The phonotactics of "zero-s" in AAE-speaking children: *Word boundary effects*

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African-American English (AAE) dialect features

- Up to 36 nonmainstream grammatical morphology features (Oetting & McDonald, 2001; Rickford, 1999)
  - examples: optional zero-marking of auxiliary *do* and *have*, simple past, third-person singular, plural, and possessive
- Numerous optional phonological patterns (Rickford, 1999; Harris & Moran, 2006)
  - most relevant: final consonant deletion, cluster reduction

Cluster reduction in AAE

- Extent and nature of pattern depends on whether cluster is tauto- (e.g., *box* [bɑks]) or hetero-morphemic (e.g., *kicks* [kɪk+s]) (Labov, 1972; Stockman, 1996; Wolfram, 2005)
- But not all researchers have distinguished tauto- from hetero-morphemic contexts, nor have they differentiated the different types of clusters with respect to sonority

Final consonant deletion in AAE

- Applies most often when phonological contrast can be maintained on preceding vowel, as with oral and nasal stops (e.g., *pin* as [pĩ]) (Laing, 2003; Moran, 1993; Stockman, 1996)
- Less common with fricatives (Stockman, 1996)
- Little research on differences between tauto- versus hetero-morphemic contexts

Morphophonology in AAE

- Final consonant deletion and cluster reduction can impact the overt marking of morphological markers, such as "-s"

Cluster reduction in AAE

- Occurs most often in coda position, with final consonant typically omitted (Green, 2002)
- More likely to occur if following word starts with a consonant, particularly an obstruent (Stockman, 1996; Thomas, 2007; Wolfram & Thomas, 2002)

Zero-s in AAE

- ***Zero-s*** refers to any instance of a non-obligatory "-s" inflectional morpheme that is not overtly marked
  - plural, possessive, third-person singular
  - allomorphs [-s], [-z], [-əz]

Prior research on zero-s

- Zero-s occurs more often on third-person singular than on possessive or plural (Green, 2002; Oetting & McDonald, 2002; Poplack & Tagliamonte, 1994; Wolfram, 1969)
- Common in the speech of AAE-speaking individuals of all ages and geographical and socio-economic backgrounds (Green, 2002; Rickford, 1999)
  - varies with age, socio-economic status, sex, and redundancy, among other factors (Pruitt, 2006; Rickford, 1992; Wolfram, 1969)
- Notably, zero-s is more prevalent in younger AAE speakers (Rickford, 1992; Craig et al., 2003; Oetting & McDonald, 2001)

Morphophonology in child language

- Mainstream American English (MAE)-speaking children with language impairment are more likely to omit regular past tense "-ed" in complex coda contexts (Marshall & van der Lely, 2007)
  - only elicited forms in prevocalic contexts (e.g., *wrapped a present*)

Phonological context and zero-s

- Few studies have thoroughly examined the role of phonological context in zero-s patterns
- And even less is known about the role of phonology in *children's* zero-s patterns

Current preliminary study

- Retrospective evaluation of phonological contexts in which "-s" was overtly marked or zero-marked in AAE-speaking children

Morphophonology in child language

- Typically-developing Mainstream American English (MAE)-speaking children are more likely to omit 3rd-singular "-s" in complex coda contexts (Song, Sundara, & Demuth, 2009)
  - ignored forms in prevocalic contexts

Predictions

1. Zero-s would occur most often in context of abutting consonants
2. Zero-s would occur most often when preceded and/or followed by an obstruent, due to complex sonority profile

Participants

- Eight typically-developing AAE-speaking children from Louisiana (aged 4½ - 5½ years) (Pruitt, 2006; Pruitt & Oetting, 2009)
- No history of language impairment
- Occasional-to-heavy users of AAE dialect features (Oetting & McDonald, 2001)

[s] and [z] in tautomorphemic contexts

- Only 3 instances of [s] or [z] deletion occurred in 353 opportunities (0.84%)
- Thus, observed zero-s patterns were unique to morphophonological processes

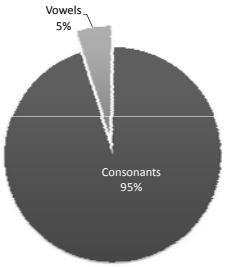
Speech samples

- Twenty-minute play-based language samples, each with at least 100 intelligible utterances
- Coded for morphosyntax using SALT (Miller & Iglesias, 2004), and phonetically transcribed using IPA notation
- Inter-rater coding and transcription reliability above 90%
- Each sample evaluated for presence or absence of "-s" and the corresponding phonological context

Prediction 1: *Zero-s would occur most often in context of abutting consonants*

Supported

- Of the 55 zero-marked forms, 52 (95%) were in the context of abutting consonants



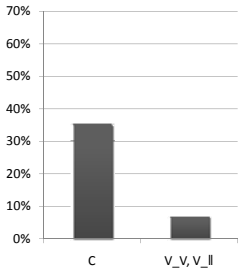
Results

Of 194 "-s" forms evaluated, 55 (28%) were zero-marked:

- 3/123 (2%) plural
- 16/20 (80%) possessive
- 36/51 (71%) third-person singular

Occurrence of zero-s per opportunity

Zero-s was more likely to occur in the context of an abutting consonant (52/148, or 35%) than a vowel (3/46, or 7%)



Prediction 2: *Zero-s would occur most often when preceded and/or followed by an obstruent*

Not supported

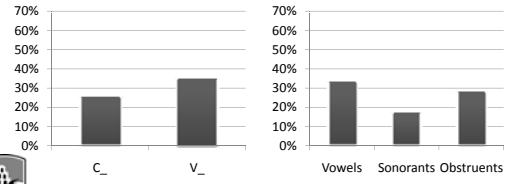
- Preceding obstruents accounted for only 13 (24%) of zero-s forms, and
- Following obstruents accounted for only 17 (31%) of zero-s forms

An unexpected finding

- Zero-s was more likely to occur when **followed by sonorant consonants**, contrary to predictions
- Let's look at sonority sequencing and onset phonotactics for a better understanding …

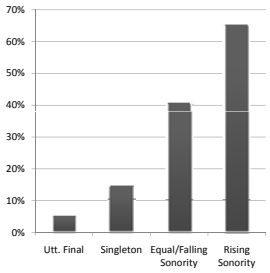
Occurrence of zero-s per opportunity by preceding context

- Zero-s was more likely to occur following vowels than consonants; but overall, preceding context was not very predictive.



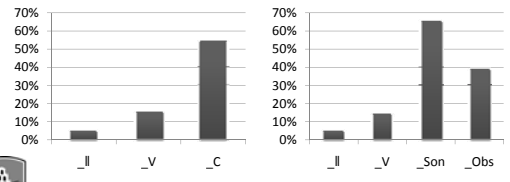
Occurrence of zero-s per opportunity by sonority profile

Zero-s was more likely to occur in rising sonority contexts (26/40) than in equal/ falling (19/47) contexts



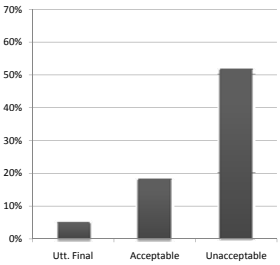
Occurrence of zero-s per opportunity by following context

- Zero-s was more likely to occur before consonants, particularly before sonorant consonants.



Occurrence of zero-s per opportunity by onset phonotactics

Zero-s was more likely to occur if resulting sequence formed an unacceptable onset cluster



Syllable contact

- To sum, zero-s occurred most in contexts of rising sonority when the two segments formed an unacceptable onset
- Taken together, this would suggest that the **Syllable Contact Law** (Murray & Vennemann, 1983; Vennemann, 1988) is playing a role in zero-s patterns, governing adjacent segments across a word boundary

Between word processes

- Common cross-linguistically and in other cluster contexts for other English-speaking adults and younger children (Chevrot, Dugua, & Fayol, 2009; Donahue, 1986; Klein & Liu-Shea, 2009; Matthei, 1989, Newton & Wells, 2002)
- Interestingly, the latter cases for English typically don't involve elision of morphological content – morphemes remain overtly marked

Word boundary effect

- Following context – whether the following word begins with a consonant or vowel – appears to have the strongest influence on the zero-s pattern
- It appears that coda complexity does not play as strong a role, in contrast to…
  - prior accounts of AAE (Green, 2002; Labov, 1972; Stockman, 1996; Thomas, 2007; Wolfram, 2005; Wolfram & Thomas, 2002)
  - findings with MAE-speaking children (Marshall & van der Lely, 2007; Song et al., 2009)

Future directions

- Larger sample, with more opportunities for morpheme use, to allow for statistical measures
- More systematic evaluation of adult AAE zero-s patterns, teasing apart tauto- vs. hetero-morphemic status
- Evaluation of other morpho-phonological interactions within AAE and other English dialects and developing systems

Word boundary effect

Instead, the zero-s pattern exhibited by AAE-speaking children shows a strong effect of phonological complexity due to **syllable contact** which applies **across a word-boundary**

Thank you!

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PhonT [fänt]
PHONOLOGICAL TYPOLOGIES PROJECT

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