

Processing Across Language Varieties: The Misinterpretation of African American English *BIN* by Adult Speakers of Standard American English

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Research Question:

How are subtle, but important, differences between closely related language varieties processed by adults?

Background:

It is often assumed that African American English (AAE) and Standard American English (SAE) are mutually intelligible. This assumption is bolstered by the fact that these two varieties share many cognates – forms that are similar in phonology and function. However, many of the systematic differences between the two appear as *false cognates* – forms which are similar in phonology, but different in function. Because false cognates can be interpreted via one's own variety, a listener may make mistakes in interpreting the other variety without knowing they are in error. One such false cognate is the AAE tense/aspect marker stressed *BIN*.

In AAE, stressing *BIN* indicates that an action or event occurred/began in the remote past; unstressed *been* does not (Green, 2002; Rickford, 1975):

Remote Past Carol *BIN* talking. ('Carol has been talking for a long time.')
Recent Past Carol *been* talking. ('Carol has been talking.')

While temporal adverbials are required to capture the remote past in SAE, they are generally restricted from co-occurring with *BIN*, as they would be a redundant cue (Rickford, 1975).

Previous research has mainly investigated how AAE-speakers process SAE forms and typically finds that AAE-speakers underperform relative to SAE-speakers (see e.g., Beyer & Hudson Kam, 2012). Little research, however, has investigated the same question in reverse: how do SAE-speakers process AAE forms? If false cognates cause processing difficulties, we expect SAE-speakers to underperform relative to AAE-speakers if the variety at test is AAE.

Experimental Questions:

How do adult SAE-speakers (1) perceive, (2) produce, and (3) interpret *BIN* relative to AAE-speakers?

Methods:

Participants: 24 AAE-speakers (8 male, 16 female, $M_{age} = 26.79$) & 24 SAE-speakers (9 male, 15 female, $M_{age} = 20.25$)

Stimuli:

- 72 sentences:
 - Temporal adverbials appended at end of all sentences, but separated from main clause with a prosodic break
 - Test sentences** ($n = 36$) contained 'been' followed by a verb in the progressive:
 - Collette '*been*' dancing salsa, *for 15 years/since last night*.
 - Chad '*been*' using that cell phone, *for the past 3 years/yesterday*.
 - Fillers** corresponded to the present, future, and far future ($n = 12$ each):
 - He sprinted swiftly in the race, *today*.
 - Carl cook his famous ribs at the picnic, *tomorrow*.
 - They will be planning their wedding, *in two years*.
- Native AAE-speaker recorded all sentences:
 - Test sentences were recorded using both *BIN* (remote past) and *been* (recent past) interpretations

Methods and Results:

(1) Perception: Do participants differentiate *BIN* and *been*?

Methods:

- 'been' tokens spliced from sentences and presented as four pair types: same token (*been-been*; *BIN-BIN*, $n = 18$ each), between category (*been-BIN*, $n = 18$), within category (different *been-been* or *BIN-BIN* tokens, $n = 18$)
- Participants asked whether the items in the pairs were the same or different

Results:

- No significant differences by language background or interaction
- Significant effect of pair type: within category accuracy significantly lower than between category; between category accuracy significantly lower than same tokens; no significant difference between same tokens (*been-been*, *BIN-BIN*)

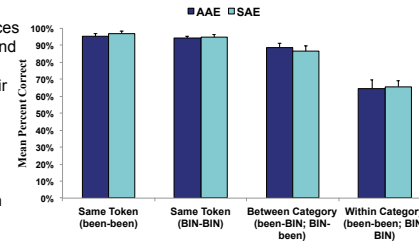


Figure 1. Mean percent correct identification ("same" selected for same tokens, "different" selected for different tokens) across 'been' pair type by language background.

(2) Production: Do participants produce phonetic cues associated with *BIN*?

Methods:

- Baseline task: Participants read 21 sentences, 12 contained 'been'
- Shadowing task: Participants shadowed 36 sentences of which 18 contained 'been' (9 *BIN*, 9 *been*)

Results:

- Duration:** Significant effect of 'been' type, no significant effect of language background, and significant interaction:
 - AAE-speakers produced significantly longer *BIN* than SAE-speakers, but no differences for *been* or baseline
 - AAE- and SAE-speakers show same patterns: *BIN* significantly longer than *been* and baseline, while *been* and baseline are not significantly different
- Loudness:** Significant effect of 'been' type and language background, but no significant interaction:
 - AAE-speakers significantly louder than SAE-speakers
 - AAE- and SAE-speakers show same patterns: *BIN* significantly louder than *been* and baseline, while *been* and baseline are not significantly different

'been' type	AAE-speakers		SAE-speakers	
	Duration	Loudness	Duration	Loudness
Baseline	8.00% (0.29)	0.83% (0.56)	8.40% (0.32)	-1.60% (0.60)
<i>Been</i>	8.33% (0.38)	1.03% (0.35)	7.78% (0.26)	-0.41% (0.43)
<i>BIN</i>	10.73% (0.30)	1.93% (0.29)	9.49% (0.29)	1.11% (0.39)

Table 1. Average differences in the duration and loudness proportion of 'been' type (Baseline, *been*, *BIN*) by language background. Duration values indicate the percentage of the entire sentence that corresponds to 'been' type. For loudness, positive values indicate that the 'been' type was louder than the rest of the sentence; negative values indicate the opposite relationship.

Methods and Results (continued):

(3) Interpretation: Do participants interpret *BIN* and *been* appropriately?

Methods:

- Heard 72 sentences: 36 test (18 *BIN*, 18 *been*), 36 filler; half of the sentences contained temporal adverbials
- Select when action in the sentence started using timeline (1) long time ago, (2) recent past, (3) today, (4) tomorrow, and (5) long time in the future

Results:

- Control Sentences (with temporal adverbials):** No significant effect of 'been' type, language background, and no significant interaction:
 - Control sentences significantly different from chance for both *remote past* and *recent past*

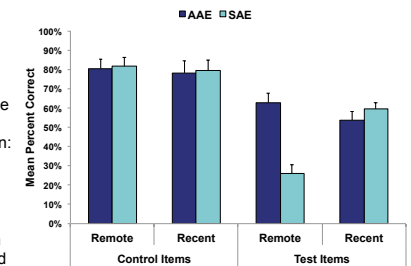


Figure 2. Mean percent correct identification for control and test sentences by language background.

Test Sentences (without temporal adverbials):

- Significant effect of 'been' type, language background, and significant interaction:
 - AAE-speakers performance similar for *BIN* and *been*; both identified significantly better than chance
 - SAE-speakers performed significantly better with *been* than *BIN*; only *been* identified significantly better than chance
 - AAE-speakers differentiate *BIN* and *been*; SAE-speakers assign sentences, whether they contain *BIN* or *been*, to the recent past

Conclusions:

- AAE- and SAE-speakers process *shared* linguistic information (e.g., temporal adverbials) in similar ways
- AAE-speakers appropriately interpret *BIN* and *been*; SAE-speakers do not
- The ability to perceive and produce meaningful grammatical cues in another variety of English does not automatically lead to successful interpretation in that variety
- False cognates introduce language processing difficulties in closely related varieties that may be difficult to overcome

Implications:

- The tremendous overlap in related varieties can obscure differences; false cognates therefore have the potential to greatly impact language processing because neither speaker nor listener may be aware of the difference

References:

- Beyer, T., & Hudson Kam, C. L. (2012). First and second graders' interpretation of Standard American English morphology across varieties of English. *First Language*, 32, 365-384. doi: 10.1177/0142723711427618
- Green, L. J. (2002). *American English: A linguistic introduction*. Cambridge, UK: Cambridge University Press.
- Rickford, J. R. (1975). Carrying the new wave into syntax: The case of Black English *been*. In R.W. Fasold (Ed.), *Variation in the Form and Use of Language* (pp. 98-119). Washington DC: Georgetown University Press.