

## **Stylistic variation in the production of /ai/ by North Carolina girls**

The variation in the production of the diphthong /ai/ (including its monophthongization) is a well-documented feature of Southern American English (e.g., Evans 1935; Kurath & McDavid 1961; Wolfram & Christian 1976; Bernstein 2006; Labov et al. 2006). While immediate phonetic context explains some of this variation (Thomas 2000), relatively little is known how the pronunciation of /ai/ by the same individuals may vary in the course of a discourse as a function of situational code switching or a shift in formality register. This study aims to increase our understanding of systematic sources of this variation.

The effects of code switching on pronunciation of /ai/ were found in the speakers of African American English (AAE) who were able to spontaneously switch between the AAE and Standard American English based on the formality of the situation, demonstrating high levels of metalinguistic awareness (Garner & Rubin 1986). A study of sorority girls from Alabama and Texas showed variation with regard to a reading style: the monophthongization of /ai/ increased when reading a passage compared to reading a word list (Bernstein 2006).

The present study seeks to characterize the variation in the production of /ai/ by ten girls aged 9-13 years who were born and raised in western North Carolina (the Sylva, Cullowhee, and Waynesville areas). Three types of productions were examined: read isolated words, read sentences, and spontaneous unconstrained talks. The sentential material introduced systematic differences in main sentence stress which created five emphasis conditions for the production of /ai/. In an aural categorization task conducted for each production type, this diphthong was classified as an instance of full /ai/, reduced /ai/, or monophthongal /a/. The results showed that nine of ten speakers produced the vowel in isolated words as instances of full /ai/, only one produced them as /a/. More variability was found in read sentences, where the overall occurrence of the diphthong as full /ai/ reached 62%, followed by reduced /ai/ (34%) and the monophthong (4%). There was notable variation as a function of stress: the diphthong was classified as full /ai/ more often when it occurred in a stressed position (88%) than in an unstressed position (48%). Pearson chi-square test showed a significant association between vowel classification and stressed position ( $p=0.003$ ).

In spontaneous talks, the overall number of full /ai/ significantly decreased while the overall numbers of reduced /ai/ and the monophthong /a/ significantly increased. Stress was again an important contributor to the variation and the association between vowel classification and stressed position was strong ( $p<0.001$ ). When the diphthong occurred in stressed words, its overall classification as full /ai/ was 35% whereas it was much smaller in unstressed words (8%).

This study demonstrates that the reduction and monophthongization of the diphthong /ai/ varies systematically as a function of discourse complexity, production type (speaking as opposed to reading) and word stress. In all production tasks, the diphthong was

pronounced most often as fully diphthongal /ai/ in stressed positions whether in sentences, spontaneous talks or stressed single words.

### References

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