

Parents' and Children's Production of English Negation

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1. Introduction

Previous research has proposed the following stages for children's production of negation (Klima and Bellugi 1966; Wode 1977): 1. one-word negatives with *no*, 2. anaphoric *no* along with other words in responses to a previous utterance (e.g. *no*, outside) 3. pre-sentential non-anaphoric *no* or *not* (e.g. "no I see truck" to mean "I can't/don't see the truck") 4. *no/not* between the subject and the verb (e.g. "Kathrine no like celery"), adding *can't* and *don't* to the set of negators as unanalyzed wholes (e.g. "I can't open it") because *can* and *do* are not produced separately in this stage, 5. adult-like negation. However, stages 3 and 4 have been criticized for not being properly supported by the available data (de Villiers & de Villiers 1979; Park 1979; Drozd 1995). In addition, Cameron-Faulkner et al. (2007) analyzed productions of a child in their corpus and argued for a "*no-not-n't* cline": children first produce *no*, followed by *not*, and finally the clitic form *n't*. This study uses the largest available child language corpus to bring more data to bear on these hypotheses.

2. Background

3. Study 1

3.1 Methods

We used the CHILDES corpora (MacWhinney 2000), available via *chil实现db* (Sanchez et al. 2019). English-North America and English-UK collections were tokenized. After exclusions due to unintelligibility or missing information ($N =$), the collection contained 14,099,153 tokens from the speech of children. Tokens were classified into positive and negative morphemes, with the following negative morpheme categories: *no*, *not*, auxiliary clitic *n't*, negative pronouns and quantifiers (*none*, *nothing*, *nobody*, *no-one*, *nowhere*), negative adverb of frequency *never*, and derivational negatives with *un-* (e.g. *unhappy*), *in-* (e.g. *invisible*), *dis-* (e.g. *disappear*), *de-* (e.g. *defrost*), *non-* (e.g. *nonsense*), and *-less* (e.g. *careless*).

3.2 Results – Between 12-18 months, almost all negative forms produced by children were instances of *no*, with some contracted auxiliary negatives

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like *don't* and *can't* (Figure 1). The proportions of *not* and its contracted form *n't* increased rapidly and simultaneously between 18-30 months until around 36-42 months they reached close to parent levels. Children started producing *not* and *n't* around the same time, if not *n't* slightly earlier. They started producing the positive auxiliaries such as *do* and *can* around the same time as negative ones (Figure 2). Compatible with Drozd's (1995) similar corpus findings, only a very small percentage of children's negative utterances could be analyzed as pre-sentential non-anaphoric negation.

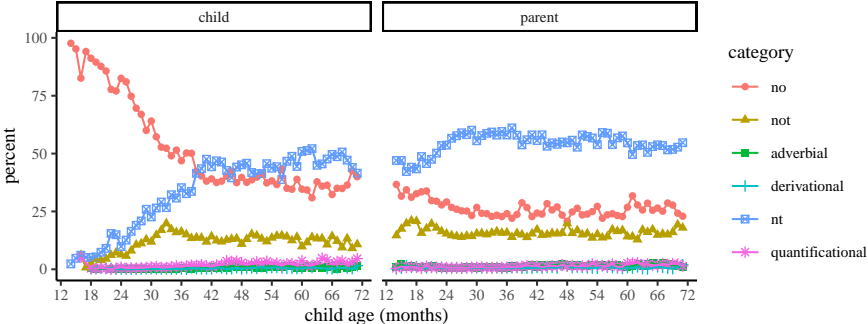


Figure 1: Proportion of different categories of negation in parents' and children's speech between 12 to 72 months of age (1 to 6 years).

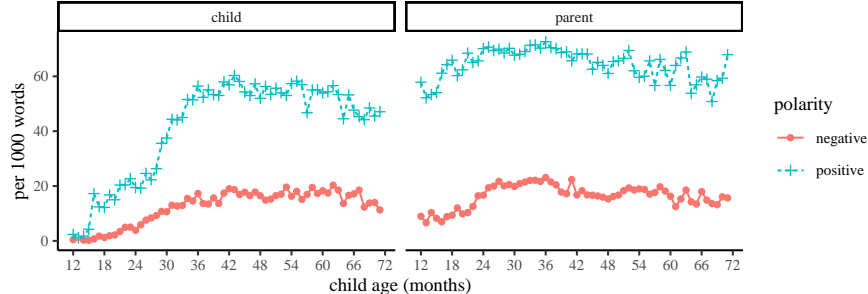


Figure 2: Relative frequency (per thousand words) of positive auxiliary (e.g. *do*, *can*, *is*, ...) as well as their contracted negatives (*don't*, *can't*, *isn't*, ...) in the speech of parents and children between 12 to 72 months of age (1 to 6 years).

4. Study 2

4.1 Methods

4.2 Results

5. Conclusions – Results supported early productions of *no* (stage 1) before *not* and *n't*, but no evidence that *not* is produced before *n't*. We did not find support for robust non-anaphoric pre-sentential negation (stage 3) or contracted forms like *don't* and *can't* as unanalyzed wholes (stage 4). The results suggest a great degree of variability in children's productive development (de Villiers & de Villiers 1979). Our findings are compatible with simultaneous development of frequent negative forms with a production bottleneck that favors shorter utterances like *no* to appear earlier.

References

- Klima, Edward S, and Ursula Bellugi. 1966. "Syntactic Regularities in the Speech of Children." In *Psycholinguistics Papers*, 183–207. Edinburgh University Press.
- Wode, Henning. 1977. "Four Early Stages in the Development of Li Negation." *Journal of Child Language* 4 (1): 87–102.