Abstract:

In language acquisition research, visual reaction times during looking-while-listening paradigms have been used as an indicator of infants' lexical speed of processing (SoP). This measure is very powerful as it can be applied from a young age and it has been linked to future language development. For example, Fernald and Marchman (2012) measured the visual reaction times of 18-month-old children learning American English and showed a positive link between the SoP and the productive vocabulary reported by parents at 18, 21, 24 and 30 months (CDI). However, some studies do not find this link between the SoP and later vocabulary size (Fernald, Marchman & Weisleder, 2013). Additionally, most evidence on SoP predicting concurrent and subsequent language development stems from infants learning American English and the generalizability of this relation has not yet been tested.

Dutch is closely related to American English, but some interesting differences have been observed. For example, Dutch infants show behavioural evidence of wordform segmentation only several months after their American English learning peers (Kuijpers, Coolen, Houston & Cutler, 1998).

We are currently testing 18-month-old infants learning Dutch (target n = 40 included, tested n = 28) in a looking-while-listening paradigm. In the standard looking-while-listening paradigm, the infant has to look at a distractor while the target is being named in order to be able to measure visual reaction times. This means that usually, at least half the trials cannot yield reaction time data as the infant was already fixating the target object (e.g. 3-32 trials in Fernald & Marchman, 2012). To provide more reliable SoP measures we developed a new, gaze-triggered paradigm. The gaze-triggered paradigm improves this state of affairs by naming the object the infant is not fixating in a specific time window. Pilot data show that this small change leads to a 50% increase in usable trials without affecting the individual SoP estimate.

Using both the standard looking-while-listening and the gaze-triggered paradigm within the same participants, we measure infants' SoP and link it to their CDI comprehension score of 18 months. Our goal is to investigate if Dutch infants show the same link between SoP and concurrent language development as their American English learning peers.
References:

