Disentangling behavior in early child development: Interpretability of early child language and its effect on utterance length measures

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Abstract
Early child speech is often difficult to understand and interpret. Usually, these unintelligible units are not included in quantitative measures, such as MLU. In this paper, we claim that these interpretation problems have an unknown effect on utterance length measures (such as MLU), since we have no knowledge on how the unintelligible units are distributed across the speech sample. We offer a procedure for investigating how big the effect of specific coding decisions is on quantitative language measures (number of sentences, MLU and sentence length). This so-called “what-if procedure” compares the effects of worst-case scenarios, i.e. scenarios where either all or none of the uninterpretable utterances are counted as real words. We explore whether the application of such a worst-case scenario leads to different results in the (longitudinal) language data of two infants. These data show that there are obvious inter-individual differences, a finding which implies that the effect of interpretability should not be ignored a priori. We discuss the potential meaning of these differences for understanding the underlying developmental processes and end with a number of suggestions regarding the generalization of our procedure to other fields of early development.

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