Reproducing the Report of

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Abstract

This is a reanalysis of the first experiment of something something baby voice recognition

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Reproducing the Report of

#Abstract This is a reproduction of experiment 1 of For 5-Month-Old Infants, Melodies Are Social" by Samuel A. Mehr, Lee Ann Song, Elizabeth S. Spelke. In their experiment, they had the parents of 32 infants learn a song and later sing it to their children.On a later date the babies attention was tracked for how long they focused on the song their parents sang or a novel song, both songs being sung by an unfamiliar person. Results found that Babies spent more time looking at people who sang familiar songs than those who didn't. A #Introduction The purpose of this (re)-analysis is to see whether or not it is possible to reproduce the results of experiment 1 of "For 5-Month-Old Infants, Melodies Are Social" by Samuel A. Mehr, Lee Ann Song, Elizabeth S. Spelke.

In their experiment, they were interested in the important social role singing and melodies have had across the ages, especially before the time when it was recorded with audio. As in the past and even in many present societies different songs have various social purposes, what could they mean to newborn babies? This study has several experiments comparing melodies and how they get transmitted, whether by parents, toys, or strangers, and what sort of effect they have on the attention spans of the babies.

## Participants

There were 32 participants, all of which were 5 month old infants. Parents of the infants were used to teach the songs to their children.

## Material

The details of the experiment are reported in Mehr SA 2016

## Procedure

Parents were taught a song at the lab, and they would sing it to their children. At the lab, children were later introduced to two novel people over a screen, one who sang the sang they knew and one who didn', both of which were on screens that had recorded video of both singing their respective songs. Children were tracked for who they stared/paid attention to for longer.

A t-test for their data was run for the means of the baseline and test phase gazes toward the familiar singer

## Data analysis

We used R (Version 4.0.2; R Core Team, 2020) and the R-packages *papaja* (Version 0.1.0.9997; Aust & Barth, 2020), and *pwr* (Version 1.3.0; Champely, 2020) for all our analyses.

# Results

Reanalysis of experiment one shows that babies paid more attention to the song that was sung by their parents, and supports the hypothesis, as if there were no effect they would have just stared at both singers at relatively equivalent rates with no increase

A power anaylsis for an effect size of .54 and a group of 32 participants give us a power of 84%, which means 84% of the time the original test would have been able to detect the results of this test. The other times it would be liable to miss it.

```
## Warning: package 'pwr' was built under R version 4.0.3
```

```
##
##      Paired t test power calculation
```

```
##
##               n = 32
##               d = 0.54
##       sig.level = 0.05
##           power = 0.8410715
##     alternative = two.sided
##
## NOTE: n is number of *pairs*
```

## Discussion

The results of the original experiment coincide with our own, and our power analysis showed that for their limited sample size (which made sense, it is possibly not easy to get 5-6 month old babies to participate in a lab) they had a test with a low possibility of missing results that were significant. At least for this test there is some evidence that singing a familiar song, as their parents (largely the mothers of the infants) was related to babies spending more time on the novel singers who sang them.

## References

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