

# table\_materials

anjie

2023-01-14

```
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse 1.3.2 --
## v ggplot2 3.3.6      v purrr   0.3.5
## v tibble  3.1.8      v dplyr  1.0.10
## v tidyr   1.2.1      v stringr 1.4.1
## v readr   2.1.3      v forcats 0.5.2
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(here)
```

```
## here() starts at /Users/caoanjie/Desktop/projects/metalabr_exp
```

```
library(metafor)
```

```
## Loading required package: Matrix
##
## Attaching package: 'Matrix'
##
## The following objects are masked from 'package:tidyr':
##
##   expand, pack, unpack
##
## Loading required package: metadat
##
## Loading the 'metafor' package (version 3.8-1). For an
## introduction to the package please type: help(metafor)
```

```
library(kableExtra)
```

```
## Warning in !is.null(rmarkdown::metadata$output) && rmarkdown::metadata$output
## %in% : 'length(x) = 2 > 1' in coercion to 'logical(1)'
##
## Attaching package: 'kableExtra'
##
## The following object is masked from 'package:dplyr':
##
##   group_rows
```

```
library(xtable)

source(here("helper/summary_table_help.r"))

d <- read.csv(here("data/clean_data.csv"))
summary_d <- readRDS(here("cached_data/summary_d.Rds"))
```

## summary table

- name of phenomenon
- n studies
- n effects
- n kids
- age range
- mean age
- average effect size

```
summary_d_print <- summary_d %>%
  mutate(es_print =
    paste0(round(es, 2), " [", round(es_lb, 2), ",", round(es_ub, 2), "]"),
    mean_age_print = round(mean_age, 2),
    n_kids_print = round(n_kids, 0),
    age_range_print = paste0("[", round(min_age, 2), ",", round(max_age, 2), "]")
  ) %>%
  select(ds_clean, n_studies, n_effects, n_kids_print, mean_age_print, age_range_print, es_print ) %>%
  arrange(ds_clean)
```

```
summary_d_print %>%
  kable( "latex", align = "l", digits = 2,
    row.names = FALSE,
    col.names = c("Research Area",
      "N Studies",
      "N effect sizes",
      "N participants",
      "Mean age (months)",
      "Age range",
      "Average Effect Size"
    ) ) %>%
  kable_styling(full_width = TRUE,
    bootstrap_options = c("condensed"))
```

Research Area	N Studies	N effect sizes	N participants	Mean age (months)	Age range	Average Effect Size
Abstract rule learning	20	95	1123	7.76	[3.91,13.47]	0.22 [0.07,0.37]
Categorization bias	9	80	382	51.18	[15.56,336.01]	0.25 [-0.54,1.05]
Cross-situational word learning	16	48	2241	56.57	[12.23,131.01]	0.67 [0.5,0.84]
Familiar word recognition	16	34	586	10.93	[4.86,15.01]	0.54 [0.38,0.69]
Gaze following (combined)	27	81	1407	11.05	[3.2,23.99]	0.81 [0.61,1.01]
Infant directed speech preference	21	83	985	6.30	[0.07,18.59]	0.47 [0.28,0.65]
Label advantage in concept learning	16	100	1644	10.96	[3,17.94]	0.36 [0.23,0.48]
Language discrimination and preference	36	153	2060	4.43	[0.05,11.56]	-0.13 [-0.26,0]
Mispronunciation sensitivity	32	249	2122	20.50	[6.83,44.22]	0.45 [0.24,0.66]
Mutual exclusivity	45	131	2222	35.17	[14.63,126]	1.27 [0.99,1.56]
Natural speech preference	19	55	786	4.60	[0.05,12.5]	0.44 [0.23,0.65]
Online word recognition	6	14	330	20.46	[14.98,30]	1.37 [0.78,1.96]
Prosocial agents	26	61	1244	12.82	[4.57,31.54]	0.4 [0.29,0.52]
Simple arithmetic competences	6	14	369	5.85	[4.8,9.17]	0.25 [0.04,0.46]
Sound symbolism	11	44	425	12.70	[4.14,37.98]	0.16 [-0.01,0.33]
Statistical sound category learning (habituation)	6	11	350	6.73	[2.5,11.49]	0.56 [0.19,0.93]
Statistical word segmentation	31	103	804	9.08	[5.88,18.66]	-0.08 [-0.18,0.02]
Switch task	47	143	2764	15.99	[12.34,24.9]	-0.16 [-0.25,-0.06]
Symbolic play	31	196	7148	28.46	[11,67.51]	0.63 [0.53,0.72]
Syntactic bootstrapping	18	60	832	24.93	[14.9,42]	0.24 [0.03,0.44]
Vowel discrimination	33	143	2418	7.65	[0.1,29.97]	0.59 [0.43,0.75]

```

colnames(summary_d_print) <-c("Research Area",
    "N Studies",
    "N effect sizes",
    "N participants",
    "Mean age (months)",
    "Age range",
    "Average Effect Size")

table <- xtable::xtable(as.matrix(summary_d_print),
    caption = "LMA0")

print.xtable(table, include.rownames = FALSE, comment = FALSE,
    size="\\fontsize{8pt}{9pt}\\selectfont")

```

```

## \begin{table}[ht]
## \centering
## \begin{group}\fontsize{8pt}{9pt}\selectfont
## \begin{tabular}{lllllll}
## \hline
## Research Area & N Studies & N effect sizes & N participants & Mean age (months) & Age range & Average
## \hline
## Abstract rule learning & 20 & 95 & 1123 & 7.76 & [3.91,13.47] & 0.22 [0.07,0.37] \\
## Categorization bias & 9 & 80 & 382 & 51.18 & [15.56,336.01] & 0.25 [-0.54,1.05] \\
## Cross-situational word learning & 16 & 48 & 2241 & 56.57 & [12.23,131.01] & 0.67 [0.5,0.84] \\
## Familiar word recognition & 16 & 34 & 586 & 10.93 & [4.86,15.01] & 0.54 [0.38,0.69] \\
## Gaze following (combined) & 27 & 81 & 1407 & 11.05 & [3.2,23.99] & 0.81 [0.61,1.01] \\
## Infant directed speech preference & 21 & 83 & 985 & 6.30 & [0.07,18.59] & 0.47 [0.28,0.65] \\
## Label advantage in concept learning & 16 & 100 & 1644 & 10.96 & [3,17.94] & 0.36 [0.23,0.48] \\
## Language discrimination and preference & 36 & 153 & 2060 & 4.43 & [0.05,11.56] & -0.13 [-0.26,0] \\
## Mispronunciation sensitivity & 32 & 249 & 2122 & 20.50 & [6.83,44.22] & 0.45 [0.24,0.66] \\
## Mutual exclusivity & 45 & 131 & 2222 & 35.17 & [14.63,126] & 1.27 [0.99,1.56] \\
## Natural speech preference & 19 & 55 & 786 & 4.60 & [0.05,12.5] & 0.44 [0.23,0.65] \\
## Online word recognition & 6 & 14 & 330 & 20.46 & [14.98,30] & 1.37 [0.78,1.96] \\
## Prosocial agents & 26 & 61 & 1244 & 12.82 & [4.57,31.54] & 0.4 [0.29,0.52] \\
## Simple arithmetic competences & 6 & 14 & 369 & 5.85 & [4.8,9.17] & 0.25 [0.04,0.46] \\
## Sound symbolism & 11 & 44 & 425 & 12.70 & [4.14,37.98] & 0.16 [-0.01,0.33] \\
## Statistical sound category learning (habituation) & 6 & 11 & 350 & 6.73 & [2.5,11.49] & 0.56 [0.28,0.84] \\
## Statistical word segmentation & 31 & 103 & 804 & 9.08 & [5.88,18.66] & -0.08 [-0.18,0.02] \\
## Switch task & 47 & 143 & 2764 & 15.99 & [12.34,24.9] & -0.16 [-0.25,-0.06] \\
## Symbolic play & 31 & 196 & 7148 & 28.46 & [11,67.51] & 0.63 [0.53,0.72] \\
## Syntactic bootstrapping & 18 & 60 & 832 & 24.93 & [14.9,42] & 0.24 [0.03,0.44] \\
## Vowel discrimination (native) & 33 & 143 & 2418 & 7.65 & [0.1,29.97] & 0.59 [0.43,0.75] \\
## Vowel discrimination (non-native) & 15 & 49 & 600 & 8.24 & [2.41,17.78] & 0.65 [0.2,1.1] \\
## Word Segmentation (combined) & 74 & 315 & 2910 & 9.24 & [4.46,24.74] & 0.2 [0.14,0.26] \\
## \hline
## \end{tabular}
## \endgroup
## \caption{LMA0}
## \end{table}

```

## curve table

```
age_df <- readRDS(here("cached_data/age_models_df.Rds"))

age_df_wide <- age_df %>%
  filter(ic == "AICc") %>%
  rename(Dataset = dataset) %>%
  select(REML, model_spec_clean, Dataset) %>%
  pivot_wider(names_from = model_spec_clean,
              values_from = REML)

age_df_wide$min <- apply(age_df_wide[c('Linear', 'Log', 'Quadratic', 'Const')], 1, min)

age_df_wide %>%
  mutate(across(where(is.numeric), round, 2)) %>%
  mutate_all(~cell_spec(.x, bold = (.x == min))) %>%
  select(-min) %>%
  rename(Constant = Const) %>%
  kable(digits = 2, escape = F)
```

Dataset	Linear	Log	Quadratic	Constant
Label advantage in concept learning	169.48	<b>168.53</b>	170.16	170.89
Vowel discrimination (native)	256.49	256.13	256.78	<b>255.15</b>
Vowel discrimination (non-native)	73.25	73.36	73.15	<b>71.69</b>
Statistical word segmentation	128.84	129.01	128.62	<b>127.5</b>
Online word recognition	<b>46.5</b>	46.73	46.65	48.72
Mutual exclusivity	421.6	<b>415.85</b>	432.76	453.07
Sound symbolism	58.2	<b>58.16</b>	58.83	61.04
Categorization bias	300.29	<b>299.99</b>	300.37	300.9
Familiar word recognition	27.46	28.32	<b>27.18</b>	28.86
Abstract rule learning	140.8	141.34	<b>140.47</b>	140.91
Switch task	204.79	204.81	204.73	<b>203.67</b>
Mispronunciation sensitivity	620.05	628.16	<b>613.67</b>	644.4
Prosocial agents	82.16	81.95	82.23	<b>80.08</b>
Simple arithmetic competences	22.91	23.01	22.81	<b>16.26</b>
Symbolic play	234.15	234.11	234.13	<b>233.57</b>
Natural speech preference	111.4	112.01	<b>110.97</b>	111.83
Cross-situational word learning	79.81	81.62	<b>79.7</b>	83.71
Language discrimination and preference	264.7	265.59	<b>262.65</b>	264.95
Syntactic bootstrapping	107.28	<b>106.99</b>	107.57	107.47
Statistical sound category learning (habituation)	33.47	34.54	32.94	<b>30.46</b>
Gaze following (combined)	151.53	159.88	<b>149.47</b>	193.2
Word Segmentation (combined)	328.83	328.6	329.16	<b>327.55</b>
Infant directed speech preference	70.17	70.87	70.06	<b>69.13</b>