The ManyBabies-AtHome Looking-While-Listening project: A remote cross-linguistic investigation of familiar word recognition in infants across various ages

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Young children's lexical knowledge has been widely indexed by looking-while-listening (LWL; Fernald et al., 2008) studies, which provide researchers information on children's real-time word recognition. However, cross-linguistic comparisons in infant word recognition studies are rare (but see Ramon-Casas et al., 2009), and experimental design and analytic decisions greatly differ between studies (Von Holzen & Bergmann, 2021; Zettersten et al., 2021). Additionally, there is only mixed evidence for alignment between the different methods used to assess word recognition in children (e.g., Houston-Price et al., 2007; Weaver & Saffran, 2026). A possible solution would be to implement remote experimental paradigms, as a way to increase diversity in developmental research (Zaadnoordijk et al., 2021).

To address these shortcomings, this project aims to study the developmental trajectory of word recognition across various languages and ages, using an online adaptation of the traditional looking-while-listening paradigm. Specifically, we aim to examine whether children's word recognition as indexed by speed and accuracy of their looking toward a named referent varies as a function of (1) age of the child, (2) whether their caregiver indicated that they understand the word, and (3) the language being learnt.

Children between 10-24-months from various countries and learning various languages will be recruited to participate in this study, with the research team recruiting 48 participants across the age group for each language. In the online LWL task, children will be shown two (presumably) familiar objects on the screen, and hear the label of one of the objects embedded in a carrier phrase. The experiment will be implemented via E-Babylab (Lo et al., 2024), with the integrated WebGazer application (Papoutsaki et al., 2016) automatically estimating looking behaviour using the participant's webcam. Additionally, caregivers will also report children's knowledge of the presented words through a questionnaire.

We predict that infants' word recognition accuracy and speed will increase as they grow older. The design will also allow us to undertake one of the first large-scale investigations of the effects of language background on word recognition and the nature of the association between parental report of word knowledge and item-specific word recognition. Our predictions here are more tentative, given limited cross-linguistic data and mixed past evidence of links between item-specific caregiver report and infant looking behaviour.

Our approach has broad implications, as resource-friendly adaptations to local contexts remain a challenge for cross-linguistic and cross-cultural work. Our stimulus development protocol will also be useful in multilingualism research, where researchers can select suitable materials from an existing item pool. Additionally, the project's outcome will establish the largest cross-linguistic, cross-cultural dataset on the development of infant word recognition.

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