

**Variable Use of Features Associated with African American English
by Typically-developing Children, Ages 4 to 12**

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ABSTRACT

Purpose: The well-known decline in the use of African American English (AAE) features by groups of school-age AAE-speaking children was re-examined for patterns of overt-, zero-, and mixed-marking for individual features and individual speakers.

Methods: 729 typically-developing children between the ages of 4 and 12, 511 AAE-speakers learning General American English (GAE) as a second dialect, and 218 GAE-speaking controls, were administered the morphosyntax subtest of the *Dialect Sensitive Language Test* (Seymour, Roeper, & de Villiers, 2000). Responses to 33 items probing 10 target features were coded for overt marking, zero marking, or other. A feature by feature marking profile for each child allowed us to track how many children at each age were characterized by 100% overt, zero, or mixed marking for different combinations of features.

Results/ Conclusions: Findings suggest that no feature was overtly marked for all AAE-first children at any age, and the “mixed” pattern of usage was the most common trend across individual speakers even at age 12. Exclusive use of zero marking beyond age 8 was rare and may serve as a diagnostic indicator.

Keywords: African American English (AAE), contrastive/ non-contrastive features, diagnostic indicators (of language delay), General American English (GAE) as a second dialect, morphosyntax, typical language development.

Variable Use of Features Associated with African American English

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Some areas of the grammar, morphosyntax, and phonology of African American English (AAE) and General American English (GAE) do not differ. That is, they are “non-contrastive” between the varieties (Seymour & Seymour, 1977). An example in morphosyntax of a non-contrastive construction is the past tense copula “was,” as in “he was a teacher.” The “was” is obligatory and cannot be omitted in either AAE or GAE. On the other hand, a number of forms that are found in both AAE and GAE are “contrastive” in rules of use. In AAE, contrastive forms may be omitted, or what is described as “zero-marked.” Thus, a form that must be “marked overtly” in GAE is variable in AAE. AAE speakers may sometimes use overt marking of certain morphosyntactic elements, and at other times, use a zero-marked (denoted \emptyset) form of the same element. Both are considered well-formed in AAE. A prominent example of a variable contrastive morphosyntax construction is the present tense copula verb “is” (as opposed to the non-contrastive past tense copula). “He \emptyset bad” is a well-formed sentence, alternating with “He is bad.” The verb may be either zero- or overtly marked (ZM or OM). Both are grammatical in AAE. In GAE, on the other hand, ZM is not part of the language model, and “he \emptyset bad” is considered an error. Past a certain age, ZM is often taken as a sign of impairment for GAE first-dialect speakers (Leonard, 1998; Rice & Wexler, 1996).

At all ages, variability in use is characteristic of contrastive elements in AAE (Labov, 1970; Green, 2002). Depending on contextual factors such as individual speaker differences, the formality of the setting, or the topics being discussed (DeBose, 1992), utterances from a single AAE speaker might contain multiple instances of ZM forms (i.e. contrastive or AAE-only) or

virtually no ZM forms (i.e. forms identical to GAE morphosyntax). There is also an element of development, so young speakers of GAE as a first dialect are often seen to use ZM similar to AAE on their way to full competence in GAE. Such variability in GAE first-dialect speakers largely disappears by age 6 (Jackson & Pearson, in submission), but as a defining characteristic of the AAE target variety, variability continues into adulthood in most AAE-first speakers.

These alternations in overt and zero marking make it more difficult to distinguish whether ZM is a sign of difference or of disorder (Seymour, Bland-Stewart, & Green, 1998). If a child demonstrates OM of a morphosyntactic form in one instance and then ZM of the same construction in other instances, it may create an impression of “careless” or “immature” speech from a GAE frame of reference, when in fact the child is respecting the AAE principle of variability. On the other hand, children who speak AAE as a first dialect are also moving toward greater use of OM forms in the school setting with literacy materials in GAE and are likely, over time, to use OM more frequently. Therefore, teachers and clinicians who work with AAE-speaking children need to know to what extent ZM, OM, and mixed patterns (use of both ZM and OM), are typical in AAE-background children learning GAE. This paper examines those developmental trends for variable usage of contrastive features among individuals who are typically developing AAE-speaking children in a GAE academic environment.

Development patterns in contrastive morphosyntax

It is a well-established finding that when considering all features together for African American AAE-speaking children as a group, the level of contrastive feature use is observed to decline across the age range from 4 to 12 years (Jackson & Pearson, in submission) with perhaps a larger drop between kindergarten and first grade (Craig & Washington, 2004). However, two very different scenarios at the individual level are equally consistent with such a change at the

group level in the number of contrastive features used by a speech community: 1) OM of a few features at a time could increase dramatically for a small number of speakers, or 2) OM for many features could increase in use gradually for a large numbers of speakers.

Several studies have looked at the increased use of OM for contrastive features for groups of speakers, but no one to our knowledge has investigated variability with respect to specific features and sets of features within individual speakers. Thompson, Craig, & Washington (2004), for example, showed that the same children used less OM of contrastive features in oral performance than in literacy activities (spontaneous speech versus reading texts out loud), but the researchers' findings were framed as group comparisons with only an occasional anecdote about a single child in their experiment (p. 277). Similarly, Jackson and Pearson (in submission) found in the formal setting of a language test that OM increased in use at different rates for different features, leaving a smaller number of types of ZM features among older children. However, neither group of researchers probed how consistent individual children were in zero or overt marking when there were multiple opportunities for specific features in the same discourse and even within the same sentence. A clearer understanding of the nature of variable usage with particular structures (i.e., when ZM and OM are more or less likely to be observed) will further clinicians' efforts in understanding the difference versus disorder conundrum that often accompanies the variable marking of forms, where children who use ZM as a result of impaired facility with morphosyntax are indistinguishable from those using ZM as a result of AAE variability.

This study probes how the general increase of overt marking on contrastive features is reflected at the level of the individual child within the group. To illustrate the importance of examining individual as well as group trends, Figures A and B show hypothetical examples of

different possibilities. Figure A depicts two groups with moderate levels of OM of contrastive features. In Group 1, most children use OM about half of the time. Alternately, as shown in Group 2, some children mark forms overtly all, or almost all, the time and others use ZM almost all of the time. Further, as shown in Figure B, if an individual uses ZM about half the time, she or he might always zero-mark particular features and always overtly mark other features, like the hypothetical Person 1. Person 2 in Figure B ends up with the same average number of features but would not overtly mark any feature 100% of the time.

Put Figures A and B about here.

To pursue these issues, we ask the following questions:

Question 1. To what extent do individual typically-developing AAE-speaking children at different ages mix zero-marked (ZM)- and overtly marked (OM) responses--in a formal setting with primarily European American (EurA) GAE speakers?

Hypothesis 1: All typically developing children will participate in the general rise in overt marking of contrastive morphosyntax (MS). That is, most children will use a mixed pattern, with ZM alternating with OM. A few children may adopt all OM forms (in a formal test), but most will adopt them gradually. Specifically, we predict that from age 6, when children begin learning to read, all children will give some OM responses and will no longer give primarily ZM responses in a formal academic setting.

Question 2. Do children adopt overt marking feature by feature? Do they tend to overt-mark some features all of the time, or all features some of the time? That is, is OM distributed equally across different features or used on only a small selection of morphosyntactic features?

Hypothesis 2. Among those who use OM to about the same degree, we will observe two different groups of children. At low, medium, or high levels of OM of contrastive features, one group will mix ZM and OM equally across different features, while a second group of children will overtly mark specific features consistently and other features not at all. By age 12, there will be some features that are overtly marked all of the time by all AAE first-dialect children, and no features that are always zero-marked.

METHODS

Participants

Participants were 511 typically-developing AA children ages 4 to 12 who took the *Dialect Sensitive Language Test (DSLIT)*, Seymour, Roeper & de Villiers, 2000) as part of the *DELV* research project at the University of Massachusetts (H. Seymour P.I.). For this preliminary field-testing, the African American (AA) children were recruited to be AAE speakers, but in fact, they represented a range of dialect density from a strong difference from GAE to little or no difference from GAE. Seventy-eight percent were from working class families living in communities across the U.S., with a slight oversampling from the South. (See Table 1.)

Put Table 1 about here.

All children in this analysis scored in the passing range on items that eventually came to comprise the *DELV-NR* according to the manual of the published test (Seymour, Roeper, & de Villiers, 2005), and scored within one standard deviation for their age group or higher on the non-contrastive morphosyntax items in Subtest 1 of the *DSLIT*. For more information on the non-

contrastive items, see below in Materials and Figure 1. (Recall that these children participated in pilot fieldtesting and were not part of the group on which the *DELV-NR* norms are based.)

A control group of 218 typically-developing GAE first-dialect speakers from the fieldtesting sample, matched as closely as possible to the geographic and educational background of the AAE first-dialect speakers, provided benchmarks for overt marking.

Materials

The unpublished *DSLIT* (Seymour *et al.*, 2000), a superset of the *DELV* tests (Seymour, Roeper, & de Villiers, 2003, 2005), was used. It contained 350 items organized in 14 subtests, encompassing syntax, pragmatics, semantics, phonology, and morphosyntax. The current study focused on the 33 contrastive morphosyntax items from Subtest 1. All 33 production items were aimed at eliciting specific responses. For example, on one item to elicit multiple negation, the examiner points in turn to a picture of a man with one, two, or no umbrellas, saying: “*This* man has an umbrella. *This* man has two umbrellas,” (then shaking her head to indicate “no”) “but *this* man” (with rising intonation to elicit the child’s response).

The following 10 target structures were tracked in the study from ages 4 to 12.

- 3rd person singular /-s/ (3rd –s) for lexical verbs
- past copula, invariant agreement (*they was*)
- 3rd –s with “do”
- 3rd –s with “have”
- “are” auxiliary
- “is” auxiliary
- “is” copula
- multiple negation
- possessive /-s/
- past tense marker /-ed/

(Note: Following Green [2002], we do not include plural /-s/.) Most items in the *DSLIT* targeted a single structure, but there were three items that elicited two targets each, multiple negation in the context of a sentence with a 3rd person singular verb, as in the example above.

In addition, there were 10 non-contrastive MS items: seven past tense copula or auxiliary “was” e.g. “he was sick,” and three possessive pronouns e.g. “theirs,” as in “the kite is theirs.”

Procedures

Children took the *DSLIT* all in the same order, with the morphosyntax items in Subtest 1 given first. A certified Speech Language Pathologist (SLP) administered the test individually in a quiet room at the child’s school or clinic. Over 400 SLPs participated. Almost all of the SLPs had European-American background, reflecting the ethnic composition of the profession.

Answers were recorded by hand on Record Forms by SLPs and were later entered into a database by the Psychological Corporation and then coded by the *DELV* Project Team at the University of Massachusetts Amherst and Smith College. Portions of the *DSLIT* sessions were audio-recorded by a subsample of examiners. The contrastive forms were coded for whether the response matched the OM (GAE-like) form or the ZM (AAE-only) form, or “other.” The non-contrastive morphosyntax forms were coded for whether they were correct or not.

In addition, a child “marking profile” was created for each child by calculating how many OM responses (of 33) she or he produced for each of the 10 features and overall. Criteria for “high-overt markers,” “high-zero markers,” and “mixed markers” were established based on the average level of OM for these stimuli among the 218 GAE-controls. That is, the AAE first-dialect child would not be expected to show higher levels of OM than the children whose first dialect was GAE. Twenty-eight OM responses, the median for the GAE controls, was the criterion for “hi-overt-markers.” “Hi-zero-markers” were children who zero-marked at a higher

level than 95% of the GAE controls, or on 21 or more of their responses. Those who were neither “hi-overt-markers” or “hi-zero-markers” were classed as “mixed-markers.” Another schema categorized the 10 features (above) with respect to the age at which 50% of the children responded with 100% OM for a specific feature, the percentage of children among the oldest groups in the sample who gave 100% OM for that feature, and the percentage of children of all ages who gave all OM responses to the items involved.

Reliability

For the most part, the research group did not have audiotapes of the children’s responses for purposes of reliability, but 60 examiners made audiotapes of selected sections of the test. The tapes gave a record of the children and how examiners interpreted their performance. Fifty-five of the tapes included narrative samples and two had 410 phonology targets (for two children). Transcriptions made by the University of Massachusetts Language Laboratory (including the second author) showed 89% for the examiners’ on-line narrative scoring and 94% for phonology.

RESULTS

In general, these results support “mixed usage” by a large number of children for a large number of features, rather than a strong divide between one part of the group with one pattern and the other part with another pattern, and one set of primarily zero-marked features and one set of overtly marked features.

Q1. To what extent did individual children mix ZM and OM responses?

Individuals’ mixing of response types was prevalent whenever there was variability in the responses, that is, except when children used OM exclusively. There was an overall decrease in the number of children who were high zero-markers, and also in the number of features with mainly ZM responses. At the same time, there was an increase in the number of children who

were high overt-markers and in the number of features to which individual children gave 100% OM responses (“100%-ers”).

Note that the high levels of variability in question in this study were for contrastive morphosyntax. As shown in Figure 1, non-contrastive MS was, in fact, non-contrastive. That is, it developed at a similar rate for all typically-developing children regardless of first dialect. By age 6, the non-contrastive syntax was at near-ceiling levels, i.e. there were too few responses that did not match the OM targets to find variability for either group.

Put Figures 1 and 2 about here.

On the other hand, for contrastive morphosyntax, shown in Figure 2, considerable variability was found within the AAE-speaking children’s response patterns, as indicated by the standard deviations around the means ($SD = 20$ at each age). However, one cannot tell from the response patterns of the whole group considered together how large were the subgroups of children at each age who answered all items with ZM forms (AAE-like) or gave all OM responses that did not differ from GAE, as opposed to the subgroup of “mixed markers” that used a pattern that included some ZM and some OM responses, as in Figures A and B.

Figure 3 indicates that the rising numbers of OM responses shown in Figure 2 came from a large number of children with moderate rates of OM (i.e. the “mixed markers”), rather than from a small number of children with very high rates of OM.

Put Figure 3 about here.

The number of hi-overt-markers among the children surpassed the number of hi-zero-markers, in the 7- to 8-year-old group, but both numbers were small. Most children (70%) at those ages were mixed markers. At ages 9 to 12 years, where Figure 2 shows an average of 70% OM responses, Figure 3 shows that only 40% of the children were giving primarily OM responses and the other 60% were giving mixed responses. Crucially, at this age, no one gave all ZM answers.

Thus, the second part of our hypothesis was only partially supported. A significant minority of these typically developing (TD) children ages 6, 7, and 8 years old, gave all ZM responses. It was not until the 9-year-old group that the all-zero-marking response profile all but disappeared. After age 8, if a TD AAE-speaking child gave ZM responses, she or he used overt marking as well (i.e., was to some extent a “mixed marker”).

Q2. Did children adopt OM feature by feature, or did they tend to use both ZM and OM for the same features?

Our expectation for how many features would be 100% OM at which ages was derived from an examination of the sequence of responses to these stimuli in the fieldtesting among the GAE-controls. Indeed, only about one-fourth of the GAE controls gave 100% OM responses to these 10 features. Control participants ages 7 and older had an average of eight “100%-ers” (with all features overtly marked 100% of the time), and only three control children had fewer than two 100%-ers.

Put Table 2 about here.

Among the AAE first-dialect children, including those who were high-overt-markers (from Figure 3), only 9 children did 100% overt marking for all ten features, another 12 for nine (of

ten) features, and 26 for eight of ten, and three-quarters of those (47 children) were ages 9 or older. Forty percent of the AAE first-dialect children had two or fewer “100%-ers,” and 10% across all ages had none.

Among the children who were “mixed markers,” there were almost as many different combinations of zero, middle, or 100% overt marking for the ten features as there were children (349 patterns for 360 children). Nonetheless, there was a fairly well-defined sequence in the age at which 50% of the AAE first-dialect TD children used 100% OM for the individual features. A loose implicational hierarchy was formed by tracking which features were 100%-ers for children with different numbers of such features. For example, every child with 3rd –s as a 100%-er had at least four other 100%-ers, and it was never a participant’s first 100%-er. Children’s first feature was most likely “is copula” (26 of the 67 children with only one 100%-er) or “are aux” (14 children) or GAE-like negation (12), but those “early” features were not always children’s first 100%-features. GAE-like negation, for example, was not one of the 100%-ers for 21 of the 170 children with 5 or more 100%-ers.

Even looking within one sentence, in the three items that elicited both marking on the “do” auxiliary and negation structures consistent with either AAE or GAE, marking was not consistent throughout the sentence. Of the 675 responses that zero-marked the verb in this construction (for the three questions combined), roughly half had AAE negative structures (“he ain’t got none”) and just over half (56%) had GAE-like negative structures (“he has no shoes”). Thus, there were responses like “He don’t have an umbrella,” but mixtures in the opposite direction (with GAE-like agreement), such as “He doesn’t have no balloons,” were very rare.

Once again the first part of our hypothesis was supported but the second part was not. As seen in Table 2, there was no feature that was 100% OM for more than 84% of the children, and

most were 100%-ers for fewer than half of the children. Among the 9- to 12-year-olds, no feature was always ZM, but 3rd -s was ZM at least some of the time for over 80% of the children. ,

DISCUSSION AND CONCLUSIONS

In summary, the older children were more likely overall to produce more overt marking compared to the younger children, but not all the time nor for all, or even most, of the features. To that extent, their use of contrastive features reflected the patterns of variability in the adult dialect. The turning point between more children who were zero-markers and more children who were overt markers came well after age 6. If we were to base our expectation of levels of marking from the overall group data (as in Figure 2), we would expect approximately 25% ZM at age 9 and older. But in fact, we will not expect that three-quarters of the 9- to 12-year-olds to use no ZM. The child marking-profiles (summarized in Figure 3) demonstrate that the 25% ZM responses came from 60% of the children. If more than half of the AAE-speaking TD children are zero-marking these contrastive features variably, then the contrastive features are not in themselves signs of a disorder for them at any age. These results do suggest, however, that a high ZM profile is not expected after age 8. Failure to see any overt marking or exclusive ZM use after those ages might be a symptom of a language problem.

Furthermore, there was no contrastive feature of the ten we examined that was overtly marked (in a GAE manner) by all children. Some, like AAE multiple negation and zero “are” auxiliary became increasingly rare, especially compared to the high levels of ZM for the various forms of 3rd person singular agreement on verbs. Subject-verb agreement is often considered together as one feature, but we saw here (in Table 2) that the agreement on auxiliary verb “have” became more general at age 8 and on “do” at age 9. The past copula “they were” and GAE-like agreement on lexical verbs (like “he sits” or “he pushes”) were not used regularly even at age 12,

(this is often observed in highly educated AAE-speaking adults as well.) Thus, throughout elementary school, clinicians and teachers should expect variable usage from AAE first-dialect children to a higher degree than they expect GAE-like usages.

One might ask how representative these findings are of a general AAE-speaking population? This sample had by design an over-representation of children from working class families where levels of ZM are thought to be highest. Comparisons of this group with a sample matched to the 2000 U.S. Census figures for a general AA population showed slightly lower levels of ZM, but similar overall trends (Jackson & Pearson, in submission). Further, these data came from a language test that took place in a school or clinic, given mostly by GAE speakers, a situation where contextual factors would likely encourage minimal zero-marking (or what some might term contextual code-switching).

Still, the sequence of features shown here cannot be taken too literally. Our elicitation materials no doubt had some limitations. After all, the GAE controls, who are by definition native GAE speakers, did not always respond to all items in a GAE manner; but they did so often enough (>90% of the time, for eight or more features at a time) to convince investigators that the items could elicit the different responses sought. Also, although no regional differences were found in these data in other studies (Jackson & Pearson, in submission; Pearson, Velleman, Bryant & Charko, 2009), there may be some subtle regional effects that our analyses did not capture. For example, when we investigated reasons why the possessive noun was both a very early and very late 100%-feature for a number of children, it was revealed that a slightly disproportionate 8 of 14 of the “early” overt possessive markers were from the North Central region (compared to 28% in the whole sample). By contrast, 70% of the children for whom possessive –s was a late 100%-feature were from the South (compared to 59% in the total

sample). The numbers are much too small for statistical confirmation, but they demonstrate that there is much more to explore in this domain, and with these data.

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Table 1. Participants by Gender and Age and Parent Education

| | | Age in | 4;0 – | 5;0 – | 6;0 – | 7;0 – | 9;0 – | 11;0 – | | |
|------------------|------------------|--------|-------|-------|-------|-------|--------|--------|------------|----|
| | | Years | 4;11 | 5:11 | 6:11 | 8:11 | 10:11- | 12:11 | Total | % |
| AAE | F | | 50 | 60 | 74 | 25 | 39 | 30 | 278 | 54 |
| | M | | 40 | 47 | 49 | 31 | 37 | 29 | 233 | 46 |
| | All | | 90 | 107 | 123 | 56 | 76 | 59 | 511 | |
| Parent Education | | | 2.9 | 3.1 | 3.0 | 3.1 | 3.1 | 3.1 | 3.0 | |
| GAE | All | | 43 | 46 | 57 | 25 | 16 | 31 | 218 | |
| | Parent Education | | 3.2 | 3.0 | 2.9 | 3.1 | 3.3 | 3.3 | 3.1 | |

AAE: Speaker of African American English as a first dialect, AA ethnicity

GAE: Speaker of General American English

Average Parent Education Level (PED): On a 5-point scale adapted from The Psychological Corporation (*DELV-ST Technical Manual*, Seymour *et al.*, 2003), 1 = 8th grade or less, 3 = a high-school degree, and 5 = a college degree.

Table 2. Comparison of Percent of Children who were 100%-Overt Markers for Given Features

| | | Age when 50% are All overt- markers | Overall % All overt-markers (all ages) | % of 9-12 year- olds who are All overt-markers |
|----|---|---|--|--|
| 1 | <i>Is</i> Copula | 5 yrs | 53% | 48% |
| 2 | <i>Are</i> Aux | 6 | 54 | 84 |
| 3 | GAE Negation* | 6 | 54 | 84 |
| 4 | Past /-ED/ | 7 | 41 | 69 |
| 5 | Invariant <i>have</i> | 8 | 34 | 64 |
| 6 | <i>Is</i> Auxiliary | 9 | 42 | 50 |
| 7 | Invariant <i>do</i> | 9 | 26 | 54 |
| 8 | Possessive /-s/ | >12 | 30 | 41 |
| 9 | Invariant <i>was</i> | >12 | 16 | 37 |
| 10 | Invariant 3rd person singular verbs | >12 | 9 | 17 |

*Although the terms “ZM” and “OM” do not distinguish AAE and GAE negation, we continue to use the terms as a shorthand and in order to be consistent.

Figure A. Hypothetical Example of Two Groups with Average Level of Overt Marking 50%

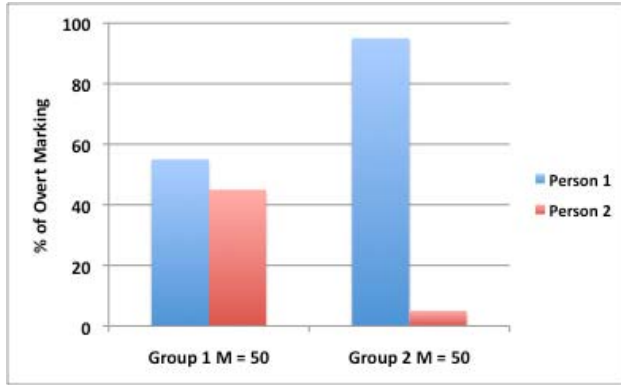


Figure B. Hypothetical Example of Two Individuals, with Average Level of Overt Marking 50%

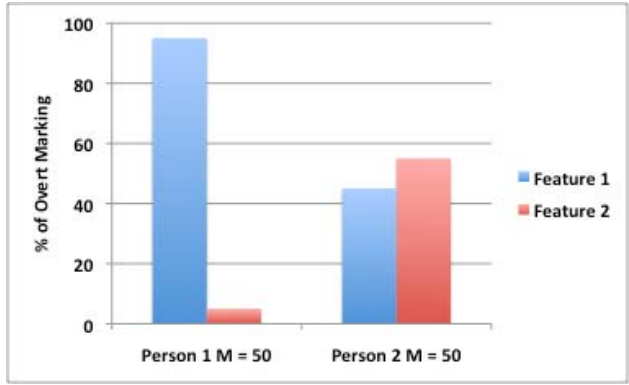


Figure 1.

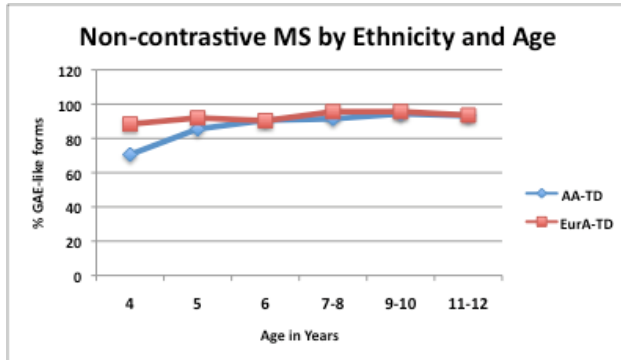
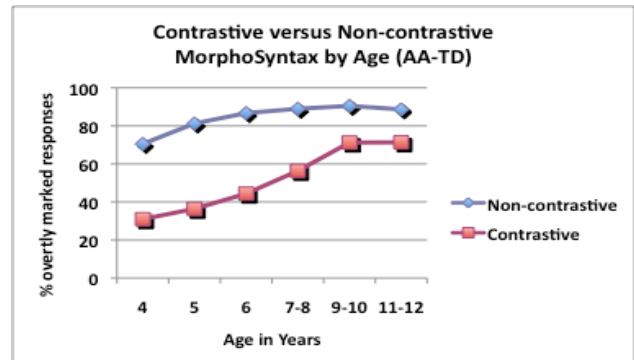


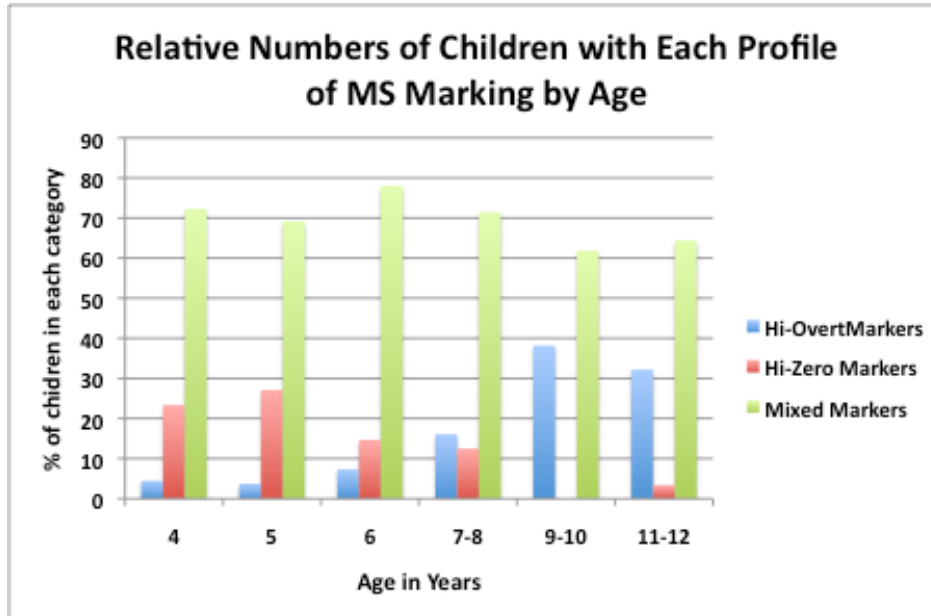
Figure 2.



Noncontrastive (Fig.1). Significant interaction of dialect group with age: $F(5, 717) = 9.37, p < .0005; \eta^2 = 0.06$. Simple effects of dialect group from age 6 to 12 years, $F < 1$, n.s.

Contrastive (Fig. 2). Main effects of age and dialect, and a significant interaction: Age $F(5, 717) = 37.13, p < .0005; \eta^2 = 0.21$; dialect group $F(5, 717) = 322.74, p < .0005; \eta^2 = 0.31$; Interaction age by dialect $F(5, 717) = 5.184, p < .0005; \eta^2 = 0.04$.

Figure 3



Statistically significant differences by $\chi^2 (10, N= 511) = 95.1, p < .0005$).

Ages 9-10 and 11-12 were not different from each other, $\chi^2 (2, N= 135) = 2.9, p = .23$.

Number of features with 100% overt marking (100%-ers) all ages (ANOVA $F [5, 505] = 53.6, p < .0005, \eta^2 = .35$. Pairwise comparisons for ages 9-10 and 11-12, $p = 0.9$).