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Description générée automatiquement

Supplementary Figure S1. PRISMA flowchart summarizing the literature review and selection process.

Supplementary Results S2

Database description

We found a total of 18 publications (labeled with an asterisk in the reference list) reporting 34 experiments, and 54 (not mutually independent) effect sizes, see Figure 6. 15 papers have been submitted to or published in peer-reviewed journals (Colombo & Bundy, 1981; Cooper & Aslin, 1994; Curtin & Vouloumanos, 2013; Ecklund-Flores & Turkewitz, 1996; Santolin, Russo, Calignano, Saffran, & Valenza, 2019; Segal & Kishon-Rabin, 2011; Shultz & Vouloumanos, 2010; Sorcinelli, Ference, Curtin, & Vouloumanos, 2019; Spence & DeCasper, 1987; Vanden Bosch der Nederlanden & Vouloumanos, 2020; Vouloumanos & Curtin, 2014; Vouloumanos, Druhen, Hauser, & Huizink, 2009; Vouloumanos et al., 2010, 2010; Vouloumanos & Werker, 2004, 2007; Yamashiro, Curtin, & Vouloumanos, 2019). The remaining 1 publication, contributing 1 effect size, was a thesis (Ference, 2018). 3 more effect sizes were contributed by authors of unpublished work (Santolin, Zettersten, & Saffran, 2020).

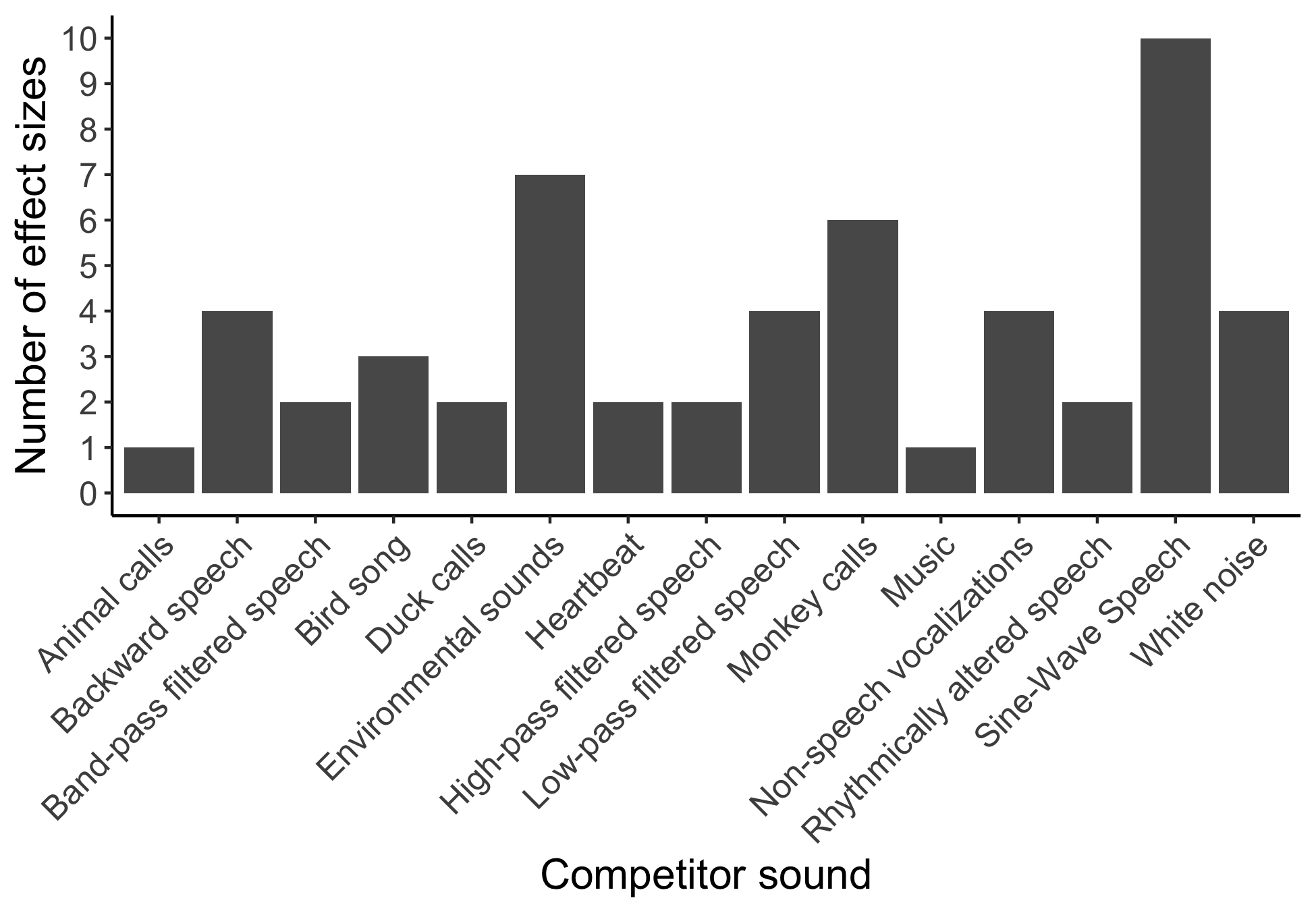
Experiments tended to have small sample sizes, with a median N of 16 children (Range = [4, 60], M = 19.83, Total: 754). Infants ranged from 0 to 12 months (1.50 to 380.50 days), although the majority were under 6 months of age (70.59% of the experiments). Individual samples comprised 46% of female participants on average. Infants were native of 6 different languages across the whole database (English, French, Russian, Yiddish, Hebrew, Italian). Experiments were performed in 10 different laboratories from 4 different countries (United States, Canada, Israel, Italy). 3 experimental methods were used: 26 experiments used Central Fixation (CF) (also called sequential looking preference procedure) (Colombo & Bundy, 1981; Cooper & Aslin, 1994; Curtin & Vouloumanos, 2013; Ference, 2018; Santolin et al., 2019, 2020; Segal & Kishon-Rabin, 2011; Shultz & Vouloumanos, 2010; Sorcinelli et al., 2019; Vanden Bosch der Nederlanden & Vouloumanos, 2020; Vouloumanos & Curtin, 2014; Vouloumanos et al., 2009, 2010; Vouloumanos & Werker, 2004; Yamashiro et al., 2019); 3 used High-Amplitude Sucking (HAS) (Spence & DeCasper, 1987; Vouloumanos et al., 2010; Vouloumanos & Werker, 2007); and 5 used Head-turn Preference Procedure (HPP) (Ecklund-Flores & Turkewitz, 1996). Trial length was fixed in 8 experiments, and infant-controlled in 25 experiments.

Speech sounds were spoken by a female in 32 out of 34 experiments, with an infant-directed prosody in 17 out of the 34 experiments. Speech was presented in isolated segments (i.e. words or syllables) in 5 experiments, and full sentences or passages in 15 experiments. Speech stimuli were recorded in the infant native language in 58.82% of the experiments. Strikingly, experiments using the infants’ native language tested infants from 0 to 12 months of age, whereas experiments using a foreign language only tested infants from 3 to 9 months of age (see Figure 10). The competitor sound was vocal in 52.94% of the experiments. The competitor sound was natural 52.94% of the experiments. The stimuli characteristics are summarized on Supplementary Figures S2 and S3.

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Supplementary Figure S3. Histograms of the number of effect sizes for each language and moderator status.



Supplementary Figure S4. Histogram of the number of effect sizes for each competitor.

Supplementary Results S5

RVE: Correlated Effects Model with Small-Sample Corrections

**Model: g\_calc ~ test\_lang \* mean\_age**

Number of studies = 26

Number of outcomes = 38 (min = 1 , mean = 1.46 , median = 1 , max = 3 )

Rho = 0.8

I.sq = 80.26785

Tau.sq = 0.1556465

Estimate StdErr t-value dfs P(|t|>) 95% CI.L 95% CI.U Sig

Intercept. 0.64337 0.29704 2.19 3.73 0.409 -0.04997 1.32671

test\_lang -0.39228 0.31803 -1.27 4.45 0.831 -1.06818 0.29362

mean\_age -0.00122 0.00259 -0.470 4.20 0.662 -0.00829 0.00585

test\_lang.mean\_age 0.00167 0.00266 1.762 5.43 0.556 -0.00501 0.00835

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Signif. codes: < .01 \*\*\* < .05 \*\* < .10 \*

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Note: If df < 4, do not trust the results

RVE: Correlated Effects Model with Small-Sample Corrections

**Model: g\_calc ~ natural \* mean\_age**

Number of studies = 26

Number of outcomes = 38 (min = 1 , mean = 1.46 , median = 1 , max = 3 )

Rho = 0.8

I.sq = 77.96093

Tau.sq = 0.1329136

Estimate StdErr t-value dfs P(|t|>) 95% CI.L 95% CI.U Sig

Intercept. 0.370658 0.19078 1.923 4.47 0.135 -0.09417 0.84548

natural -0.047868 0.21510 -0.208 10.34 0.831 -0.53015 0.41589

mean\_age -0.000961 0.00214 -0.449 2.96 0.684 -0.00781 0.00589

natural.mean\_age 0.000993 0.00221 0.450 5.02 0.672 -0.00468 0.00666

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Signif. codes: < .01 \*\*\* < .05 \*\* < .10 \*

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Note: If df < 4, do not trust the results

RVE: Correlated Effects Model with Small-Sample Corrections

**Model: g\_calc ~ vocal \* mean\_age**

Number of studies = 26

Number of outcomes = 38 (min = 1 , mean = 1.46 , median = 1 , max = 3 )

Rho = 0.8

I.sq = 78.05148

Tau.sq = 0.1344677

Estimate StdErr t-value dfs P(|t|>) 95% CI.L 95% CI.U Sig

Intercept 0.47312 0.13575 3.743 6.96 0.0244 0.18712 0.77913 \*\*

vocal -0.36690 0.17954 -2.187 10.67 0.4828 -0.72401 -0.0122

mean\_age -0.00129 0.00199 -0.648 3.04 0.5625 -0.00757 0.00499

vocal.mean\_age 0.00180 0.00208 2.516 6.23 0.4187 -0.00325 0.00685

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Signif. codes: < .01 \*\*\* < .05 \*\* < .10 \*

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Note: If df < 4, do not trust the results

Supplementary Results S6

RVE: Correlated Effects Model with Small-Sample Corrections

**Model: g\_calc ~ mean\_age**

Number of studies = 26

Number of outcomes = 38 (min = 1 , mean = 1.46 , median = 1 , max = 3 )

Rho = 0.8

I.sq = 80.07802

Tau.sq = 0.1382576

Estimate StdErr t-value dfs P(|t|>) 95% CI.L 95% CI.U Sig

Intercept 0.2998737 0.087414 3.430 16.5 0.0033 0.11505 0.48470 \*\*\*

mean\_age 0.0000984 0.000509 0.193 12.0 0.8500 -0.00101 0.00121

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Signif. codes: < .01 \*\*\* < .05 \*\* < .10 \*

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Note: If df < 4, do not trust the results

Supplementary Figure S7

