

The socio-regional distribution of African American vowel systems in Piedmont North Carolina

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While African American English (AAE) has been the subject of more investigation than any other variety of English, the acoustic analysis of vocalic features reveals that this may be the linguistic site for revealing subtle regional differences in AAE. Research has indicated that regional AAE varieties may differ from predominant regional varieties (Yaeger-Dror & Thomas 2010), and that speakers of AAE may participate in regional sound changes, but not necessarily at the same pace or to the same extent as the predominant cohort European American regional variety. Specifically, raising of the front lax vowels in BIT, BET, and BAT, resistance to the COT/CAUGHT merger, and resistance to back vowel fronting in BOAT and BOOT have been identified in several studies where these traits are regionally dominant (e.g. Thomas 2007). Is there a correlation between these vocalic variants and the use of canonical morphosyntactic AAVE features? If so, to what extent? Social and demographic distribution of these vocalic variables within AAE are underexplored, even as these variables have been studied extensively in other varieties of American English.

This study analyzes the vowel space of 14 teenaged African Americans from the Piedmont region of North Carolina to identify the extent to which previously described features of AAE vowel systems correlate with various social and linguistic factors. Over 2,000 vowels were extracted for analysis. The speakers included in the study are all participants of the Frank Porter Graham project, thus offering access to a multiplex array of social and linguistic measures for analysis. Multiple linear regressions were run using Lobanov normalized F1 and F2 Hz values as the dependent variable, and with phonetic environment and duration as the linguistic independent variables. Social variables in the model include a dialect density measure based on a selection of AAVE morphosyntactic features, the ethnic composition of the participant's school, mother's educational level, and gender. Initial results indicate that some vocalic features, such as raising of the front lax vowels, do correlate with more vernacular speech. However, others, such as the maintenance of unmerged COT/CAUGHT classes appear to be unrelated to morphosyntactic vernacularity. Exploratory studies of AAE in the region do not reveal generational differences for the front vowel system, indicating that there is no evidence that vowels are participating in an ongoing change. The results of this analysis suggest that within the sample population, some vocalic variants within the AAE vowel repertoire can be correlated with a dialect density measure, while other variants are consistent across the population regardless of vernacularity. Comparing these two results indicates stable internal variation within the regional AAE vowel system.