

## Variability in the phonology of child-directed speech: evidence from a new naturalistic corpus.

Sam J. Green, University College London

Investigations into first language acquisition of phonology that take language input (and the various statistical distributions of sounds) into consideration as a model that the child learns from, often use citation/dictionary phonetic forms. This approach neglects some – albeit mixed – findings that the speech directed to infants and children (Child Directed Speech; CDS) may be less ‘hyperarticulated’ than might be assumed (Cristia and Seidl, 2013; Dilley et al., 2013). Previous studies have taken place in experimental settings, using tasks to elicit CDS from parents, either by using a reading task or providing objects to elicit certain sounds and sound combinations (Foulkes et al., 2005; Stoel-Gammon, 1984).

The current study is different in that it uses novel naturalistic data to describe the nature of CDS by utilising a longitudinal corpus of spontaneous recordings of dyadic interaction between three monolingual British English speaking mothers and their children (children’s ages: 0;11 to 2;5), transcribed using *Phon* (Rose et al., 2006). Whilst some – though not all – previous studies have focused predominantly on vowel production in CDS (e.g. Kuhl et al., 1997), the current study focuses on consonant complexity at the end of words: word-final bi-consonantal clusters. This is being carried out as a first step in a project assessing the acquisition process of these clusters. These structures are understudied in acquisition (Demuth, 2011), hence the motivation to initially investigate the ambient source of children’s information regarding them. The study takes the form of a frequency analysis of rates of cluster ‘alternations’, or variants (consisting of the processes of deletion and substitution, and combinations resulting from assimilation and coarticulation), compared with expected targetlike – or canonical – productions by adults. Environments in which variants occur are described, as well as patterns where consistent environments are not apparent.

Figure 1 demonstrates some of the variability produced by one mother in four high frequency clusters within a single one hour session, where some alternations from the canonical production occur as often as 70% of the time. Certain types of processes occur more frequently than others in CDS. In addition, the amount of variability in more frequent clusters is found to be high. The result of this is an altered account of the frequency of canonically produced segmental input to children, at least when considering consonant segments in strings.

The implication, then, is that children’s phonology input is not as ‘target-like’ as might be sometimes assumed. If children learn considerably from the input, and the input is not perhaps consistent or in the same form as citation forms, then children might not be expected to ‘accurately’ produce those sounds. This subsequently implies that measures of accuracy and development in previous studies may not be measuring as accurately as they could if the specific details of the language input were to be taken into account.

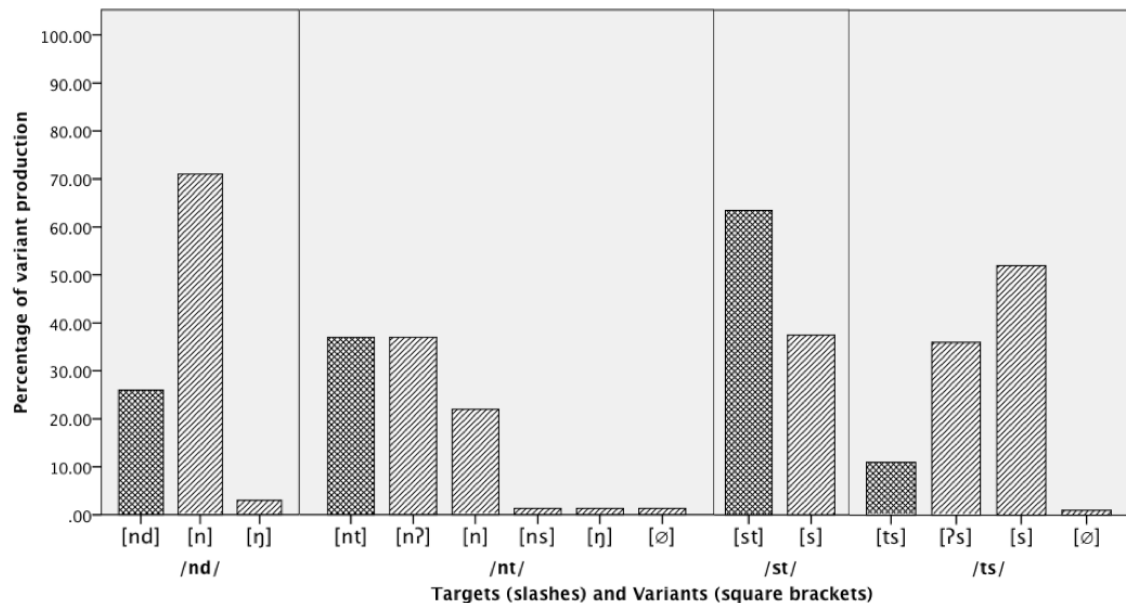


Figure 1: *Four word-final bi-consonantal cluster Targets and their Variant production (n=734) by one mother in a one hour session (bars show percentage productions of targets and variants, grouped by target; canonical production in cross-hatched bars)*

## References

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