Evaluating the Grammars of Children who Speak Nonmainstream Dialects of English

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Evaluating the Grammars of Children who Speak Nonmainstream Dialects of English

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On the Grammars of Children who Speak Nonmainstream Dialects of English
Abstract

In this article, we review three clinical responses to the study and evaluation of grammar in children who speak nonmainstream dialects of English. Then we introduce a fourth, system-based response that views nonmainstream dialects of English, such as African American English (AAE) and Southern White English (SWE) as made up of dialect-specific and dialect-universal features. To illustrate the usefulness of a system-based approach and to distinguish our two terms from others in the dialect literature, we present AAE and SWE relative clause data from two previously published studies. Following this, we present new findings from AAE- and SWE-speaking children’s use of past tense and past participles to further demonstrate the value of examining larger units (i.e., systems) of a grammar to identify a child’s language strengths and weaknesses. We conclude by arguing that a system-based approach moves us beyond our field’s preoccupation with the nonmainstream aspects of children’s dialects while also moving us beyond Brown’s 14 morphemes. Although the focus of the article is on assessment, the content is relevant to the treatment of grammar because effective promotion of any child’s grammar (including the grammars of those who speak nonmainstream dialects of English) will occur only when we begin to view the child’s grammar as a system rather than as a sum of its parts.
On the Grammars of Children who Speak Nonmainstream Dialects of English

Ask speech-language pathologists to describe their evaluations of mainstream American English-speaking children’s development of grammar and one is likely to hear about age-related benchmarks for mean length of utterance (MLU) and Brown’s 14 morphemes. For those who work with school-age children, one may also hear about age-related benchmarks for children’s use of conjoining, embedding, and other structures of complex syntax. The same is not the case if you ask these same clinicians to describe their evaluations of nonmainstream English-speaking children’s development of grammar. Instead, responses will be varied, tentative, and perhaps even unrelated to grammar development. Some may refer to the position statement on social dialects that was published by the American Speech, Language, and Hearing Association (ASHA, 1983). Others may cite work by Stockman (1996; 2000), Washington and Craig (1992; 1999) and others to explain test biases, both historical and present, that limit the speech-language clinician’s ability to evaluate and ultimately serve nonmainstream English-speaking children. Still others may cite work by Seymour and colleagues to describe nonmainstream English-speaking children’s use of contrastive and non-contrastive grammar structures and to argue for the former to be excluded from assessment (Seymour, Bland-Stewart & Green, 1998; Seymour, 2004; Pearson & Ciolli, 2004).

In the current article, we review the literature that supports the above mentioned clinical responses for nonmainstream English-speaking children because we consider this work relevant and important for practicing clinicians and pre-professional students in speech-language pathology. Following this review, we present findings from children who speak one of two nonmainstream dialects of English, African American English (AAE) and Southern White English (SWE) to highlight the need for, and feasibility of studies moving beyond the current
dialect literature. As part of this section, we introduce a system-based approach and the terms *dialect-specific* and *dialect-universal* to describe children’s development of grammar. Although our article focuses on assessment and not treatment, its content should lead readers to a better understanding of grammar, and this should facilitate our collective ability to promote nonmainstream English-speaking children’s development of grammar. This is because one cannot effectively treat or promote what one does not understand.

**ASHA’s Position Statement on Social Dialects**

Although published 30 years ago, ASHA’s position statement continues to be relevant to clinicians who serve nonmainstream English-speaking children. The position statement makes clear that nonmainstream dialects of English do not reflect a communication disorder because they are as complex and rule governed as other dialects of English. The position statement also urges clinicians to be extremely cautious when assessing the language skills of nonmainstream English-speaking children. This caution reflects concerns about over-diagnosis and under-diagnosis of childhood language impairments. Errors of over-diagnosis reflect misclassifying children as language impaired when they present a dialect difference, and errors of under-diagnosis reflect misclassifying children as presenting a dialect difference when they present with language impairment. Finally, the position statement calls for clinicians to treat language features that are not dialectal in nature. Quotes from the position statement that best articulate these views include:

“It is the position of the American Speech-Language-Hearing Association (ASHA) that no dialectal variety of English is a disorder or a pathological form of speech or language. Each social dialect is adequate as a functional and effective variety of English” (para 7).
“The speech-language pathologist must have certain competencies to distinguish between
dialectal differences and communicative disorders. These competencies include
knowledge of the particular dialect as a rule-governed linguistic system, knowledge of
the phonological and grammatical features of the dialect, and knowledge of
nondiscriminatory testing procedures. Once the difference/disorder distinctions have
been made, it is the role of the speech-language pathologist to treat only those features or
characteristics that are true errors and not attributable to the dialect” (para 9).

Test Biases

Accurate interpretation of assessment data depends on the validity of the measures used
to collect the data. As such, the integrity of the speech-language clinician’s services (both in the
past and in the future) depends on valid measures that are void of bias. A test can be considered
biased if it does not yield equitable outcomes for children who differ from each other in their
cultural and/or linguistic background (Stockman, 2000). An unbiased test should not show a
preference or advantage for any cultural or linguistic group over another. Historically,
researchers identified biases within a test by comparing the central tendencies (i.e., mean,
median, and mode as well as shape and skew) of scores earned by a group of children to the
central tendencies of the test’s normative sample; however, over the years, analyses to detect
biases have become more advanced. Now test biases are also examined by comparing the
diagnostic accuracy of a test and the relative difficulty of items within a test across different
groups of children.

Washington (1996) provides an early and comprehensive review of test biases and issues
facing speech-language clinicians when assessing children who speak a dialect that differs from
mainstream American English. At the time of Washington’s review, few non-biased tools
existed and attempts to re-norm or adjust existing tools were deemed inadequate for nonmainstream English-speaking children. Unfortunately, although many assessment tools within the field have been revised or recently developed to better address the needs of nonmainstream English-speaking children, test biases continue to be identified (e.g., Gutierrez-Clellen & Simon-Cerijido, 2007; Hammer, Pennock-Roman, Rzasa, & Tomblin, 2002, Qi, Kaiser, Milan, & Hancock, 2006; Restrepo, Schwanenflugel, Blake, Neuharth-Pritchett, Cramer, & Ruston, 2006; Thomas-Tate, Washington, & Edwards, 2004; Woods, Pena, & Martin, 2004).

Hammer et al. (2002) is a recent study that examined biases within the *Test of Language Development – Primary: 2* (TOLD-P: 2; Newcomer & Hammill, 1991). This well-known language test is designed to assess among other skills, children’s grammar abilities. In this study, the researchers were interested in test biases related to a child’s race, and the data came from 245 African American and 1,481 White kindergarteners. All subtests of the TOLD-P: 2 were scored according to manual except for the Grammatical Completion and Sentence Imitation subtests, which were scored according to revised guidelines to account for nonmainstream AAE dialect features.

Results revealed statistically lower mean scores for the African American children than for the White children on all five subtests of the TOLD-P: 2. Given that differences in mean scores are not sufficient to confirm test biases, individual test items were then examined using differential item functioning, a method which includes both inferential and descriptive analyses. Results from these analyses indicated that 16% (or 24 items) of the 150 items on the test were identified as showing a 5% or more scoring difference between the two races of children; and for 75% (18 items) of these items, scores were lower for the African American children than for the White children. When discussing their findings, Hammer et al. (2002) note that a newer, third
version of the test (TOLD-P: 3; Newcomer & Hammill, 1997) is now available to clinicians and this tests does not include 9 of the original 150 items. Unfortunately, Hammer et al. also note that only three of the removed items were among the problematic items identified on the TOLD-P: 2. Given this, the TOLD-P: 3 cannot be viewed as free from biases.

Test biases can also be found in grammar measures that are derived from spontaneous language samples. As an example, Oetting, Cantrell, and Horohov (1999) and Oetting (2005) evaluated Lee’s (1974) Developmental Sentence Score (DSS). With the DSS system, children’s utterances from a language sample are individually scored for seven grammatical categories, and each utterance can receive up to eight points for each category. Each utterance also earns an additional point if it is grammatically and semantically correct. Although not directly stated, examples provided in the DSS scoring directions indicate that notions of correct are tied to mainstream varieties of American English.

To examine DSS for biases, Oetting and colleagues calculated AAE- and SWE-speaking children’s scores twice, once with all of their utterances and once with utterances that included nonmainstream grammar structures removed. Results for DSS varied as a function of the children’s type of nonmainstream English and the density (or rate) at which they produced nonmainstream English grammar structures. For children who spoke SWE, DSS was considered unbiased because the children’s two calculations of DSS (one with and one without nonmainstream grammar structures) were not statistically different from each other. In contrast, DSS was considered biased for children who spoke AAE because their two calculations of DSS were statistically different from each other. Moreover, for the AAE-speaking children who produced over 30% of their utterances with a nonmainstream grammar structure, their full
sample DSS scores were statistically (and clinically) lower than their DSS scores which were calculated on samples without nonmainstream grammar structures.

**Contrastive vs. Noncontrastive Grammar Structures**

Nonmainstream dialects of English are often described as presenting contrastive and non-contrastive grammar structures (e.g., Leonard & Weiss, 1983; McGregor Williams, Hearst & Johnson, 1997; Seymour, Bland-Stewart, & Green, 1998). Contrastive structures vary across dialects and non-contrastive structures do not. The contrastive structures are typically viewed as being extremely difficult to assess because they not only show variation across dialects but they can also show variation between children who are developing language typically and children who present with specific language impairment. In other words, contrastive structures can present ambiguity within the decision making process because upon hearing an utterance with a contrastive structure, one does not know if the source of the structure relates to the child’s dialect or to a language impairment.

To illustrate, consider the auxiliary BE form, *are*. This grammar structure is considered contrastive because it is always overtly marked (e.g., *They are walking*) in mainstream dialects of American English but it can be overtly marked (e.g., *They are walking*) and zero marked (e.g., *They Ø walking*) in many nonmainstream dialects of English including AAE and SWE. Extended use of optional marking (both overt marking and omission of marking) of auxiliary *are* is also characteristic of children with specific language impairment. The diagnostic ambiguity of auxiliary *are* arises because utterances such as *They Ø walking* can be interpreted as either a socio-linguistically appropriate dialect variant or a clinical marker of childhood language impairment.
Seymour et al. (1998) examined the diagnostic usefulness of six contrastive grammar structures (e.g., verbal –s, auxiliary and copular BE, regular past tense, plurals, possessives) and 11 non-contrastive grammar structures (e.g., articles, demonstratives, locatives here and there, negation, prepositions, pronouns). Their data came from language samples that had been collected from 14 AAE-speaking children, aged 5 to 8 years; half were classified as language impaired and half were classified as typically developing controls. The results showed that the two groups of children differed on three of the non-contrastive structures. In contrast, no group differences were observed for the contrastive grammar structures, except for regular past tense.

Based on the 1998 findings, Seymour and his colleagues created the Diagnostic Evaluation of Language Variation (DELV) test series to facilitate clinicians’ use of non-contrastive structures within assessment. The series includes a screener, criterion-referenced test, and norm-referenced test (Seymour, Roeper & de Villiers, 2003a, 2003b, 2005). Although the DELV criterion-referenced test has been criticized by Spaulding, Plant and Farinella (2006) as lacking adequate levels of diagnostic accuracy, the norm-referenced version boasts diagnostic sensitivity and specificity levels above .90 when - 1 SD is used as the cut score.

The DELV screener includes 17 non-contrastive items to evaluate a child’s risk for language impairment, and 11 of these items target a child’s use of grammar (e.g., use of was, possessive pronouns such as hers and their, and complex verb phrases following a Wh question). Support for the screener includes a .70 correlation between the risk items on the screener and the syntax subtest of the criterion-referenced version of the test (Seymour et al., 2003b), a finding we recently replicated with the screener and the norm-referenced version of the test using a sample of 114 AAE- and SWE-speaking children (r = .60, p < .001; Oetting, Porter, Seidel, McDonald, & Hegarty, 2011).
As evidenced by our review, the existing literature on and about services for nonmainstream English-speaking children reflects seminal lines of work that remain relevant and important for practicing clinicians and pre-professional students in speech-language pathology. Yet, these lines of work should not be viewed as anything more than the first steps of a field’s evolution of a study topic. Certainly, the authors of these previous works did not consider their research finished but instead hoped that their efforts would inspire others to rigorously test and expand upon their findings. In the spirit of advancing science and clinical practice, we respectively note that much of the existing dialect literature has been heavily focused on what clinicians SHOULD NOT DO (i.e., they should not classify a dialect as a disorder, use a biased test, or measure contrastive grammar structures within assessment) rather than on what they SHOULD DO. We also posit that an unintended outcome of this focus has been to lead clinicians away from rigorous language assessments, especially rigorous measures of grammar, when working with children who do not speak mainstream American English.

**Dialect-specific and Dialect-universal Aspects of Children’s Grammars**

In the mid 1990s, we began studying the grammars of child AAE and SWE, two nonmainstream dialects of English that are spoken in rural Louisiana. Child AAE is also heard in Louisiana cities such as Baton Rouge, New Orleans, and Shreveport, but our interest was in rural dialects because of the education and health disparities repeatedly documented for children who live in the rural Deep South (Goldhagen et al., 2005). Initially, we tried to avoid making the above mentioned clinical errors -- we triple checked our data each time we identified an AAE- or SWE-speaking child as specifically language impaired and we over-tested children to compensate for any undocumented test biases. We also tried to avoid the contrastive (and taboo) grammar structures.
We soon realized that our methods, although well-intended, required us to ignore structures of language, including a wide range of tense and agreement markers and a number of complex syntax structures that had inspired us to become speech-language clinicians and child language researchers. Not only are the contrastive grammar structures critical for communication and academic achievement, but they are also actively pursued as clinical markers of specific language impairment in mainstream American dialects of English and in languages other than English! Not surprisingly, we eventually abandoned our methods and began a systematic study of the contrastive structures of child AAE and SWE (among other studies, see Oetting & Garrity, 2006; Oetting & McDonald, 2001; Oetting & Pruitt, 2005; Ross, Oetting & Stapleton, 2004). Our work has now broadened to include any aspect of a child’s grammar as long as the research question driving the study is empirically or theoretically interesting.

While studying the contrastive structures, we came to understand and appreciate the ways in which individual grammar structures (and larger units of grammar) can present both dialect-specific and dialect-universal aspects. Dialect-specific aspects are those in which the structure or unit of language is differentially represented, used, or acquired within and across dialects. Dialect-universal aspects are those in which the structure or unit of language is similarly represented, used, or acquired within and across dialects. Whereas the classification system of Seymour et al. (1998; 2003a, 2003b, 2005) and others categorizes grammatical structures as either contrastive or non-contrastive, our approach allows individual grammar structures (and larger units of language) to include both dialect-specific and dialect-universal characteristics.

As an example, consider AAE- and SWE-speaking children’s use of relative clauses. Relative clause markers are contrastive because: 1) when the relative marker functions as the subject of the relative clause, it can be optionally produced in AAE and SWE but it must be
invariantly produced in mainstream American English, and 2) when the relative marker functions as the object of the relative clause, AAE and SWE allow six different forms (i.e., *that*, *who, which, where, Ø, and what*) to serve as the relative marker whereas only five (i.e., *that, who, which, where, and Ø, but not what*) are felicitous in mainstream American English. In other words, the dialect-specific aspects of relative clause markers in AAE, SWE, and mainstream American English involve the marking options (+/- zero marking) when the relative marker serves as a subject and the marking options (+/- use of *what*) when the relative marker serves as an object.

Oetting and Newkirk (2008) examined AAE- and SWE-speaking children’s use of subject relative clauses because age-inappropriate omissions of relative markers (e.g., *I fed the baby Ø was hungry*) have been identified as a clinical marker of specific language impairment in mainstream American English (Schuele & Nicholls, 2000; Schuele & Tolbert, 2001). The data included language samples from 140 children (87 who spoke AAE and 53 who spoke SWE; 41 6-year-olds with specific language impairment and 99 typically developing 4- and 6-year-old controls), and the number of utterances analyzed was 27,828 (mean per child = 199). Consistent with the mainstream American English literature, lower rates of overt subject relative markers were found for the AAE- and SWE-speaking children with language impairment than for the typically developing AAE- and SWE-speaking controls (59% vs. 86%). This finding supported our hypothesis that at least some contrastive grammar structures can be used to help identify childhood language impairment in AAE and SWE. This finding also bolstered our belief that contrastive grammar structures should not be ignored within assessment.

Using the same data from the 99 typically developing children previously studied, Oetting and Newkirk (2011) next completed a system-based study of all relative clauses
produced by the children. Results revealed dialect-specific aspects of the children’s relative clause markers, including zero marked subject relative clauses (e.g., *Maybe there’s a crawfish in there Ø pinched him on the tail*) and the use of *what* in object relative clauses (e.g., *I ain’t got a sister what I can fight much*). Results also revealed a number of dialect-universal aspects. For example, consistent with child studies of mainstream American English, the AAE- and SWE-speaking children produced low rates of relative clauses (less than 1 per 100 utterances) in their conversational samples, yet they also presented a dialect-appropriate adult rate (86%) of overt subject relative markers by the age of four years, with no differences observed between 4- and 6-year olds.

Finally, the AAE- and SWE-speaking children’s relative clause markers were found to vary by the syntactic function of the marker and the humanness of the antecedent in ways that have been established in other dialects of English, including mainstream American English. Specifically, the children produced more of their Ø markers in object relatives (78%) than in subject relatives (22%). Also, the children produced *who* only when the marker served as a subject and the antecedent was human and *where* only when the marker served as a locative and the antecedent was non-human. Figure 1 illustrates the dialect-specific and dialect-universal aspects of the relative clause system in child AAE and SWE, with average percentage data or group proportional data reported when appropriate. As can be seen, there are far fewer dialect-specific aspects of the children’s relative clause systems than there are dialect-universal aspects, and both pieces of information are needed to fully understand the children’s relative clause systems.

The value of a system-based approach can be further demonstrated by considering AAE- and SWE-speaking children’s productions of past tense and past participle structures. Past tense
is a contrastive grammar structure that has been shown to be difficult for children with specific language impairment (for review, see Oetting & Hadley, 2009). Past participles are also contrastive but they do not appear to cause children with specific language impairment as much difficulty as past tense (Leonard et al., 2003; Redmond, 2001; Smith-Lock, 1995). Furthermore, typically developing AAE-speaking children reared in poverty overtly mark past participles at lower rates than past tense structures, a finding that suggests a different language learning profile for these children than for children with specific language impairment (Pruitt & Oetting, 2009; Pruitt, Oetting & Hegarty, 2011).

Using new language sample data from 73 typically developing six-year-olds (33 speakers of AAE; 40 speakers of SWE), we are currently examining children’s use of past tense and past participle structures to learn more about the dialect-specific and dialect-universal aspects of children’s grammars (for other studies of these children, see Oetting, Gregory, Villa, Hegarty, & McDonald, 2012; Oetting et al., 2012). As before, the samples average ~200 analyzable utterances per child, and the samples were elicited from the children during examiner-child play at the children’s schools. Preliminary frequencies and examples of the children’s past tense and past participle structures from the samples are presented in Table 1. As can be seen, we have identified a number of dialect-specific and dialect-universal aspects of the children’s past tense and past participle systems.

The dialect-specific aspects relate to additional marking options (i.e., zero marked forms and nonmainstream overtly marked forms) that are available in child AAE and SWE relative to the marking options that are available in mainstream American English. The dialect-universal aspects relate to the children’s use of past tense and participle markers to express six different tenses and the relative frequency at which they produce each of these tenses. Like children
learning mainstream dialects of American English, the AAE- and SWE-speaking children
produce past tense structures more frequently than past participle structures and they use past
participle structures most often to express passive voice. Another dialect-universal aspect of the
children’s past tense and past participle systems relates to the children’s low numbers of dialect-
inappropriate errors. Dialect-inappropriate grammar errors are frequently discussed in the child
language literature as errors of commission, and low rates (<3%) of these errors have been
repeatedly documented in children learning mainstream American English (Rice, 2004). Our
preliminary findings indicate that low rates (~1%) of dialect-inappropriate errors are also
characteristic of children learning AAE and SWE (see also Pruitt & Oetting, 2009). As we
showed for the children’s relative clause systems, the dialect-universal aspects of the children’s
past tense and past participle systems appear greater than the dialect-specific aspects. Indeed,
85% (3,657 mainstream markers / 4311 markers produced) of the children’s past tense and past
participle expressions reflect dialect-universal markings of these structures.

In summary, we hope through our presentation of AAE- and SWE-speaking children’s
use of relative clause, past tense, and past participle structures that we have demonstrated the
value and feasibility of considering contrastive grammar structures within assessment. Had we
excluded these structures from our assessments, we would know far less about how typically
developing AAE- and SWE-speaking children use grammar to effectively communicate with
others. Exclusion of relative clauses in particular also would have left us unaware of clinical
differences between children with and without language impairment in AAE and SWE.

We are currently examining the clinical utility of past tense and other contrastive
grammar structures within AAE and SWE, and we anticipate finding group differences for at
least some of the contrastive structures. Recall that earlier, we highlighted Seymour et al.’s
(1998) results for past tense in child AAE. Of the six contrastive structures and 11 non-contrastive structures evaluated by Seymour et al., the largest difference between the children with and without language impairment was found for past tense (language impaired = 50% vs. controls = 91%); see also Garrity and Oetting (2010) for data showing auxiliary BE to be both contrastive and sensitive to specific language impairment in child AAE.

Finally, we hope our presentation has demonstrated the usefulness of considering individual grammar structures (and larger units of language) as presenting dialect-specific and dialect-universal aspects within a child’s grammar system. We envision our approach as having broader applications as the unit of grammar under study is expanded. We also expect children’s growth in global language measures such as mean length of utterance (MLU) to present dialect-specific and dialect-universal aspects. For MLU, the dialect-specific aspects will most likely involve the types of morphemes available to children within any given dialect and the dialect-universal aspects will most likely involve the timing and developmental trajectory of children’s MLU levels. Studies of nonmainstream English-speaking children’s MLU levels as well as studies of the order in which morphemes emerge, become productive, and reach dialect-appropriate adult levels of mastery are needed to test this hypothesis (for a recent study examining the timing and developmental trajectory of the auxiliary system, see Newkirk, 2010; for additional discussion of system-based research for child AAE, see Green, 2011; Stockman, 2010; Stockman, Guillory, Seibert & Boult, in press).

Finally, it is important to note that of the three grammar structures we presented in this article, only past tense is one of Roger Brown’s 14 morphemes. In keeping with Schuele’s (in press) introductory article, we hope the presentation of a system-based approach to the study of grammar motivates others in the field of speech-language pathology to move their child language
assessments beyond Brown’s 14 morphemes. As speech-language clinicians, we should strive to understand the entire grammars of the children we serve, but we cannot do this if our attention is focused on narrow subsets of grammar or on those aspects of grammar that are dialect-specific. Moving beyond Brown and the dialect-specific features of children’s dialects will require changes in training at the pre-professional level as well as the development of clinically relevant grammar workshops for practicing clinicians.
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Table 1

Past tense and past participle markers produced by 73 nonmainstream English-speaking children.¹

<table>
<thead>
<tr>
<th>Dialect-specific Aspects</th>
<th>Dialect-universal Aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonmainstream, overt markers to express:</td>
<td>Mainstream overt markers to express:</td>
</tr>
<tr>
<td>simple past (237)</td>
<td>simple past (3,575)</td>
</tr>
<tr>
<td><em>Then Alex had brought a big bag.</em></td>
<td><em>And then I helped her.</em></td>
</tr>
<tr>
<td><em>We swim/ed...</em></td>
<td></td>
</tr>
<tr>
<td><em>She seen him yesterday.</em></td>
<td></td>
</tr>
<tr>
<td>Nonmainstream, overt markers to express:</td>
<td>Mainstream overt markers to express:</td>
</tr>
<tr>
<td>passive voice (11)</td>
<td>passive voice (68)</td>
</tr>
<tr>
<td><em>I was beat/ed with bullets.</em></td>
<td><em>And then he was shocked.</em></td>
</tr>
<tr>
<td>present perfect (1)</td>
<td>present perfect (5)</td>
</tr>
<tr>
<td><em>He has been eat/ed.</em></td>
<td><em>He has busted his head.</em></td>
</tr>
<tr>
<td>past perfect (1)</td>
<td>past perfect (1)</td>
</tr>
<tr>
<td><em>My dad had got ran/ed over.</em></td>
<td><em>Somebody had broken into their house.</em></td>
</tr>
<tr>
<td>perfect with modals (5)</td>
<td>perfect with modals (0)</td>
</tr>
<tr>
<td><em>He would have got ate.</em></td>
<td>adjectives or adverbs (8)</td>
</tr>
<tr>
<td>adjectives or adverbs (2)</td>
<td></td>
</tr>
<tr>
<td><em>It is burnt up.</em></td>
<td></td>
</tr>
<tr>
<td>Ø markers to express:</td>
<td>Dialect-inappropriate uses (i.e., errors of commission) of past tense and participle markers (43). Rate of error calculated as 1% using formulas:</td>
</tr>
<tr>
<td>simple past (337)</td>
<td>43/(43 + 4,268 other markers observed)</td>
</tr>
<tr>
<td><em>And then...we share them.</em></td>
<td>43/(43 + 3,914 overt markers)</td>
</tr>
<tr>
<td>passive voice (11)</td>
<td>43/(43 + 3,657 mainstream overt markers)</td>
</tr>
<tr>
<td><em>We were getting our car wash.</em></td>
<td><em>He wanted the ambulance to came.</em></td>
</tr>
<tr>
<td>present perfect (1)</td>
<td><em>We don’t went to there.</em></td>
</tr>
<tr>
<td><em>They have wash the car.</em></td>
<td><em>Why you didn’t brung the boy.</em></td>
</tr>
<tr>
<td>past perfect (0)</td>
<td></td>
</tr>
<tr>
<td>perfect with modals (1)</td>
<td></td>
</tr>
<tr>
<td><em>He should have go.</em></td>
<td></td>
</tr>
<tr>
<td>adjectives or adverbs (4)</td>
<td></td>
</tr>
<tr>
<td><em>A cat name Blackie.</em></td>
<td></td>
</tr>
</tbody>
</table>

¹Frequencies of occurrence presented in parentheses.
Relative Clauses in Child AAE and SWE

Dialect-specific Aspects

Ø when marker serves as the subject.
* I fed the baby Ø was hungry.  
  22% of all Ø markers

*What* when marker serves as the object.
* I ain’t got a sister *what* I can fight much.  
  7% of all object relative markers  
  2% of all relative markers

Dialect-universal Aspects

Infrequent use of relative clauses in play-based language samples.  
(<1 per 100 utterances)

Dialect-appropriate adult rates of overtly produced subject relative markers in relative clauses by the age of four years.  
average rate per child = 86%

*Who* only when marker refers to a human.  
* I play with the girl *who* lives next door.  
  100% of all *who* markers

*Where* only when marker serves as a locative and refers to a non-human.  
* He went to the hospital *where*  
  my momma went.  
  100% of all *where* markers

Ø when marker serves as an object.  
* I have lots of *prizes* Ø we can win.  
  78% of all Ø markers