech-Language Pathology*, 6, 45-56.

Labov, W. (1972). *Language in the inner city: Studies in the Black English vernacular* (Vol. 3). University of Pennsylvania Press.

Newkirk-Turner, B. L., & Green, L. (2016). Third person singular –s and event marking in child African American English. *Linguistic Variation,* 16, 103-130.

Oetting, J. B., Berry, J. R., Gregory, K. D., Riviere, A. M., & McDonald, J. (2019). Specific language impairment in African American English and Southern White English: Measures of tense and agreement with dialect-informed probes and strategic scoring. *Journal of Speech, Language, and Hearing Research*, 62, 3443-3461.

Oetting, J. B., & Garrity, A. W. (2006). Variation within dialects: A case of Cajun/Creole influence within child SAAE and SWE. *Journal of Speech, Language, and Hearing Research,* 49, 16-26.

Oetting, J. B., & McDonald, J. L. (2001). Nonmainstream dialect use and specific language impairment. *Journal of Speech, Language, and Hearing Research,* 44, 207-233.

Oetting, J. B., Newkirk, B. L., Hartfield, L. R., Wynn, C. G., Pruitt, S. L., & Garrity, A. W. (2010). Index of Productive Syntax for children who speak African American English. *Language, Speech, and Hearing Services in the Schools*, 41, 328-339.

Oetting, J. B., & Pruitt, S. L. (2005). Southern African American English use across groups. *Journal of Multilingual Communication Disorders*, 3, 136-144.

Reveron, W. W. (1979). *The acquisition of four black English morphological rules by black preschool children.* Unpublished doctoral dissertation. The Ohio State University, Columbus.

Roseberry-McKibbin, C., Hegde, M. N., & Tellis, G.M. (2019). *An Advanced Review of Speech-Language Pathology: Preparation for PRAXIS and Comprehensive Examination (5th Ed.).* Austin, TX: Pro-Ed.

Seymour, H. N., Bland-Stewart, L., Green, L. J. (1998). Difference versus deficit in child African American English. *Language, Speech, and Hearing Services in Schools*, 29, 96-108.

Steffensen, M. S. (1974). *The acquisition of Black English. Unpublished doctoral dissertation*, University of Illinois at Urbana-Champaign.

Stockman, I. J. (2010). A review of developmental and applied language research on African American children: From a deficit to difference perspective on dialect differences. *Language, Speech, and Hearing Services in Schools,* 41, 23-38.

Stockman, I. J., Newkirk-Turner, B. L., Swartzlander, E., & Morris, L. (2016). Comparison of African American children's performances on a minimal competence core for morphosyntax and the Index of Productive Syntax. *American Journal of Speech-Language Pathology,* 25, 80-96.

Van Hofwegen, J., & Wolfram, W. (2010). Coming of age in African American English: A longitudinal study. *Journal of Sociolinguistics*, *14*(4), 427-455.

Wexler, K. (2011). Grammatical Computation in the Optional Infinitive Stage in J. de Villiers & T. Roeper (Eds.). *Handbook of Generative Approaches to Language Acquisition* (pp.53-118). Springer: Dordrecht.

Zimmerman, I. L., Steiner, V. G., & Pond, R. E. (2012). Preschool Language Scales-5 Screening Test. San Antonio, TX: Pearson Assessments.

Table 1. Participants' IPSyn Scores Compared to AAE-Speaking Children in Other Studies

Child	Age	Gender	IPSyn Total	IPSyn N	IPSyn V	IPSyn-Q/N	IPSyn SS
Jason	3	Male	78	20	22	11	25
Comparison Data 3-year-olds[a]			76 (6.45)	18.70 (1.81)	24.33 (2.33)	12.67 (3.06)	20.37 (3.72)
Joseph	4	Male	90	21	26	13	30
Comparison Data 4-year-olds[b]			91.10 (5.24)	20.05 (1.0)	27.90 (2.55)	14.65 (2.37)	28.50 (2.78)
Nicholas	5	Male	85	20	27	12	26
Comparison Data 6-year-olds[c]			87.69 (10.96)	20.25 (1.32)	27.31 (2.91)	10.94 (4.76)	29.19 (4.28)
Tasha	5	Female	95	20	27	18	30
Comparison Data 6-year-olds[c]			87.69 (10.96)	20.25 (1.32)	27.31 (2.91)	10.94 (4.76)	29.19 (4.28)

[a]Comparison group is 3-year-old typically developing AAE-speaking children from Stockman, Newkirk-Turner, Swartzlander & Morris (2016). [b]Comparison group is 4-year-old typically developing AAE-speaking children from Oetting, Newkirk, Hartfield, Wynn, Pruitt, & Garrity (2010). [c]Comparison group is 6-year-old typically developing AAE-speaking children from Oetting, Newkirk, Hartfield, Wynn, Pruitt, & Garrity (2010).

Table 2. Rate of Øs in Sentence Repetition, Story Retell, and Language Sample

Child	Age	Gender	Øs Sentence Repetition	Øs Story Retell	Øs Language Sample
Jason	3	Male	.38	.63	.81
Joseph	4	Male	.65	1.00	.86
Nicholas	5	Male	.30	1.00	.87
Tasha	5	Female	.16	.65	.63

Table 3. Rate of Øs in Sentence Repetition by Allomorphs

Child	Age	Gender	Øs [-s] Sentence Repetition	Øs [z] Sentence Repetition	Øs [ɪz] Sentence Repetition
Jason	3	Male	.48	.40	.21
Joseph	4	Male	.58	.82	.46
Nicholas	5	Female	.40	.38	.16
Tasha	5	Male	.21	.14	.10