It’s a bik deal: Sociophonetic Variation of Word-Final Stop Voicing in Toronto English

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The phonetic realization of phonologically voiced consonants in English varies considerably (Docherty 1992). Phonologically voiced consonants in specific environments are frequently devoiced, produced with little or no vocal fold vibration (Lisker & Abramson 1967; Haggard 1978; Smith 1997). The variability of consonant voicing in English and other languages has been the focus of some sociolinguistic study (Ingram 1989; Pooley 1994; Purnell et al. 2005; Cardoso 2007; Watson 2007), but to my knowledge, word-final consonant devoicing has not yet been studied in any variety of Canadian English.

This study investigated the social and linguistic factors that influence the devoicing of word-final stops in the speech of English speakers born and raised in the city of Toronto1. The study tested the hypotheses that age, sex, education, and ethnicity play a role in the phonetic realization of word-final stops in Toronto English, under the influence of several internal linguistic factors. Multivariate analysis of Toronto English final stops confirmed that the observed patterns of devoicing are not random. Word-final stop devoicing varied significantly by age, with the highest proportion of devoicing observed in middle-aged speakers, revealing an apparent age-grading pattern comprising relative stability at the age extremes, with significant variability in the middle-age years. No significant effect of sex was observed, which is at odds with Carminati’s (1984) claim that female speakers devoice more frequently than male speakers. The results of this study are more in line with Temple (2000), who found only marginal differences in devoicing between male and female speakers of Parisian French (p. 194).

A crucial question was the role that internal linguistic factors play in conditioning consonant voicing variation, and how these factors rank with social factors of sex, age, education, and ethnicity. The results of this study indicate that the segmental context following the stop consonant played a significant role in final stop devoicing. Though Cardoso (2005) found that number of syllables affected the voicing of final /z/ in the English of Brazilian Portuguese speakers (p. 40), a similar effect of word size was not found in this study. Other phonetic factors such as consonant duration, duration of preceding vowel and relative durations of consonant and vowel, acoustic characteristics such as formant transitions, pitch perturbation at consonant-vowel transition, presence or absence of stop release burst were less conclusive and require further study. The results presented here advance our understanding of internal and external factors that drive sociophonetic variation in Toronto English.

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