

Phonetic variation in Australian English-Speaking children: Gender, community diversity, and individual change over time

Elise Tobin

Department of Linguistics, Macquarie University

The period between preschool and school is a critical time in children's speech and language development, yet this stage has been under-explored in phonetic literature. In my thesis, I specifically target this transitional phase to explore phonetic features and their variability in the speech of Australian English-speaking (AusE) children living in New South Wales (NSW), at a single timepoint and over time in a linguistically diverse speech corpus. It examines how gender, community diversity, and regional differences are reflected in children's speech, alongside the influence of socialisation during the first years of school. These analyses will advance our understanding of the developmental trajectory of phonetic features in children's speech at this critical time in development between preschool and school.

The single timepoint study examines the acoustic-phonetic and developmental properties of the voiceless alveolar fricative /s/ produced by AusE-speaking children (4 – 5 yrs; 11mths), compared to AusE-speaking adults (18 – 40yrs). Analyses of spectral moments revealed that preschool-aged children produce /s/ in gender-specific ways like adults, despite developmental variability. Variability in the form of whistled /s/ was observed in both adult and child productions, with implications for spectral moments analysis and providing new avenues for research on this under-reported phenomenon and its possible sociophonetic functions.

In my thesis, I also explore how community linguistic diversity, regional variation and school duration are associated with the realisation of coda stops and intervocalic /t/. These acoustic studies utilise corpus data recorded for the Child Speech, Community Diversity and the Emergence of Sound Change (CSCD) Project. The CSCD corpus contains data from children living in linguistically heterogeneous urban communities and homogeneous rural communities, with speech recordings at 3 timepoints; prior to children starting school, 1-12 months of school duration, and more than 12 months of schooling. The results suggest that coda glottalisation may be influenced by community diversity, while intervocalic /t/ variant use may be influenced by community diversity as well as regional variation. Furthermore, as school duration increased, children produced more canonical /t/ and fewer tap realisations, possibly due to the development of literacy.

While gender has typically been the focal point in (socio)phonetic studies of children's speech, my thesis expands the scope to include community diversity and regional variation, with findings indicating that all three are associated with phonetic variation in AusE children's speech. My thesis enhances understanding of phonetic variation in children's speech and lays the groundwork for further study of the development of sociophonetic variation. This work has implications for theoretical explanations of child speech development, methodological considerations for future studies of child and adult speech variability, as well as practical applications in areas such as clinical practice and speech technology¹.

¹ This abstract has been adapted from my PhD thesis (Tobin, Submitted).