INFANT-DIRECTED SONGS AS A LANGUAGE SOURCE: DO INFANTS SEGMENT WORDS FROM PLAYSONGS?

Arina Shandala[1 2 3 4], Eniko Ladanyi[5], Mridula Sharma[6 7] & Natalie Boll-Avetisyan[5]

[1]International Doctorate for Experimental Approaches to Language and Brain (IDEALAB), University of Potsdam, Potsdam, Germany [2]International Doctorate for Experimental Approaches to Language and Brain (IDEALAB), Macquarie University, Sydney, Australia [3]International Doctorate for Experimental Approaches to Language and Brain (IDEALAB), University of Groningen, Groningen, The Netherlands [4]International Doctorate for Experimental Approaches to Language and Brain (IDEALAB), Newcastle University, Newcastle upon Tyne, UK [5]Department of Linguistics, University of Potsdam [6]College of Nursing and Health Sciences, Flinders University, Adelaide, Australia [7]Department of Linguistics, Macquarie University, Sydney, Australia

Introduction

Main aim and research questions

We explored infants' ability to segment (=extract) words from playsongs, with two research questions:

1. Can German-learning 8-9- and 11-12-months segment novel words from playsongs?
2. Is infants' segmentation performance modulated by their home music experience and parental musical background?

Background

- Playsongs are believed to benefit early word learning, but little is known about how infants perceive and process words in the sung context
- If playsongs can serve as a source of language input, infants should be able to extract new words from them and recognise these in speech
- The only existing study directly testing this with 10-month-olds had a null finding in the confirmatory analysis [1]

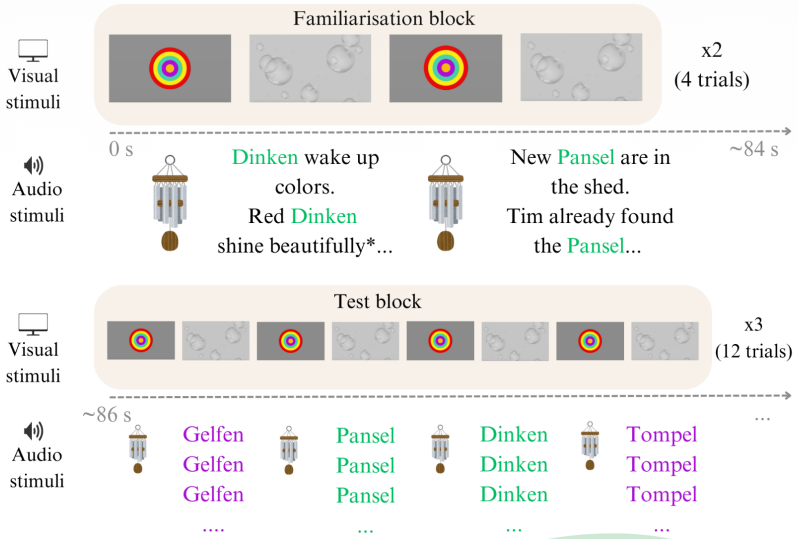
Method

Participants

8-9-month-olds (n = 34); 11-12-month-olds (n = 33)

Procedure

- We collected experimental data and questionnaire information about infant music experience (Music@Home-Infant [2]) and parental musical sophistication (Gold-MSI [3])
- The experiment used the central fixation paradigm with two sets of stimuli: familiarisation playsongs (composed for this study(and spoken test word lists
- Half of the infants were familiarised with the words "Dinken" and "Pansel", the other with "Gelfen" and "Tompel"
- Playsongs were played in full, test trials were infant-controlled (a trial stopped if an infant looked away for over 1 sec)
- Looking times to the screen were recorded with the eye-tracker and manually coded during the experiment (the latter were used in the analysis)



Results

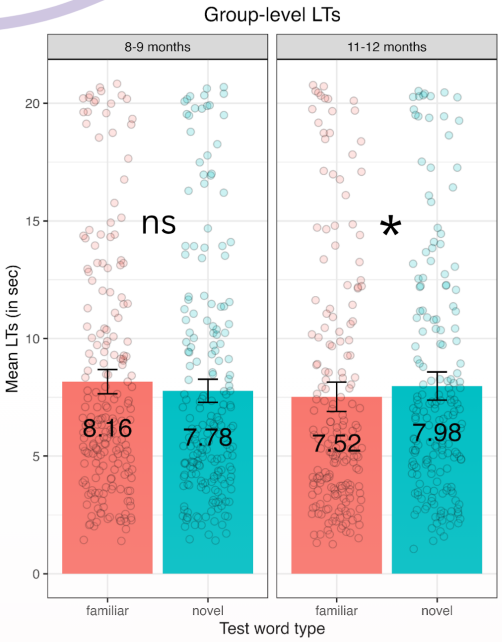


Fig. 1. Output of the linear mixed model fit with 8-9-month-olds' data.

	log(LT)		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	2.43	2.25 – 2.62	**<0.001**
Test word type	-0.00	-0.06 – 0.06	0.966
Age in days	-0.06	-0.18 – 0.05	0.265
Gold-MSI	0.15	0.02 – 0.28	**0.024**
Music@Home	-0.02	-0.14 – 0.10	0.739

- Linear mixed-effects models showed that 11-12-month-olds could reliably segment words (looking longer at novel pseudowords at test, p = .02), no significant group-level effect of test word type in 8-9-month-olds (p = .76)
- Musical variables did not modulate segmentation performance in either of the groups, but:
- 8-9-month-olds' overall looking times durations were predicted by their parent's musicality (p = .02), but not by their own home music experience (p = 0.74) (Fig. 1)

Take-aways

- **First evidence that babies as young as 11-12 months can transfer knowledge of new words from sung to spoken modality**
- **Infant-directed singing, at least in the form of playsongs, is a source of language input that babies can learn from**
- Musical predictors did not modulate word segmentation performance → playsongs' benefit seem to extend beyond infant musical experience
- Future research should compare segmentation from sung versus spoken passages, and across other genres of infant-directed song

Get in touch: arina.shandala@uni-potsdam.de

References

Virtual Poster Session | 21st Annual NeuroMusic Conference | November 22-23, 2025

osf.io/bpzh4/